

AMWTP-021

**RESPONSE PACKAGE**

PROJECT: BNFL, Inc.

SUBJECT: Proposed Permit to Construct  
an Air Pollution Emitting Source

10AP-9901

**PUBLIC READING ROOM  
U.S. DEPARTMENT OF ENERGY  
IDAHO OPERATIONS OFFICE**

**Public Comments**



STATE OF IDAHO

DEPARTMENT OF  
ENVIRONMENTAL QUALITY

1410 North Hilton, Boise, ID 83706-1255, (208) 373-0502

Dirk Kempthorne, Governor  
C. Stephen Allred, Director

## RESPONSE PACKAGE

**PROJECT:** Proposed Permit to Construct for BNFL, Inc., INEEL Advanced Mixed Waste Treatment Facility  
**SUBJECT:** Application for a Permit to Construct an Air Pollution Emitting Source

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# LIST OF EXHIBITS

Proposed Air Pollution Source Permit

Docket Number: 10AP-9901

Deadline for Comment: June 28, 1999

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1	Environmental Defense Institute Chuck Broschius Executive Director	Letter 4/99	15
2	Ellen Glaccum	Letter 4/26/99	1
3	BNFL Frank Yaklich General Manager	Letter 4/14/99	1
4	John T Conway	Letter 4/27/99	3
5	Environmental Defense Institute Chuck Broschius Executive Director	Letter 4/27/99	1
6	Environmental Defense Institute Chuck Broschius Executive Director	Letter 4/27/99	2
7	Peter Rickards DPM	Fax 5/3/99	5
8	Snake River Alliance Pamela Allister Executive Director	Letter 5/4/99	7
9	Environmental Defense Institute Chuck Broschius Executive Director	Letter 5/10/99	4
10	Kevin Brenden	Letter 5/17/99	1
11	Metropolitan Stephen Horowitz	Letter 5/17/99	1
12	House of Representatives State of Idaho Wendy Jaquet Minority Leader	Letter 5/17/99	1
13	Janet Ocrowley	Letter 5/18/99	1
14	Carol Whittaker	Letter 5/19/99	1
15	Cathy Centrella	Letter 5/19/99	1
16	Dr. & Mrs. Newell Morgan	Letter 5/19/99	1
17	Bert & Bob Redfern	Letter 5/20/99	1

18	Mike Baldwin	Letter 5/20/99	1
19	James W Phillips	Letter 5/21/99	1
20	John E Tanner, Jr Member, Coalition 21	Letter 5/24/99	1
21	BNFL Inc Frank Yaklich	Letter 5/25/99	3
22	Stacey L Chapman	Letter 5/26/99 Fax 5/27/99	3 3
23	Frank & Sarah Isenberg	Letter 5/28/99	1
24	Idaho Conservation League Scott Brown State Issues Director	Letter 5/28/99	22
25	Vaughn Peterson	Letter 6/1/99	5
26	Loretta Scott	Voicemail 6/1/99	1
27	Greater Yellowstone Coalition Marv Hoyt Idaho Representative	Letter 6/1/99	3
28	David Proctor	Letter 6/1/99	4
29	Michael & Janet Sluszka	Letter 6/1/99	1
30	Casey, Tara, Caelin, & Aidan Sheahan	Letter 6/1/99	1
31	Marlise & RL Teasley	Letter 6/2/99	2
32	The Time Lapse Company Diane Birdrall	Letter 6/2/99	1
33	Crone Chronicles Ann Kreilkamp Ph. D.	Letter 6/2/99	1
34	Jeffrey S Joel, Ph. D., D.D.	Letter 6/2/99	1
35	Philip & Heidi Leeds	Letter 6/2/99	1
36	Lorna Miller	Letter 6/2/99	1
37	Lance & Marian Cygielman	Letter 6/2/99	1
38	Jo Lunsford	Letter 6/2/99	1
39	Chris & Kurt Wimberg	Letter 6/2/99	1
40	Snow King Resor Jim Sullivan	Letter 6/2/99	1
41	Louisa Myrin	Letter 6/2/99	1
42	Bruce W Dietz	Letter 6/2/99	1

43	Mountain Fitness & Sports Massage Kate Halsey Licensed Massage Therapist	Letter 6/2/99	1
44	Karen R. Mills & Nancy H Frost	Letter 6/2/99	1
45	Kim Carlson	Letter 6/2/99	1
46	Cynthia Anderson	Letter 6/2/99	1
47	Meredith Campbell	Letter 6/2/99	1
48	Mr & Mrs John Heberger	Letter 6/2/99	1
49	Bryce Broughton	Letter 6/2/99	1
50	Tammy L Knore	Letter 6/2/99	1
51	John Hubalek	Letter 6/2/99	1
52	Julie & Jeff Huot	Letter 6/2/99	1
53	Lynnette A & Raymond Mena	Letter 6/2/99	1
54	Susan Williams	Letter 6/2/99	1
55	Alice E Richter DDS	Letter 6/2/99	4
56	Thomasd Stanton M.A.	Letter 6/2/99	1
57	Cheryl Magni & Bert Dudley	Letter 6/3/99	1
58	Skinny Skis 30 pages of signed petitions	Petitions 6/3/99	30
59	Cynthia & Meridan Bennett	Letter 6/3/99	1
60	The Shoshone Bannock Tribes Ted L Carpenter Tribal/DOE Project Environmentalist	Letter 6/4/99	1
61	Rebecca Hauder R.N., M. Ed.	Letter 6/4/99	1
62	John Dadabay	Letter 6/4/99	1
63	Casey, Tara, Caelin & Aidan Sheahan	Letter 6/7/99	1
64	Bill & Doris Pritchard	Letter 6/7/99	1
65	Dorothy K Kirk	Letter 6/10/99	1
66	Angele Ferre'	Letter 6/10/99	1
67	Joy L & Chet Watson	Letter 6/11/99	1
68	David P Carlin	Letter 6/14/99	1
69	Darlene McMaster	Letter 6/14/99	1

70	Michele McMaster	Letter 6/14/99	1
71	Stephen L Barr	Letter 6/13/99	1
72	Jeanne Knott	Letter 6/16/99	3
73	Peter Chaffey	Letter 6/16/99	3
74	Suzanne Kneeland	Letter 6/18/99	1
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79	Leslie & Mike Feltman	Letter 6/23/99	1
80	Bob Wemple	Letter 6/23/99	1
81	Kate English	Letter 6/24/99	2
82	Snake River Alliance	Fax 6/24/99	3
83	Alpha Bravo Interiors Brad Billga	Fax 6/28/99	1
84	State of Wyoming Teton County Sandy Shuptrine County Commissioner	Fax 6/27/99	3
85	M H Design Michael Hall	Letter 6/28/99	1
86	M H Design Sheila McCann	Letter 6/28/99	1
87	Elizabeth P Carlin	Letter 6/28/99	1
88	Becky Watson	Letter 6/28/99	1
89	Berte Hirschfield	Fax 6/28/99	5
90	Brent Blue MD	Fax 6/28/99	5
91	Gerry Spence	Fax 6/28/99 Hard copy received 6/28/99	5 6
92	Richard Kenney President Coalition 21	Letter 6/28/99	2
93	Debra McSwain	Letter 6/28/99	1
94	Idaho Clean Air Force Gary Richardson Coordinator	Letter 6/28/99	17
95	Christine Peck Chief of Staff Senate Democrats	Fax 6/28/99	1

96	Idaho State Senate Senator Clint Stennett	Fax 6/28/99	3
<b>Comments received after the comment period had closed</b>			
97	Carla A Parks	Letter 6/29/99	1
98	Snake River Alliance	Letter 6/30/99	4
99	Richard Meyer	Letter 6/30/99	1
100	Jodi Vessae	Letter 6/30/99	9
101	Joyce A Jansa Corcoran	Letter 7/2/99	1
102	Snake River Alliance Pamela Allister	Letter 7/6/99	1
103	Libby Wood	Letter 7/6/99	1
104	Berte Hirschfield	Letter 7/7/99	1
105	Sherry L Daigle Teton County Clerk	Fax 8/16/99 Hard copy received 8/19/99	2 - 2
106	The Teton Group of the Sierra Club Page McNeill, Conservation Chairperson	Petition 8/17/99 w/ 11 signatures	1
107	Barbara Blinderman LLP	Fax 8/30/99	1

# Environmental Defense Institute

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**Comments**  
**on**  
**Environmental Remediation**  
**at**  
**Idaho National Engineering and**  
**Environmental Laboratory**  
**Idaho Chemical Processing Plant**  
**Radioactive Waste Management Complex**

submitted on behalf  
Environmental Defense Institute  
by  
Chuck Broschius  
April 1999

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A cursory review of the available US Geological Survey (USGS) reports related to Idaho National Engineering and Environmental Laboratory (INEEL) flooding scenarios and flood control infrastructure, it is clear that additional analysis is needed prior to any final siting decisions are made for new waste internment and disposition of existing buried waste. Specifically, a two dimensional model is needed to expand the existing USGS one dimension model to include the upper 95% confidence flow estimates of 11,600 cubic feet per second for the Big Lost River 100-year flood, and include modeling for the upper range limit of the 500 year estimated flow rate in the Big Lost River flood plain on the INEEL.

Department of Energy (DOE) appears to be prepared to meet regulatory requirements and construct a Resource Conservation Recovery Act (RCRA) Subtitle C hazardous waste dump called the INEEL CERCLA Disposal Facility (ICDF), however, the choice to locate it at the Idaho Chemical Processing Plant (ICPP) is misguided for the same reason that leaving the contaminated soils and the sediments in the high-level waste tanks, and buried waste at the Radioactive Waste Management Complex (RWMC) is misguided.

The reason why locating the ICDF at the ICPP - especially underground - is because the northern part of the ICPP lies in the 100 flood plain of the Big Lost River. DOE's plan is to locate the ICDF near or on top of the ICPP percolation ponds which are immediately south of the perimeter fence. The ICPP as a whole is about as flat as a table top with only a couple feet change in elevation north to south. The USGS released a study in 1996 estimated the flow range for the Big Lost River at the INEEL. "The upper and lower 95-percent confidence limits for the estimated 100-year peak flow were 11,600 and 3,150 cubic feet per second (cf/s), respectively."<sup>1</sup>

Since 1950, INEEL has experienced significant flooding events in 1962, 1969, and 1982. In an effort to mitigate the flooding problem, the site built a diversion dam on the Big Lost River that is designed to shunt flood waters to the south and away from INEEL facilities. USGS released another report 1998 that modeled the mean (mid-range) 100-year flow rate of 7,260 cf/s upstream of the INEEL diversion dam. USGS estimated that the Big Lost flow rate downstream of the diversion dam at 6,220 cf/s with a thousand cf/s going down the diversion channel for a total median flow rate of 7,260 cf/s upstream of the INEEL diversion dam.<sup>2</sup> "This peak flow was routed down stream [of the Big Lost River] as if the INEEL diversion dam did not exist. On the basis of a structural analysis of the INEEL diversion dam (U.S. Army Corps of Engineers) the dam was assumed incapable of retaining high flows. The Corps indicated that the diversion dam could fail if flows were to exceed 6,000 cubic feet per second."<sup>3</sup> This study acknowledged that the northern half of the ICPP would be flooded with four feet of moving water, even at this mid-range (mean) flow rate.

Since the radioactive waste will be extremely hazardous for tens of thousands of years and

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<sup>1</sup> Estimated 100-Year Peak Flows and Flow volumes in the Big Lost River and Birch Creek at the Idaho National Engineering Laboratory, Idaho, U.S. Geological Survey, Water-resources Investigations Report 96-4163, L.C. Kjelstrom and C. Berenbrock, 1996, page 9.

<sup>2</sup> Preliminary Water-Surface Elevations and Boundary of the 100 Year Peak Flow in the Big Lost River at the Idaho National Engineering and Environmental Laboratory, Idaho, US Geological Survey, Water-resources Investigations report 98-4065, DOE/ID-22148

<sup>3</sup> USGS 98-4065, page 8

flooding will flush contaminants down into the aquifer, a conservative risk assessment would model the upper 95-percent confidence limits for the estimated 100-year peak flow of 11,600 cfs. USGS has proposed this additional research to DOE, but the Department thus far is not willing to provide the funding. A USGS hydrologist notes, "The flow of 11,600 cfs represents the upper 95 percent confidence limit flow for the estimated 100-year peak flow (Kjelstrom and Berenbrock, 1996, p6). Future modeling needs are to model the area with this flow. We've expressed this to the INEEL and also have expressed that the WSPRO model used has limitations and that an application of more stringent models (two dimensional) is needed to refine and better delineate the extent of possible flooding of the Big Lost River."<sup>4</sup>

USGS estimates the mean 500-year Big Lost River flood rates at 9,680 cfs (34% greater flow rate than the mean 100 year flood).<sup>5</sup> This 500-year flood would inundate the ICPP and surrounding area. These potential hazards must be taken into consideration when making hazardous mixed radioactive waste decisions in these vulnerable areas because of the long-term consequences and the potential for additional aquifer contamination.

Cascading events should also be considered. This is known as a worst case scenario where one event triggers another event. For instance a 500-Year flood plus failure of Mackay Dam (built in 1917) resulting in estimated flows of 9,700 + 54,000 cubic feet per second respectively would be an example of a cascading event. Failure of Mackey Dam is non-speculative in view of the recent failure of the Teton Dam of similar construction and the fact that Mackey Dam lies within 6 kilometers of a major earthquake fault line that produced the Borah Peak 7.5 quake. USGS did not consider cascading events but noted previous studies showing that failure of Mackay Dam alone would result in 6 feet of water at the INEEL Radioactive Waste Management Complex (RWMC). Other studies recognized by USGS note that, "Rathburn (1989, 1991) estimated that the depth of water at the RWMC, resulting from a paleo-flood [early] of 2 to 4 million cfs in the Big Lost River in Box Canyon and overflow areas, was 50-60 feet." "If Mackey Dam failed, Niccum estimated that peak flow at the ICPP would be at 30,000 cfs."<sup>6</sup> Comparing these flow rates with the USGS estimate 100-year mean flow of 6,220 cfs that would flood the north end of the ICPP with four feet of water, and a Mackey Dam failure becomes a real disaster potential with respect to the buried waste at the ICPP.

DOE is relying extensively on the Big Lost River Diversion Dam to shunt major flood waters away from INEEL facilities. The last comprehensive analysis of this diversion dike system (below the diversion dam) was conducted by USGS in 1986 in a report titled *Capacity of the Diversion Channel below the Flood Control Dam on the Big Lost River at the INEL*. In this study USGS estimated a mean flow rate of 9,300 cfs, 7,200 of which went into the diversion channel and "2,100 cfs will pass through two low swells west of the main channel for a combined maximum diversion capacity of 9,300 cfs." "A sustained flow at or above 9,300 cfs could damage or destroy the dike banks by erosion. Overflow will first top the containment dike at

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<sup>4</sup> Charles E. Berenbrock, U.S. Geological Survey Hydrologist, March 25, 1999 email to Chuck Broscius

<sup>5</sup> Estimated 100 Year Peak Flows and Flow Volumes in the Big Lost River and Birch Creek at the Idaho National Engineering Laboratory, U.S. Geological Survey, Water Resources Investigations Report 96-4163, page 11 shows flow rates for 5-year, 10-year, 100-year, and 500-year floods

<sup>6</sup> USGS 98-4065, page 6

cross section 1, located near the downstream control structure on the diversion dam.”<sup>7</sup> This USGS study did not analyze the construction of the diversion dikes but they would likely fail as did the upstream diversion dam, built at the same time; that the Army Corps of Engineers found deficient. “On the basis of a structural analysis of the INEEL diversion dam (U.S. Army Corps of Engineers, written comments, 1997), the dam was assumed incapable of retaining high flows. The Corps indicated that the diversion dam could fail if flows were to exceed 6,000 cf/s. Possible failure mechanisms are: (1) erosion of the upstream face of the dam that results from high-flow velocities and loss of slope protections (rip-rap), (2) overtopping of the diversion dam by flows exceeding the capacity of the diversion channel and culverts, (3) piping and breaching of the diversion dam because of seepage around the culverts, and (4) instability of the dam and its foundation because of seepage.”<sup>8</sup>

Failure of the diversion dam and/or the diversion channel dikes would directly impact the Radioactive Waste Management Complex (RWMC) burial grounds. A 1976 USGS report notes, “The burial ground is within 2 miles (3.2 km) of the Big Lost River and the surface is approximately 40 feet (12 m) lower than the present river channel. Sediments in the burial ground contain grains and pebbles of limestone and quartzite, suggestion that in recent geologic past, flood waters of the Big Lost River flowed through the burial ground basin. Two eroded notches or ‘wind-gaps’ in the basalt ridge bordering the west of the burial ground also suggest past Big Lost River floods.” “A large diversion system on the Big Lost River was constructed by the AEC to control flood waters by diverting water into ponding Areas A, B, C, and D. The nearest of these, Area B is less than a mile [south] from and about 30 feet (9m) higher in elevation than the burial ground.”<sup>9</sup>

USGS *Arco Hills SE and Big Southern Butte* quadrangle topographic maps clearly show the RWMC flooding vulnerability as do other USGS reports that note, “If [diversion] dike 2 [at ponding Area B] fails, large flows will drain directly [north] toward the solid radioactive waste burial grounds.”<sup>10</sup> These vulnerabilities must be taken into consideration when DOE attempts to leave the buried transuranic waste at the RWMC and not exhume and relocate it to a safe permanent repository.

Building dams around the proposed INEEL CERCLA Disposal Facility (ICDF) as was done at the RWMC is not an acceptable flood protection answer because lateral water migration will go under the dams and local precipitation will be held in exacerbating the leachate conditions. The liner of the ICDF will not be capable of maintaining integrity with the increased hydraulic pressure during a flood because they are only capable of blocking what minimal surface water may

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<sup>7</sup> Capacity of the Diversion Channel Below the Flood Control Dam on the Big Lost River at the Idaho National Engineering Laboratory, US. Geological Survey Water Resources Investigations Report 86-4204, C. M. Bennet, page 1 and 25

<sup>8</sup> USGS 98-4065, page 9

<sup>9</sup> Hydrology of the Solid Waste Burial Ground, as Related to the Potential Migration of Radionuclides, Idaho National Engineering Laboratory, U.S. Geological Survey, Open File Report 76-471, J. Barraclough, August 1976, page 8

<sup>10</sup> Probability of Exceeding Capacity of Flood-Control System at the National Reactor Testing Station, Idaho, U.S. Geological Survey Water Resources Division, P. Carrigan, JR., 1972, page 4

leak past the cap and infiltrate the waste. There are good legitimate reasons why dumps are not allowed by statute in flood zones. Dams by definition are only functional if there is regular maintenance which cannot be assumed once DOE ends institutional control of INEEL in a hundred years. Dumping the waste on top of the ground and mounding the cover over it will result in the cap eroding over the long-term which again is unacceptable. Regulator's contention that there is a degree of efficiency in co-locating the ICDF with the ICPP percolation ponds that themselves must be remediated along with the "windblown" soil contamination area around the percolation ponds not only defies common-sense but is also illegal. DOE must designate another location for the ICDF that is not near a flood plain and preferably not over the aquifer. DOE's own study has identified at least two such sites where the Lemi Range meets the Snake River Plain.<sup>11</sup>

Nuclear Regulatory Commission restrictions prohibiting citing radioactive waste disposal dumps on 100 year flood plains must be observed. [ NRC 10 CFR ss 61.50 ] The reason for these restrictions is because the flood water will leach the contaminants out of the waste and flush the pollution more rapidly into the aquifer. Since these wastes will remain toxic for tens of thousands of years, they must be disposed of responsibly in a safe permanent repository. These issues must be kept in mind also with respect to the ICPP high-level waste tanks that are some forty feet underground as well as the underground spent reactor fuel storage and calcine storage bins at the ICPP. Water acts as a moderator and if the underground spent fuel vaults are flooded, it could cause a criticality. All of these underground high-level waste sites are extremely vulnerable. Former ICPP workers recall stacking sandbags six feet high around the plant during a Spring flood about ten years ago.

The ICDF Engineering Design and Waste Acceptance Criteria (WAC) must be developed with public involvement through a free and open discussion. Only un-containerized wastes that can be compacted during placement should be allowed so as to minimize subsidence caused by container decomposition. Biodegradable, VOC, collapsible, soluble, TRU, or Greater than Class C Low-level, and Alpha-low-level waste must also be excluded from the ICDF dump and sent off-site. Prior to completing the ICDF Title II Design, workshops should be convened for stakeholders to comment on the proposal. Waste Acceptance Criteria maximum contaminate concentration levels must be determined from waste sampling prior to being mixed with any stabilizing materials. In other words, "dilution is not the solution to pollution".

USGS reports identified factors favoring downward waste migration. "In order for waste isotopes to be carried downward by water, four basic requirements are needed: 1.) availability of water, 2.) contact of the water with the waste, 3.) solubility or suspendability of the waste in water, 4.) permeability in the geologic media to allow water flow downward."<sup>12</sup> This report describes in detail how all four conditions are met at INEEL including the solubility factor where they note "Hagan and Miner (1970) leached five different categories of solid waste from Rocky Flats [the main source of plutonium in the RWMC] with ground water from the INEL and Rocky Flats and measured the plutonium concentrations and pH of the leachate. They found the highest

<sup>11</sup> Moriarty, T. P., Feasibility of Locating Dry Storage of Spent Nuclear Fuel on Idaho National Engineering Laboratory Land at a Site That Does Not Overlie the Snake River Aquifer, November 1995.

<sup>12</sup> USGS 76-471 page 68-69

Pu-239 concentration in leachates from the acidic-graphite wastes, 62,000 to 80,000 ug/l plutonium or ( $3.8 \times 10^9$  to  $4.9 \times 10^9$  pCi/L)." [Ibid]

The most reliable indicators of contaminate migration are onsite sampling data. Cesium-137, plutonium-238,-239,-240 were all found at the 240 foot interbeds under the RWMC. [DO-22056@74] Forty-one % of the samples from the 240 foot interbeds contained radionuclides. [Ibid@87] Other literature confirmation of plutonium at 240 feet includes: "Radionuclides (including Pu-238,-239,-240, Am-241, Cs-137, Sr-90) have been detected in soils and in sedimentary interbeds to a depth of 240 feet beneath the RWMC, (Hodge et al, 1989)." "Positive values for Pu-238,-239,-240 were detected in samples obtained from the 240 foot interbed in bore hole DO2." [DOE/DO-10183@134-145][DOE/DO/12082(88)@14-16] Radionuclides are also confirmed in the aquifer under the RWMC. [EG&G-WTD-9438@25] USGS water sampling data at the 600 foot levels, expressed in pico curies per liter (pCi/l) show:

#### Groundwater Sampling Data at 600 Feet Under RWMC

Nuclide	Concentration pCi/L	Drinking Water Std. pCi/L
Tritium	10,000.00	20,000.00
Cobalt-57	48.00	1,000.00
Cobalt-60	100.00	100.00
Cesium-137	400.00	119.00
Plutonium-238	9.00	7.02
Plutonium-239-240	0.14	62.10
Americium-241	15.00	6.34
Strontium-90	10.00	8.00

[DO-22056 @66] \* The drinking water standard for gross alpha (total of all alpha emitters) is 15 pCi/l.

USGS report titled *Hydrology of the Solid Waste Burial Ground as Related to the Potential Migration of Radionuclides Idaho National Engineering Laboratory*, describes in detail the monitoring well drilling methodology. USGS hydrologists that drilled the wells went to considerable lengths to ensure surface or near-surface contamination did not compromise their 600 foot deep well samples listed in the table above. Analysis of the circumstances of the RWMC generated the following principal evidence supporting migration of radionuclides to the aquifer below.

"Sufficient water has come in contact with buried waste to cause initial leaching and mobilization. Sufficient quantities of wastes have been available for leaching to account for observed subsurface radionuclide concentrations. The lithologic column beneath the burial ground has sufficient permeability and appears to be at field moisture capacity; this would allow infiltrated water to have migrated downward. Sufficient water has percolated downward through the burial ground to have reached depths where significant concentrations of

radionuclides were found. Most of the higher subsurface radionuclide concentrations tended to lie beneath the oldest buried waste or beneath the areas through which the most water has percolated. A greater percentage of samples analyzed from the 110 foot sedimentary layer contained waste isotopes than from the 240 foot or deeper layers in the six interior wells. Samples from wells 93 and 96 indicate greater concentrations of nuclides in the 110 layer than in the 240 foot layer. Many of the observed subsurface concentrations of radionuclides were greater than could be attributed to artificial sample contamination from any known ground-surface or other overlying sources." [DO-22056@83]

DOE's own sampling of the USGS 600 foot wells at the RWMC between 1987 and 1997 show americium-241 contamination at levels shown in the following table. Americium-241 is a decay product (daughter) of plutonium-241. The maximum concentration level allowed in drinking water is 6.34 pCi/l. Though the DOE sample concentration levels for Am-241 are lower than those of USGS, the data contradicts DOE public statements for the past several decades that actinides (isotopes heavier than uranium) had migrated to the aquifer which is 580 feet below the RWMC.

#### Americium-241 at 600 foot level at RWMC

Well Number	Date of Sampling	Concentration (pCi/l)
88	1992	0.40 +/- 0.02
89	1990	0.04 +/- 0.02
90	1988	0.06 +/- 0.03
90	1990	0.04 +/- 0.02
117	1987	0.06 +/- 0.03
119	1991	0.06 +/- 0.03
M-1F	1997	1.03 +/- 0.27
M-10-S	1993	0.3 +/- 0.1
M-3F	1997	0.045 +/- 0.017

[Hain(a)]

US Geological Survey (USGS) hydrologist Barraclough estimates that 100 acre-feet (32,492,910 gallons) of direct precipitation landed on the RWMC between 1952 and 1970. Additionally, due to the low depression of the RWMC local run off has entered the burial ground adding to direct surface water introduction. The 1962 flood which inundated the SDA allowed 30 acre feet (10,000,000 gallons) into the SDA. The 1969 flood put 20 acre feet (6.4 million gallons) into the SDA. [DO-22056@46] It is no wonder radionuclides are found in the Snake River Aquifer. "Adams and Fowler measured solubilities of plutonium in tap water and found a range of 46,000 to 130,000 pCi/l."... "These findings are also consistent with Hagan and Miners (1970)." [bid@70] According to DOE sponsored studies, the presence of gamma radiation increases the permeability

ty/leach-ability of contaminants in basalt by ten-fold. [EG&G-J-02083] Water samples taken in the flooded SDA pits during the 1969 flood contained 13,000 pCi/l gross beta and 2,700 pCi/l gross alpha. [DO-22056@69-70] This data verifies the solubility of radionuclides and the water sample data from the deep monitoring wells verify the mobility of these contaminants. Additionally, USGS soil samples under Pit 10 showed plutonium at 400,000 pCi/g and under Pit 2 the Pu was at 320,000 pCi/g which confirms contaminate mobility. [DO-22056@77]

Flooding of the RWMC and its Subsurface Disposal Area (SDA) from the Big Lost River has occurred at least three times (1962, 1969, and 1982) since 1950. In 1962, Trenches 24 and 25 plus Pits 2 and 3 were flooded. In 1969, Trenches 48 and 49 plus Pits 8, 9, and 10 were flooded. In 1982, Trenches 42 and 49 plus Pit 16 were flooded. [EG&G-WM-10090@3] According to topographical map (INC-B-15368) of the burial ground area and a part of the Big Lost River ponding areas, the burial ground lies 40 feet below the Big Lost River 2 miles north. [DO-22056@8] A flood-control diversion dam was built to mitigate flooding. A USGS 1976 "Analysis of historical stream-flow information indicate that floods in the Big Lost River would overtop the flood-control diversion dam about once in every 55 years on average; if the culverts in the dam are completely plugged, overtopping of the dam would occur about once every 16 years." [DO-22052@iii] The 1982 flooding of the SDA was in fact caused by plugging of the culverts. [EG&G-WM-10090] Since the RWMC is the lowest point in the region, there is nowhere else for the water to go. Currently, sump pumps are required to remove water out of the RWMC due to its lack of drainage. [DO-22056 @10] This drainage problem begs the question of long-term institutional control to prevent flooding after DOE is gone.

Winter of 1996-97 brought record (188%) snow pack that feeds the Big Lost River coupled with record high Spring temperatures that again raise the flooding risks. Brandon Lommis, Idaho Falls Post Register reporter, found that in addition to the RWMC flooding hazard, the ICPP high-level waste tanks are also at risk. Lommis reports that, "Mike Bennett, INEEL's water resources coordinator, said 'it would be foolish not to have some concerns,' and that dike failure could allow water to seep into the underground storage tanks under a chemical processing plant and possibly contaminate the Snake River Plain Aquifer, according to a recent study. INEEL officials this year asked the Army Corps of Engineers to help inspect the dam and dikes before the water peaks. Bennett said dirt graders and trucks are standing by to shore up any unexpected weak spots." [Post Register 5/7/97] The May 20, 1997 LMICO Star noted that:

"Under normal conditions, the diversion dam is adequate to control water flow. The dam is weakest above the diversion gate, and may need reinforcement if water flows become heavier than anticipated (flood waters could flow over the diversion dam and back into the Big Lost river bed). Dixon has identified a source of rip rap (large rocks) and gravel for reinforcement. Along with the rip rap and gravel, 9,000 sandbags are strategically stockpiled to expedite any reinforcement that becomes necessary. The sandbags include 4,000 in existing inventory with another 5,000 bags ordered and available if needed." [Star (4)]

Geologic investigations are needed on the ground up stream of the INEEL diversion dam to see if there is evidence of flooding and related heights/volumes. This type of information may minimize the uncertainty of long-term maximum flood projections (i.e. validate flow-rate assumptions). The life expectancy evaluations are also needed of the Big Lost River diversion dam

and related channels, dams etc., after the 100 year institutional control and maintenance of the flood control infrastructure ends. Absent maintenance, could debris collect and block the interconnecting channels to the spreading areas facilitating the failure of the dams, and thus flood the RWMC? The USGS believes this is a credible scenario in their 1976 report.

"It would appear that a rare major flood of the [Big Lost] river could over-flow into the burial ground basin through the narrow wind-gaps in the basalt. Although this has not occurred in the INEEL history, evidence indicates it has occurred in the past 2,000 years and possibly within the past 200 years." "At regional scale, horizontal hydraulic conductivities of the Snake River Plain Aquifer generally range from 100 to 10,000 feet per day as determined from well pumping tests or flow net analysis. The high number is among the highest for any known aquifer." "Although vertical hydraulic conductivity is generally much less than horizontal conductivity in basalt, significant vertical conductivity does exist, primarily through vertical fractures. This is demonstrated by the fact that surface water from the Big Lost River infiltrates from the channel and the INEL diversion area and produces measurable recharge to the aquifer. In addition, waste water recharged to the Test Reactor Area (TRA) disposal ponds eventually reaches the Snake River Aquifer, 450 feet below. There is no reason to believe that basalt beneath the burial ground have significantly less hydraulic conductivity than those beneath TRA or the diversion area." "Specified field tests at Test Area North vicinity of the INEEL indicated an average horizontal permeability of about 55 feet per day and vertical permeability of about 15 feet per day." [DO-22056@48]

A hypothesis is needed of Mackey Dam being overtopped and failing due to floods of not much greater recurrence interval than that of the maximum floods considered in the literature. The results of a failure of Mackey Dam have not been investigated in this paper. The INEEL EIS acknowledges that Mackey Dam "was built without seismic design criteria" and "additionally, it is not clear how resistant the dam structure is to seismic events" and the fact that "a fault segment runs within 6 kilometers of the Mackay Dam" [DEIS @ B-17] is significant. One need only recall the catastrophic failure of the Teton Dam a few years ago northeast of Idaho Falls. The Teton Dam, also constructed by the Army Corps of Engineers, failed because of inadequate design and construction. A 1996 DOE Environmental Assessment (EA) for TAN Pool Stabilization noted that the maximum probable flood is considered conservative as the last flood (12,000 years ago) with the magnitude of 35,000 cubic feet per second [DOE/EA-1050 @B-4]. This flood would easily overflow the diversion dam capacity of 9,300 cubic feet per second.

A 1993 USGS report titled *Speciation of Plutonium and Americium in Ground Waters from the Radioactive Waste Management Complex* notes: "The solubility of plutonium, when added in the low-oxidation-state form [Pu(III) and (VI)], did not exceed 50 percent (of the amount added) in any of the waters from wells that penetrate the Snake River Plain Aquifer." "In water from well 92, however, which is completed in a perched aquifer at a much shallower depth than the water table, 83 percent of the Pu(III) and (VI) remained in solution 30 days after it was added." "In experiments using the high oxidation states Pu(V) and (VI), virtually all the added plutonium remained in solution in the water from all wells, and remained in the relatively soluble high oxidation states." "The results indicate that although low-oxidation-state plutonium is generally insoluble in water [50%] from the Snake River Plain Aquifer, it is more soluble in water from the perched aquifer and could, in time,

be leached from the waste and ultimately reach the Snake River Plain Aquifer." The report goes on to note that the reason for the increased solubility of plutonium in the perched water is due to the 222,000 gallons of hazardous wastes including acids and solvents were also dumped in the RWMC.<sup>13</sup> The solubility of actinides and their mobility is a big issue with the ICPP high-level waste tanks contaminated soils because this resulted from raffinate (nuclear fuel processing waste) leaks which transuranics are already dissolved in an acid/solvent solution and therefore highly mobile. Flooding of the ICPP would therefore result in extensive migration of contaminants to the underlying aquifer.

### Radioactivity of Waste Dumped at the Subsurface Disposal Area 1952-1983

Major Generator	RWMIS Shipping Record Roll up (curies)
Test Area North	63,000
Test Reactor Area	460,000
ID Chemical Processing Plant	690,000
Naval Reactors Facility	4,200,000
Argonne-West	1,100,000
Rocky Flats Plant	57,000
Other	55,000
Total	11,000,000

[EGG-WM-10903 @ 6-25]

The above summary of radioactive content of waste dumped is considered understated. The Environmental Defense Institute analysis of the curie content of Navy shipments to the burial ground, for instance, adds up to 8,140,668 curies. However the above DOE data using annual summaries attributes the Navy to only 4.2 million curies or only half as much. DOE admits that the annual summaries are understated. [EGG-WM-10903 @ 6-26]

<sup>13</sup> Speciation of Plutonium and Americium in Ground Waters from the Radioactive Waste Management Complex, Idaho National Engineering Laboratory, Idaho, U.S. Geological Survey, Water Resources Investigations Report 93-4035, J. Cleveland, A. Mullin, 1993, page 1

Chemical Contaminates in the Dissolved and Suspended Fractions of Ground Water from Selected Sites, Idaho National Engineering Laboratory and Vicinity, Idaho 1989, U.S. Geological Survey, Open File Report 92-51, pg 33, shows organic solvents under RWMC

Plutonium in Groundwater at the NTS: Observations at ER-20-5, J.L. Thompson, A.B. Kersting, D. Finnegan, Chemical Technology Division, Los Alamos National Laboratory, Isotope Sciences Division Lawrence Livermore National Laboratory, December 1997, that shows extensive plutonium migration at the Nevada Test Site

**Selected Rocky Flats Waste Dumped at the Subsurface Disposal Area, 1954-1972**

Radionuclide	Lower Bound Estimate	Upper Bound Estimate
Plutonium (all species)	1,102 kilo grams	1,455 kilo grams
Americium-241	44 kilo grams	58 kilo grams
Uranium-235	386 kilo grams	603 kilograms

[ER-8WFP-82 @A-4]

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also see EDI Citizens Guide to INEEL reference section

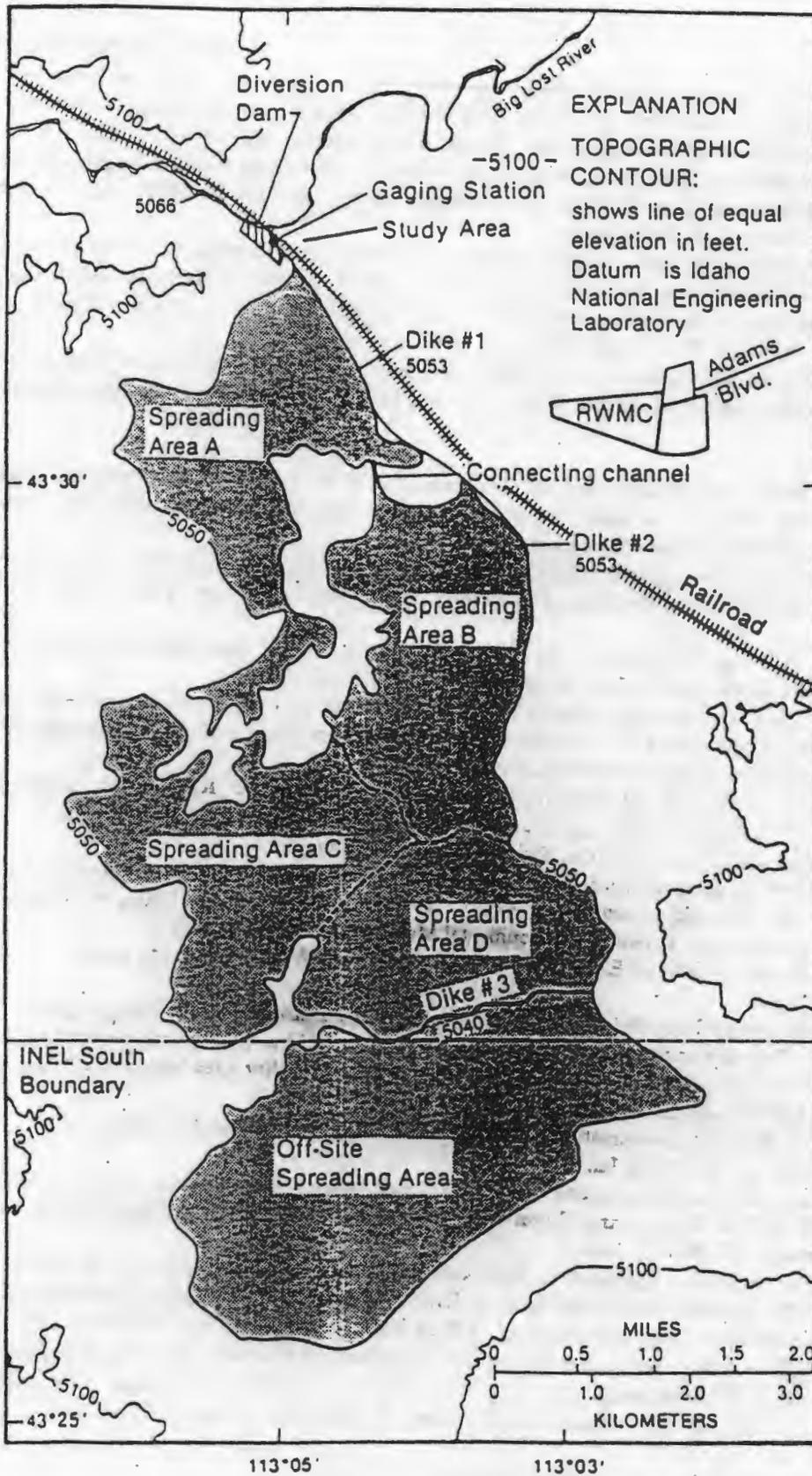
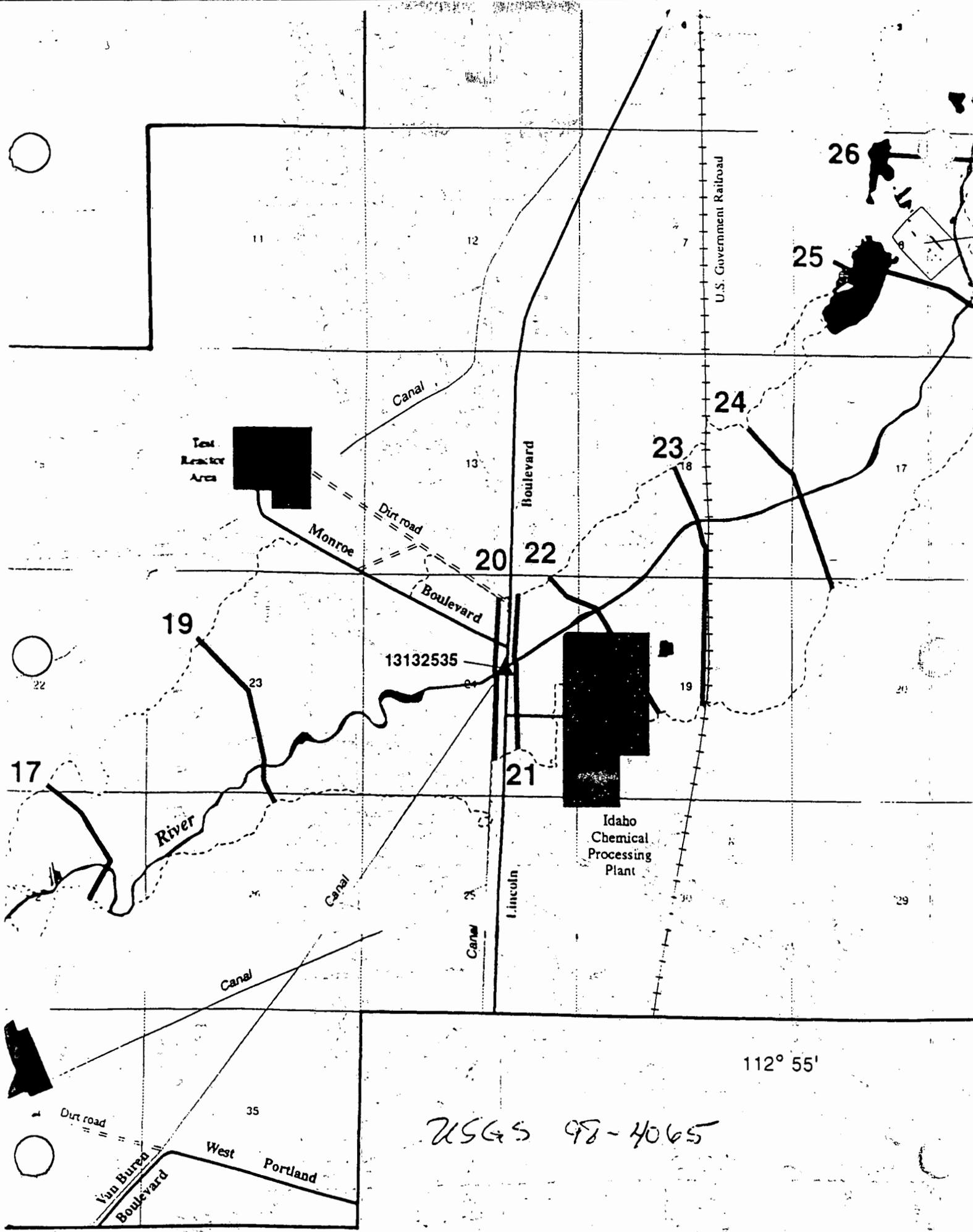


Figure 2.--Location of the study area and enlarged spreading areas A, B, C, and D



Test Reactor Area

Idaho Chemical Processing Plant

River

Boulevard

Monroe

Boulevard

Lincoln

U.S. Government Railroad

13132535

112° 55'

USGS 98-4065

Vin Burgo Boulevard

West Portland



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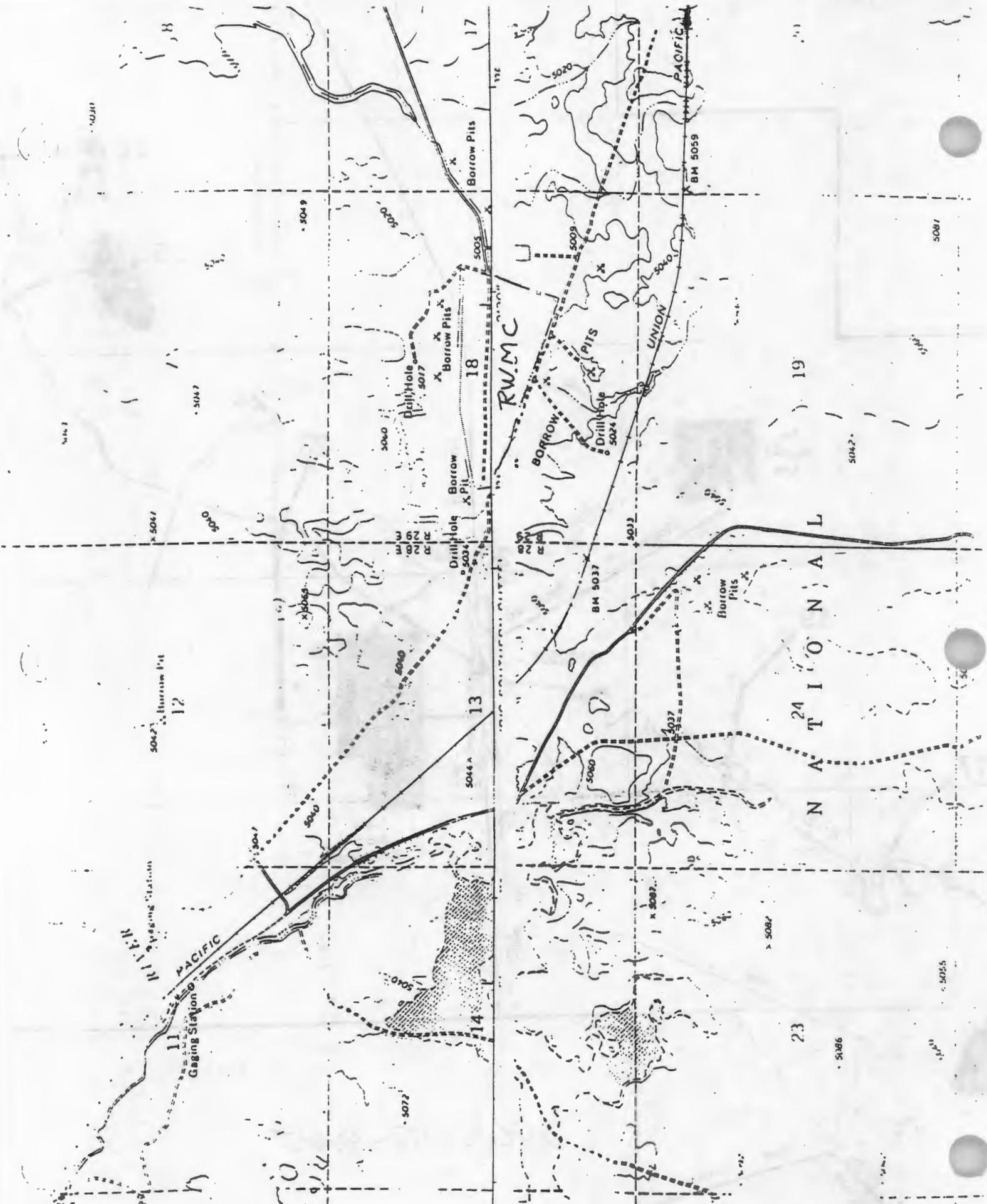
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USGS  
 Big Southern Butte  
 Arco Hills SE



BNFL Inc.  
1970 East 17th Street  
Suite 207  
Idaho Falls, ID 83404  
Tel: (208) 524-8484  
Fax: (208) 524-4442

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April 14, 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & LAND POLLUTION CONTROL  
MIS WASTE

Chris J. Davenport  
Program Development Specialist  
Idaho Division of Environmental Quality  
1410 North Hilton  
Boise, ID 83706-1255

**Subject: Public Hearing Request for the Advanced Mixed Waste Treatment Facility's Proposed Permit to Construct, AM-BN-L-524**

Dear Mr. Davenport:

BNFL Inc. would like to formally request that a public hearing be held on the Proposed Permit to Construct for the Advanced Mixed Waste Treatment Facility (AMWTF). We would also like to request that the public hearing be held in Idaho Falls on or around May 3, 1999. The latter request is to ensure that we have all appropriate BNFL Inc. personnel and resources available to attend the hearing. We feel that this public hearing will give the Advanced Mixed Waste Treatment Project an opportunity to demonstrate that the facility will be designed and operated in a manner that is fully protective of the area's existing air quality standards and to address specific public concerns regarding our project.

If you require any assistance with the logistical planning for the hearing, please do not hesitate to call Malone Steverson at (208) 528-2149 or me at (208) 524-8484.

Sincerely,

A handwritten signature in cursive script that reads "Frank Yaklich".

Frank Yaklich, General Manager  
Advanced Mixed Waste Treatment Project

cc: Mike Bonkoski, DOE-ID  
Malone Steverson, SAIC  
Project Files  
FJY-032-99

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

Staff Issue Report

December 1, 1998

**MEMORANDUM FOR:** G. W. Cunningham, Technical Director

**COPIES:** Board Members

**FROM:** T. Davis

**SUBJECT:** Advanced Mixed Waste Treatment Project at Idaho National Engineering and Environmental Laboratory

This memorandum documents issues reviewed by the staff of the Defense Nuclear Facilities Safety Board (Board) concerning the Advanced Mixed Waste Treatment Project (AMWTP) at the Idaho National Engineering and Environmental Laboratory (INEEL). The staff reviewed the project's status during the week of November 16, 1998. Staff participants included T. Davis, A. Gwal, C. Keilers, and R. Zavadoski.

The AMWTP is a privatization project to retrieve, characterize, treat, and package 65,000 cubic meters of transuranic and low-level mixed waste during the next 20 years. The fixed-price contract was awarded to British Nuclear Fuels Limited (BNFL) in December 1996. BNFL expects to secure the necessary environmental and safety approvals by September 1999 and then to complete construction and begin operation by 2003. The current design, which is approximately 20 to 30 percent complete, includes supercompaction, encapsulation, and incineration. Although much of the design to date appears sound, the staff identified several issues with regard to the facility safety analysis and facility design.

**Safety Analysis.** The draft Preliminary Safety Analysis Report (PSAR) identifies few systems as important to safety (i.e., safety-significant and safety-critical) as compared with safety analyses for other Department of Energy (DOE) facilities with comparable accidents, source terms, and distances to the public and workers. Also, the predicted releases from the design basis accidents do not appear appropriately bounding with regard to material quantity and type and for each type of dose receptor (i.e., the public, collocated workers, and facility workers). The staff notes that DOE-Idaho made similar comments concerning the PSAR and has requested further review of this issue.

Because the material that will be processed is not well characterized and to allow operational flexibility to process additional waste, the staff believes that it may be appropriate to conservatively simplify the safety analyses (e.g., source term assumptions). This change will increase confidence that the facility is adequate throughout its service life for accidents involving all conceivable input waste streams. While the current design criteria for many potential safety systems appear close to those at other DOE sites for safety-related equipment, this type of conservative safety analysis would likely identify any remaining improvements that need to be made.

**Criticality Controls.** BNFL has not determined how it will implement double contingency for criticality scenarios. It would be prudent to determine what controls will be used because of potential impacts to facility design. The one criticality control that has been identified, mass limits, is expected to rely on a software-based database system and software interlocks.

**Electrical Systems.** Single-point failures exist in the electrical distribution system even though the Project Design Criteria states that the distribution system should not have single-point failures. Additionally, the safety-significant radiation monitoring system does not have a safety-significant power supply.

**Fire-Protection System.** The fire-protection system was designed to 1994 codes, which have since been revised. It would be prudent to compare these requirements with the latest codes to ensure that safety requirements are not missed. The project used the Uniform Building Code in lieu of National Fire Protection Association (NFPA) requirements in NFPA 101. The NFPA 101 provisions ought to be reviewed to ensure that life safety code requirements are met.

**Seismic/Structural Design.** The contractor appears to be considering the less-stringent Performance Category (PC)-2 seismic and extreme wind criteria for all or portions of the building structural design. The staff believes it would be more appropriate to use the PC-3 requirements for structures, systems, and components that provide confinement of hazardous material or that need to function through an earthquake or other extreme loading event.

While most of the treatment processes with dispersible material are located in bays with thick concrete walls, the incinerator is located in a bay with three less-robust masonry walls. It may be appropriate to reevaluate the incinerator bay design to ensure that the walls provide appropriate confinement to protect the public and workers during both normal and accident conditions.

The staff believes it would also be timely for the architect-engineer, with assistance from INEEL, to update the seismic analysis approach document and better define how these analyses will be conducted. In particular, it would be worthwhile to incorporate information from other recent INEEL projects, such as site-specific design load combinations, snow mass for seismic analysis, seismic response spectra, and bedrock time histories for PC-3 seismic events. To improve load-carrying capacity during accidents, it may also be beneficial to incorporate into the design portions of the Seismic Zone 3 and 4 ductile detailing provisions from the Uniform Building Code.

# Environmental Defense Institute

P.O. Box 220 Troy, Idaho 83871-0220 Phone 208-835-6152 / Fax \*51

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APR 27 1999

Chris Davenport  
Technical Services Bureau  
Division of Environmental Quality  
Boise, ID 83706-1255

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

April 21, 1999

Dear Mr. Davenport,

**RE: Comments for the record ISFSI NRC Docket Number 72-20**

The Nuclear Regulatory Commission (NRC) issued a materials-license (SNM-2508) for the Three Mile Island Unit 2 Independent Spent Fuel Storage Instillation (ISFSI) to be built at the Idaho Chemical Procession Plant (ICPP) at INEEL. The Environmental Defense Institute is on record supporting the implementation of dry spent nuclear fuel storage on the INEEL site, the issue discussed here is where on site is the appropriate location for these storage facilities.

Current knowledge of potential flooding of the ICPP was not applied to the NRC's Safety Evaluation Report of Three Mile Island Unit 2 Independent Spent Fuel Storage Instillation Safety Analysis Report (SAR) that accompanied the March 19, 1999 NRC licence. The fact that DOE is experiencing trouble finding a private entity to build and operate the ISFSI may be a blessing if it offers an opportunity to reevaluate the siting criteria.

Specifically, the NRC safety report notes at [2-7] that the "Probable Maximum Flood (PMF) on streams and rivers of the SAR, the maximum flooding at the proposed TMI-2-ISFSI will be caused by over-topping failure of the Mackey Dam through a general storm probable maximum precipitation (PMP). The ISFSI site will be at or above the maximum flood level of 4,917 ft arnsl [sic] predicated for this dam failure scenario." This hydrology data is drawn from an outdated 1986 internal DOE report titled "Flood Routing analysis for a Failure of Mackey Dam" that put the peak flood flow rate at the ICPP at 66,830 cf/s.<sup>1</sup>

The US Geological Survey released a 1998 report that modeled the median 100-year flow rates in the Big Lost River down stream of the INEEL Diversion Dam (6,220 cf/s). The USGS report cross section number 22 at the ICPP puts the median flood elevation at 4,912 feet.<sup>2</sup> Again, this is only the mean flow rate (as opposed to the maximum rate of 11,600 cf/s) of just a 100 year flood, not including any additional cascading events like the failure of Mackey Dam. There are only five feet difference between the ISFSI elevation of 4,917 feet (that assumes Mackey Dam failure) and the USGS predicted elevation of 4,912 feet that does not include Mackey Dam failure. The USGS study also employed current modeling technics and plotted 37 separate cross sections on

<sup>1</sup> Flood Routing Analysis for a Failure of Mackey Dam, K. Koslow, D. Van Hafften, prepared by EG&G Idaho for U.S. Department of Energy, June 1986, EGG-EP-7184, page 26

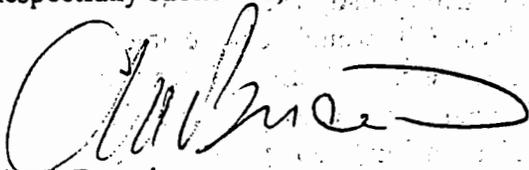
<sup>2</sup> Preliminary Water-Surface Elevations and Boundary of the 100 Year Peak Flow in the Big Lost River at the Idaho National Engineering and Environmental Laboratory, Idaho, US Geological Survey, Water-Resources Investigations Report 98-4065, DOE/ID-22148

the INEEL site. The NRC report relied on an out-dated DOE study and therefore is clearly understating the flooding problem with relation to the ISFSI.

Attached is a copy of the Environmental Defense Institute report that summarizes various USGS report findings and how it applies to siting of nuclear waste facilities at the INEEL. This report clearly documents why the ICPP is not an appropriate site for nuclear waste storage or disposal.

The Environmental Defense Institute (EDI) requests that discussions with the public and regulators be implemented to review the new hydrological information and consider a different site for the ISFSI that is currently slated for the ICPP which is also in a flood plain. Additionally, EDI requests consideration of USGS's proposal for two dimensional modeling of the maximum 100-year and 500-year flow rates and the impact on INEEL facilities to enable appropriate decisions on new and existing waste facilities.

Respectfully submitted,



Chuck Broschius  
Executive Director

cc:

E. William Brach, US Nuclear Regulatory Commission  
Kathleen Trever, INEEL Oversight Program  
Wayne Pierre, US Environmental Protection Agency

CleanupISFSI.com

April 26, 1999

Ellen Glaccum 208-622-5431

I am calling in regard to your last message about there being a public hearing scheduled for the proposed incinerator that British Nuclear Fuels wants to build. I am fairly perturbed that the hearing is going to be in Idaho Falls and I strongly suggest that you have another hearing most preferably for me in Twin Falls; but if that's impossible, at least in Boise. The deck is always stacked against you when you protest these things in Idaho Falls, plus it is a long way to go - for me I'm in Ketchum. And given the fact that Blaine County is going to be the recipient of much of the air pollution that results from this, I think that it behooves you to have a hearing closer to us than to Idaho Falls. So I wish that you would call me about this and I mostly wish that you would schedule another hearing. Boise would be OK with me, Twin Falls would be preferable. Obviously Ketchum would be the best. And also while we are at it, we have all these places that we can go and see this information, but of course if we live in Ketchum the closest we can go is Twin Falls. And for the umpteenth time I wonder why we can't have a DEQ public library sort of place to view this stuff in Blaine County somewhere. Please let me know what you think.

Thank you.

DNFSB

AMWTF

December 22, 1998

Mr. James M. Owendoff  
Acting Assistant Secretary for  
Environmental Management  
Department of Energy  
1000 Independence Avenue, SW  
Washington, D.C. 20585-1000

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APR 27 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

Dear Mr. Owendoff:

In accordance with its enabling statute, the Defense Nuclear Facilities Safety Board (Board) continues to review the design and construction of new Department of Energy (DOE) defense nuclear facilities. Enclosed for your consideration is an issue report prepared by the Board's staff on the design of the Advanced Mixed Waste Treatment Project at the Idaho National Engineering and Environmental Laboratory.

The Advanced Mixed Waste Treatment Project is a privatization effort to retrieve, characterize, treat, and package a large inventory of transuranic and low-level mixed waste that originated from defense nuclear facilities elsewhere in the DOE complex. The design is in the early stages. Construction is scheduled to be completed and operations begun by 2003. The Board's staff observed that much of the design to date appears sound, but that more effort is required in developing an adequate preliminary safety analyses and on applying sufficient conservatism in the identification of those structures and systems being relied on to perform a safety function. This identification is a key step in the design process since it determines which codes and standards ought to be invoked for safety-related structures, systems, and components. Inadequate identification of safety systems early in the design can cause significant delay later in the design as a result of the need to correct deficiencies.

Please feel free to contact me or have your staff contact Mr. Todd Davis of the Board's staff if there are questions on this matter.

Sincerely,

John T. Conway  
Chairman

- c: Mr. Mark B. Whitaker, Jr.
- Mr. John M. Wilczynski

Enclosure

# Environmental Defense Institute

P.O. Box 220 Troy, Idaho 83871-0220 Phone 208-835-6152 / Fax \*51

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DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

April 20, 1999

Chris Davenport  
Technical Services Bureau  
Division of Environmental Quality  
Boise, ID 83706-1255

Dear Mr. Davenport,

**RE: Comments for the record AMWTP Docket Number 10AP-9901**

The application for a permit to construct an air pollution emitting source by BNFL's Advanced Mixed Waste Treatment Project (AMWTP) must be denied until the company can provide adequate safety analysis to ensure the planned structures will meet regulatory requirements.

John Conway, Chairman of the Defense Nuclear Facility Safety Board (DNFSB) conveyed a staff issue report to DOE's James Owendoff dated December 22, 1998 that summarizes the board's review of the AMWTP project planned for construction at INEEL's RWMC.<sup>1</sup> Additionally, the flood potential of the RWMC and the related safety issues are not being adequately analyzed in the AMWTP.<sup>2</sup> These serious safety issues were not addressed in the AMWTP Final Environmental Impact Statement released in January 1999 by DOE. Failure to correct these identified flaws represent a violation of the National Environmental Policy Act.

Rather than going through the redundant process of restating the DNFSB and EDI's identified safety issues, copies are attached for your review. If you have any questions about these comments, please feel free to contact me at the above address.

Respectfully submitted,



Chuck Broscius  
Executive Director

Enclosures

<sup>1</sup> Conway, John, Chairman Defense Nuclear Facility Board cover letter to James Owendoff, Acting Secretary for Environmental Management, Department of Energy, December 22, 1998, conveying DNFSB Staff Issue Report Memorandum for G.W. Cunningham, Technical Director on subject of Advanced Mixed Waste Treatment Project at Idaho National Engineering and Environmental Laboratory

<sup>2</sup> Environmental Defense Institute Comments on Environmental Remediation at Idaho National Engineering and Environmental Laboratory Idaho Chemical Processing Plant and Radioactive Waste Management Complex, Chuck Broscius, April 22, 1999

5/13/99

4pm

To Chris Davenport  
DEQ Program Development Specialist

I would like to request a public hearing on permit 10AP-9901, the BNFL incinerator project.

I believe public health could be endangered by 2 unaddressed issues.

① More plutonium than predicted may expose the public from emissions. I am faxing my source of information along with this request. I refer to the paper by Dr. Melvin First of Harvard and his reference to "intermittent penetration of plutonium on HEPA filters in a series has been reported and attributed to the effect of recoil energy resuspending such particles following a disintegration." I also enclosed that study title in his references.

As a member of the Centers for Disease Control's citizen advisory panel I have also requested them to track the study to evaluate the true filtering ability, especially for used filters in this incinerator.

I would like to hear DEQ explain why this is not important.

② On that CDC panel I learned no studies have ever been conducted on animals, to study the synergistic effects of the numerous chemicals, metals and radionuclides, in combo. There appears to be

serious problems at Oak Ridge incinerator to workers and the public. These studies could shed light on the problem.

DEQ should refuse the permit until these basic steps are taken to ensure our protection. At least DEQ should explain why it's unimportant, which could be done at the public hearing.

I also need a set of air quality reg's. because my last request for them was draft copies.

Sincerely

Dr Peter Rickards DPM

2672 E 4000 N

TF, Id 83301

208 734 7941 (H)

734 3338 (W)

734 0588 (F)

PS sorry for my handwriting but I just saw today was the hearing request deadline, not the May 14 comment deadline

Peter

hp  
3  
A

**MELVIN W. FIRST, SC.D.**  
PROFESSOR OF ENVIRONMENTAL HEALTH  
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# Treatment of Gaseous Effluents

## at Nuclear Facilities

edited by

Walter R.A. Goossens

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WALTER R. A. GOOSSENS

when elevated temperature, high humidity, and corrosive gases are encountered.

Fortunately, the behavior of radioactive particles and nonradioactive particles is identical as far as collection processes are concerned and, with one possible exception, the mere presence of radioactivity has no influence on the filtration characteristics of airborne particles. However, the handling and disposal of collected radioactive particles may differ greatly from equivalent operations involving nonradioactive materials.

When one knows the aerodynamic equivalent diameter of a radioactive particle, one can predict its filterability with the same confidence that one can apply to nonradioactive particles of the same aerodynamic equivalent diameter. The possible exception is not associated with collectibility, but with the retention of particles of transuranic elements on high efficiency particulate air (HEPA) filters. Intermittent penetration of plutonium through four HEPA filters in series has been reported and attributed to the effects of fission energy suspending such particles. Following a disintegration [1]. Similarly, high radiation levels may cause air ionization and affect the aggregation properties of particles.

Radioactive aerosols cover the full range of particle characteristics (size distribution and concentration) encountered in similar activities associated with nonradioactive aerosols. For example, processing of uranium ores produces solid-particle aerosols that do not differ significantly from aerosols associated with the recovery of copper, lead, or zinc from their ores. Chemical dissolution of fuel elements and hot acids produces the same mists that occur when stainless steels are treated in the same way.

## 2 A Brief History of the Development of Nuclear Aerosol Treatment Technology

### 2.1 Early Filter Development for Military Use

At the start of the nuclear age, the time of the Manhattan Project, much of the activity centered around the recovery of uranium-bearing ores and their concentration, purification, and chemical conversion, primarily conventional steps in extractive metallurgy. Large tonnages of ores were handled at many sites, because of their low uranium con-

### 2. Removal of Airborne Particles

tent. Mineral dust, containing radioactive components in low concentration, was the principal concern.

Conventional dust control methods consisting of enclosures and local exhaust ventilation of processes were combined with the collection of entrained dusts by mechanical dust collectors (cyclones), scrubbers, and industrial cleanable cloth filters. Only filters were found to be adequate, and nuclear industry needs stimulated a number of important innovations in the design and operation of industrial cleanable cloth filters. The 1952 *Handbook on Air Cleaning*, published by the U.S. Atomic Energy Commission (USAEC), featured many dust collectors of these types [2].

The 1952 *Handbook* devoted but a brief section to high efficiency filters "made of CC-6 paper which was originally developed by the Chemical Corps for use in gas masks. It consists of fine asbestos fibers mixed with coarse cellulose fibers to give mechanical strength and act as a support for the asbestos. The asbestos mesh does most of the filtering... cellulose-asbestos paper is expensive and not available in large quantities" [2].

At that time, much of the early history of cellulose-asbestos filters was contained in classified military and USAEC documents, but it later became public knowledge that in the early days of WWII, the U.S. Army Chemical Corps received from the British army a piece of paper that had been removed from a captured German gas mask canister. Its remarkably high capture efficiency for chemical smokes caused the Army Chemical Corps and the Naval Research Laboratory to duplicate it and manufacture it in large quantities on conventional paper making machinery for use in service gas masks. The navy paper contained Bolivian crocidolite asbestos with cellulose pulp, the Army version (CWS) contained African crocidolite asbestos with esparto grass pulp. Crocidolite asbestos has long flexible fibers that can be cleaved to less than a 0.25  $\mu\text{m}$  diameter by mechanical beating.

Protection against chemical warfare agents is also required for operational headquarters, where the wearing of an individual gas mask is impractical. For these situations, the Army Chemical Corps developed a mechanical blower and air purifier known as a "collective protector" unit. As relatively large air volume flow rates were required, the smoke filter, incorporating cellulose-asbestos paper, was fabricated into a deeply-pleated form with spacers between the pleats to keep them apart and serve as air passages. It was the precursor of the air filter we now refer to as a high efficiency particulate air (HEPA)

858  
P 58  
Melvin W. First

The service requirements for nuclear filters cover a wide range of environmental exposures. Resistance to temperatures as high as 400 °C can be obtained by eliminating organic materials and containing filters entirely of metal and glass components. For temperatures above 500 °C, units containing only stainless steel components are available. Deep beds of mineral granules (sand, broken stone) are favored for emergency venting of hot, wet, and explosive gases because of their superior ability to withstand radiation, heat, and shock stresses, in spite of their somewhat lower filtration efficiency. Deep-bed and glass-fiber filters have been used satisfactorily for correlative gas service where recovery of collected particles has not been required. When chemical processing of spent filters is called for, the chemical resistance of replaceable filter units has not been entirely satisfactory for service when highly corrosive conditions such as wet gases containing HF are present.

Disposal of spent filters is increasingly difficult and expensive. Volume reduction by incineration has become less useful as requirements for the use of noncombustible filters have increased. At the same time, the number of permitted land disposal sites has shrunk and burial costs have escalated. These factors place a premium on construction and management of filter systems that are able to prolong the life of disposable elements. Useful procedures include: limiting the generation of aerosols by introducing improved work practices, plus the use of precollectors such as cyclone collectors that do not have to be discarded with the material they collect. Other useful methods that increase filter life include the use of disposable units containing larger amounts of media, and selection of fans and motors that permit dirty filter operation to a higher pressure drop. For most existing systems, the use of filter units with larger areas of effective filter media is likely to be the only feasible option without the need for extensive reconstruction.

The current status of high efficiency nuclear air- and gas-cleaning technology for aerosols is generally satisfactory, but improvements are needed for greater reliability, higher efficiency, improved capacity, and greater resistance to heat and corrosion continue to be introduced.

## 2. Removal of Airborne Particles

### 2.11 References

1. W.J. McDowell, E.G. Seelye, and M.T. Ryan, "Penetration of HEPA Filters by Alpha Recoil Aerosols," In *Proc. of the 14th ERDA Air Cleaning Conference*, (Energy Research and Development Administration, National Technical Information Service, Springfield, VA, 1977), p. 662.
2. S.K. Friclander, L. Silverman, P. Drinker, and M.W. First, *Handbook on Air Cleaning* (U.S. Printing Office, Washington, DC, 1952), pp. 34-36.
3. *Laminar Flow Grade HEPA, ULPA and BLSI Filters*, (Flanders Filters, Inc., Washington, NC, 1988), p. 3.
4. W.G. Stockdale, J.C. Suddath, and W.K. Eisler, "Control of Radioactive Air Contamination at Oak Ridge National Laboratory," In *Meeting of AEC Waste Processing Committee, at Los Alamos, NM, TID-460* (Atomic Energy Commission, Technical Information Service, Oak Ridge, TN, 1950), p. 55.
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7. A.G. Blassewitz, "Dissolver Off-Gas Filtration," In *Air Cleaning Seminar, Ames Laboratory, September 15-17, 1952*, WASH-149 (Technical Information Service, Oak Ridge, TN, 1954), p. 66.
8. J.R. Beretta and J.D. McCormick, "Sodium Fire Aerosol Loading Capacity of Several Sand and Gravel Filters," In *Proc. 16th DOE Nuclear Air Cleaning Conference*, (National Technical Information Service, Springfield, VA, 1981), p. 763.
9. J.L. Kovach, "Review of Contaminant Vent Filter Technology," In *Proc. 20th DOE/NRC Nuclear Air Cleaning Conference*, (Supt. of Documents, U.S. Government Printing Office, Washington, DC, May 1989), p. 21.
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11. I. Langmuir, *Report on Smokes and Filters*, OSRD 865 (OSRD,



# Snake River Alliance

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April 30, 1999



Chris J. Davenport  
 Program Development Specialist  
 Division of Environmental Quality  
 1410 North Hilton  
 Boise, ID 83706-1255

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MAY 04 1999

DIV OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE



Dear Mr. Davenport,

Thank you for yesterday's receipt of NOTICE OF SCHEDULED HEARING AND CONTINUATION OF PUBLIC COMMENT PERIOD REGARDING AN APPLICATION TO CONSTRUCT AN AIR POLLUTION EMITTING SOURCE regarding the proposed permit to construct an Air Pollution Emitting Source and proposed Action: BNFL Inc construction of an Advanced Mixed Waste Treatment Facility at INEEL. I received it the day after we spoke.

Please accept this letter from the Snake River Alliance as a written request for a public hearing in Boise, Idaho for interested persons to appear and submit written and/or oral comments on the above mentioned Application.

It is the opinion of the Snake River Alliance that the area of impact for the pollution emitting source and proposed action of the BNFL Inc, construction of the Advanced Mixed Waste Treatment Facility at INEEL, is much more broad that perceived by the Division of Environmental Quality as you summarized to me in our conversation. The Boise area must be included as an area of impact.

Air pollution can travel far from the source, as demonstrated by the now well-known impact of fallout of I-131 on Idaho as a result of nuclear bomb testing in Nevada throughout 1950 and 1960. Further, the tourism industry in Idaho and wonderful weather, visibility, and geography of the area around INEEL, attracts many people, including Boise residents.

Thank you for your consideration of our request,

*Pamela Allister*

Pamela Allister  
 Executive Director

ENC: 1998 Annual Report

CC: Rocky Barker, *The Idaho Statesman*

# Environmental Defense Institute

P.O. Box 220 Troy, Idaho 83871-0220 Phone 208-835-6152 / Fax \*51

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## Comments on the Advanced Mixed Waste Treatment Facility

### Environmental Impact Statement

Submitted by Chuck Broschius

February 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

The Advanced Mixed Waste Treatment Project (AMWTP) Environmental Impact Statement (EIS)<sup>1</sup> represents a fundamental flaw in the Department of Energy's radioactive waste management priority setting process. The EIS states that the new treatment plant for transuranic (TRU) waste will focus first on the 65,000 cubic meters of stored waste currently in buildings at the Radioactive Waste Management Complex (RWMC). However, the most immediate hazard the TRU and Alpha low-level waste buried in shallow pits and trenches at the RWMC because the contaminants are migrating into the underlying Snake River Plain Aquifer. This most vulnerable buried waste is not mentioned in the EIS much less prioritized for cleanup. DOE's Integrated Data Base Report puts the INEEL buried waste at 57,100 cubic meters.<sup>2</sup> The EIS states AMWTP "could also treat an additional 120,00 cubic meters of waste from INEEL and other DOE sites." Absent definitive commitment to exhume the buried waste (which would require considerable resource allocation), one must assume 120,000 cubic meters will be primarily imported waste.

The now famous Lockheed-Martin privatized Pit-9 waste retrieval demonstration project at the RWMC has been completely canceled and the parties are filing reciprocal law suits which likely will take years to resolve. Beyond the Pit-9 project there has never been a DOE commitment to exhume all the buried radioactive waste and ship it to an off-site permanent repository. Idaho Governor Phil Batt arrogantly refused to allow the Environmental Defense Institute (EDI) to file an Amicus Curiae Brief (friend of the court) in the 1995 litigation between the State and DOE that stipulated the disposition of the INEEL radioactive waste. EDI's Amicus Brief identified deficiencies in the proposed agreement related to the buried waste exclusion that the court and the public needed for an informed decision. The U. S. Federal Court accepted the Settlement Agreement in 1995.

The State Agreement only mandates the off-site disposal of 65,000 cubic meters<sup>3</sup> of Transuranic (TRU) waste at INEEL. The State and DOE are quick to say that the buried TRU waste is covered by the Federal Facility Agreement/ Consent Order (FFA/CO). This is true, however, the FFA/CO only specifies that the burial grounds will be evaluated for remediation. There is nothing in the FFA/CO that requires that the buried-waste be exhumed and shipped to a repository, despite the fact that it is the buried waste that is contaminating the soil and groundwater. Recent Superfund

<sup>1</sup> U.S. Department of Energy Idaho National Engineering and Environmental Laboratory Advanced Mixed Waste Treatment Project Environmental Impact Statement, January 1999, DOE/EIS-0290

<sup>2</sup> Integrated Data Base Report 1994: U.S. Spent Nuclear Fuel and Radioactive Waste Inventories, Projections, and Characteristics, September 1995; DOE/RW-0006, Rev. 11, page 19

<sup>3</sup> Public Service Co. of Colorado v. Batt (Civil No. 91-0035-S-EJL [D. Idaho Oct. 17, 1995] [Consent Order]), page 2.

Records of Decisions (SL-1 and BORAX-1 burial sites at INEEL) stipulate no remediation except for a thin soil/rock radiation shielding cover. DOE's own exposure scenario shows that 5 in 10 individuals exposed to the site would get cancer. Superfund cleanup at residential sites require no greater than 1 in one million cancers. This is indicative of DOE's unwillingness to dig up buried waste and the State/EPA's unwillingness to press for real cleanup and regulator acceptance of nuclear sacrifice zones for perpetuity.

INEEL's buried waste is not slated for internment at the Waste Isolation Pilot Plant (WIPP) in New Mexico. Only the post 1970's stored waste is slated for WIPP. Indeed, if INEEL's stored and buried waste were destined for WIPP, its 6.2 million cubic foot capacity would be nearly filled by INEEL's waste alone - leaving other DOE TRU waste inventories at other sites without a repository. Notwithstanding the INEEL Pit-9 demonstration project that was to exhume the contents of this one pit, there is no commitment that other pits, trenches and waste holes will be dug up. Indeed, the Congressional cuts to DOE's environmental restoration budget strongly indicate that no money will be available to fully remediate this dump site.

DOE's Defense Nuclear Facility Safety Board (DNFSB) review of the Department's disposal policy notes that INEEL has the largest radioactive inventory and largest average curie concentration in its buried waste than any other DOE site in the country.<sup>4</sup> Another DNFSB report on INEEL TRU and low-level waste management notes that the RWMC does not even meet DOE's Order 5820.2A disposal criteria much less the more stringent Nuclear Regulatory Commission commercial disposal standards in 10 CFR Part 61 for the following reasons:

- There are no inventory limits
- There is no pit drainage
- It violates the flooding exclusion
- Radiation exposure limit (25 mrem/yr) is exceeded<sup>5</sup>

Other federal agency reviews have noted the flooding issue at the RWMC. The US Geological Survey (USGS) released a study this year (1998) acknowledging areas at the INEEL that would be flooded in a peak 100-year flood.<sup>6</sup> USGS cited three previous studies that estimated that the RWMC would be under water because the dump lies 47 feet below the Big Lost River. "This peak flow was routed down stream [of the Big Lost River] as if the INEEL diversion dam did not exist. On the basis of a structural analysis of the INEEL diversion dam (U.S. Army Corps of Engineers) the dam was assumed incapable of retaining high flows. The Corps indicated that the diversion dam could fail if flows were to exceed 6,000 cubic feet per second."<sup>7</sup> A conservative risk assessment would consider cascading events - 100 flood plus failure of Mackay Dam (built in 1917) resulting in estimated flows of 7,260 + 54,000 cubic feet per second respectively. USGS did not consider cascading events but noted another previous study showing that failure of Mackay Dam alone would

<sup>4</sup> Low-level Disposal Policy for DOE Facilities, Defense Nuclear Facility Safety Board, September 1992, DNFSB-Tech-2

<sup>5</sup> Trip Report- Review of Transuranic and Low-level Waste Management at the Idaho National Engineering Laboratory [sic] Defense Nuclear Safety Board, November 15, 1994, DNFSB.TRU.08049

<sup>6</sup> Preliminary Water-Surface Elevations and Boundary of the 100 Year Peak Flow in the Big Lost River at the Idaho National Engineering and Environmental Laboratory, Idaho, US Geological Survey, Water-resources Investigations report 98-4065, DOE/ID-22148

<sup>7</sup> DOE/ID-22148, page 8

hole DO2.<sup>13</sup> [DOE/ID-10183@134-145] Radionuclides are also confirmed in the aquifer under the RWMC.<sup>14</sup> [EG&G-WTD-9438@25] A 1976 USGS reports notes water sampling data at the 600 foot levels, expressed in pico curies per liter (pCi/l) show:

Groundwater Sampling Data at 600 Feet Under RWMC<sup>15</sup>

Nuclide	Concentration pCi/L	Drinking Water Std. pCi/L
Tritium	10,000.00	20,000.00
Cobalt-57	48.00	1,000.00
Cobalt-60	100.00	100.00
Cesium-137	400.00	119.00
Plutonium-238	9.00	7.02
Plutonium-239-240	0.14	62.10
Americium-241	15.00	6.34
Strontium-90	10.00	8.00

[DO-22056 @66] \* The drinking water standard for gross alpha (total of all alpha emitters) is 15 pCi/l.

USGS report titled *Hydrology of the Solid Waste Burial Ground as Related to the Potential Migration of Radionuclides Idaho National Engineering Laboratory*, describes in detail the monitoring well drilling methodology. USGS hydrologists that drilled the wells went to considerable lengths to ensure surface or near-surface contamination did not compromise their 600 foot deep well samples listed in the table above. Analysis of the circumstances of the RWMC generated the following principal evidence supporting migration of radionuclides to the aquifer below:

"Sufficient water has come in contact with buried waste to cause initial leaching and mobilization. Sufficient quantities of wastes have been available for leaching to account for observed subsurface radionuclide concentrations. The lithologic column beneath the burial ground has sufficient permeability and appears to be at field moisture capacity; this would allow infiltrated water to have migrated downward. Sufficient water has percolated downward through the burial ground to have reached depths where significant concentrations of radionuclides were found. Most of the higher subsurface radionuclide concentrations tended to lie beneath the oldest buried waste or beneath the areas through which the most water has percolated. A greater percentage of samples analyzed from the 110 foot sedimentary layer contained waste isotopes than from the 240 foot or deeper layers in the six interior wells. Samples from wells 93 and 96 indicate greater concentrations of nuclides in the 110 layer than in the 240 foot layer. Many of the observed subsurface concentrations of radionuclides were greater than could be attributed to artificial sample contamination from any known ground-surface or other overlying sources."<sup>16</sup> [DO-22056@83]

DOE's own sampling of the seven USGS 600 foot wells at the RWMC between 1987 and 1997

<sup>13</sup> INEL [sic] Pit-9 Remedial Investigation / Feasibility Study Volume II, page 134; DOE/ID-10183

<sup>14</sup> A Brief Analysis and Description of Transuranic Wastes in the Subsurface Disposal Area of the Radioactive Waste Management Complex at INEL [sic], Arrenholtz and Knight, Remedial Investigation / Feasibility Study, EG&G Idaho August 1991, EG&G-WTD-9438

<sup>15</sup> IDO-22056, page 66

<sup>16</sup> IDO-22056, page 83

drainage.<sup>27</sup> [DO-22056 @10] This drainage problem begs the question of long-term institutional control to prevent flooding after DOE is gone.

On August 3<sup>rd</sup>, (only a couple weeks after releasing the EIS), DOE announced that the vitrification component of the AMWTP is being dropped. No explanation was offered for eliminating this preferred alternative in favor of compaction, incineration and "microencapsulation" which is grandiose way of saying mixing it with cement (grouting). This is ridiculous because DOE does not know what kind of characterization and treatment - waste acceptance criteria (WAC) - is required.

DOE cannot assume that the Waste Isolation Pilot Plant in New Mexico will open to accept INEEL's TRU waste. The State of New Mexico has not issued the WIPP Resource Conservation Recovery Act (RCRA) disposal permit that would also include the waste acceptance criteria, and likely never will because the state believes WIPP cannot meet RCRA standards. The state and numerous environmental groups have sued DOE over these deficiencies. The outcome of the suit (expected near the end of 1998) will determine if WIPP meets RCRA criteria and then the State of New Mexico will determine the waste acceptance criteria (expected to take several years).

The collective wisdom considers that vitrified (glass) waste will meet any repository waste acceptance criteria, however as previously noted, DOE has dropped that phase from the AMWTP. Just as important is the very real possibility that WIPP will never open and INEEL will be faced with long-term onsite storage. In that scenario, vitrified waste form is the most stable, from a storage perspective than incinerated, compacted, or grouted waste. Grouting was tried at Hanford and rejected because the waste's radioactive heat caused uneven curing of the cement which resulted in cracks and water infiltration. Grouting also increases the waste volume and makes it extremely difficult to - at some later date - vitrify the waste. There are no upper radioactive concentration boundaries for TRU waste, so it can be more radioactive than some types of high-level waste. Add to that the fact that TRU waste can be highly radioactive for hundreds of thousands of years which is for all practical reasons - perpetuity, and you are faced with a very serious problem.

Radioactive waste incinerators release radioactivity into the air, despite emission control systems, and for this reason they were banned at Rocky Flats in Colorado, Lawrence Livermore Laboratory in California, and Los Alamos National Laboratory in New Mexico. These bans were the result of citizen law suits which exposed how hazardous they are. This is why DOE is anxious to import waste from these other sites for treatment at AMWTP. The TRU waste category includes plutonium. Earl Budin, M. D. associate professor of Radiology at UCLA Medical Center notes in a recent article that "a alpha particle from a single plutonium-238 atom can cause lung cancer."<sup>28</sup> It is not fair to Idahoans to be subjected to hazards from waste treatment that other states will not allow within their borders.

27. IDO-22056, page 10

28. Dr. Budin cites: "Effects of a Single Alpha Particle" proceedings of the National Academy of Science, USA, 94:3765-3770, 1997; b "Radiation - Induced Transformation by Single Exposure to Plutonium", International Journal of radiation Biology, 72:515-521, 1997; c

"Transmission of Chromosomal Instability after Plutonium Particle Irradiation," Nature, 355:738-740, 1992

# Environmental Defense Institute

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MAY 10 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

Chris Davenport  
Technical Services Bureau  
Division of Environmental Quality  
Boise, ID 83706-1255

May 4, 1999

Dear Mr. Davenport,

**RE: Supplemental Comments for the record AMWTP Docket Number 10AP-9901**

Microencapsulation is a treatment process that mixes a waste and a stabilizing medium into a somewhat homogenous mass. Macroencapsulation is a process that uses a stabilizing medium to fill voids in between waste pieces and the waste container. The stabilizing medium described in the Final Advanced Mixed Waste Treatment Project (AMWTP) Environmental Impact Statement (EIS) as the preferred alternative for transuranic waste stabilization is portland cement and fly-ash commonly called grout. The vitrification of the incinerator ash alternative has been rejected by DOE in favor of cheaper grout microencapsulation even though it is associated with failed waste stabilization programs at Hanford, Rocky Flats, Oak Ridge, and the Shattuck radium dump near Denver.

DOE's response to the Environmental Defense Institute's AMWTP EIS comments concerning the failed Hanford grouting program incorrectly states that the Hanford "Grout passed all of the performance assessment and regulatory requirements" and that "Another issue that led to rejection of grout included stakeholder reactions to the disturbance of 80 acres of land for the project." [3-63] The Hanford microencapsulation grout program did not meet regulatory disposal requirements and the stakeholders objected to the illegal use of the 80 acres. It is presumptuous to credit the stakeholders with killing a project that met all the ARAR's. One of the many problems with the Hanford grout was the uncontrollably excessive curing temperature that kept increasing over time causing extensive fracturing and increased teachability and decreased strength. [PNL-7838]

The Rocky Flats failed grouting program is also instructive since DOE has repeatedly bungled the "Pondcrete", some of which were returned from INEEL and NTS due to problems with the waste form which never cured (hardened). It was prominently featured as part of the felony environmental crimes for mismanagement of rad/hazwaste in the 1989 FBI case "USA vs. Rockwell", in which Rockwell pleaded guilty. The recent (1999) USA ex rel James Stone vs. Rockwell case also featured this issue, and the jury found the charges of false claims and defrauding the government were worthy to be upheld.

Organics are not recommended to be used with SPC, however the advantages over concrete grout reside mainly in: (1) lower porosity of the matrix resulting in better confinement of the hazardous or radioactive elements, (2) lower volume increase achieved with this type of matrix and, (3) no need for characterization of the waste in order to tailor a successful grout formulation. [MWFA]

Other alternatives to incineration have yet to be adequately evaluated by DOE. Specifically, low temperature desorption (microwave or steam reforming) that would volatilize the hazardous organic chemicals (VOC) and PCB's but not generate temperatures high enough to volatilize or otherwise suspend radionuclides. The off-gas from this low temperature desorption process containing the VOC could then be subjected to a high-temperature burner to destroy the hazardous chemical components of the waste. The residual waste (containing hazardous metals etc.) would then be encapsulated in a SPC type matrix. This type of combination may even be preferable from an emissions standpoint than a vitrification process.

With uncharacteristic candor, a 1990 Lawrence Livermore internal advisory panel notes that: "We have never been comfortable with EPA's position that incineration of mixed waste to eliminate its chemical toxicity should be the first procedural step and burial of its radioactive residuals the second step. This approach commits to the volatilization of important radionuclides, including tritium, carbon-14 and several isotopes of iodine. Furthermore, the incineration of non-volatile nuclides, including those of uranium and plutonium, leads to a finite, although exceedingly small, probability of radioactivity being emitted from the incinerator's stack. We view incineration as a violation of the cardinal principle of radioactive waste treatment; namely, containing radioactivity rather than spreading it." [LLNL]

At least three separate citizen suits against DOE's radioactive waste incinerators in the last decade were successful in shutting down two operating and one planned incinerator. They included Rocky Flats, Los Alamos National Laboratory, and Lawrence Livermore National Laboratory. [suits] The evidence presented to each of the federal courts left no doubt that DOE's existing and proposed incinerators did not meet regulatory requirements under the Clean Air Act, Resource Conservation Recovery Act, National Environmental Policy Act (NEPA), and respective state environmental laws. Undaunted by these legal defeats, DOE again tried to ram the AMWTP through without complying with NEPA and consequently were sued by the Snake River Alliance and once again, lost.

DOE's refusal to follow through on the AMWTP vitrification component again forces public interest organizations to consider litigation since DOE continues to ignore anything short of a court order. Even DOE's own Nuclear Facility Safety Board found the AMWTP EIS deficient.

Dear DEQ,

5-13-99

I have just read with great horror that Idaho DEQ is considering granting a permit to British Nuclear Fuels to incinerate hazardous waste at the INEEC site. Please tell me this report was a mistake! I cannot imagine living downwind, or anywhere near this kind of activity! This is just a quick note on my part to register my complete opposition to this activity. I will do everything I can to defeat this should DEQ decide to pull more of the same on its citizens.

I would also like to request being put on your mailing list concerning this matter.

Thank you,

Kevin Brenden

Kevin Brenden

67 Cobblecrest Rd.

Driggs, ID 83422

208-354-3830

RECEIVED

MAY 17 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

Metropolitan

Stephen Horowitz

Chris J. Davenport  
DEQ  
1410 N. Hilton  
Boise, ID 83706-1255

RECEIVED

MAY 17 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

Dear Mr. Davenport,

Please read this into the record for public comment on the proposed AMWTP.

Why in the world would anyone make a choice to put a nuclear waste incinerator in their backyard? That is the question I would like answered. Why would you want to be responsible for contributing 30 years of hazardous waste into the environment of SE/S central Idaho.

Why here? Why us? Who's paying you to promote this scheme? Have you got your head screwed on backwards or what?

This incinerator was, is and always will be a dumb idea. Don't do it.

Regards,  
Stephen Horowitz

cc/Gov. Dirk Kempthorne

RECEIVED

MAY 17 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

WENDY JAQUET  
DISTRICT 21  
CAMAS, LINCOLN, BLAINE,  
ELMORE & GOODING COUNTIES

HOME ADDRESS  
P.O. BOX 783  
KETCHUM, IDAHO 83340  
HOME (208) 726-3100  
FAX (208) 726-0644  
EMAIL: WJAQUET@SUNVALLEY.NET



COMMITTEES  
ENVIRONMENTAL AFFAIRS  
JUDICIARY, RULES & ADMINISTRATION  
STATE AFFAIRS  
WAYS & MEANS

## House of Representatives State of Idaho

May 14, 1999

MINORITY LEADER

RECEIVED

MAY 17 1999

DIV OF ENVIRONMENTAL QUALITY

990655

Mr. Steve Allred  
Administrator  
Division of Environmental Quality  
1410 N Hilton  
Boise, ID 83706-1255

Dear Mr. Allred:

I want to express my concerns about the planned incinerator at INEEL; I will be out of the state for the remainder of the month and will not be able to attend the Twin Falls hearing. Thank you for arranging for that additional hearing site.

My concerns are the following:

1. Why do we need to get all of this material for burning? It seems like we continue to be the "dumping ground". I can see treating the waste that is here, but why will we do our waste the first 13 years and then the remaining years we'll take the other DOE site waste? What kinds of impacts will this have to our highways and county roads. Will the DOE provide funding for road maintenance?
2. Why can't it be stored in safe containers above ground on asphalt platforms? Why do we need to undertake this burning? Why are we choosing the alternative that has the largest (although still small) potential near-term impacts to air quality, public health and worker risk?
3. The list of toxic air pollutants sounds like the chemotherapy toxic chemicals that I took to get rid of my cancer. Sounds like horrible stuff. Do we have on staff talented people to evaluate such a process and people who can hold the private contractor accountable? Lockheed-Martin was a private contractor and look where we ended up with Pit 9? Who was watching the "store" at that time?
4. Are we too excited about the potential construction revenue to not see the forest through the trees?

As a breast cancer survivor who still has no idea where I got breast cancer, I am very concerned about what goes into the air. This doesn't sound like a good idea to me. I would appreciate your



STATE OF IDAHO  
DIVISION OF  
ENVIRONMENTAL QUALITY

1410 North Hilton • Boise, Idaho 83706-1255 • (208) 373-0502

Dirk Kempthorne, Governor  
C. Stephen Allred, Administrator

May 25, 1999

Wendy Jaquet  
District 21  
P.O. Box 783  
Ketchum, ID 83340

RE: May 14, 1999 Letter to DEQ from Wendy Jaquet  
(Quick Response #599138)

Dear Mrs. Whittaker:

This letter acknowledges receipt of your submittal dated May 14, 1999, and received by our office on May 17, 1999. Your letter will be entered into the record for the BNFL Inc. public comment period. DEQ will prepare a response package at the conclusion of this period.

If you have any questions, contact Mike Simon, Air Quality Engineer, at (208) 373-0502.

Sincerely,

Susan J. Richards, Chief

Air Quality Permitting Bureau  
Air and Hazardous Waste

SJR/ms

C:\DATA\WP61\1RICHARDS\1-M599138QR.LTR

- cc: C. Stephen Allred, DEQ Administrator
- O. D. Green, State Air Program Administrator
- M. Simon, Air Quality Engineer - AQPB
- Source File
- COF

JANET OCROWLEY  
MURPHY HOT SPRINGS BOX #2  
ROGERSON, ID 83302  
208-857-2265

TO: Chris J. Davenport  
Program Development Specialist  
Idaho DEQ

FROM: Janet OCrowley

5/14/99

RECEIVED

MAY 18 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

Dear Mr. Davenport Regarding the proposed air pollution permit for BNFL:

I do not want acetone, benzene, butylalcohol, carbon tetrachloride, chlorobenzene, chloroform, cyclohexane, 1,2-dichloroethane, dichloroethane, cis-1,2-dichloroethene, 1,1-dichloroethene, 2-ethoxethanol, ethylbenzene, ethyl ether, isopropanol, methane, methanol, methyl ethyl ketone, methylene chloride, nitrobenzene, 1,1,2,2-tetrachloroethane, tetrachloroethene, toluene, 1,1,1-trichloroethane, 1,1,2-trichloro-1,2,2-trifluoroethane, 1,2,4-trimethylbenzene, 1,3,6-trimethylbenzene, xylene, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, nickel, selenium, silver, asbestos, cyanide, polychlorinated biphenyls permitted by an Idaho agency to be released into Idaho air. *for 30 years.*

I would far rather that BNFL should be incinerated.

Sincerely

*Janet Crowley*

RECEIVED  
MAY 14 1999

OLIVERSON

911 87741

OLIVERSON

Leadore Idaho

May 14, 1999

Dear Sirs,

I understand that a British Company wants to build a incinerator at the INEEL to burn toxic and nuclear waste. This seems so absurd that the U.S. Government would even think of letting anything like this into our country, and surely our Idaho leadership and the citizenry would firmly object.

I'd surley appreciate any information you could send me concerning this matter.

Thank you so very much.

Yours truly,

*Mrs. Carol Whittaker*

Mrs. Carol Whittaker

Box 10

Leadore, Idaho 83464



STATE OF IDAHO  
DIVISION OF  
ENVIRONMENTAL QUALITY

1410 North Hilton • Boise, Idaho 83706-1255 • (208) 373-0502

Dirk Kempthorne, Governor  
C. Stephen Allred, Administrator

May 25, 1999

*Chris D.*

Mrs. Carol Whittaker  
Box 10  
Leadore, ID 83464

RE: May 14, 1999 Letter to DEQ from Mrs. Carol Whittaker  
(Quick Response #599144)

Dear Mrs. Whittaker:

This letter acknowledges receipt of your submittal dated May 14, 1999, and received by our office on May 19, 1999. Your letter will be entered into the record for the BNFL Inc. public comment period. DEQ will prepare a response package at the conclusion of this period.

Documents regarding BNFL Inc., including the environmental impact statement, the air quality permit to construct public comment package, and the RCRA permit application may be obtained by contacting Linda Smith, Public Records Custodian, at (208) 373-0502.

If you have any questions, contact Mike Simon, Air Quality Engineer, at (208) 373-0502.

Sincerely,

Susan J. Richards, Chief  
Air Quality Permitting Bureau  
Air and Hazardous Waste

SJR/ms C:\DATA\WP61\RICHARDS\SL-M\599144QR.LTR

cc: C. Stephen Allred, DEQ Administrator  
B. Monson, DEQ Bureau Chief - HWPB  
M. Simon, Air Quality Engineer - AQPB  
Source File  
COF

STANDARD ELECTRIC

MAY 19 1964

IDAHO DEQ

1410 NORTH HILTON

BOISE, ID

83706-1255

920671  
5-14-64

TO WHOM IT MAY CONCERN,  
I READ IN OUR LOCAL PAPER,  
THE JACKSON HOLE NEWS, THAT BRITISH  
NUCLEAR FUELS, PLANS TO BEGIN CONSTRUCTION  
THIS SUMMER ON AN INCINERATOR AT

IN MY UNDERSTANDING  
THAT THE EMISSIONS FROM THIS  
PLANNED INCINERATOR INCLUDE MANY  
HARMFUL CHEMICALS AND THAT THE  
RADIOACTIVE DOSES PEOPLE WILL

RECEIVE ARE "ABOVE THE ACCEPTABLE  
CUTOFF VALUE". PLEASE KNOW

THAT MANY PEOPLE IN JACKSON  
HOLE ARE VERY CONCERNED  
ABOUT THE PLAN FOR AN  
INCINERATOR OF THIS TYPE AND  
SIZE. THE THOUGHT OF A  
FUTURE WITH SUCH A POTENTIAL  
OF ENVIRONMENTAL DAMAGE, IS

NOTHING SHORT OF A NIGHTMARE,  
MOST OF THE PEOPLE IN JACKSON  
HAVE GIVEN UP MUCH IN  
EXCHANGE FOR THE HIGH QUALITY  
OF OUTDOOR LIFE THAT WE ARE  
PRIVILEGED TO ENJOY. PLEASE HELP  
TO PROTECT US - SAY NO TO  
ANY APPROVAL OF BRITISH NUCLEAR'S  
VARIANCE PERMIT.

A CONCERNED CITIZEN  
OF JACKSON, WY. FOR  
OVER 40 YEARS.

SINCERELY,

CATHY CENTRELLA  
Box 2498  
JACKSON, WY.  
83001  
(307) 733-6164

MAY 15 1999

990679

DEQ  
1410 N. Hilton  
Boise, ID 83706

May 17, 1999

Dear Sirs,

Please do not make Idaho the dumping ground for toxic and nuclear waste!!

Please do not allow British Nuclear Ltd. build the incinerator!

Why, for a few dollars which the State might make from allowing the incinerator to be built jeopardize the health of the citizens of the State. The risk is too great!

There must be a better way. Please find that way!

Sincerely,

*Newell Morgan*

Dr. & Mrs. Newell Morgan

*535 7th Street, 90*  
*3512 6th Street*  
*Boise, Idaho*  
*83702*  
*Phone 281-5011*

May 17, 1999

RECEIVED

MAY 20 1999

990688

DEQ  
1410 N Hilton  
Boise, ID 83706

Re: Proposed Advanced Mixed Waste Treatment Project at INEEL

To whom it may concern:

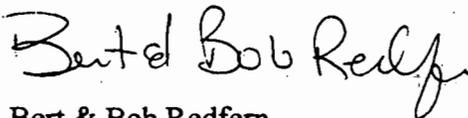
Please consider this letter written testimony, on the above mentioned subject. We want this to be recorded as part of the hearing process you are now undertaking on this project.

My husband and I are native Idahoans, temporarily living out of state. We still own property in Blaine & Twin Falls Counties & are tax payers with a keen interest in INEEL's activities. After all, this facility rests upon our water supply, the supply for nearly all of Southern Idaho.

We are on the mailing list for the EIS at INEEL with the DOE & have reviewed this proposed project. We are strongly opposed to incinerating nuclear waste & do not believe this is an adequate or safe way to resolve waste problems at this facility. We are also opposed to any further shipments of nuclear waste to INEEL, but feel our officials & the agencies in charge have a deaf ear when it comes to what Idahoans really want. What we want for this facility is to have all the waste safely removed, but of course, this has proven to be no easy task.

If this incineration plant is built we can only hope & pray that the wind never again blows from the east.

Sincerely,



Bert & Bob Redfern  
33035 18th Pl. S. #D201  
Federal Way, WA 98003  
253/815-8510  
bertilia@juno.com



STATE OF IDAHO  
DIVISION OF  
ENVIRONMENTAL QUALITY

5/26/99

1410 North Hilton • Boise, Idaho 83706-1255 • (208) 373-0502

Dirk Kempthorne, Governor  
C. Stephen Allred, Administrator

May 26, 1999

Bert and Bob Redfern  
33035 18th Place S. #D201  
Federal Way, WA 98003

RE: May 17, 1999 Letter to DEQ from Bert and Bob Redfern  
(Quick Response #599149)

Dear Bert and Bob Redfern:

This letter acknowledges receipt of your submittal dated May 17, 1999, and received by our office on May 20, 1999. Your letter will be entered into the record for the BNFL Inc. public comment period. DEQ will prepare a response package at the conclusion of this period.

If you have any questions, contact Mike Simon, Air Quality Engineer, at (208) 373-0502.

Sincerely,

Susan J. Richards, Chief  
Air Quality Permitting Bureau  
Air and Hazardous Waste

SJR/ms

C:\DATA\WP61\WICHARDS\QUICK.RSP\599144QR.LTR

cc: C. Stephen Allred, DEQ Administrator  
O. D. Green, State Air Quality Program Administrator  
M. Simon, Air Quality Engineer - AQP  
Source File  
COF

*[Handwritten notes and stamps]*  
5/26/99  
1410 North Hilton  
Boise, Idaho 83706-1255  
(208) 373-0502

MAY 20 1999

NO OF PAGES 1

MAY 17 1999

990639

DEQ

I THINK BURNING TOXIC AND NUCLEAR WASTE IN IDAHO IS A VERY BAD IDEA.

FUTURE RESIDENT OF WOOD RIVER VALLEY MIKE BALDWIN

*[Faint signature]*

Chris D.

RECEIVED

MAY 21 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

May 18, 1999

Division of Environmental Quality  
1410 North Hilton  
Boise, Idaho 83706-1255

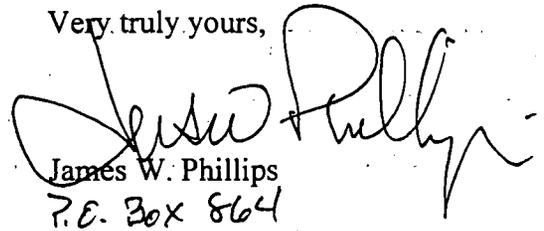
Re: BNFL, Inc. - Application to construct an air pollution source - incinerator

Dear Sir/Madam:

I am writing this letter to be placed in the public record in regard to the application of BNFL, Inc., to construct an air pollution source - the Advanced Mixed Waste Treatment Project - incinerator at INEEL. I am opposed to the granting of the application for this incinerator because it will release into the atmosphere radioactive emissions and pollutants which will have a long-term detrimental impact upon the environment and the people who are subjected to those emissions for the proposed thirty-year life of the incinerator. In addition, before DEQ makes any final decision with regard to the application, the DEQ should conduct its own independent studies and not rely upon the studies and calculations of the applicant. The DOE concluded in its record of decision, March 1999, that AMWTP option provides the largest risks to air quality and the safety of the people of Idaho. If any incineration is to be done, it must be done in a manner that provides maximum protection of air quality, public health and worker health, and should be limited to "treatment" only of materials presently stored at the INEEL. Turning Idaho into a commercial incineration site for nuclear wastes and hazardous chemicals from around the country will create short-term and long-term environmental and public health problems and, therefore, the application should be denied by the DEQ.

Thank you very much for providing me with the opportunity to comment on the application.

Very truly yours,



James W. Phillips  
P.O. Box 864  
Hailey, ID. 83340

May 19, 1999

Chris J. Davenport  
Program Development Specialist  
Division of Environmental Quality  
1410 N. Hilton  
Boise, ID 83706-1255

RECEIVED

MAY 24 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

Statement regarding the application by BNFL, Inc. for an air pollution permit for the Advanced  
Mixed Waste Treatment Process

The Advanced Mixed Waste Treatment Facility (AMWTP) will serve the very important purpose of making efficient use of storage space in the Waste Isolation Pilot Plant (WIPP). This underground disposal facility has been very expensive. Saving space in this facility is obviously worthwhile. In that regard it is unfortunate that combustible materials are not intended for incineration in this project, because a large additional volume reduction could be achieved thereby.

Concerns about harmful air emissions from this facility, especially the incinerator part of it, have very little basis in fact. First, the cookoff method to be used does not involve agitating the waste in an air stream, therefore there should be very little tendency for particulate emission to begin with. Next, the off gas will be sent through several packed beds, a Venturi wet scrubber, an electrostatic demister, and finally, HEPA filters. These filters have efficiencies of 99.97% or greater for all particulate size ranges.

Those persons and groups raising fears of this incineration process are at least guilty of inconsistency, to put it politely, because they are the same people who have enthusiastically endorsed vitrifying large quantities of surplus weapons plutonium. Vitrification requires higher temperatures than are achieved even in normal incineration processes, let alone in the cookoff type of incineration proposed.

The State of Idaho should grant the requested "air pollution" permit for this project without hesitation.

*John E. Tanner, Jr.*

John E. Tanner, Jr.  
2175 Tasman Av.  
Idaho Falls, ID 83404  
208-529-5605  
member, Coalition 21



BNFL Inc.  
1970 East 17th Street  
Suite 207  
Idaho Falls, ID 83404  
Tel: (208) 524-8484  
Fax: (208) 524-4442

May 25, 1999

Chris J. Davenport  
Program Development Specialist  
Idaho Division of Environmental Quality  
1410 North Hilton  
Boise, ID 83706-1255

**Subject: BNFL Inc. Comments on the Proposed Permit to Construct an Air Pollution Emitting Source for the Advanced Mixed Waste Treatment Facility, AM-BN-L-535**

Dear Mr. Davenport:

BNFL Inc. has reviewed the proposed Permit to Construct (permit number 023-00001, dated April 7, 1999) for the Advanced Mixed Waste Treatment Facility (AMWTF). Based upon that review, the following suggestions/requests are submitted for your consideration:

1. Page 3, Section 2.1.1—Please revise this requirement to reflect that the destruction removal efficiencies are achieved by a combination of the primary and secondary combustion chambers, not just the secondary combustion chamber.
2. Page 3, Section 2.1.3—Please change the venturi scrubber PM-10 control efficiency to 95%, which is consistent with the permit application and the technical analysis for the venturi.
3. Page 5, Section 2.5.2—Please change the 2<sup>nd</sup> sentence to the following for consistency with Section 2.3.2 (and to better define the function of the 2<sup>nd</sup> stage carbon unit): A second stage carbon adsorption unit shall be installed as a backup unit for any one of the first stage units.
4. Page 5, Sections 2.7, 2.8, and 2.9—The daily and annual throughput limits are based on the same daily rate and are, therefore, redundant. It is requested that only the annual limits be specified, thereby providing the facility with some degree of operational flexibility with respect to daily throughput limits. If this is not possible, the Project will likely need to submit a request for increasing the daily throughput limits for the drum and box lines.

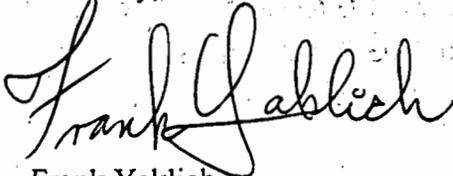
5. Page 6, Section 2.11—We suggest deletion of the requirement that the air pollution control operating parameters be within the manufacturer's specifications, and just require that the operating parameters be within specifications identified in the O&M Manual. Because of the unique design of the AMWTF, generic manufacturer specifications may not be appropriate for certain equipment. Also, all applicable manufacturer specifications will be included in the O&M Manual, whether directly or by reference.
6. Page 6, Section 2.12—Please revise this section to indicate that if a waste that is inconsistent with the NESHAP analysis inventory is accepted, a 40 CFR 61.93 emissions analysis will be conducted and placed in the operating record. The analysis must demonstrate that processing the waste will not lead to an exceedance of the dose limits established by this permit and the NESHAP guidelines.
7. Page 7, Section 3.4—Please revise this requirement to make it consistent with the other hourly rolling average parameters by deleting the first "average" and changing "over" to "as." The revised requirement would become: "The Permittee shall install, calibrate, maintain, and operate, in accordance with manufacturer's specifications, a temperature monitoring system to monitor and record the temperature of the secondary combustion chamber as an hourly rolling average."
8. Pages 7-8, Section 3.5—Please indicate how often the parameters given in 3.5.1 to 3.5.6 should be recorded. We are assuming that if the parameter units are per day then it must be recorded daily; if per month, it must be recorded monthly; and if on an hourly rolling average, it must be recorded each minute.
9. Page 8, Section 3.5.4—Please revise this requirement to make it consistent with the other hourly rolling average parameters by deleting "average" so that it reads as follows: "The temperature of the secondary combustion chamber on an hourly rolling basis."
10. Page 8, Section 3.7 (and Page 10, Section 4.4)—Please consider reducing the frequency of the EDE determinations from quarterly to semi-annually. It should be noted that using quarterly or semi-annual emission monitoring data to calculate annual EDEs, may lead to results that are not directly comparable to the annual point of compliance (i.e., the EDE reported in the INEEL annual NESHAP report, which is based on a full year of emissions data and current meteorological data). However, we recognize that the additional EDE calculations are primarily intended to demonstrate compliance with the 0.1 mrem/yr EDE limit at intermediate points during the calendar year. We feel that this can still be accomplished through semi-annual EDE determinations that would reduce the interval between successive EDE determinations to six months.

May 25, 1999  
AM-BN-L-535  
Page 3

11. Page 11, Appendix A, Section 2.2—Suggest revising the Appendix A, Section 2.2 requirement as follows: “If the removal efficiency....by ASME N510, Section 10, the Permittee shall isolate the certified filters until the required efficiency is achieved or replace the filters within ten (10) days.”

If you have any questions or require further clarification on any of the comments above, please do not hesitate to call Malone Steverson of my staff at (208) 528-2149 or me at (208) 524-8484.

Sincerely,



Frank Yaklich  
General Manager  
Advanced Mixed Waste Treatment Project

cc: Mike Bonkoski, DOE-ID  
Malone Steverson, SAIC  
Project Files  
FJY-046-99

Chris

May 26, 1999

Idaho DEQ  
1410 North Hilton  
Boise, ID 83706-1255

Dear Sirs:

As a resident of Jackson, Wyoming, and a citizen concerned with the welfare of the Greater Yellowstone Ecosystem. I am writing to beg you reconsider plans for a nuclear waste incinerator in southeast Idaho!

The negative effects a nuclear waste incinerator would have on the wildlife, human life and environment of Eastern Idaho, and those of us caught in the cross winds, far outweighs any financial gains to Idaho or British Nuclear Fuels Limited.

Please for the sake of saving the environment, take the time to reconsider plans for this site. **PLEASE!!**

Thank you

Stacey L. Chapman  
Jackson, Wyoming

Winnipeg  
Great Lakes Page 4

NYPD officer pleads guilty to  
torturing immigrant Page 9

Re-skins in '80s

Volume 22  
Issue 105

Wednesday, May 26, 1999

FREE

# Jackson Hole Daily

## Aye spy: Chinese looted U.S. weapons labs

WASHINGTON (AP) — President Clinton, confronted by a bipartisan congressional conclusion that Chinese espionage has led to the theft of top-secret information about every U.S. nuclear weapon, said Tuesday he will put into place more than two dozen recommendations to safeguard America's nuclear secrets.

A special House committee catalogued 20 years of Chinese espionage and the chairman, Rep. Christopher Cox, R-Calif., said the spying campaign almost fully continues "to this very day."

In an appearance in Texas, Clinton said his administration was "moving aggressively to tighten security" at nuclear labs and would work with Congress to follow the recommendations of the committee. But he also said the administration would continue dealing with China on a range of matters because that, too, was in the national interest.

"We have a solemn obligation to protect such national security information," declared the president.

Though the most critical thefts were said to have occurred during previous administrations, the findings by the bipartisan special House panel brought

demands by some GOP lawmakers for the resignation of Clinton's national security adviser and attorney general. There also were renewed questions about why Clinton did not move earlier to boost security at federal weapons labs.

While defending Clinton's response, Rep. Norman Dicks of Washington, the panel's ranking Democrat, said that Chinese penetration of nuclear weapons laboratories was "a major counter-intelligence failure ... one of the worst failures in the nation's history."

The three-volume report, covering more than 700 pages, concluded that

*Continued on page 36*

## Alliance blasts INEEL's plan

By Rachel Odell  
Jackson Hole News

Toxic emissions from an incinerator that will be built at INEEL this summer could spread to Jackson Hole, polluting the air and making people sick, critics say.

**LOCAL**

Government representatives say the plan to allow a British firm to construct and operate the plant is safe. But the Snake River Alliance, an advocacy group based in Ketchum, Idaho claims that more than 40 invisible pollutants will spew from chimneys and travel on the prevailing winds to Yellowstone and Jackson Hole.

Margaret MacDonald Stewart, the group's Central Idaho coordinator, said many of the pollutants are carcinogenic. "We don't trust that the Idaho government is looking out for public health,"

*Continued on page 3*



Jim Evans / JACKSON HOLE NEWS  
Ellie Rice keeps her eye on the ball at the Diamond Skill competition held Saturday at the Cow Pasture Ball Fields. For more on the event, see the Sports section in today's Jackson Hole News.



# INEEL

Continued from page 1

she said. "We feel like the government is not pulling its weight. We're talking about the health and safety of a lot of people here and the analysis is extremely incomplete in our eyes."

At issue is a mixed waste treatment plant that is supposed to be built at the Idaho National Engineering and Environmental Laboratory, west of Idaho Falls. The state Department of Engineering in 1996 accepted a bid from British Nuclear Fuels Limited to build the plant to prepare nuclear waste for transport to a storage site in New Mexico.

Kept in underground sealed containers, the waste is contaminated with plutonium, mercury, lead, PCBs, and hazardous solvents, said Rensay Owen, a scientist who oversees tracking of mixed waste inventories at INEEL.

Winds blowing from the west would carry the toxins to Jackson Hole which could cause cancer and other sicknesses, said Mary Mitchell, a Jackson Hole resident. The prevailing wind at the site is from the southwest but a significant amount blows due east toward Jackson.

"Basically they are going to burn the worst of the worst of hazardous materials in 790-foot smoke stacks and the concern is obvious," Mitchell said. "Very unsafe levels are going to come out of this and because of the prevailing winds it is

going to come right to us.

The Idaho DOE is not required to notify Wyoming residents about the incinerator because the state line is located beyond a 50-mile-radius of the proposed incinerator, Mitchell said.

The amount of toxins released will be minimal, Owen said. "What goes out of the stack in the end will have to comply with Clean Air Act. The amounts of those materials that may be released are to be well below regulatory allowed amounts."

Comments on the plan must be post-marked by May 28. Comments can be sent to Idaho DEQ, 1410 North Hilton, Boise, ID 83706-1255.

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May 28, 1999

Mr. Chris J. Davenport  
Program Development Specialist  
Division of Environmental Quality  
1410 N. Hilton  
Boise, ID 837006

**RE: INEEL WASTE STACK PERMIT BY DOE AND BRITISH NUCLEAR FUELS LTD.**

Dear Mr. Davenport:

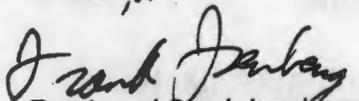
I am writing to request denial of this permit based on current knowledge of contractors at the INEEL site and other emission data gathered recently by EPA on Boise's airshed from 1980's air quality study showed that toxic concentration from auto emissions were carcinogenic.

To approve this waste site without further study would be senseless. My Mother (and Mother-in-law) died two years ago had breast cancer surgery four months before her death; one neighbor behind her had throat cancer ; and still another neighbor died six months ago of leukemia. All these cancers victims spent their entire life living in Rexburg not very far from this site. There are far too many cancers occurring already in Eastern Idaho.

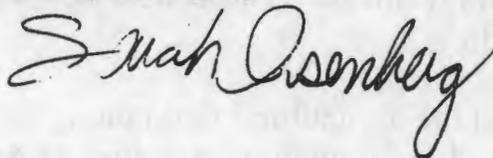
Before a permit to be issued you should at least contact Chris Johnson, an epidemiologist-statistician with the Idaho Hospital Association, 802 W. Bannock, Boise, Idaho, Phone: (208) 338-5100X214. Further study would prevent escalated cancer rates. If cancer rates are already high for Eastern Idaho one would not want to increase this rate.

It seem ridiculous to permit any cite that would emit radioactivity and more that 40 other pollutants, many of them cancer causing. Please succumb to rational thought and make some preliminary studies before issuing any permit at the National Engineering and Environmental Laboratory.

Sincerely,

  
Frank and Sarah Isenberg

F.I.





IDAHO CONSERVATION LEAGUE

May 27, 1999

Chris J. Davenport  
Program Development Specialist  
Technical Services Bureau  
ID DEQ  
1410 N. Hilton  
Boise, ID 83706-1255

RECEIVED

MAY 28 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

Dear Mr. Davenport:

Please accept these comments on the proposed mixed waste incinerator at INEEL.

It is an interesting juxtaposition, to read in the paper that Washington state is initiating a process to virtually eliminate certain persistent, bioaccumulative toxics, the day before comments are due on a huge new source of many of the same pollutants in Idaho.

From a public health perspective incineration of all types of municipal and industrial wastes has been a discredited technology for at least 15 years. Science and informed public opposition against incineration is prohibiting the construction of new incinerators all over the world.

Incinerators do destroy some hazardous organic constituents. Importantly, however, they also disperse toxics into the air and concentrate them in the ash. Some unburned organic compounds are released into the open air. Organic compounds such as PCBs, dioxins and furans and hundreds of others, are created in the combustion process if a chlorine source is present. Elements such as radionuclides and heavy metals are not destroyed in the incineration process.

Construction of this facility means that Idaho will likely continue to be a dumping ground for nuclear/toxic waste from around the world. BNFL, Inc. will have a clear vested interest to burn as much and for as long as possible.

The environmental effects of waste incineration at INEEL will, most likely, be felt first by workers at the plant and downwind residents. Those who both work at the site and live downwind will be hardest hit.

Serious economic implications may also affect the agricultural community as atmospheric deposition results in the uptake and accumulation of radionuclides,

heavy metals and organic compounds. Idahoans hear very little of the debate raging around the effects of toxic chemical exposure. The incredible toxicity of dioxins and many other organochlorines, and the oppressive threat posed by chemicals that disrupt the endocrine system, are just a couple of examples where the scientific evidence of danger is mounting. Someday the hammer will fall and the public will avoid food, water, air and land contaminated with certain toxic chemicals like the plague.

Arguments that all applicable standards will be met notwithstanding, incineration is inherently unsafe and poses serious short- and long-term environmental and public health risks.

### **The Theory and Practice of Incineration**

This incinerator will allegedly be required to meet a 99.9999% destruction and removal efficiency (DRE) in order to get a Toxic Substances Control Act permit. This will be demonstrated through a trial burn. Trial burns grossly underestimate real-world efficiencies. Trial burns use pure chemicals while DRE decreases dramatically when complex mixtures of chemicals in low concentrations are burned.

Trial burns do not take into account the amount of compounds which are created during the combustion process known as products of incomplete combustion (PICs). Of the mass of pollutants known to be present in stack gases during any given trial burn, the fraction that have been identified range from 1 to 60 percent according to the U.S. EPA (1).

At one of the larger, more modern hazardous waste incinerators in the U.S., stack gases were emitted at the rate of some 1,500 m<sup>3</sup> per minute during trial burns. With an average dioxin content of 0.14 ng Toxic Equivalents\*/m<sup>3</sup>, this incinerator was releasing more than 300,000 ng Toxic Equivalents per day. At this rate, this incinerator was releasing into the open air each day a quantity of dioxins that was equivalent to the acceptable daily intake for 1 to 4 million adults, based on the World Health Organization's recently revised acceptable daily intake for dioxins of 1-4 picograms per kilogram of body weight per day (2).

Please see Attachment I for further discussion of incinerator performance.

\* Toxic Equivalents express the total quantity of dioxin-like compounds relative to the toxicity of 2,3,7,8-tetrachlorodibenzo-p-dioxin.

## **Releases of Unburned Wastes**

Even if a DRE of 99.9999% were achieved, a significant quantity of pollutants will be dispersed into the air. The DEQ should quantify and calculate the mass of these pollutants, and make that information readily available and part of the public record and decision-making process.

Fugitive emissions and potential releases during transport and handling should also be estimated.

## **Products of Incomplete Combustion**

PICs emissions are qualitatively and quantitatively dependent on temperature, retention time, oxygen availability, and mixing/turbulence (3). In laboratory tests, the ratio of identified PICs to Principle Organic Hazardous Constituents (POHCs) in air emissions was found to be between 0.5 to 7 (4). These results account for only those PICs which were positively identified. Since only 1 to 60 percent of the total mass of PICs have been identified, the ratio of total PICs may range from 0.83 to 700 (5).

PICs will also be present in wastewater effluents and sludges (6).

The DEQ should quantify and qualify realistic assumptions for air emissions of PICs and make that information readily accessible and part of the public record.

## **Incineration of Metal-Containing Wastes**

Metals are elements and as such are not destroyed by incineration.

“Any metals in the waste feed will be found in the stack effluent, the captured fly ash, the scrubber water, and the bottom ash (whichever apply to the facility)” (7).

“(U)p to 35% of metals in a hazardous waste stream can be emitted to the atmosphere during incineration” (8).

The likely volumes and types of metals that will be incinerated at this facility should be quantified and qualified and be made readily available

## **Health and Environmental Impacts**

While it is clear that incinerators emit many dangerous, toxic chemicals, the full effects are unknown. Many data gaps exist including:

- \* Identification of the full range of PICs,
- \* Identification and quantification of metal emissions,
- \* Few metals and PICs have been fully evaluated for toxicity,
- \* The effects of chronic exposure to toxic chemicals,
- \* The synergistic effects of different chemicals, and
- \* Through analysis of the uptake, transformation, and bioaccumulation of PICs and metals (9).

Adverse health effects in workers and surrounding communities are well documented at many hazardous waste incinerators (10). See also Attachments II - III.

Dioxin levels have been shown to be elevated in municipal waste incinerator workers over a control group (Attachment IV).

Many heavy metals and organic compounds released in air emissions from incinerators are known to accumulate in crops and livestock (11).

“Beef and dairy cattle have been shown to accumulate significant levels of 2,3,7,8-TCDD and compounds with generally related structures such as PCBs, DDT, and PBBs following administration in the diet or ingestion of contaminated soils” (12).

Food is already the general population’s major exposure route to heavy metals, dioxins and furans, and other synthetic chemicals (13).

Importantly, an average American is exposed to 3 to 6 picograms (one picogram equals one-trillionth of a gram) of dioxin toxic equivalents per kilogram of body weight per day (14). EPA scientists have concluded that the general population’s current body burdens and exposures are already in the range at which health effects occur in laboratory animals, including rodents and primates. Persons subject to higher-than-average exposures -- because they live near dioxin sources or regularly consume highly contaminated foods -- are at even greater risk (15).

Dioxin pollution is already a threat to the general population:

“(EPA’s) documents reflect input from the expert panel that concluded that current body burdens of dioxin and related compounds (TEQ) are at or near the point where responses would be expected to occur. As the panel recommended, additional emphasis was placed on non-cancer endpoints, since the effects on the immune system and developmental reproductive effects appear to be occurring at extremely low levels” (16).

## **Risk Evaluation of this Incinerator**

While risk assessments virtually always underestimate risks to the environment and public health. The DEQ should perform its own, independent process to quantify and qualify the risks from this facility. Essential to this would be:

- \* Characterization of the wastes which will be incinerated over the life of the facility, including estimating chlorine and metals content;
- \* Qualification and quantification of the chemicals likely to be emitted in the environment;
- \* An analysis of the environmental fate and effects of chemicals likely to be emitted into the environment;
- \* Baseline conditions;
- \* Cumulative effects; and
- \* Consideration of other alternatives.

## **Alternatives to Incineration**

Safer alternatives to incineration are being seriously evaluated and exist in different stages of development. The Greenpeace report, "TECHNICAL CRITERIA FOR THE DESTRUCTION OF STOCKPILED PERSISTENT ORGANIC POLLUTANTS," should be evaluated (17). This report evaluates the efficiencies of various technologies including Gas-Phase Chemical Reduction, Electrochemical Oxidation, Molten Metal Pyrolysis, Molten Salt Oxidation, Solvated Electron Process, and Supercritical Water Oxidation.

Treatment of the hazardous constituents with an alternative technology could conceivably still allow for residuals to be shipped to the Waste Isolation Pilot Plant in New Mexico.

## **Public Process**

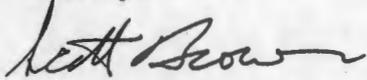
The comment period on the permit to construct should be extended. I received my public notice in the mail approximately two weeks prior the to end of the comment period. Additionally, ending the comment period exactly one day after the last public meeting is not acceptable.

## Conclusion

While incineration is seen as a relatively cheap option, the environmental and public health consequences make it an unacceptable option.

Thank you for considering these comments.

Sincerely,



Scott Brown  
State Issues Director  
Idaho Conservation League

cc/w/o enclosures:

Steve Allred, Administrator  
Snake River Alliance  
Idaho Clean Air Force  
Idaho Rural Council  
Greater Yellowstone Coalition

## Endnotes

(1) U.S. Environmental Protection Agency, Office of Solid Waste, Background Document for the Development of PIC Regulations from Hazardous Waste Incinerators, Draft Final Report, Washington D.C., October 1989.

(2) Costner, pat, et. al, Greenpeace International, "TECHNICAL CRITERIA FOR THE DESTRUCTION OF STOCKPILED PERSISTENT ORGANIC POLLUTANTS," 7 October 1998. This report can be obtained at [www.greenpeace.org/~toxics/reports/alttech2.pdf](http://www.greenpeace.org/~toxics/reports/alttech2.pdf) and [www.who.int/ifcs/isg3/d98-17b.htm](http://www.who.int/ifcs/isg3/d98-17b.htm), or by calling 1-800-326-0959.

(3) Tessitore, J., J. Pinion, and D. DeCresie, "Thermal Destruction of Organic Air Toxics," Pollution Engineering 22(3), March 1990.

(4) *ibid.*

(5) Costner, Pat and Thornton, Joe, Greenpeace, "Playing with Fire: Hazardous Waste Incineration," Washington, D.C., 1993, pp. 22-23.

(6) *ibid.* pp. 26-27.

- (7) Cook, R. "Incineration: Technology Versus Science?" proceedings of the Third Annual National Symposium on the Incineration of Industrial Wastes, San Diego, CA: Toxcon Engineering, March 1989.
- (8) Travis, C, et. al., "Hazardous Waste Incineration and Human Health," CRC Press, Boca Raton, FL, 1989.
- (9) Costner, Pat and Thornton, Joe, Greenpeace, "Playing with Fire: Hazardous Waste Incineration," Washington, D.C., 1993, p. 35.
- (10) *ibid.* p. 35
- (11) Thornton, Joe, Greenpeace, Hazardous Waste Incineration: Impacts to Agriculture, Washington, D.C. February 1993.
- (12) U.S. Environmental Protection Agency, Office of Research and Development, Estimating Exposures to 2,3,7,8-TCDD. External Review Draft, Washington D.C., EPA/600/6-88/005a, June 1988.
- (13) Thornton, Joe, Greenpeace, Hazardous Waste Incineration: Impacts to Agriculture, Washington, D.C. February 1993, p. 2.
- (14) U.S. Environmental Protection Agency, Risk characterization of dioxin and related compounds -- draft," Washington, D.C.: Bureau of National Affairs, May 3, 1994.
- (15) Thornton, Joe, Greenpeace, "Achieving Zero Dioxin: An Emergency Strategy for Dioxin Elimination," Washington, D.C. July 1994, p. 14.
- (16) Birnbaum, L., The US EPA's scientific reassessment of the risks of exposure to dioxin. *Organohalogenes* 14:1-4, 1993.
- (17) Costner, pat, et. al, Greenpeace International, "TECHNICAL CRITERIA FOR THE DESTRUCTION OF STOCKPILED PERSISTENT ORGANIC POLLUTANTS," 7 October 1998. This report can be obtained at [www.greenpeace.org/~toxics/reports/alttech2.pdf](http://www.greenpeace.org/~toxics/reports/alttech2.pdf) or [www.who.int/ifcs/isg3/d98-17b.htm](http://www.who.int/ifcs/isg3/d98-17b.htm), or by calling 1-800-326-0959.

# Incineration: the Theory and the Practice

In theory, a properly designed incinerator should convert simple hydrocarbons into nothing other than carbon dioxide and water. Practical experience, however, has shown that even the best of combustion systems cannot take this reaction to completion:

The complete combustion of all hydrocarbons to produce only water and carbon dioxide is theoretical and could occur only under ideal conditions....Real-world combustion systems (e.g., incinerators...), however, virtually always produce PICs [products of incomplete combustion], some of which have been determined to be highly toxic. (U.S. EPA 1990)

Moreover, few of the industrial wastes now burned in incinerators are simple hydrocarbons. Chemical wastes are "typically highly heterogeneous and the sample matrix is almost always complex," making accurate chemical characterization difficult, if not impossible (Murphy 1987). Incinerated wastes commonly contain metals, halogenated chemicals—those containing chlorine, fluorine, and bromine—that are known to form "undesirable combustion products," as well as other compounds and elements that are difficult to burn (Murphy 1987).

During incineration and post-combustion cooling, waste components dissociate and recombine, forming hundreds, even thousands, of new substances called products of incomplete combustion (PICs) (U.S. EPA 1989b). Metals, of course, are not destroyed. They are distributed among air emissions, ashes, and the residues of pollution control devices, along with the PICs and portions of the wastes that escape burning or capture.

Industrial processes that create marketable chemical products have generally been well studied and are understood in great detail. Only recently, however, have scientists begun investigating the complex physical and chemical reactions that take place in the incinerators that burn wastes from these processes.

As yet, no methods have been developed for direct monitoring of incinerator performance—

the extent to which an incinerator converts hazardous wastes into innocuous materials during routine operation. No methods exist, for example, for fully identifying and quantifying the unburned wastes and PICs in stack gases either during trial burns or during routine operation:

[S]ampling and analysis techniques are not available to identify or quantify many of the potential compounds emitted....It is at present impractical to design a monitoring scheme to identify and quantify the individual toxic compounds in incinerator stack emissions. (U.S. EPA 1989a)

Due to this lack of direct measures, the operation and regulation of hazardous waste incinerators is currently based on a series of assumptions about the relationship of indirect indicators to incinerator performance. The validity of these assumptions is questionable at best.

## Predicting Incinerator Performance

Operators and regulators contend that the destruction and removal efficiency (DRE) achieved during trial burns of preselected chemicals—principal organic hazardous constituents, or POHCs—reflects incinerator performance during the routine burning of wastes with sufficient precision and accuracy to protect public health and the environment.

Each of these factors, its role in the prediction of incinerator performance, and its limitations are discussed below. Also discussed are the impacts on DRE estimations of propagation of error, which is inherent in sampling, analysis, and calculations related to DRE estimations, as well as the recently reported hysteresis effect, which may decrease DREs by "orders of magnitude."

ques are not available to identify or quantify many of the potential compounds emitted, nor are toxicity data available for all the compounds. (U.S. EPA 1990)

Both incinerator operators and regulatory officials commonly contend that the 99.99 percent DREs allegedly achieved during trial burns are evidence of the low probability of harmful effects on public health and the environment during long-term operations. In contradiction, scientists have cautioned that operating conditions during trial burns may be far more finely tuned than those of routine operations:

[I]t is reasonable to assume that during the trial burn, incinerator condition and tuning will be optimized, that operator attention will be at its best, and that waste feed composition and characterization will be carefully attended to. (Cook 1989)

The tenuous relationship between incinerator performance during brief trial burns and that achieved during long-term, routine operation has been further emphasized:

The trial burn data only indicate how well the incinerator was operating during the time that the data were being taken, typically only a period of a few days. No information is obtained on how the incinerator might respond if fuel, or especially waste, conditions change. Waste streams vary widely in composition and one incinerator may burn many different toxic substances over its useful life, resulting in unavoidable and frequent changes in waste feed conditions. It is difficult to generalize the results of a trial burn to predict how the composition of the incinerator exhaust will change under these varying conditions. (Staley 1986)

## POHC Incinerability

As discussed earlier, if an incinerator achieves a DRE of 99.99 percent when burning one or more designated POHCs during a trial burn, incinerator operators and regulators commonly contend the incinerator will achieve this same DRE during routine combustion of industrial wastes. This is based on their assumption that they have chosen POHCs that are more difficult to destroy than any of the chemicals that will be found in the wastes that will be burned routinely. This assumption is not supported by experimental data.

POHCs used during trial burn DRE measurements are selected on the basis of a ranking system based on one of the following characteristics: enthalpy of combustion (or heat of combustion, the energy released when molecular bonds are ruptured during combustion), thermal stability under high- and low-oxygen conditions, and the temperature at which spontaneous ignition occurs. Currently, there is little agreement either among the various ranking systems or within the scientific community as to their reliability. For example, one reviewer found as follows:

There is a considerable body of experimental evidence...that combustion enthalpies correlate poorly with DRE. (Cook 1989)

This same author collected data used in the various ranking systems for 28 chemicals commonly designated as POHCs. The rankings of two of these chemicals, carbon tetrachloride and trichloroethylene, under each of these systems, as shown in Table 1.1, illustrate the disparities among the ranking systems. For example, under one ranking system, carbon tetrachloride is the

Table 1.1

### Comparison of Incinerability Ranking Systems for Selected Compounds

Ranking System	Ranking in a Group of 28 POHCs	
	Carbon Tetrachloride	Trichloroethylene
Enthalpy of combustion	1	7
Self-ignition temperature	ND	14
Thermal stability (low O <sub>2</sub> )	13	6
Thermal stability (high O <sub>2</sub> )	8	7
Temperature for 99% destruction in 2 seconds	8	7

ND= no data available  
Source: Cook 1989.

might be biased by inleak air downstream from the combustion chamber....[I]nleak air may bias results for at least four of the eight [incinerators]. For those four facilities, the calculated stack gas flow rate ranged from 51 to 75% of the measured flow rate. (Trenholm 1984)

As each of these factors is incorporated in the calculation of the DRE, the magnitude of the uncertainty of the DRE is multiplied. Table 1.2 lists some of the known errors in DRE measurement. The analysts who performed these calculations concluded as follows:

The DRE may not be the most appropriate method for characterizing the proper operation of an incinerator. A statement relative to the performance of a piece of equipment is not complete until the uncertainty in the measure of performance is specified, together with the method used to estimate the uncertainty. (Welch 1986)

### *Hysteresis Effect*

Another major flaw in the current method of determining DREs became evident with the discovery of an hysteresis effect: the retention of POHCs within the combustion system leading to their continued appearance in stack gases for prolonged periods of time after their flow into the combustion system has been stopped. In one of the first reported cases, scientists observed that "stack concentrations of waste species continued for several hours after waste firing was curtailed" during trial burns of a boiler (Mason 1988).

The hysteresis effect was corroborated by a subsequent study. Two hours after stopping the

flow of carbon tetrachloride and chlorobenzene into a pilot-scale boiler, researchers found these two POHCs still present in stack gases at concentrations that were 121 percent and 388 percent, respectively, of their concentrations in the stack gas samples taken while the POHCs were being fed into the boiler. In 13 runs in which wastes were co-fired with gas and 3 in which wastes co-fired with oil, "around 50% of the original concentrations measured [were] still being emitted...43 hours (after cessation of cofiring)." (Licis 1989) No consistent trend was found between hysteresis and furnace temperature, which ranged from 1,000 to 1,150 degrees Celsius.

Table 1.3 shows the effects of hysteresis on DRE, based on data gathered during this study. Actual DREs appear to be two orders of magnitude lower than those calculated from the concentrations of POHCs in stack gas samples taken only while POHCs were being fed into the combustion system.

Another study confirmed that the hysteresis effect in boilers was "both real and measurable." The authors noted that POHC emissions were continuing as long as 65 hours after waste co-firing ceased. Delayed emissions were observed in both vaporous and particle-bound forms. The authors wrote that "it appears possible that a DRE could be measurably affected under some conditions." Noting that "assessing the full impact of hysteresis upon DRE will require further evaluation," the authors ventured the suggestion that the impact may be less than an order of magnitude (Hinshaw 1990).

Table 1.3.

#### Effect of Hysteresis on DRE

Species	Hysteresis Ratio (1)	Total Hysteresis Factor (2)	Actual DRE (3)
Carbon tetrachloride	0.60	77.4	99.23 %
Monochlorobenzene	2.40	309.6	96.93 %
Trichloroethylene	0.19	24.5	99.75 %
Total chlorinated volatiles	0.74	95.5	99.05 %

1. Ratio of concentration of hysteresis emissions (averaged for 0-43 hours after waste firing) to emissions during waste firing, assuming 99.99% DRE during waste firing.

2. Ratio of total mass of hysteresis emissions for 43-hour period after waste firing to mass of emissions during waste firing.

3. DRE including hysteresis emissions, assuming 99.99% DRE measured during waste firing.

Source: Adapted from Licis 1989.

cinerators have been documented in at least three cases, not including storage tank explosions at incineration facilities (Adkins 1987, Petzinger 1985, U.S. EPA 1991). In 1991, unidentified wastes exploded inside Chemical Waste Management's rotary kiln in Chicago, causing the release of uncombusted gases from the kiln (U.S. EPA 1991). According to a company spokesman, the explosion blew open a door on the kiln, allowing a cloud of dark smoke to escape "for about two minutes." (Swanson 1991)

### **Micro-scale Upsets**

Even if major upsets at incinerators could be completely avoided by flawless maintenance and attention to maintaining consistent operating conditions, localized and short-term variations from ideal combustion occur constantly within an incinerator. These transient departures from ideal conditions may decrease the destruction efficiency, increasing releases of both unburned wastes and PICs.

According to one analysis, deviations from intended combustion conditions:

usually are a consequence of a rapid perturbation in the incinerator operation resulting from a rapid transient in feed rate or composition, failure to adequately atomize a liquid fuel, excursions in operating temperature, instances where the combustible mixture fraction is outside the range of good operating practice, or inadequate mixing between the combustibles and the oxidant....The amount and composition of PICs will depend in a complex and unpredictable way on the nature of the perturbation. (U.S. EPA 1989a)

These variations in incinerator performance are exacerbated by the changes in waste feed inherent to real-world incinerators, especially commercial facilities or those that feed wastes intermittently in batches. Identifying the factors leading to the formation of PICs under such circumstances "requires analyzing on a plant-by-plant basis the numerous reactions occurring with complex mixtures of waste feeds." (U.S. EPA 1989b)

Among these transient phenomena are so-called "puffs," which occur when volatile wastes are introduced in batches to an incinerator. As they encounter the high-temperature environment of an incinerator, these wastes volatilize rapidly, leading to inadequate mixing with combustion air and release before the wastes are completely oxidized (Linak 1987). According to one study of puffs at a rotary kiln incinerator,

Results demonstrate the relative ease with which failure conditions are achieved, even at high excess air values and high kiln temperatures. Chemical analysis indicates that puffs arising from even innocuous surrogate wastes can contain numerous hazardous compounds even though adequate DREs (99.99%) are achieved. (Linak 1987)

Even if all indicators suggest that an incinerator's overall temperature, turbulence, and oxygen availability are optimized, localized upsets within the furnace can still occur. PIC formation due to transient phenomena "can result from small pockets within the combustion zone, where adequate time, temperature, and turbulence have not been provided to oxidize completely the combustion products of the POHCs." (U.S. EPA 1990) Such constant micro-scale upsets are unlikely to be detected visibly or by equipment monitoring for surrogate parameters like temperature or carbon monoxide.

One cause of PIC emissions, even under apparently ideal conditions, is the "rogue droplets" phenomenon, which is controlled by physical processes rather than chemical oxidation. When liquid wastes are sprayed into an incinerator's flame zone, some droplets of waste may be transported entirely through the high-temperature area, resulting in incomplete combustion. According to one review of a liquid injection incinerator:

[L]ack of complete combustion of a very few individual droplets can result in an incinerator failure....The penetration or bypassing of the flame zone by a very few individual droplets can lead to a failure mode. For example the escape of one rogue 300 micrometer ( $\mu\text{m}$ ) droplet out of 10 million droplets with a mean diameter of 30  $\mu\text{m}$  will lead to a DRE of less than 99.99 percent and thus to a failure of the incinerator. Measurements of droplet size distributions in various fuel sprays have shown that droplets are present with diameters of 100 to 500  $\mu\text{m}$ , which are an order of magnitude larger than the mean. (Mulholland 1986)

Methods to prevent such physical effects—especially for variable waste types—have not been determined.

## **Monitoring Daily Incinerator Performance**

The only meaningful measures of incinerator performance, from an environmental and public health perspective, are the quantities and iden-

PIC yields may be high while CO formation has yet to reach its maximum. (Dellinger 1990)

The correlation of CO levels with PIC emissions is not borne out by empirical data. Furthermore, although high CO levels may often indicate gross upsets and elevated levels of PICs, it is important to note that PICs are generated in varying quantities during routine "ideal" combustion when CO is low. In one study, CO levels were found to have "only a tenuous relationship with destruction efficiency (DE) and vary somewhat with the compound being burned." (Staley 1986) In a review of its entire database on PICs and CO, U.S. EPA noted as follows:

CO flue gas levels cannot be correlated to DRE for POHCs and may not correlate well with PIC destruction....Test data show no correlation between CO and DRE, but do show a slight apparent correlation between CO and chlorinated PICs, and a fair correlation between CO and total unburned hydrocarbons. (U.S. EPA 1990)

U.S. EPA has suggested that although there may be high levels of CO without high emissions of PICs, low CO levels seem always to indicate low PIC emissions (U.S. EPA 1990). U.S. EPA's data, however, cannot support that conclusion. In its review of all available data on CO and PICs, a slight correlation was found for only 5 of 15 PICs studied; for the rest, no relationship could be determined (U.S. EPA 1990). Other reviewers evaluating the relationship of CO and THC found "no strong correlation" between these parameters (Trenholm 1988).

In its background document for the development of PIC regulations, U.S. EPA found only weak data to support the correlation of CO and PIC emissions. One study found that benzene, toluene, and carbon tetrachloride followed the pattern suggested (low CO in conjunction with low PIC emissions), but that trichlorethylene did not (U.S. EPA 1989b). The other study U.S. EPA reviewed considered 11 PICs. While vinyl chloride and methyl chloride showed a rough correlation with CO levels, no such correlation was evident for dichlorodifluoromethane, dichloromethane, trichlorofluoromethane, chloroform, ethylene dichloride, 1,1,1-trichloroethane, 1,2-dichloropropane, trichloroethylene, and tetrachloroethylene (U.S. EPA 1989b). These results, shown in Table 1.4, do not indicate a correlation between rising CO levels and increased emissions of most PICs.

The Science Advisory Board of U.S. EPA reviewed available information on incinerators

and found that reliance on these surrogate monitoring parameters could not be supported:

[T]he database characterizing PICs in emissions would not allow a correlation to be established with CO or THC levels for various combustion devices and/or conditions....The correlation of CO, THC or other parameters with combustion efficiency and PIC emission concentrations is weak for some conditions and for some combustion devices. (U.S. EPA 1989a)

While THC is a slightly more direct measure of stack emissions, this indicator also bears only the most tenuous relationship to the quantities and types of PICs released. The Science Advisory Board reviewed THC sampling methods and found them unreliable:

A 10- or 100-fold increase in the concentration of a low response factor but highly toxic, organic compound might go undetected against the background signal of high response factor nontoxic hydrocarbons. Many different mixtures of chlorinated and nonchlorinated organics could give rise to exactly the same total FID [a THC monitoring device] response....The composition of organics in the stack gas, and thus the average response factor, will vary. Thus, even for a single incinerator burning a single waste, it will not be possible to deduce whether a change in the FID signal represents a change in the emission rate or a change in composition. (U.S. EPA 1989a)

Furthermore, THC monitoring capability, as presently developed, can only measure a selected group of compounds. Semi- and non-volatile species—which in general tend to be more toxic than the volatile PICs—are not included in THC measurements (U.S. EPA 1989b). As a result, an increase in these more toxic PICs may not be reflected in THC readings. Furthermore, chlorinated PICs—also a more generally toxic class of PICs—are difficult to measure by present THC methods. In effect, the higher the concentration of chlorinated PICs, the lower the THC measurement, since "[e]ach chlorine atom makes a reduction in response by 0.12 units," according to the Science Advisory Board (U.S. EPA 1989a).

### **Temperature**

Temperature appears to be the variable that has the greatest effect upon DRE. At temperatures too low for effective combustion, a portion of waste chemicals will almost certainly escape unburned. Low temperatures may be conducive to PIC formation, as well.

"The levels of POHCs emitted at high excess air levels did not differ significantly from those emitted when the flame was extinguished. Nor did the types of PICs. This could be serious. When the flame goes out, there is usually only a momentary surge of soot and emission of exhaust gas laden with PICs. At high excess air levels though, the flame can be quite stable. Thus under high excess air conditions, large volumes of POHCs and

PICs can be emitted over long periods of time resulting in a worse air pollution problem than a momentary upset like a flameout." (Staley 1985)

The authors hypothesized in these cases that increased oxygen supply resulted in a rapid decrease in temperature in parts of the furnace, with significant increases in toxic emissions.

WILMINGTON, NC

28 SUNDAY STAR-NEWS / SUNDAY, JANUARY 24, 1993

LENOIR/Burner closed in 1988

# Illnesses found near former incinerator

Associated Press

LENOIR — The closer residents live to the site of the former Caldwell Systems Inc. incinerator, the more symptoms of respiratory and neurological problems they reported, a federal survey has found.

Representatives from the U.S. Agency for Toxic Substances and Disease Registry will be at South Caldwell High School in Hudson at 7 p.m. Monday to detail results of the 1991 study for the public.

CSI burned waste at the incinerator in Hudson from 1977 to 1988, when Caldwell County, which owned the site, sued to evict the company. Residents had complained the plant threatened their health.

The agency issued a public health advisory for Caldwell County in July 1990, warning residents to stay away from the plant.

And the Environmental Protection Agency has since nominated the site for inclusion on the Superfund list of chemical-dump sites deemed serious enough hazards to be among the first to be cleaned up.

The federal agency interviewed 1,301 Caldwell County residents for the survey in June and July 1991. Residents were split into two groups — a target group, or those who lived within a 1.5-mile radius of the incinerator site, and a control group, or those who lived in the Gamewell area, several miles away. No medical testing was done.

The study compared the prevalence of symp-

ptoms and diseases, including tremors, seizure, cancer and liver and kidney disease. The results were based on the residents' accounts and were adjusted for cigarette smoking, asthma and "environmental concern," the report says.

The survey showed that those who live near the incinerator reported almost nine times as many respiratory disorders and almost 2½ times as many cases of nerve damage.

Millie Buchanan of the Blue Ridge Environmental Defense League said that the report would be a rarity if it established a clear link between the symptoms and the incinerator.

"Based on the other health studies they conducted at other sites that seemed to be conclusive by design, I'd have to say that we're skeptical," Ms. Buchanan said.

"Hazardous Incinerators?"  
Science News, 22 May 1993, p. 334.

Each year, 184 incinerators in the United States destroy millions of tons of hazardous materials. Many communities have expressed concerns about the health risks those facilities might pose. Now epidemiological studies add weight to those concerns by linking respiratory and neurologic problems to working at or living near such plants. Scientists presented these findings in Atlanta this month at the International Congress on the Health Effects of Hazardous Waste.

Charles E. Feigley and his co-workers at the University of South Carolina in Columbia surveyed a random sample of 894 residents — 508 living downwind of a commercial hazardous waste incinerator and 386 living upwind in a demographically similar community. Downwinders reported a 50 to 100 percent greater prevalence of coughing phlegm, wheezing, sore throat, and eye irritation than upwinders. Even after the researchers accounted for age and for exposure to cigarette smoke, mold, and pets, downwinders were 20 to 90 percent more likely than upwinders to have been diagnosed with emphysema, pneumonia, sinus trouble, asthma, or allergies.

Using the same questionnaire, Dietrich Rothenbacher and his colleagues at the University of North Carolina at Chapel Hill polled some 400 households in two communities near a hazardous waste incinerator — one upwind, the other downwind. Here too, downwinders reported more diagnosed emphysema, sinus trouble, and sleep-rousing or morning cough.

Michael Straight and his co-workers at the Agency for Toxic Substances and Disease Registry in Atlanta compared 713 people living within 1.5 miles of a hazardous waste incinerator to 588 people about 8 miles from the plant. The closer community reported almost nine times more coughing and wheezing, 2.4 times as much neurological disease (such as seizures and tremors) and 40 percent more neurological symptoms (including tingling, blackouts and incoordination).

Melody M. Kawamoto of the National Institute for Occupational Safety and Health in Cincinnati followed up documented reports of headaches, hot flashes, irritability, memory problems, tremors, and erratic blood pressure changes in workers from a then-closed hazardous waste incinerator. All 14 symptomatic former employees ultimately examined suffered headaches, dizziness and memory problems.

Researchers led by Woodhall Stopford of Duke University medical Center in Durham, NC, examined 29 men who complained of chronic nausea, headache dizziness and feelings of intoxication. Between 23 and 50 years of age, all the men had worked at hazardous waste incinerators. Eight of the 15 men with joint pain had arthritis of unknown cause; more than half the men had middle-ear disease causing vertigo or gait problems; roughly half had memory problems; 22 exhibited abnormal sweating or wide fluctuations in pulse and blood pressure. Moreover, sleep disorders, severe depression, and recurring suicidal thoughts plagued 27 of the 29 men. "And all [27] had difficulty controlling impulses — rage reactions — either verbally or physically," Stopford says. Indeed, he notes 16 described homicidal thoughts.

None of these studies proves that incinerators harm health. But they do raise strong suspicions that the apparent links are real, Feigley says. He and many other researchers will now begin correlating individuals' symptoms with specific exposures to pollutant plumes or particular chemicals.

"It has been 12 years since federal rules governing the safety of hazardous waste incinerators have been reviewed and strengthened," says EPA Administrator Carol M. Browner. On May 187, she pledged not only to begin tightening emission controls on new and existing incinerators, but also to convene a task force to evaluate the role of incineration in disposing of the nation's hazardous wastes.

###

## Report on "Dioxin levels in blood of municipal incinerator workers", by A.J. Schecter, et al, *Med. Sci. Res.*, 1991, pgs. 331-332. Reprints of this article are available from: Dr. Paul W. Brandt-Rauf, Div. of Environmental Sciences, Columbia University, 60 Haven Ave., B-1, NY, NY 10032.

"...Municipal incinerator workers, in the course of their work, have considerable exposure to incinerator ash, and this raises the possibility that some of these workers might absorb significant quantities of these PCDDs and PCDFs. As a first attempt to try to assess this possibility, we have determined the levels of PCDDs and PCDFs in pooled blood samples from 56 municipal incinerator workers and 14 unexposed controls. Selected employees of three municipal solid waste incinerators had been previously enrolled in a study to investigate potential worker exposure to lead from ash. The greatest potential for exposure to the toxic components of ash occurs during ash cleaning operations...A contribution from work-place exposure can be suspected, however, since the pattern of congeners in the blood in this case was more similar to the typical pattern of congeners found in incinerator ash than to the patterns seen from other exposures such as phenoxy-herbicides (where 245-T and 2378-TCDD levels are raised) or in paper and pulp bleaching (where 2378-TCDD and 2378-TCDF levels are raised)...these findings, if substantiated, suggest that significant alterations may be called for in work practices and the design of municipal incinerators and the handling of their effluents (in particular the ash) to protect incinerator workers and the general populace near incinerators and ash land fills. For example, the Dutch government has had to ban general consumption of some milk and meat products from cattle grazing near municipal incinerators, following documentation of elevated dioxin levels in such products. Clearly, further investigation of this issue is indicated."

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Table 1: Dioxin and dibenzofuran levels in blood of municipal incinerator workers and unexposed controls.\*

Congener	Controls (n = 14)	Workers (n = 56)	Percentage difference
2378-TCDD	4.0	3.8	-5
12378-PnCDD	5.2	7.7*	+48
123478-HxCDD	8.1	6.9	-15
123678-HxCDD	46.0	54.0*	+17
123789-HxCDD	11.0	14.0*	+27
1234678-HpCDD	95.0	123.0	+30
OCDD	531.0	695.0	+31
Total PCDDs	700.3	904.4	+29
2378-TCDF	3.5	8.1*	+131
12378-PnCDF	NA	2.0	NA
23478-PnCDF	NA	NA	NA
123478-HxCDF	9.7	13.0*	+34
123678-HxCDF	NA	NA	NA
123789-HxCDF	8.5	14.0*	+65
234678-HxCDF	2.1	6.6*	+214
1234678-HpCDF	18.0	50.0	+177
1234789-HpCDF	NA	NA	NA
OCDF	5.2	9.1	+75
Total PCDFs	47.0	102.8*	+119
Total PCDD/Fs	747.3	1,007.2*	+35
TEQ	16.8	21.9	+30

\* Results are on pooled blood samples from each group.

NA = not available.

Numbers are in parts per trillion (ppt) on a lipid basis.

TEQ = toxic equivalents.

\* As compared with control,  $p < 0.01$ .

## Comments on the 11th International Symposium on Chlorinated Dioxins and Related Compounds. By Tom Webster of the Center for the Biology of Natural Systems.

Despite the front page news stories of the last year proclaiming that dioxin was much less of a problem than previously thought, much of the evidence for this position was largely absent or even contradicted at this year's international scientific meeting held September 23-27 in Research Triangle Park, North Carolina.

### Vernon Houk doesn't defend his views

Dr. Vernon Houk of the Centers for Disease Control, widely quoted for his views that the risk of dioxin to humans is overstated, failed to make his scheduled presentation at the conference. Stand-in Dr. Pirkle presented no evidence to back-up Houk's claim and offered to deliver any "potentially lethal questions" to Houk himself. Department of Veteran's Affairs scientist Dr. Kang's analysis of past studies on soft tissue sarcoma was taken apart on the spot. The lead critique came from Dr. Marilyn Fingerhut, prime author of the NIOSH study which found statistically significant increases in cancer in U.S. chemical workers exposed to dioxin containing compounds. German epidemiologist A. Manz reported statistically significant increases in cancer in the chemical workers exposed at the Boehringer plant [see *Waste Not* 170]. The qualitative evidence for dioxin as a human carcinogen is clearly growing. Furthermore, according to separate analyses of the NIOSH

1414 S. Park Ave. #38  
Burley, Idaho 83318  
May 26, 1999

DEQ  
1410 N. Hilton  
Boise, Idaho 83706

RECEIVED

JUN 01 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

attention: Chris Dauverport

Enclosed is a copy of my "Speakers Corner" article I intend to send to the Boise Idaho Statesman in the near future. This article includes my comments on the new INEEL incinerator and other related subjects.

In view of INEEL's past record of gross mismanagement, I have serious doubts that DEQ has done their job properly to protect the public. In fact, it may be in the public's best interest to abolish DEQ.

Sincerely,

Vaughn Peterson

1414 "MAY 20  
Burley, Idaho 83318

## "Speakers Corner"

The DOE has recently signed a \$1 billion contract with British Nuclear Fuels to build and operate a nuclear waste incinerator at INEEL to be known as The Advanced Mixed Waste Treatment Project. This plant would treat 65,000 cubic meters of plutonium-contaminated waste stored at INEEL and 120,000 cubic meters of additional waste from INEEL and other federal sites over the next 30 years.

This incinerator will not destroy radioactive waste. It only reduces the mass of the waste. Incineration transforms much of the waste to microscopic particles which will pass through any filter into the atmosphere where it will be inhaled or ingested by people. It should be emphasized that plutonium is a cancer-causing element and a serious health hazard.

I believe it is totally irresponsible and ridiculous for INEEL to even think about operating this incinerator for the next 30 years.

The Idaho DEQ admits the radioactive doses people will receive from this incinerator are above the accepted value, <sup>but</sup> they seem prepared to approve British Nuclear's variance permit. To make matters worse, the incinerator emissions will include the deadliest chemicals known to man.

INEEL has been guilty of gross mismanagement of radioactive and hazardous waste for over 50 years (Times - News Sept 21 '97) so their proposed incinerator project comes as no surprise.

More than 2 million cubic feet of plutonium-contaminated waste is still buried at INEEL due to bad management decisions in the past (ignoring advice of scientists and other experts). However, the DOE, INEEL, our Congressional delegates and Gov Kempthorne all seem to have little or no concern about the buried waste or the new incinerator.

Pit 9 has never been cleaned up and is still not included in INEEL's latest cleanup plan. To make matters worse, INEEL is considering a new 300 acre burial site over the aquifer for more plutonium-contaminated waste, once again ignoring advice of scientists and other experts. Time is very important regarding Pit 9. Every day, more radioactive waste drains down into the aquifer from broken containers on the surface. If this waste is not removed soon, the aquifer will, in time, become contaminated and adversely affect the health of thousands of people along the Snake River drainage.

INEEL is apparently not satisfied to pollute our water supply - now they intend to contaminate the air we breath with their new incinerator.

If our congressional delegates and the Governor does not resolve the above problems in the near future, I believe we should vote, next election, for new congressional candidates and a new governor who will take positive action to assure (a) the buried waste at INEEL is promptly removed, (b) the proposed new 900 acre burial site is stopped and (c) the new incinerator is also stopped.

The people of Idaho should not condone any further inaction or complacency by our Governor or Congressional delegates regarding this important state issue.

In addition, since we can no longer trust the DOE and INEEL to protect our water and air, I believe we should seriously consider closing INEEL permanently.

Clean air and water are much more important than all the high-pay jobs at INEEL.

Vaughn Peterson

Phone 678-4263

9:06 a.m. 6/1/99 voicemail

Comment on BNFL Inc.

Loretta Scott  
P.O. Box 994  
Jackson, WY 83001  
(307) 733-6903

"I am calling to register a complaint against the incinerator which is proposed at INEL. I live in Jackson. I truly do feel concerned that the emissions control will not be up to the standard expected and that as being down wind of the incinerator people in Teton County Idaho and Teton County Wyoming certainly are going to suffer the ill effects of that. In particular I am personally very annoyed that DEQ would require radon testing in homes, I am a real estate broker and so I am familiar with that, and then on the other hand would allow something like an incinerator which would certainly impact our lives a lot more critically than substantial amounts of radon. I want to just register my complaint. I appreciate your attention and taking the time to listen to my message."



# Greater Yellowstone Coalition

13 South Willson, Suite 2 • P.O. Box 1874 • Bozeman, Montana 59771 • Phone (406) 586-1593  
Fax (406) 586-0851 • E-mail [gyc@greateryellowstone.org](mailto:gyc@greateryellowstone.org) • Web <http://www.greateryellowstone.org>

May 27, 1999

Chris J. Davenport  
Idaho Division of Environmental Quality  
1410 N. Hilton  
Boise, ID 83706-1255

PERSONNEL  
JUN 01 1999

RE: Advanced Mixed Waste Treatment Project (AMWTP) application to construct an air pollution source

Dear Mr. Davenport:

The following are the comments of the Greater Yellowstone Coalition (GYC). GYC is a regional conservation organization whose mission is to protect and conserve the Greater Yellowstone Ecosystem. We are commenting on the above referenced application out of concern for the potential to increase health hazards in communities within the GYE (which is down wind from the proposed incinerator) and degradation of air quality in class one airsheds in the GYE.

All across this country and the world scientists and the public have prevented incinerators from being constructed based on threats to public health. As you know incineration of all types of municipal and industrial wastes has been a discredited technology, based on public health concerns. While the AMWTP will likely destroy some hazardous organic constituents, it will also disperse toxics into the air and concentrate them in the ash. Unburned organic compounds will be released into the atmosphere.

The environmental effects of waste incineration at INEEL will, most likely, be felt first by workers at the plant and downwind residents. Those who both work at the site and live downwind will be hardest hit. As we noted above, GYC is concerned that the pollutants from this source may reach the GYE, causing as yet to be determined impacts to residents living in our communities.

Both the project proponent, BNFL, and information from DEQ suggest that all applicable standards will be met by meeting a 99.9999% destruction and removal efficiency (DRE). This will be demonstrated through a trial burn. Trial burns do not necessarily reflect what will occur under everyday operating conditions. Trial burns use pure chemicals while DRE decreases dramatically when complex mixtures of chemicals in low concentrations are burned.

Trial burns do not take into account the amount of compounds which are created during the combustion process known as products of incomplete combustion (PICs). Of the mass of pollutants known to be present in stake gases during any given trial burn, the fraction that have been identified range from 1 to 60 percent according to the U.S. EPA.

Even if a DRE of 99.9999% were achieved, a significant quantity of pollutants will be dispersed into the air. The DEQ should quantify and calculate the mass of these pollutants, and make that information readily available and part of the public record and decision-making process. Fugitive emissions and potential releases during transport and handling should also be estimated.

Products of Incomplete Combustion (PICs) emissions are qualitatively and quantitatively dependent on temperature, retention time, oxygen availability, and mixing/turbulence. PICs will also be present in wastewater effluents and sludges. The DEQ should quantify and qualify realistic assumptions for air emissions of PICs and make that information readily accessible and part of the public record.

#### Incineration of Metal-Containing Wastes

Metals are elements and as such are not destroyed by incineration. Any metals in the waste feed will be found in the stack effluent, the captured fly ash, the scrubber water, and the bottom ash (whichever apply to the facility). Up to 35% of metals in a hazardous waste stream can be emitted to the atmosphere during incineration. The likely volumes and types of metals that will be incinerated at this facility should be quantified and qualified and be made readily available.

#### Health and Environmental Impacts

While it is clear that incinerators emit many dangerous, toxic chemicals, the full effects are unknown. Many data gaps exist including:

- Identification of the full range of PICs,
- Identification and quantification of metal emissions,
- Few metals and PICs have been fully evaluated for toxicity,
- The effects of chronic exposure to toxic chemicals,
- The synergistic effects of different chemicals, and
- Through analysis of the uptake, transformation, and bioaccumulation of PICs and metals

Adverse health effects in workers and surrounding communities are well documented at many hazardous waste incinerators. Dioxin levels have been shown to be elevated in municipal waste incinerator workers over a control group. Many heavy metals and organic compounds released in air emissions from incinerators are known to accumulate in crops and livestock. Food is already the general population's major exposure route to heavy metals, dioxins and furans, and other synthetic chemicals.

#### Risk Evaluation of this Incinerator

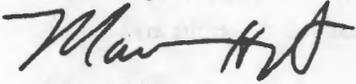
Risk assessments almost always underestimate risks to the environment and public health. The DEQ should perform its own, independent process to quantify and qualify the risks from this facility. Essential to this would be:

- Characterization of the wastes which will be incinerated over the life of the facility, including estimating chlorine and metals content;
- Qualification and quantification of the chemicals likely to be emitted in the environment;
- An analysis of the environmental fate and effects of chemicals likely to be emitted into the environment;
- Baseline conditions;

- Cumulative effects; and
- Consideration of other alternatives.

While incineration is seen as a relatively cheap option, the environmental and public health consequences make it an unacceptable option.

Sincerely,



Marv Hoyt  
Idaho Representative



**DAVID PROCTOR**

6627 Ashland Drive  
Boise, Idaho 83709  
(208) 322-8413

May 28, 1999

Chris Davenport  
Division of Environmental Quality  
1410 N. Hilton  
Boise, 83706-1255

Dear Mr. Davenport,

I wish to express in the strongest possible terms my adamant and unalterable opposition to the incinerator proposed to be built by British Nuclear Fuels Ltd. at INEEL.

I have volumes of information and could write a great length about why I feel this way, and will if you so desire. However, I believe I can summarize my opposition to the proposed monstrosity, euphemistically called the Advanced Mixed Waste Treatment Facility, in a few pages.

All I can do is hope the state of Idaho is a better listener than is the federal Department of Energy. I attended the DOE's incinerator hearings in Twin Falls last year and heard speaker after speaker detail the scientific, financial and social reasons the incinerator should *not* be built. They were all ignored, just as the public has been ignored since the atomic age began in 1945. Perhaps a level of government closer to the people will not be so arrogant.

Here are some of the reasons this appalling and deadly piece of equipment should never be built.

- Incinerators don't destroy radiation or the heavy metals in the waste. They only reduce the mass of the waste. The stuff that made the waste deadly in the first place – including chlorinated compounds, dioxins (generated from burning plastics that many radiation-contaminated items are wrapped in) and FURANDS – remain behind in concentrated form and must be stored with

PERSONNEL

JUN 01 1999

extreme caution. These leftover wastes are long lived and are associated with decreased fertility, reproduction problems and birth defects.

- Incineration reduces much of the radiation and other pollutants to microscopic particles and/or gases that will pass through *any* filters or other pollution-prevention equipment and into the atmosphere. There this deadly material will be inhaled or ingested by us, the very people who paid to build the thing. No matter what the Department of Energy says, the truth is the technology does not exist that can guarantee zero emissions. The DOE's history of deadly discharges and huge leaks at Rocky Flats, Colorado, and Oak Ridge, Tennessee, and the illnesses and death that followed those leaks, is ample evidence of that.

- The burning won't stop with the 2.2 million to 6.5 million cubic feet of waste from INEEL. Another 140,000 cubic feet of waste from unknown sources (which would mean even more nuclear-waste shipments into Idaho from all over the country) could be burned here.

- The prime contractor for the incinerator is British Nuclear Fuels. This company, owned by the British government, operated the Windscale nuclear plant on the Irish Sea coast. At Windscale, in 1957, a serious nuclear accident released 30,000 curies of radioactive Iodine-131 and other radioactive products over several hundred square miles. In comparison, the Three Mile Island accident in 1979 released 30 curies.

A few days later, London – 300 miles away – received an unusually high dose of radioactive fallout. Studies in downwind European countries subsequently showed higher-than-normal infant-mortality rates. The nearby villages had an epidemic of leukemia and a higher-than-normal rate of children with Down's Syndrome.

More recently, this spring British Nuclear Fuels was caught making plans to illegally import thousands of spent nuclear fuel rods from the Yankee Maine commercial reactor into England without notifying the British or United States governments. BNFL obviously knew what it was doing was illegal and went to great pains to cover its tracks by asking that the American company never refer to BNFL by name in its correspondence.

Is this the company we want to build a machine with the likelihood to have such devastating environmental impacts on the people and land of Idaho?

• The federal government – through the Atomic Energy Commission, the Nuclear Regulatory Commission and the Department of Energy – has an unbroken record of failure and lies in its dealings with nuclear materials over the last 53 years. From the cancer-stricken uranium miners in the Southwest; to the downwinders who were decimated by fallout from the nuclear tests in the Pacific and Nevada; to the intentional and accidental releases of radioactivity at nuclear reservations such as INEEL, Rocky Flats and Hanford and the accident at Three Mile Island, the government has lied to the public and tried to cover up those lies at every turn. In the wake of those lies is a population that has suffered untold physical, emotional and financial devastation.

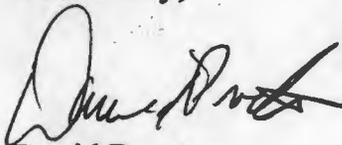
All this is what we are inviting into Idaho if we go along with this insanity. This is why Lawrence Livermore Laboratory in California refused an incinerator in 1990.

Why should Idaho residents take what Lawrence Livermore didn't want?

What is more important, to secure a safe, clean environment for our children and future generations, or fork over a \$1.18 billion contract to a foreign company who will repay Idaho with death and disease?

The American Indian culture historically planned seven generations ahead. If the federal government, created "by the people and for the people," can't do that, perhaps the state of Idaho can.

Yours truly,



David Proctor  
dproctor@rmci.net

Citations:

*"Deadly Deceit: Low-Level Radiation, High-Level Cover-up,"* by Jay M. Gould and Benjamin Goldman with Kate Millpointer, Four Walls and Eight Windows, NY 1990.

*"Nukespeak: Nuclear Language, Visions, and Mindset,"* by Stephen Hilgartner, Richard C. Bell and Rory O'Connor, Sierra Club Books, San Francisco 1982.

*"We Almost Lost Detroit,"* by John G. Fuller, Reader's Digest Press, New York, 1975

*"KILLING OUR OWN: The Disaster of America's Experience with Atomic Radiation"* by Harvey Wasserman & Norman Solomon with Robert Alvarez & Eleanor Walters; A Delta Book 1982

"The Testimony of Dr. Rosalie Bertell at the World Women's Congress, 11/91"

Dr. Rosalie Bertell: "16 Million Radiation Deaths and Counting" (magazine article)

MICHAEL & JANET SLUSZKA  
3225 Teton Pines Drive  
Wilson, WY 83014

Chris Davenport  
Idaho DEQ  
1410 North Hilton  
Boise, Idaho 83706-1255

May 27, 1999

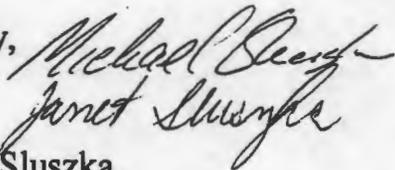
Dear Chris,

We would like to raise our voices on the issue of building a 790 foot smokestack atop an incinerator in which radiated trash would be burned in Idaho. Despite the fact that we live over 50 miles away in Jackson Hole we feel that this area should still be included in the public hearing process. This valley is downwind from the incinerator. In the past we have gotten the smoke from forest fires burning in Idaho as well as the dust from the potato farmers in Idaho harvesting their crop. We see no reason why we would not feel the effects of the smoke from the above mentioned incinerator.

We have moved to this valley mainly for health reasons and the cleanliness of the air, water and environment are very important to us. Please register our protest and total disapproval to the construction of this smokestack on top of an incinerator to burn contaminated waste and please include Jackson Hole in the public hearing process.

Thank you for your time and attention.

Sincerely,



Michael Sluszka  
Janet Sluszka  
(307) 734-5257

PERSONNEL  
JUN 01 1999

RECEIVED

JUN 01

990760

6/1/99

To whom it may concern:

This letter is in protest to the proposal to burn nuclear waste at a site 50 miles away from my home in Jackson, Wyoming.

Imagine how the residents of Boise would feel if the state of Oregon was proposing to burn contaminated nuclear waste at a site 50 miles to the west of Boise! This is just outrageous!

Don't think for a minute that just because you can't readily see nuclear waste in the air, or any kind of air pollution for that matter, that it isn't there, or doesn't pose a health threat to humans or animals. Have we learned nothing from the mistakes made in Utah in the 1950s?

Please consider myself and my family, residents of Jackson Hole since 1959, completely opposed to this poorly planned and dangerous nuclear furnace.

Sincerely,



Casey, Tara, Caelin and Aidan Sheahan  
PO Box 323  
Teton Village, WY 83025

May 27, 1999

RECEIVED

JUN 02 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

D. E. Q.  
1410 No. Hilton  
Boise, Idaho 83706

It is difficult for us to comprehend why an agency supposedly functioning as a guard, as it were, of public health and safety in Idaho would consider the British Nuclear Fuels Ltd. proposal.

To put the Idaho people and economy in jeopardy for the "quick dollar and job argument" is ludicrous. It is also very disheartening for Idahoans to have to continually be hit by these kinds of proposals. If this is such a great opportunity, why aren't other

states claiming for it?

To change the name of  
the INEL to INEEL does  
not alter the harm that  
could be done & also by  
these attempts to make this  
facility a paying proposition.

Mark A. Keosley  
R. L. Deasley

May 25, 1999

DEQ Office - Air Quality  
1410 North Hilton  
Boise, ID 83706-1256

RECEIVED

JUN 02 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

Attn.: Chris Davenport

Dear Chris:

This letter comes to express my strong concern about and objection to the building of a proposed **NUCLEAR AND HAZARDOUS WASTE DISPOSAL INCINERATOR** in Idaho.

How can the DEQ and *CLEAN AIR ACT* consider approval for such a questionable project? Even if authorities in this matter tell us that emissions from this proposed facility will not exceed the "*allowable*" amounts for humans and other life forms, who can assure us that *any* amount of such emissions is harmless? *And finally: WHO CAN COMMAND THAT THE WIND NEVER BLOW ANY OF THESE EMISSIONS IN THE DIRECTION OF ANY LIFE FORM?*

Thank you for your work as a guardian of Air Quality control! We trust you will do your very best to see that our concerns are addressed and responsible action taken toward total prevention of this proposed Incinerator project!

Sincerely,

*Diane Bucoral*  
*Teton County, Wyoming*

*calling all crones®*

# CRONE CHRONICLES®



A JOURNAL OF CONSCIOUS AGING

Ann Kreilkamp, Editor and Publisher

27 May 1999

Idaho Department of Environmental Quality  
1410 North Hilton  
Boise, ID 83706-1255

RECEIVED

JUN 02 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

Dear Sirs:

I am writing to object to the proposed construction of a nuclear incinerator at the Idaho National Engineering and Environmental Laboratory. The proposed incinerator is directly upwind of residents of Jackson Hole, West Yellowstone, Montana, and the four-footed residents of Yellowstone National Park, not to mention several wilderness areas. Have we learned nothing from many years of watching acid rain destroy our forests and the wildlife that live in them.

The material to be burnt is known to be carcinogenic and extremely toxic. It has not been proved that burning such material reduces its carcinogenicity. Indeed, burning may even enhance it.

Thank you for paying attention to this plea.

Sincerely yours,

Ann Kreilkamp, Ph. D.  
Editor and Publisher

EDITOR TRANSLATOR  
**Jeffrey S. Joel, Ph. D.**

*Consultant in*  
GRAPHICS • PUBLISHING • COMPUTING  
NETWORKING

Jackson Holistic Center, P. O. Box 70, Kelly, WY 83011  
(307) 733 - 1726 • Fax (307) 733-8639

RECEIVED

JUN 02 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

27 May 1999

Idaho DEQ  
1410 North Hilton  
Boise, ID 83706-1255

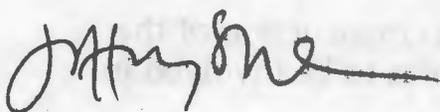
Dear Sirs:

I am writing to protest the proposed construction of a nuclear incinerator at the Idaho National Engineering and Environmental Laboratory, which is directly upwind of the residents here in Jackson Hole.

I find it amazing that downwind population centers are not taken into account when such industrial plants are proposed, and even more so when the material to be burnt is known to be carcinogenic and otherwise toxic.

Thank you for reading this, *and for heeding my protest -*

Sincerely yours,



Jeffrey Joel, Ph. D., D.D.

Philip and Heidi Leeds  
P.O. Box 2223  
Jackson, WY 83001

RECEIVED  
JUN 02 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

Idaho Department of Environmental Quality  
1410 North Hilton,  
Boise, ID 83706-1255

May 26, 1999

Dear Sirs:

We are writing with regard to the proposed nuclear incinerator planned for the INEEL.

Our concern is a simple yet incredibly important one: why were the residents of northwestern Wyoming not included in the public hearing process for the proposed nuclear incinerator?

It doesn't take a nuclear scientist to recognize that air moving over our country/continent knows no state boundary!

We hope that you do the right thing and halt the construction of the incinerator and allow all people living in the region to be involved in the decision-making process.

Sincerely,



RECEIVED

JUN 02 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

Box 201

Wilson

WY 83014

May 28<sup>th</sup> 1999

Dear Idaho DEQ

I learned yesterday of the incinerator that is to be built at INEEL this summer. This matter is of great concern to me, particularly when I read that INEEL has chosen British Nuclear Fuels as the contractor. BNF does not have a sterling record in the UK & I sincerely hope that their past history is being seriously evaluated in this process. Since I do not have time to adequately prepare comments on this issue, I am writing to request that you extend the comment period so that those of us who live beyond the 50 ml limit but who will be affected can have an opportunity to submit a thoughtful response.

Sincerely,

Rona Miller

RECEIVED

JUN 02 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

May 27, 1999

Idaho DEQ  
1410 North Hilton  
Boise, Id 83706-1255

To Whom It May Concern:

I would like to express my opposition to your plans to build an incinerator at the INEEL facility.

My family and I are very concerned with the burning of these carcinogens and the effect it will have on our community.

My family was born and raised and still live in the Ririe, Idaho area and we are very concerned for their health as well.

I would request that you visit the Jackson area and give us more details about this proposed incinerator.

We are concerned not only about the health implications but also if this will effect our economy by driving away tourists.

Thank you,

Lance & Marian Cygielman  
Jackson, Wyoming

RECEIVED

JUN 02 1999

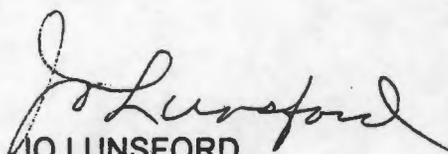
DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

28 May 99

IDAHO DEQ  
1410 North Hilton  
Boise, ID 83706-1255

I have been out of town and have just learned of your plans to build a nuclear incinerator for the burning of hazardous materials.

I am writing to object to the building of this incinerator.



JO LUNSFORD  
PO Box 686  
Jackson, WY 83002

RECEIVED

JUN 02 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

5/27/99

To: Idaho DEQ  
RE: British Nuclear Fuels  
proposed incinerator

We would like to voice our strong opposition to the proposed incinerator at the INEEL. Tiny amounts of radiation coming our way is bad enough from the INEEL. Even more of it combined with 40 other toxic substances is unthinkable, no matter how safe the government says it will be. Already there seems to be a higher than normal cancer rates in our area and we don't want to see it go higher.

Please consider quality of life for the people of our area ... as well as all living things. Thank you.

Sincerely,

Chris Wimberg

Kurt Wimberg

P.O. Box 604

Wilson, WY 83014

SNOW  KING  
*resort*

RECEIVED  
JUN 02 1999  
DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

May 27, 1999

Idaho Department of Environmental Quality  
1410 North Hilton  
Boise, Idaho 83706-1255

Dear Sirs:

I am writing to voice a resounding "NO" to the proposal to put a nuclear waste treatment incinerator at the INEEL plant in Idaho, west of Idaho Falls.

If "Idaho Is Too Great To Litter", why would we want to put a nuclear waste incinerator in Idaho?

Please, do not approve the project.

Sincerely,

Jimi Sullivan  
Ski Area Manager



LOUISA MYRIN  
P.O. BOX 75  
WILSON, WY. 83014  
307-733-0325  
e-mail- wymom123@aol.com

RECEIVED

JUN 02 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

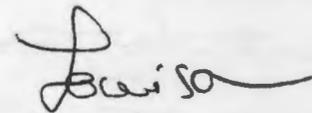
May 26, 1999

To Whom It May Concern:

I am very against the building of an incinerator at Ineel. I think it is extremely dangerous to the health of the people of Idaho and the people living in Jackson Hole. Already we have a high incidence of cancer, probably due to the nuclear plant in Idaho Falls. The wind blows the emissions to Jackson as it would from an incinerator in Ineel. I think it is irresponsible of you to consider such an enterprise. The United States has enough problems with our own waste. Why would you consider bringing an other country's here?

Please do not build this incinerator!!!

Sincerely yours,



RECEIVED

JUN 2 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

MAY 25, 1999

IDAHO DEQ  
1410 NORTH HILTON  
BOISE, IDAHO

BRUCE W. DIETZ  
PO BOX 2426  
JACKSON, WYO.  
83001

DEAR IDAHO DEQ,

PLEASE BE ADVISED THAT I AM  
STRONGLY OPPOSED TO THE PROPOSED  
CONSTRUCTION OF A MIXED-WASTE NUCLEAR  
INCINERATOR AT THE IDAHO NATIONAL  
ENGINEERING AND ENVIRONMENTAL LABORATORY

PREVAILING WINDS FROM THE WEST  
WILL CARRY THE TOXIC EMISSIONS TO  
JACKSON HOLE AND COULD CAUSE CANCER  
AND OTHER ILLNESSES. TETON COUNTY,  
WYOMING DOES NOT HAVE AIR MONITORING  
EQUIPMENT TO TEST FOR THESE LEVELS  
OF POLLUTION.

I FIRMLY BELIEVE THAT THE  
POTENTIALLY AFFECTED GENERAL PUBLIC  
HAS NOT BEEN GIVEN SUFFICIENT  
INFORMATION NOR ADEQUATE TIME TO  
COMMENT ON THIS PROPOSAL.

SINCERELY,

Bruce W. Dietz

**ACE Personal Trainer  
Licensed Massage Therapist**

**Box 161 Wilson, WY 83014  
At the Aspens  
(307)734-5841**

**COMMENTS**

Idaho DEQ  
1410 N. Hilton  
Boise, ID 83706-1255

May 27, 1999

**RECEIVED**

**JUN 02 1999**

**DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE**

To Whom It May Concern,

I have worked with cancer victims on a weekly basis for the past 7 years in my massage practice. It is a horrible, incurable disease and has killed many of my clients.

I say NO to the proposed incinerator, in the name of health of our ecosystem, economy and bodies. NO, NO, NO it will destroy more lives than it will help.

I live in the direct path of the wind that will carry carcinogens over the border and into my neighborhood. I know of the spills on the Snake River Aquifer, so the dirty water is already down here, infecting us. You will be signing death sentences if you let this plant be built.

Sadly,

*Kate Halsey*  
Kate Halsey



5/26/99

To Whomever it May Concern:

RECEIVED

JUN 02 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

Yes Vote NO! To The

Smoke Stacks coming in.

ALL 7 of Them!

Thank you  
~~Karen R. Mills~~  
Karen R. Mills

~~Nancy H. Frost~~  
Nancy H. Frost

May 26, 1999

Idaho DEQ  
1410 North Hilton  
Boise, ID 83706-1255

RECEIVED

JUN 02 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

Dear Sir or Madam:

As residents of Jackson Hole, Wyoming we would like to register our strongest opposition to the proposal to construct a nuclear incinerator at the Idaho National Engineering and Environmental Laboratory west of Idaho Falls.

We feel this incineration of nuclear waste would pose a definite health risk for all citizens living downwind (and or in the vicinity) of such an incinerator.

Please reconsider this plan and do not build or make use of a nuclear incinerator at this location.

Sincerely

Mr. & Mrs. John Heiberger  
625 Ponderosa Dr. Jackson, Wyo. 83001

RECEIVED  
JUN 02 1999  
DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

May 28, 1999

Idaho DEQ  
1410 North Hilton  
Boise, ID 83706-1255

To Whom It May Concern:

I am extremely concerned about the proposed British Nuclear Fuels Limited incinerator project. I do not see that conclusive analysis and research has gone into this project, and I fear for the health and safety of myself and others living down-wind from this operation. I expect that if this project goes forward that the emissions will exceed the current Clean Air Act rules and regulations. To be sure, I completely oppose this project and hope that you reconsider the health and safety ramifications this project will have on generations to come.

Sincerely,

Bryce Broughton  
Bryce Broughton  
P.O. Box 1051  
Driggs, ID 83422

**CYNTHIA ANDERSON  
1835 E. Porcupine Rd.  
Jackson, WY 83001**

**RECEIVED**

**JUN 02 1999**

**DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE**

**5-27-99**

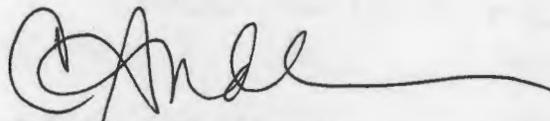
**IDAHO DEQ  
1410 N. Hilton  
Boise, ID 83706-1255**

**Dear Sirs,**

**I wish to officially register my strong objection to the proposed storage and incineration of toxic chemicals in the INEEL facility in Idaho. We in Wyoming do not want to be exposed to these deadly toxins and beseech you to forbid this project to proceed.**

**Thank you.**

**Sincerely,**

A handwritten signature in black ink, appearing to read 'C. Anderson', with a long horizontal flourish extending to the right.

**Cynthia Anderson**

RECEIVED  
JUN 02 1999  
DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

May 15, 1999

Idaho Department of Environmental Quality  
1410 North Hilton  
Boise, ID 83706-1255

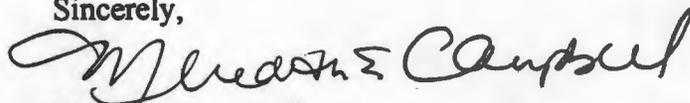
Dear Persons Concerned;

I learned in my local paper last week that a foreign company by the name of British Nuclear Fuels is planning to build a major incineration complex at INEEL. The emissions that will become airborne as a result of this burning process are extremely toxic and carcinogenic. I am well aware of the health effects this will have upon those who will inevitably be exposed to these toxins.

Jackson Hole is located less than 100 miles east and downwind from INEEL. To think that we should not be made aware of this potential site because we are in Wyoming is wrong. I am already convinced that so much of what goes on presently at INEEL is having devastating effects on our population as evidenced in a large and unexplained cluster of female brain and breast cancers.

I am strongly opposed to such hazardous chemicals being burned at INEEL.

Sincerely,



Meredith Campbell  
P.O. Box 540  
Wilson, WY 83014

FROM: Kim Crivison  
P.O. Box 1017  
Driggs, ID 83422

RECEIVED  
JUN 02 1999  
MAY 27 - 1999  
DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

To the DEQ -

As a resident of Teton County, Idaho

I am terrified to learn about the nuclear incinerator the INEEL plans to build this summer. This is the most frightening news I have heard in my life. To think that my own government plans to poison not only the agricultural land that produces potatoes for millions of people but also plans to poison the greater Yellowstone ecosystem where so many precious animals live (and myself.)

I beg of you to please not do this. I can only thank God that I do not have any children and even though that is true now my heart is breaking to think that myself or my friends may die a horrifying, slow death from cancer because sufficient studies have not been done and with

→

only a couple of days for public  
comment I can only suspect that  
the reason for this is because studies  
would find this smokestack unacceptable

I am frightened of my  
government

I expect a response -

Sincerely,

Kim Carlson

Driggs, ID

83422

208.354.8014

RECEIVED

JUN 02 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

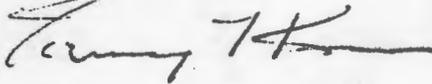
May 28, 1999

Idaho DEQ  
1410 North Hilton  
Boise, ID 83706-1255

To Whom It May Concern:

I am extremely concerned about the proposed British Nuclear Fuels Limited incinerator project. I do not see that conclusive analysis and research has gone into this project, and I fear for the health and safety of myself and others living down-wind from this operation. I expect that if this project goes forward that the emissions will exceed the current Clean Air Act rules and regulations. To be sure, I completely oppose this project and hope that you reconsider the health and safety ramifications this project will have on generations to come.

Sincerely,



Tammy L Knoel  
P.O. Box 1038  
Driggs ID 83422

Jon Rubalek

Box 1054

Driggs, ID 83422

Idaho DEQ

1410 N. Hilton

Boise, ID 83706-1255

RECEIVED

JUN 02 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

Dear Sir/Madam,

As a resident of eastern Idaho, and as an American citizen, I am very concerned about the proposed waste incinerator to be built at INEEL. The effects of the expulsion of toxins into the air are potentially catastrophic. Pristine wilderness, and sensitive wildlife habitat are downwind. In a geographic area visited by millions of people every year, the exposure to humans could be much greater than only to residents. During a large part of the year the weather pattern is such that the jet stream passes through this area, & could

disperse contaminants eastward in a  
short period of time. Airborne toxins could  
have a very long term and far reaching effect,  
and as stewards of the planet, we should  
not allow this incinerator to be constructed.

Thank you very much.

Sincerely,

Joe A. Helt

No Incinerator at INEEL!

RECEIVED

JUN 1 1989

DEPT. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

To: members of Idaho UCA,

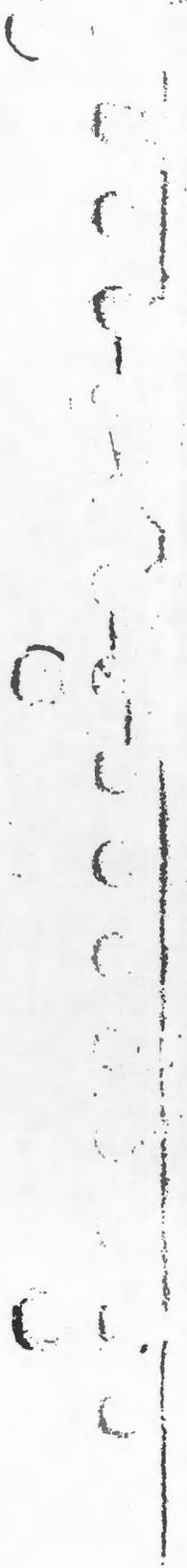
I'm writing to express my concern re: the building of the incinerator for the burning of nuclear & toxic wastes. Living in Jackson downwind of this definitely raises concerns for our children & health of all residents. Also, the residents of yellow stone & GTNP. It seems a shame that a whisper of this is just now leaking out. We the residents of Teton Co need to be able to participate in the public hearing process & be kept informed. The potential effect on us for the future is too great! Please consider our protests & allow us to participate in this process & be kept informed - The implications of disastrous health effects are too great!

Sincerely,

Julia Ross  
I'm presently on behalf for my team labor & am concerned for my 6 yr old & unborn child for high risk for cancer due to airborne pollutants

1945  
RECEIVED  
JULIE & JEFF THOR

1945 Homestead Dr  
JACKSON WY 83001



RECEIVED

JUN 02 1999

5/28/99

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

We are against your nuclear  
incinerator blowing toxic waste  
into our pristine environment.  
Where will Idahoans go to  
vacation after you destroy  
Teton & Lincoln counties  
Please think hard about this.

Lynnette A. Mena  
Raymond Mena

RECEIVED

5/27/99

JUN 02 1999

Dear Sirs

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE  
I am writing to express my deep concern over the proposed building of the nuclear incinerator. I feel that those affected down wind from such a facility should have a say in such an undertaking. There is no way that I can be reassured that toxic immissions will not pollute pristine Yellowstone and western Wyoming. I have followed the history of other such facilities and find it very scary to think that any more incinerators are being proposed.

I support the Snake River Alliance and their stand on this issue and know that my neighbors do also.

Sincerely,

Susan Williams

P.O. Box 7313

Jackson, WY 83002

①

RECEIVED

MAY 27 1998

DR. ALICE E. RICHTER  
260 N. CACHE  
P. O. BOX 1901  
JACKSON, WYOMING 83001  
TELEPHONE 733-6106

MAY 27 1998

990774

5-27-98

To The INETH,

I am totally committed to stopping the building and proposal to burn the toxic + radioactive waste at INBBH.

I have no desire to breathe the waste material or have the contaminants blow to my home.

I hope everyone in Jackson will support my views and we will stop

(2)

DR. ALICE E. RICHTER  
260 N. CACHE  
P. O. BOX 1901  
JACKSON, WYOMING 83001  
TELEPHONE 733-6106

you by any  
means possible,  
you have unmitigat-  
ing goal to think  
that we will allow  
this to happen!  
I hope you will  
reconsider your  
views about  
contaminating  
the air. The way  
you have contaminated  
the Snake River  
aquifer water system

③

DR. ALICE E. RICHTER  
260 N. CACHE  
P. O. BOX 1901  
JACKSON, WYOMING 83001  
TELEPHONE 733-6106

south of the  
INBBN

We should ban  
all Nuclear Power  
plants from the  
face of the earth.  
God have mercy  
on your souls!

Walter R. Rutter, Jr.  
P.S. If the burning  
starts our air  
will be monitored

DR. ALICE E. RICHTER  
260 N. CACHE  
P. O. BOX 1901  
JACKSON, WYOMING 83001  
TELEPHONE 733-6106

(4)  
for radiation  
and other  
contaminates.  
If any are found  
you will be  
sued by us and  
an environmental  
group I can get  
to support us for  
billions of dollars.  
we have Yellowstone  
& Teton Park to  
thank!!

2 + May, 1999

P6B 9734

JACKSON, WY 83002

(307) 734-1792

IDAHO DEQ  
1410 N. HILTON  
BOISE, ID. 83706-1255

RECEIVED

JUN 02 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

RE: WASTE INCINERATOR.

DEAR SIRS/MADAM:

I came from New Jersey to Wyoming to partially escape the effects of a toxic environment. New Jersey has the highest incidence of cancer of the 50 states. Please do not incinerate nuclear waste upwind from my present living area. Please truck it all to New Mexico and work toward the goal of creating no more nuclear waste.

Thank you for your time.

Thomas Stanton, M.A.



SCRATCH

Pad June 1, '99

Mr. Davenport:

We are concerned about the TRU waste buried in pits (26 acres).

Wouldn't it be safer stored in steel containers ABOVE ground?

We do NOT think that incineration is a safe measure.

Thank you,

Cheryl Magnin

Bert Dudley

RECEIVED

JUN 03 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

We, Citizens of Teton County, Wyoming, are extremely concerned & opposed to the proposed construction of an

SKINNY SKIS INCINERATION FACILITY  
30 pages of signed petitions  
in SE Idaho, which will release known carcinogens  
into the atmosphere. PLEASE SIGN!

RECEIVED

JUN 03 1999

DIV. OF ENVIRONMENTAL QUALITY  
ADMINISTRATIVE OFFICE

990782

NAME	BOX	PLACE
41. Sean <sup>W</sup> Call <sup>+ area</sup>	583	Jackson
42. Mukle Swani	10304	Jackson
43. Holly Hale	14054	Jackson
44. Bob Bely	19001	Jackson
45. Robert Madal	1283	JACKSON
46. Ed Dutz	12283	Jackson
47. Mike Herald	942	Wilson
48. Bill Matthews	885	Wilson
49. Steve Newman	474	MOOSE
50. Vik Orman	61	MOOSE
51. Jim [unclear]	10982	Jackson 83062
52. [unclear]	1881	Jackson
53. Mya Zern's	1705 quarter horse Dr.	Jackson
54. [unclear]		Jackson
55. Nobby Leardly	12823	Jackson
56. Pete Myhr	7520	JACKSON
57. Hank Arbogast	10304	Jackson
58.		
59.		
60.		

We, being Health Environmentally concerned people, sign below  
our Strong Opposition to the proposed construction of an  
**INCINERATION FACILITY IN S.E. IDAHO**  
for the purpose of burning

**NUCLEAR & OTHER HAZARDOUS & KNOWN CARCINOGENIC  
MATERIALS.**

No one knows, for sure, the CUMULATIVE EFFECT  
of Dangerous Wind-born Emissions, even in very small amounts.

**PLEASE SIGN!**

NAME	ADDRESS
1. Ellen Carr	Box 176 Kelly Wy. 83011
2. Meredith Cowling	Box 702 Wilson Wy 83014
3. Marget Samwick	Box 639 Wilson Wy 83014
4. Jim Cowling	Box 702 Wilson, WY 83014
5. Anne Weber	PO Box 9311 Jackson WY 83002
6. LAUREL A. WICKS	Box 1470 Jackson WY 83001
7. Madeleine Eulich	Box 722 Wilson WY 83014
8. GK Ktala	219 Anterit SE Albg NM 87106
9. Sat Guremukh	219 Anterit SE Albg nm 87106
10. Gumbodan Singh	219 Anterit SE Albg nm 87106
11. Sat Babbar Kaur	714 Van Buren SE Albg nm 87106
12. Cynthia M. Bennett	Box 33 Wilson WY 83014
13. Jacey K Sweetiff Rust	1935 S. Poplar St Denver CO 80224
14. David Pendergast	Box 4974 Jackson WY 83001
15. Gary L Hoffmeister	449 Terra Vista Drive Rexburg, ID 83440
16. Rick G Bray	P.O. Box 1072, Jackson WY 83001
17. Shannon Paul	2160 Conydetay <sup>Wilson WY 83014</sup> <del>Jack</del>
18. Deborah Jacques	Box 822 Wilson WY 83014
19. Dawn Guenther	Box 175 Kelly WY 83011
20. Janet Lawson	3891 Jackson WY 83001

We, being Health Environmentally concerned people, sign below  
our Strong Opposition to the proposed construction of an  
**INCINERATION FACILITY IN S.E. IDAHO**  
for the purpose of burning

**NUCLEAR & OTHER HAZARDOUS & KNOWN CARCINOGENIC  
MATERIALS.**

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of Dangerous Wind-born Emissions, even in very small amounts.

**PLEASE SIGN!**

NAME	ADDRESS
21. Fred Botun	P.O. 1241 Jackson, WY 83001
22. LEIGH STOWELL	P.O. Box 166 Wilson, WY 83014
23. Carol Dillard	PO Box 3758 Jackson WY 83001
24. Pete [unclear]	P.O. Box 459/ " " "
25. [unclear]	PO Box 676 " " "
26. Silvia Heubach	1226 Maple St., Santa Monica, CA 90405
27. Shahri Ibrahim	1226 Maple St, Santa Monica, CA 90405
28. Virginia Grosse	Box 499 Vinton ID 83455
29. Jim [unclear]	Box 371 T.V. WY 83025
30. BETH RICHARDS	P.O. Box 926 PRICES, ID 83422
31. IRIS AUGUSTEN	PO Box 766 Phillips MIZ 07966
32. Ann Seibert	P.O. Box 512, Jackson, WY 83001
33. Manuel Burr	3200 Sable Tree Dr Jackson WY 83001
34. John [unclear]	PO Box 1183 Priggo, ID 83422
35. Cathy Masciocchi	PO Box 1008 Wilson, WY 83014
36. Denise Lyman	PO Box 2793 Jackson, WY 83001
37. Nevada Roberts	PO Box 2793 " " 83001
38. Denise Lyman	PO Box 126 Jackson, WY 83001
39. Leba Bass	POB 575 WILSON, WY 83014
40. Donna Ruching	PO. 13243 JACKSON WY 83001

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NUCLEAR & OTHER HAZARDOUS & KNOWN CARCINOGENIC  
 MATERIALS.

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 of Dangerous Wind-born Emissions, even in very small amounts.

PLEASE SIGN!

NAME	ADDRESS
41. David B. Mauer	BOX 6340 JACKSON WY 83002
42. Jennifer Schwing	6354 APACHE PINE RD Helena, MT 59602
43. James Scheuing	6354 APACHE PINE RD. HELENA, MT. 59602
44. Margaret McIntyre	1505 Clyde Dale Jackson WY 83001
45. Helen Brown	5260 Skyline Cr. WY 83001
46. Day Thornton	365 E. Kelly - Jackson
47. ART BECKER	40 E. KELLY JACKSON WY 83001
48. Jessica Markus	1600 W Pincrook Park City UT 84098
49. Dan Forman	Box 1161 Jackson WY 83001
50. Lori Reetz	Box 3504 Jackson WY 83001
51. Cami Backer	Box 10276 Jackson WY 83002
52. Pauline Thomas	7271 Tax 83002
53. S. Murdoch Lewis	7271 TAX - 83002
54. Amy Davis	526 Moose - 83012
55. Denise Soster	211 Carter RD Rosalind AR 72137
56. Juliann Falcey	Box 556 Jackson 83001
57. Nancy A. Frost	Box 8641 Jackson 83002
58. K. Mills	Box 6862 Jackson 83002
59. Denise Frost	Box 8641 Jackson 83002
60. Michelle Amber	Box 8015 Jackson 83002

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**NUCLEAR & OTHER HAZARDOUS & KNOWN CARCINOGENIC  
MATERIALS.**

June 28

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of Dangerous Wind-born Emissions, even in very small amounts.

**PLEASE SIGN!**

NAME	ADDRESS
61. <i>Theresa Ruffalo</i>	<i>PO Box 7675 Jackson 83002</i>
62. <i>Cherise Jones</i>	<i>Box 97 Wilson 83014</i>
63. <i>Bonnie Boyer</i>	<i>PO. Box 882 Jackson 83001</i>
64. <i>Donna Kay Eaton</i>	<i>PO Box 45 Bondurant 82922</i>
65. <i>Janet Blum</i>	<i>3225 Teton Pines Dr Wilson, WY 83014</i>
66. <i>Capt. Bob Morris</i>	<i>Teton Village, WY. 83025 - 0261</i>
67. <i>Michael Slosser</i>	<i>PO BOX 1030 WILSON WY</i>
68. <i>Jackie Bellman</i>	<i>4150 W. Lincoln W. /son WY 83014</i>
69. <i>Edward Galsky</i>	<i>Box 474 Teton Vill. WY 83025</i>
70. <i>Cynthia Anderson</i>	<i>1835 E. Porcupine Rd Jackson 83001</i>
71. <i>Karin E. Wether</i>	<i>Box P.O. 8142 JACKSON, WY 83002</i>
72. <i>TRAVIS BURKE</i>	<i>PO BOX 2098 JACKSON 83001</i>
73. <i>Solene Medina</i>	<i>P.O. Box 419 JACKSON 83001</i>
74. <i>Aggie Harrie</i>	<i>P.O. Box 400 Moose WY 83012.</i>
75. <i>Laura Jay</i>	<i>Box 3256, Jackson WY 83001</i>
76. <i>Kitty Tugnie</i>	<i>Box 7820 Jackson WY 83002</i>
77. <i>Ethel</i>	<i>Box 2450 Jackson WY 83001</i>
78. <i>Jay Row</i>	<i>Box 411 Moose WY 83012</i>
79. <i>Betty Down</i>	<i>P.O. Box 411 Moose, WY 83012</i>
80. <i>Sue Duffman</i>	<i>PO Box 7301 Jackson, WY 83002</i>

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**PLEASE SIGN!**

NAME	ADDRESS
81. Bob Reed	Box 12334 JX, WY 83002
82. Greg & Laura Frank	9931 Ephesus Church Road Villa Rica, Ga 30180-4138
83. Jeanne Snodgrass	P.O. Box 7840 Jackson, WY 83002
84. Charles Hansen	P.O. Box 165 Wapiti, WY 82450
85. Jenny J. Fink	140 W. Yellowstone Ave. Cody, WY. 82414
86. Lucy D. Hansen	P.O. Box 165 Wapiti, WY 82450
87. Courtney Lindquist	P.O. Box 2245 Jackson, WY 83001
88. Dolores Urbeal	P.O. Box 3766 Jackson, WY 83001
89. Cathy Davis	P.O. Box 562 NORTH SALEM NY 10560-0562
90. Michael BAILEY	P.O. Box 117 NORTH SALEM NY 10560
91. Lois LAPPANN	KEESLER LANE NORTH SALEM NY 10560
92. Misha Thompson	P.O. Box 1052 Driggs, ID 83422
93. April Westman	50977 Co Rd CC, Holyoke Co 80734
94. Sue Gronberg	3375 Cheney Wilson
95. Song Crabtree	BOX 2418 JACKSON
96. Bobby Pynn	POB 12484 83002
97. Lisa Hurt	POB 1108 Jackson 83001
98. R. Scott Garland	Box 3438, Jackson 83001
99. Phyllis	Box 3438 Jackson Wyoming 83001
100. Nina Mills	420 Tangled Lane Rd. Alta

**URGENT!**

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**INCINERATION FACILITY**

in SE Idaho, which will release known carcinogens into the atmosphere. PLEASE SIGN!

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TO HARVEST  
THURSDAY  
BY  
3 PM.

NAME	BOX	PLACE
1. Susan Sanford	Box 1394	Jackson, WY 83001
2. Bill Trogant	Box 3127	Jackson, WY 83001
3. Zeli Relutson	Box 12663	Jackson, WY 83002
4. Athala Strickland	Box 9602	Jackson, WY 83002
5. Andrew Wyatt	PO 436	Moose WY 83012
6. Est. Solitz Museta	P.O. Box 762	Jackson, WY 83001
7. Makenzie Welch	PO Box 12663	Jackson, WY 83002
8. Jen Turner	East Kelly St.	Jackson, WY 83002
9. Tracy Long	585 East Kelly St	Jackson, WY 83002
10. ROSE JOHNSON	Box 508	JACKSON WY 83002
11. Fairy Means	Box 3125	Jackson WY 83002
12. <del>Song Cassidy</del>	<del>2923 N. Broad</del>	<del>Peoria, IL 61604</del>
13. JUSTIN LANE	Box 10731	JACKSON WY. 83002
14. Ron Borm	Box 10411	JACKSON WY 83002
15. Kristie Richard	Box 9602	Jackson WY. 83002
16. Leighton J. Sarge	POB 587	MOOSE WY 83012
17. Victoria Plum	Box 219	Jackson
18. Maura Harrison	Box 451	Wilson, WY 83014
19. <del>Song Cassidy</del>	POB 4	Jackson WY 83001
20. M. Hill	POB 4108	JACKSON WY 83001

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NAME	BOX	PLACE
21. Michael Mattheu	Box 3982 001	Jackson, WY 83001
22. Right Hollingsworth	Box 983	Jackson WY 83001
23. Kelly K. Juense	P.O. Box 7059	Jackson, WY 83002
24. John Wild	P.O. Box 3316	JACKSON. 83001
25. Valentine D. Roberts	P.O. Box 10794	Jackson WY 83002
26. Betty Duncombe	P.O. Box 7361	Jackson WY 83002
27. S. Jae Danielle	P.O. Box 1677	Jackson WY 83001
28. Jimi Danville	P.O. Box 1477	Jackson WY 83001
29. Rosemarie Jean - Ron	Box 7086	Jackson 83002
30. Jennie Husear	P.O. Box 8886	Jackson, WY 83001
31. Annabel	P.O. Box 9395	83002
32. KEN STEWART	P.O. Box 6544	JACKSON WY.
33. James A. Kuhn	P.O. Box 11598	Jackson WY
34. John Bryan	P.O. Box 882	Jackson WY
35. Pat Anderson	Box 962	Jackson WY 83001
36. Steve Kemp	Box 593	Victor Id.
37. Kel Colan	P.O. 13041	Moran, WY
38. Alberto Kuchanski	P.O. Box 1701	Jackson, WY 83001
39. Gary Kuchanski	P.O. Box 1701	Jackson, WY 83001
40. [Signature]	P.O. Box 3515	JACKSON, WY 83001

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NAME	BOX	PLACE
41. Kelly Frankh.	7853	JACKSON WY. 83001
42. Gil & Aissa	4058	JACKSON WY 83001
43. Allen Nulder	2485	JACKSON WY 83001
44. <del>Gold Hill</del>	7791	JACKSON WY 83002
45. <del>[Signature]</del>	377	JACKSON, WY 83001
46. Kent Nelson	1491	JACKSON WY 83001
47. Dana	321	Victor, Id 83455
48. Jochen Hoblitzell	2402	JACKSON, WY 83001
49. Babs Case Berkly	14001	JACKSON, WY 83002
50. Linda Deuma	11870	JACKSON WY 83002
51. James Franke	12889	JACKSON, WY 83002
52. Larry King	6987	JACKSON WY 83002
53. Michael Kasals	4238	JACKSON WY 83001
54. Douce Pickle	11026	JACKSON WY 83002
55. Staci Fomish	6623	JACKSON, WY 83002
56. Matt Lane	924	ALTON, WYO 83110
57. Jay Day	4695	JACKSON, WY
58. Frank Grubis		TARABE, WY 83127
59. Rowena K. Hurler	13101	JACKSON WY 83002
60. Scott Stee	2346	JACKSON WYO 83001

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NAME	BOX	PLACE
61. JOHN WOZNY	225	T.V. 83025
62. Kelly Espinoza	6554	83002
63. Emily Munson	6942	83002
64. Beth Negea	2484	83001
65. Allison N. Kerson	830	83455
66. Jennifer Wick	9548	83002
67. DUANE FURMAN	PO box 1371	83001
68. Kelley Johnson	12821	83002
69. RICK THIERMANN	9136	83002
70. Craig Cable	7798	83002
71. JOE LINDNER	PO. Box 7701	83002
72. Jimmy Kestel	P.O. box 10863	83002
73. Darlene Kuncak	11257	83002
74. Tom Windle	1525 PENCKERON	83001
75. Terry Sanchez	P.O. BOX 848	83001
76. Josh Holder	" " 11861	83002
77. Jacob Hunter	PO Box 3187	83001
78. KEVIN CAERZ	PO BOX 11861	JACKSON 83002
79. Fred Hilberd	400 NW R. 24, Rd 50c	83001
80. BOB FUZIAR	P.O. BOX 8646	JACKSON, WY 83002
81. Lera Graber	974	Wilson 83014
82. Lydia Menendez	P.O. Box 974	Wilson 83014

**URGENT!**

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**INCINERATION FACILITY**

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733-5418  
Sophia  
PLEASE RETURN  
TO HARVEST  
THURSDAY  
BY  
3 PM.

NAME	BOX	PLACE
1. Pamela Flores	2136	Jackson
2. Fred E. Ryan	3864	Jackson
3. Dwight Forington	1431	Jackson
4. Catherine Smith	817	Wilson WY
5. [unclear]	12261	Jackson, WY
6. [unclear]	2858	JACKSON, WY
7. Eric Medsker	10309	Jackson, WY
8. Michelle Ryan	1304	Jackson WY
9. [unclear]	3950	Jackson, WY.
10. [unclear]	3864	Jackson WY 83001
11. Barbie Creps	153	Moose WY 83012
12. R. Paulson	1106	Wilson, WY 83014
13. Galie Burbank	10159	Jackson, WY
14. [unclear]	2327	Jackson WY 83001
15. August Spryer	623	JACKSON, WY 83001
16. [unclear]	8698	Jackson, WY 83002
17. N. Goss	543	Teton Village, WY 83025
18. Mike Colaghan	6733	Jackson, 83002
19. Suzanne Mullen	10670	Jackson, WY 83002
20. Elizabeth Palmer	Box 143	MOOSE WY 83012

**URGENT!**

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**INCINERATION FACILITY**

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NAME	BOX	PLACE
21. Debbie Neustrom	P.O. Box 7418	Jackson
22. Olie Riniker	PO Box 3190	✓
23. Stacy Chamberlain	PO Box 12324	Jackson WY
24. Mary McBryde	PO Box 11876	Jack 83042
25. James Burt	PO Box 6887	Jackson 83002
26. Heather Burt	"	"
27. 1 Box	POB 61	TR, WY 83025
28. Sydney Bryan	"	"
29. Grahm Kenyon	PO Box 4670	Jackson 83101
30. Lisa Komura	Box 11131	Jackson 83002
31. G. Dush	Bx 12342	- 83002
32. Suzanne Niles	191	Jackson 83001
33. David Niles	Box 191	Jackson 83001
34. Bob MARTIN	P.O. Box 0249	Jackson 83002
35. Janet Kenyon	PO 854	WILSON 83014
36. Pamie Geraci	Box 1416	Jackson 83001
37. John LaFente	165 Reed Dr	Jackson 83001
38. Hirschfeld	759 Snowling	Jackson 83001
39. Guy Powers	Box 183	T.V. WY 83025
40. Chris Wimberg	Box 604	Wilson, WY 83014

**URGENT!**

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**NUCLEAR INCINERATION FACILITY**

in SE Idaho, which will release known carcinogens into the atmosphere. PLEASE SIGN!

NAME	BOX	PLACE
41. Arlene Light	PO Box 2987	Jackson WY
42. [Signature]	413 Rutland St.	Port. NH 03801 83001
43. Roy Wunderlich	1A 1063 43 <sup>rd</sup> Ave. N. St. Pete, FL	33703
44. Judi Harrison	PO Box 597	Wilson WY 83014
45. Ben Bowler	4795. 2008.	Utah ID 83455
46. Linda Busyn	PO 150x9443	Jackson WY 83002
47. Marissa Vargas	P.O. Box 957	Driggs ID
48. Deborah M. Gray	PO Box 3460	Breckenridge, CO, 80424
49. [Signature]	Box 3789	Jen WY 83002
50. PAUL MAXWELL	Paul Maxwell Box 4856	Jackson, WYO 83001
51. Janet Kravetsky	PO Box 7136	Jackson WY 83002
52. David P. Muehleisen	4963 Ponderosa Ct	Park City, UT 84098
53. Pam Gaudio-Marrison	250 Spruce Dr	Jackson 83001
54.		
55.		
56.		
57.		
58.		
59.		
60.		

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PLEASE SIGN!

NAME	ADDRESS
1. Robert Emrick	2175 Trade Rd. Wilson Wyo
2. Carol Titcomb	PO Box 405 Aspen Dr. H.E. Jackson WY 83001
3. Linda Beech	P.O. 3612 Alpine, WY 83128
4. Steve Newcomer	Box 474 Moose
5. Bob Bobbitt	JACKSON WY 83002
6. Nancy Williams	Box 8857 Jackson WY 83002
7. Catherine Smith	PO Box 817 Wilson WY 83014
8. Camie Naughton	PO Box 589 Moose WY 83012
9. Lucinda Willes	PO Box 9398 Jackson 83002
10. Mil. [unclear]	Box 779 Ltm Village 83025
11. [unclear]	PO Box 13183 Jackson 83000
12. Penelope Shuler	Box 46 Wilson 83014
13. David R Titcomb	PO Box 916 Wilson 83014
14. Stephen Barker	5260 Skyline Casper 82604
15. Aiel Bergmeyer	BOX 30117 JACKSON, WY 83001
16. Carol Mann	Box 30117, Jackson 83001
17. Betty Akers	3201 W. Big Trail Dr. Jackson
18. Karen Christensen	1545 Clydesdale Jackson
19. Cynthia Kae	PO Box 4702, Jackson, 83001
20. Debra Whersch Dehulke	P.O. Box 3221 Jackson WY 83001

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**INCINERATION FACILITY**

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NAME	BOX	PLACE
21. Felicia Garcia	P.O. BOX 11810	JACKSON WY 83002
22. Jennie Prater	P.O. Box 2885	JACKSON 83001
23. Jeff Phillips	P.O. Box 12081	JACKSON 83002
24. Tyler Sabbe	CAMERON RD	WILSON 83014
25. Ed Prater	P.O. Box 2885	JACKSON 83001
26. FRANK LUSTFIELD	P.O. Box 223	WILSON WY 83014
27. Elyse Witt	Box 12081	JACKSON WY 83002
28. Dennis Butcher	Box 3009	Jackson 83001
29. Veronica Luman	Box 11831c	JACKSON WY 83002
30. Melissa Jaeger	P.O. Box 1374	Jackson 83001
31. Jeff Westcamp	P.O. Box 1981	JACKSON 83001
32. Natalie Wilson	Henry's Rd.	Jackson
33. Tracy Moss	Canyon Dr	Jackson
34. M. Lovitchek	1245 W. Hereford Dr	Jax 83001
35. James Stumpf	P.O. Box 8831	Jackson WY 83002
36. [Signature]	P.O. Box 4060	Jackson WY 83001
37. [Signature]	Box 7036	Jackson 83012
38. [Signature]	Box 25205	Jackson 83001
39.		
40.		

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THURSDAY  
BY  
3 PM.

NAME	BOX	PLACE
1. <i>Nick Henderson</i>	PO Box 8752	JACKSON, WY 83002
2. <i>Dawn Martin</i>	10022	Jackson wy 83002
3. <i>Rochelle Parry</i>	PO Box 13607	Jackson WY 83002
4. <i>Paul A. Kunkel</i>	P.O. BOX 6406	JACKSON, WY 83002
5. <i>Chaim Behner</i>	P.O. Box 1022	Jackson 83001
6. <i>Elaine</i>	500 Targher Town	Alta, WY 83422
7. <i>Arson Gams</i>	PO Box 11792	Jackson, WY 83002
8. <i>Ken Sworford</i>	P.O. BOX 13492	JACKSON WY. 83002
9. <i>Kara Sutton</i>	BOX 13303	JAX 83002
10. <i>Jade Walsh</i>	POX 11450	83002
11. <i>Jonathan Selkowitz</i>	Box 8258	83002
12. <i>John Luyshock</i>	Box 8708	Jax 83002
13. <i>H. Mallo</i>		
14. <i>Nicole Prater</i>	Box 2885	JAX 83001
15. <i>Jay Behner</i>	P.O. Box 1022	Jackson 83001
16. <i>Kathy Behner</i>	Box 1022	Jackson 83001
17. <i>Koely Smar</i>	Box 328	Moose 83012
18. <i>Prinella Maiden</i>	P.O. B. 602	JAX 83001
19. <i>Lindsay Kowen</i>	PO Box 966	Wilson 83017
20. <i>Valley</i>	P.O. BOX 2885	JACKSON 83001

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NAME	BOX	PLACE
1. Carol Peck	2548	Jackson 83001
2. Jan Mitchell	900	Jackson 83001
3. Joy Johnson	7980	Jackson 83002
4. Nan Maxwell	552	Teton Village WY 83025
5. Carol Ann Johnson	9399	Jax 83002
6. Kim Parker	1023	Wilson 83014
7. Tracy Mayers	527	Teton Village WY 83025
8. [Signature]	3370	Jackson 83001
9. Phil Round	654	Wilson, 83014
10. Ken Cherritt	366	Teton Village 83025
11. Allison Pachon	339	Wilson 83014
12. Herb Anderson	2223	JACKSON WY 83001
13. Phil Seeds	2223	Jackson WY 83001
14. Fred Hardie	616	Wilson 83014
15. [Signature]	956	Jackson WY 83001
16. Julie Huor	1945 Homestead	Jackson WY 83001
17. Mary Mitchell	Box 803	Jackson WY 83004
18. Susan Shepard	Box 11094	Jackson 83002
19. Elizabeth Kleinman	Box 11094	Jackson 83002
20.		

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*PLEASE RETURN TO HARVEST BY THURSDAY 3 PM.*

**NAME** **BOX** **PLACE**

*Ann Ruttle  
PE Ruttle*

1.	Ann Ruttle	PoBox 7959, Jackson WY 83002
2.	PE Ruttle	POBox 7959, Jackson WY 83002
3.		
4.		
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TO HARVEST  
BY  
THURSDAY  
3 PM.

**NAME** **BOX** **PLACE**

1.	RAY ELSER	Ray Elser	Box 3102	JACKSON	83001
2.	Sally Wilson	Sally Wilson	4853	Jackson	83001
3.	John H. Houn	John H. Houn	P.O. Box 8924	Jackson	WY 83002
4.	Carol Ann Hester	Carol Ann Hester	P.O. Box 215	JACKSON	83001
5.	Nadine Egan	Nadine Egan	P.O. Box 9191	JACKSON	WY 83001
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**URGENT!**

We, Citizens of Teton County, Wyoming, are extremely concerned & opposed to the proposed construction of an

**INCINERATION FACILITY**

in SE Idaho, which will release known carcinogens into the atmosphere. **PLEASE SIGN!**

PLEASE RETURN  
TO HARVEST  
THURSDAY  
BY  
3 PM.

NAME	BOX	PLACE
1. Melissa Anderson	PO BOX 10464	Jackson WY. 83002
2. Dicki Dawlin	8625 S. Dwyer	89 Jackson WY
3. Chris Robertson	1088 County Road	117 Thayne WY 83127
4. Cathy Edmiston	P.O. Box 328	Moran WY. 83015
5. Veronica P. Elit	PO Box 1989	Jackson WY 83001
6. Evelyn Beesley	P.O. Box 1276	Jackson, WY. 83001
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BY  
3 PM.

NAME	BOX	PLACE
1. Cindy STILSON	Box 7243	Jackson WY 83002
2. Marilyn Nelson	BOX 1034	JACKSON WY 83001
3. Brett Nelson	BOX 1034	JACKSON WY 83001
4. Peggy Martin	Box 7472	Jackson Wyo 83002
5. Del Martin	Box 7472	Jackson Wyo 83002
6. Mary Jane Harvey	Box	Jackson, WY 83002
7. Linda Ellon	Box 83	Moose, WY 83002
8. Molly M. Galano	Box 1633	Jackson WY 83001
9. Scott Massey	Box 6595	Jackson, WY 83002
10. Theresa Burnside	Box 798	Jackson WY 83002
11. Lois Tutzolman		Jackson
12. Wayne Palmquist	PO Box 6594	Jackson WY 83002
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NAME	BOX	PLACE
21. JOY HELFRICH	306	MWOSE, WY
22. DAVE PHILLIPS	280	MORAN
23. Lu C Fabano	2457	JACKSON, WY
24. Gretel Brandon	bx 701 Wilson	83014
25. Richard Lewis	bx 7378	Jackson
26. Cindy M. Holde	397	Moran, WY
27. Dufer M. Horsley	P.O. Box 92	Kelly, WY
28. Willie King	P.O. Box 11267	Salko WY 83002
29. Pamela Perkins	P.O. Box 4959	Jackson 83002
30. Paul Huber	P.O. Box 7903	JACKSON, 83002
31. Gertrude Brennan	P.O. Box 4973	Jackson 83001
32. Inez Caldwell	P.O. Box 6818	Jackson, WY 83002
33. Mitch W. Huff	P.O. Box 3971	Jackson, WY 83001
34. Hugh Smalley	365 Wilson	- WY 83014
35. Kristina Tucker	1175 S. Gregory Ln. #3	83002
36. Joel Hughton	1175 S. Gregory Ln. #3	83002
37. Linda Macgregor	Bx 7554	Jackson WY
38. Michael S. May	Box 6568	JACKSON, WY 83002
39. Pamela D. Harris	bx 2578	Jackson, WY 83001
40.		

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**NAME BOX PLACE**

1. Carl Detmyer	POB 3667	Jackson, WY.
2. Frank [unclear]	B- 3377	Jackson WY
3. Melan [unclear]	Bx 3277	Jackson WY
4. Mary M. Orr	POB 4533	Jackson, WY
5. Martha Hunter	POB 7249	Jackson WY
6. Full [unclear]	POB 83011	Jackson WY
7. [unclear]	Box 1030	Jackson, Wyo.
8. Kelley Rafferty	POB 9252	Jackson WY
9. Amy Carrallaro	Box 12236	Jackson WY
10. Andrew Carrallaro	Box 12236	Jackson WY
11. [unclear]	400 Sagebrush Dr	Jackson WY
12. Bernadine Caruso	BOX 11360	Jackson, 83002
13. [unclear]	PO BOX 2987	Jackson WY 83001
14. Sophia Wakefield	Box 2813	Jackson WY
15. Danna Musgrave	P.O. Box 13332	Jackson WY 83002
16. [unclear]	PO BOX 297	TETON VILLAGE 83025
17. [unclear]	802	Jackson WY
18. Meredith Campbell	PO Box 540	Wilson WY 83014
19. Cindy Williams	Box 535	Wilson WY 83014
20. [unclear]	Box 10484	Jackson WY 83002

Office

Office

We, being Health Environmentally concerned people, sign below  
our Strong Opposition to the proposed construction of an  
**INCINERATION FACILITY IN S.E. IDAHO**  
for the purpose of burning

**NUCLEAR & OTHER HAZARDOUS & KNOWN CARCINOGENIC  
MATERIALS.**

No one knows, for sure, the CUMULATIVE EFFECT  
of Dangerous Wind-born Emissions, even in very small amounts.

**PLEASE SIGN!**

NAME	ADDRESS
21. Tracy Franklin	Box 2000 JACKSON, WY 83001
22. Susan Mick	PO Box 1450 Jackson WY 83001
23. Donald Gromberg	3375 Cheney Lane Wilson, WY 83014
24. <del>John &amp; Alice</del>	718 Via Los Santos/SAN DIMAS, CALIF 91773
25. John & Mary	718 Victor Lark/San Dimas CA 91773
26. Georgie Stanley	PO Box 143 Victor ID 83455
27. Emily Jenkins	PO Box 618 Driggs ID 83422
28. Gary Tracy	3200 Single Tree Ln WY 83001
29. MT Herman	PO Box 1161 Jackson WY 83001
30. GENE BOWNER	Box 1232 JACKSON WY 83001
31. Chris Knablauch	P.O. 721 Victor ID 83455
32. Joe Harley	543 Red Bud Lane Boise N. 20028
33. Tom Ribaud	PO 12778 Jackson 83002
34. Alie Bulmer	1029 Woodheights Ave. Baltimore, MD
35. CYNTHIA DAY	Box 123 Wilson, WY. 83014
36. Kenneth Shuler	Box 46 Wilson WY 83014
37. William B. Shisler	Box 46 Wilson WY 83014
38. HOUMAN APRIN	Box 3789 JAN, WY 83001
39. SUSAN MAGARITY	3440 TUCKER RANCH RD WILSON WY 83014
40. <del>Heather Pusig</del>	Box 2813 Jackson WY 83001

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Office

NAME	BOX	PLACE
1. Mary L. Cushman	P.O. Box 2987	JACKSON
2. Sue Erickson	P.O. Box 7624	JAY, WY 83005
3. Katherine F. Peters	P.O. Box 6853	JACKSON, WY 83002
4. Dale Sharkey	PO Box 13603	Jackson WY 83002
5. Linda D. Romme	PO Box 13232	JACKSON, WY 83002
6. Tom Wells	Property Owner - Star Valley	WY
7. Victory Star	P.O. Box 4740	JACKSON, WY 83001
8. September May	p.o. box 388	Teton Village, WY. 83025
9. Jack Stout	p.o. box 338	Teton Village, WY. 83025
10. Mary Ann McLean	338	Wilson WY 83014
11. Jennifer Bodman	7785	JACKSON, WY 83002
12. DAVE STANLEY	1877	Prunedale Wyoming
13. Gloria Waterhouse	1169	Wilson, WY 83014
14. Glen Nolan	13770	JACKSON, WY 83002
15. Suzanne C. Knudsen	PO Box 11951	JACKSON, WY 83002
16. Bob Case	P.O. Box 14001	JACKSON, WY 83002
17. Enzo K. K. K.	Box 316	Wilson WY 83014
18. Karen Skaggs	Box 3981	JACKSON, WY 83001
19. Meredith Cowling	Box 4702	Wilson, WY 83014
20. Mike Emmer	Box 8131	JACKSON, WY 83002

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NAME	BOX	PLACE
61. <i>Bob &amp; Cindy</i>	P.O. Box 841	Wilson, WY 83014
62. <i>Nana &amp; Sam</i>	PO Box 677	JAX 83001
63. <i>Mr. [unclear]</i>		
64. <i>Scott [unclear]</i>	PO Box 48	Moran, WY
65. <i>Kelly Allen</i>	P.O. 2465	Jackson 83001
66. <i>[unclear]</i>	PO 3965	LXN WY 83001
67. <i>Lynn [unclear]</i>	PO 309	Moose WY 83012
68. <i>Mary E. [unclear]</i>	P.O. Box 4231	Jackson, WY 83001
69. <i>Lisa Hueley</i>	P.O. Box 8834	Jackson, WY 83002
70. <i>John W. [unclear]</i>	P.O. Box 83002	Wilson WY. 83002
71. <i>Deborah K. [unclear]</i>	P.O. Box [unclear]	Wilson WY 83002
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NAME	BOX	PLACE
41. Elizabeth Call		Moose WY
42. Deven Windell	11483	Jackson
43. Heidi Zindus	826	Jackson 83001
44. Betty Bailey	1487	Jackson 83001
45. John N. John	643	Wilson 83004
46. Mary	10485	Jackson 83002
47. Katharine Donan	1175	W Brangus Jackson WY 83001
48. Kyte Bohman	P.O. 86	Kelly, WY 83001
49. Pat Wena	P.O. Box 975	Victor, ID 83455
50. <del>Donna</del>		LAKE JOB
51. Amanda J. Robin	P.O. Box 379	Jackson, WY 83001
52. June Gullett	P.O. Box 242	JACKSON WY 83001
53. Katrina Crowder	BOX 981	JACKSON 83001
54. Meghan Schaeffer		Jackson WY
55. Trudy McCreary		Grand Jct. CO 81801
56. <del>Patricia</del>		Jackson, WY
57. Mark Hend		Jackson
58. Melani Dalton		Jackson, WY
59. Susan Klevin	61	Kelly, WY
60. Heath Nels	399	MOOSE, WY

WY 83001

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**INCINERATION FACILITY**

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NAME	BOX	PLACE
21. <i>Jerry Barash</i>	P.O. box 133	Wilson, WY. 83014
22. <i>Butt Lash</i>	PO Box 8276	Jackson, WY 83002
23. <i>Cainn Blatt</i>	PO Box 10677	" " "
24. <i>McInt</i>	PO 2519	Jackson 83001
25. <i>Treas Coultins</i>	PO Box 821	Victor, ID 83455
26. <i>Liz Laine</i>	"	" "
27. <i>Tim Cowling</i>	P.O. Box 702	Wilson WY 83014
28. <i>Rahl Wolter</i>	P.O. Box 407, <sup>Lander</sup>	Lander, WY 82520
29. <i>Marcia Couplin</i>	Box 3455	Jackson 83001
30. <i>Rosanna Mitchell</i>	PO Box 9068	JACKSON WY 83001
31. <i>Judy Raymond</i>	PO Box 595	Wilder WY 83014
32. <i>Kathy</i>	POB 595	" " "
33. <i>Kate Holsey</i>	POB 161	Wilson WY 83014
34. <i>Kell Ann M</i>	P.O. Box 6708	Jackson WY 83002
35. <i>Geneen Marie Haugen</i>	POB 207	Kelly WY 83011
36. <i>Hope Sneller Moore</i>	1984 Scilla Forte Court	83001-9060
37. <i>Andan Hat</i>	POB 2588	365 E. Hill 83011
38. <i>William August</i>	P.O. Box 827	Wilson, WY 83014
39. <i>Bob</i>	PO Box 86	Kelly WY 83011
40. <i>Kelly Miller</i>	Box 4661	Jackson WY 83001

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TO HARVEST  
BY  
THURSDAY  
3 PM.

NAME	BOX	PLACE
1. <i>Timothy Bradshaw</i>	Box 9161	Jackson WY
2. <i>L.O. Hibbard</i>	P.O. Box 852	Wilson WY 83014
3. <i>Frank McKen</i>	P.O. Box 2300	Jackson WY 83001
4. <i>Dirk Bradshaw</i>	PO Box 9161	Jackson WY 83002
5. <i>Kym Bogen</i>	Bx 7022	JACKSON, WY 83002
6. <i>Judy Hendricks</i>	BX 7646	JACKSON, WY 83002
7. <i>Baron Trigg</i>	POB 145	MOOSE WY 83012
8. <i>'Linda' Dunster</i>	Box 136	Wilson WY 83014
9. <i>Wendy Bradford</i>	8755 Riverfront	JACKSON WY 83001
10. <i>Matthew A. Young</i>	420 Lewis Blvd	ST Pete FL 33705
11. <i>Dan Ivanoff</i>	Box 552, Y.N.P., WY.	82190
12. <i>Amy Jensen</i>	Star Rt #45	Jackson WY 83001
13. <i>Ron Wallace</i>	PO Box 3366	Jackson WY 83001
14. <i>Holly Archibald</i>	P.O. box 163	Kelly, WY 83011
15. <i>Jo Wood</i>	PO BOX 903	Victor Id 83455
16. <i>Dindy Rinonen</i>	Box 221	Jackson 83001
17. <i>Erin Danner</i>	PO 1038	Wilson 83004
18. <i>Lali Goodwin</i>	3045 MTN. MAPLE LN L-51	Wilson, WY 83014
19. <i>Lisa Brady</i>	P.O. Box 4421	Jackson WY 83001
20. <i>Michael Sleszynski</i>	3225 Tebar Line Dr	Wilson WY 83014

**URGENT!**

We, Citizens of Teton County, Wyoming, are extremely concerned & opposed to the proposed construction of an

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*Handwritten notes:*  
 To: [unclear]  
 From: [unclear]  
 Date: [unclear]  
 Time: [unclear]

NAME	BOX	PLACE
1. <i>Pamela E. Kelly</i>	<i>Box 6405</i>	<i>Jackson WY 83002</i>
2. <i>MARC EUGENE ROLLANS</i>	<i>Box 6618</i>	<i>Jackson, WY. 83002</i>
3. <i>LISA Solis</i>	<i>Box 6618</i>	<i>Jackson WY 83002</i>
4. <i>Tatiana Maxwell</i>	<i>Box 4856</i>	<i>Jackson, WY 83001</i>
5. <i>Jim Laybourn</i>	<i>Box 11951</i>	<i>Jackson, WY. 83002</i>
6. <i>James [unclear]</i>	<i>Box 4856</i>	<i>Jackson, WY. 83002</i>
7. <i>Morgan C. Schneider</i>	<i>Box 8608</i>	<i>Jackson WY 83001</i>
8. <i>Julie Patnode</i>	<i>Box 8263</i>	<i>Jackson WY 83002</i>
9. <i>Mike Franco</i>	<i>Box 7814</i>	<i>Jackson WY 83002</i>
10. <i>Sean [unclear]</i>	<i>Box 10713</i>	<i>Jackson WY 83002</i>
11. <i>Stephanie [unclear]</i>	<i>POB 11094</i>	<i>Jackson 83002</i>
12. <i>[unclear]</i>	<i>POB 930</i>	<i>Wilson WY 83014</i>
13. <i>[unclear]</i>	<i>Box 10853</i>	<i>Jackson, WY 83002</i>
14. <i>[unclear]</i>	<i>Box 95761</i>	<i>Jackson WY 83002</i>
15. <i>[unclear]</i>	<i>Box 4941</i>	<i>Jackson WY 83001</i>
16. <i>[unclear]</i>	<i>Box 8874</i>	<i>Jackson WY 83002</i>
17. <i>DAVID HEMPHILL</i>	<i>POB 13824</i>	<i>Jackson 83002</i>
18. <i>[unclear]</i>	<i>Box 4442</i>	<i>Jackson WY 83001</i>
19. <i>[unclear]</i>	<i>[unclear]</i>	<i>[unclear]</i>
20. <i>[unclear]</i>	<i>P.O. Box 22000</i>	<i>Jackson, WY. 83001</i>

RECEIVED

JUN 03 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

May 30, 1999

Department of Environmental Quality  
1410 North Hilton  
Boise, Idaho 83706

Dear Mr. Davenport,

It is with enormous concern and alarm that I write to urge you to say no to the mixed waste treatment facility. Incineration is most certainly not the answer. The very fact that such a high smoke stack is needed indicates to me that there will be fallout and toxins carried down wind. Why wait until disease suffering and law suits inevitably shut it down when it can still be stopped now. There has to be a safer way.

Very sincerely,

Cynthia Bennett  
Meridan Bennett

P.O. Box 33  
Wilson, WY 83014

# The SHOSHONE-BANNOCK TRIBES



## FORT HALL INDIAN RESERVATION

PHONE (208) 238-3708  
(208) 238-3709  
FAX (208) 327-9736

TRIBAL/DOE COORDINATOR &  
PROJECT DIRECTOR  
P. O. BOX 306  
FORT HALL, IDAHO 83203

May 26, 1999

Chris J. Davenport  
Program Development Specialist  
Division of Environmental Quality  
1410 N. Hilton  
Boise, Idaho 83706-1255

RECEIVED

JUN 04 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

Dear Sir:

Thank-you for the opportunity to comment on the AMWTF. After reading all of the materials available from the Idaho Falls Regional Office, I was amazed by some aspects of the plan. However, I was even more assured that there would be no air quality concerns involving AMWTF emissions. In addition to my own conversations with BNFL Inc. team members during the years of this contract, I heard presentations by Malone Steverson to the Greater Idaho Falls Chamber of Commerce INEEL Committee and to the Shoshone-Bannock Tribes.

I was amazed that the capacity of the incinerator (in pounds per hour) was so extremely small. I also was amazed that the millions of BTUs produced by the incinerator would not be used to heat water. Malone has explained the dioxin and furan issue to me, but the extreme conservatism regarding producing emissions that are cleaner than any atmospheric air into which the incinerator will be emitting is not environmentally rational. The emissions control system that is planned is phenomenal. As promised by SAIC years ago, it is designed to a higher standard than anything in history anywhere. It also is designed to higher standards than any requirement anywhere. That is good. The global view suggests that the burning of combustibles for heat recovery would result in less pollution, because the internal combustion engines that will deliver the required propane (and will remove the heavy, bulky, compacted trash) will produce much greater amounts of pollution than the AMWTF could. I would expect a laboratory that wants to be a leader in environmental engineering solutions to take advantage of a waste-to-energy demonstration facility.

The State of Idaho Department of Environmental Quality has determined that the AMWTF will not cause any violation of ambient air quality standards, injure animal life, or injure plant life. I concur.

For the purposes of reassurance for the indigenous people whom I represent in studying this issue, I strongly recommend radioactivity monitors associated with at least one series of high-efficiency particulate air (HEPA) filters. This seems like an insignificant expense.

This project increases my interest in the similar PREPP incinerator that seems to be destined for INEEL surplus. I will continue to study the possible uses of it here on the Fort Hall Reservation.

Sincerely,

Ted L. Carpenter  
Tribal/DOE Project Environmentalist

cc: R. Bobo, Project Director  
file



Rebecca Hauder R.N., M.Ed.

Licensed Professional Counselor  
Private Practice

RECEIVED

JUN 04 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

June 1, 1999

Chris Davenport  
DEQ  
1410 N. Hilton  
Boise, ID 83706

Dear Chris:

I am writing to request that you reject a permit for a radioactive- and hazardous-waste incinerator in Idaho. It is NOT a good solution for handling such materials. The safety issues that exist in transporting the waste across country is one of my concerns. Another concern is the pollution it may bring to our air. Technology does not exist that can guarantee that microscopic particles and/or gases will not get into the atmosphere. The incinerator serves as a short sighted and potentially dangerous solution to a very serious and long term problem!

I encourage nuclear waste to be stored where it's produced--in safe containers that are above ground--until better ways are found to neutralize it. At the same time it's time to take a look at preventing the build up of nuclear waste through phasing out nuclear power plants and nuclear weapons.

Thank you for considering my views on this important matter.

Sincerely,

Rebecca Hauder

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JUN 04 1999

5/26/99 OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

Chris J. Davenport  
Program Dev. Spec.  
DEQ 1410 N. Hamilton  
Boise, ID 83706-1255

Dear Mr. Davenport,

I am writing this letter to let you know my concern with the INEEL waste incinerator project. One of the waste by products will be toxic fumes and gases which we will get to breathe courtesy of our tax dollars. The incinerator will be only able to reduce the volume of waste by dumping it into our airshed in the form of toxic gas. Not only is Idaho's airshed at risk but Wyoming and Utah as well. You can expect lawsuits from those states if our toxic plume of incinerator emissions descend on them. We here in Idaho do not want to be the de-facto waste incinerator for the entire nation. Each state needs to isolate it's own waste and not move it around the country and take measures to reduce the production of it. If those citizens have benefited from the production of those wastes than they should have to live and deal with them. Why do you act like our air in Idaho is some kind of dump? You don't even seem to know how much pollution we can stand since you don't even know where PMT5 come from.

Concerned Citizen

John Dadabay  
2415 Mt. View Dr.  
Boise, ID 83706

P.S. Why don't you publish the PMT count in our air daily in the Statesman? Or do you think the general public is too stupid to understand?

*Please enter this as a written  
comment For the ~~Issue~~ <sup>Next</sup> May 27 hearing  
on the Ineel waste incinerator project.*

Chris

RECEIVED

JUN 07 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

6/1/99

To whom it may concern:

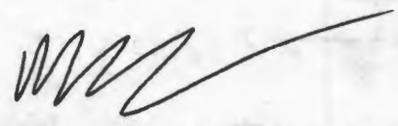
This letter is in protest to the proposal to burn nuclear waste at a site 50 miles away from my home in Jackson, Wyoming.

Imagine how the residents of Boise would feel if the state of Oregon was proposing to burn contaminated nuclear waste at a site 50 miles to the west of Boise! This is just outrageous!

Don't think for a minute that just because you can't readily see nuclear waste in the air, or any kind of air pollution for that matter, that it isn't there, or doesn't pose a health threat to humans or animals. Have we learned nothing from the mistakes made in Utah in the 1950s?

Please consider myself and my family, residents of Jackson Hole since 1959, completely opposed to this poorly planned and dangerous nuclear furnace.

Sincerely,



Casey, Tara, Caelin and Aidan Sheahan  
PO Box 323  
Teton Village, WY 83025

BILL & DORIS PRITCHARD

RT. 2

WEISER, IDAHO

83672

June 3-99

I am against bringing any more hazardous waste into Ida.  
I'm against the advanced waste treatment facility.

Doris Pritchard  
Weiser Idaho

RECEIVED

JUN 07 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

**Chris J. Davenport  
Program Development Specialist  
Technical Services Bureau  
Division of Environmental Quality  
1410 North Hilton  
Boise, ID 83706-1255**

**RE: Proposed construction of an Advanced Mixed Waste Treatment Facility (AMWTF) at INEEL in Idaho.**

**Dear Chris and DEQ Associates:**

**Enclosed you will find original petitions signed by concerned people in Teton County, Wyoming and other locations. These people want it known that they are in objection to the above mentioned facility for which the DEQ seems prepared to grant the permit to begin construction. In a 1990 statement the DOE said: "We view incineration as a violation of the cardinal principle of radioactive waste treatment, namely, containing radioactivity rather than spreading it."**

**The objections raised regarding this plan are numerous (once news of it finally reached us here in Teton County). Our first objection is the disclaimer that the Idaho DEQ had no obligation to notify anyone more than fifty (50) miles from the proposed site of this Hazardous Waste Facility. Even though this project has been proposed in Idaho, prevailing winds know nothing of state boundaries.**

**We understand that the toxic emission from this burning facility is assured to be far below the amounts allowable by the Clean Air Act. It would be good if one could take comfort in this as a protective reality. However, many of us have difficulty in trusting guarantees of the Clean Air Act, the DOE and now, DEQ in the matter of this proposed facility. The 1996 environmental violations at INEEL do not give us confidence.**

**Another major concern about this proposal is the transport of the end product in order to bury it someplace else. We understand that trucks specially designed for this transport are deemed practically indestructible. Is this a true guarantee? Will any transport be by rail? If so, in what state of repair are the train systems? News of the train wrecks in Montana and Kansas in recent years, where evacuation of people from**

their homes due to toxic spills and subsequent serious health problems were a reality; how safe can we feel about rail transport of hazardous residues?

We will not belabor our many reasons for objection. From one individual to another these vary. The increase of the brain, thyroid and breast cancer rate in Idaho as-well-as in Teton County cannot be taken lightly nor divorced from INEEL activity!

We recognize the tremendous effort that has gone into designing this proposed facility. I feel certain that those working to manage our country's Hazardous Waste issue, really do want to carry out this task in as safe a manner as they can currently envision. There is, however, a very basic flaw. If one starts with the premise that there *must* be some level of *toxic emission or residue*, then the door is closed to greater alternatives.

DEQ is one of the Caretakers of Wonder; it can be one of the greatest organizations helping to correct the short-sighted actions of the past. It seems clear that the *best technology* has not yet been discovered, therefore this proposed method of burning is premature & inadequate.

Surely the 21st century holds no room for the old adage : "*You win some, and you lose some.*" Let us now *accelerate* the WIN-WIN gene of human kind!

Thanks for your attention!

*Angele Ferre*

Angele Ferre & the more than 500 signed residents who have spoken out at this point in time.

P.S. Will the DEQ send a representative to a meeting in Jackson? Please contact Sophia Wakefield re/timing. (307-733-5418)

P.O. BX 2813  
Jackson, WY 83001

Idaho DEQ  
1410 North Hilton,  
Boise, ID 83706-1255

RECEIVED

JUN 11 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

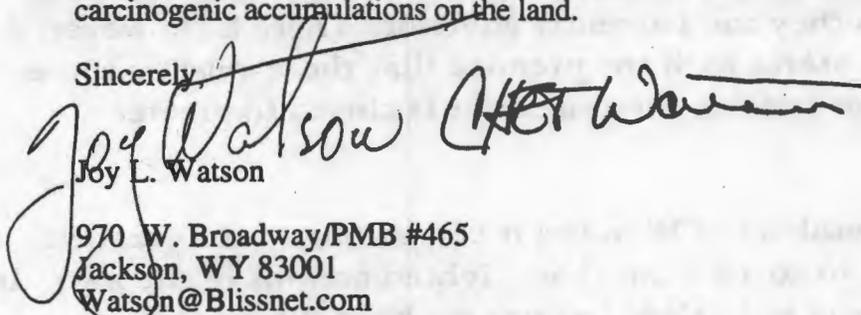
To Whom it May Concern:

I am writing to express my concern as an average citizen about the building of a waste incinerator at the Idaho National Engineering and Environmental Laboratory.

Common sense tells us that incineration of toxic materials blown on the West wind across miles of open land is not a wise course of action over the long run. Pollutants that seem invisible and undetected now and short time samples cannot tell us the whole story. We must account for unknown build up over the years accumulating on the soil, in the waters and within the air we all breath.

I urge you to reconsider your direction and think in terms of long range, unknown carcinogenic accumulations on the land.

Sincerely,

  
Joy L. Watson

970 W. Broadway/PMB #465  
Jackson, WY 83001  
Watson@Blissnet.com

May 25, 1999

RECEIVED

JUN 14 1999

DEQ Office - Air Quality  
1410 North Hilton  
Boise, ID 83706-1256

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

Attn.: Chris Davenport

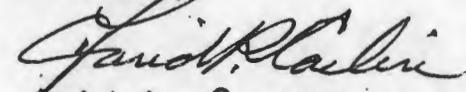
Dear Chris:

This letter comes to express my strong concern about and objection to the building of a proposed NUCLEAR AND HAZARDOUS WASTE DISPOSAL INCINERATOR in Idaho.

How can the DEQ and CLEAN AIR ACT consider approval for such a questionable project? Even if authorities in this matter tell us that emissions from this proposed facility will not exceed the "allowable" amounts for humans and other life forms, who can assure us that *any* amount of such emissions is harmless? *And finally: WHO CAN COMMAND THAT THE WIND NEVER BLOW ANY OF THESE EMISSIONS IN THE DIRECTION OF ANY LIFE FORM?*

Thank you for your work as a guardian of Air Quality control! We trust you will do your very best to see that our concerns are addressed and responsible action taken toward total prevention of this proposed Incinerator project!

Sincerely,

  
DAVID P. EARLIN

2900 W. John Dodge Road P.O. Box 216  
JACKSON, WY 83025

Teton Village, WY 83025

**Darlene McMaster**

3625 Tulara Drive,  
Boise, Idaho 83706

Home Phone 208-336-0222

RECEIVED

June 11, 1999

JUN 14 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

Chris Davenport  
Division of Environmental Quality  
1410 North Hilton  
Boise ID 83706-1255

Dear Mr. Davenport,

I am strongly opposed to building the Advanced Mixed Waste Treatment Facility. Processing radioactive and hazardous waste is not something that the state of Idaho needs. I am opposed to any kind of incinerator as well. Studies have shown that incinerators threaten air quality. A permit that would set limits for emissions would not work because there would still be a threat to air quality. I would not trust these anyway. Consider the casual way in which air quality standards were recently dropped so that Idaho could build roads without addressing the issue of air quality.

We are at a time in the history of our planet when we can no longer ignore air quality. Please refuse to build this treatment plant and incinerator. Please do everything you can to protect our air quality with concern to all issues regarding air quality. Thank you.

Sincerely,



Darlene McMaster

311 Eiden  
Boise ID 83705  
June 12, 1999

RECEIVED

JUN 15 1999

DIV. OF ENVIRONMENTAL QUAL  
AIR & HAZARDOUS WASTE

Chris Davenport  
Division of Environmental Quality  
1410 North Hilton  
Boise ID 83706-1255

Dear Mr. Davenport,

I am strongly opposed to building the Advanced Mixed Waste Treatment Facility. Processing radioactive and hazardous waste is not something that the state of Idaho needs. I am opposed to any kind of incinerator as well. Studies have shown that incinerators threaten air quality. A permit that would set limits for emissions would not work because there would still be a threat to air quality. I would not trust these anyway. Consider the casual way in which air quality standards were recently dropped so that Idaho could build roads without addressing the issue of air quality.

We are at a time in the history of our planet when we can no longer ignore air quality. Please refuse to build this treatment plant and incinerator. Please do everything you can to protect our air quality with concern to all issues regarding air quality. Thank you.

Sincerely,

*Michele McMaster*

Michele McMaster

RECEIVED  
JUN 15 1999  
DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

J. n. 13, 1111  
10857 Eila Drive  
Kuna, Idaho 83633  
208-869-6650

State of Idaho  
Chris Davenport  
D.E.P., 1410 North Hilton St.  
Boise, Idaho 83706

Dear Mr. Davenport and associates:

That incineration and that incinerator at I.N.E.E.L. is really necessary for the efficient use of nuclear power operations.

Advanced mixed waste treatment project really should be put in place, both for improving disposition of nuclear-chemical waste products, and associated improving that might occur due to researching and improving production methods.

We have a real good safety record in regular production practices of I.N.E.E.L. and should continue to build from that.

God Bless you folks. Carry forward that expert, quality workmanship.

Sincerely Yours,  
Stephen L. Barr

attn: Jeanne Knott c/o Mr. Chae Hey

109 Victor Drive

Hailey, Id.

83333

RECEIVED

JUN 16 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

Re: Chns Davenport

6.8.99

Program Development Specialist

Technical Services Bureau

Division of Environmental Quality

1410 N. Hilton

Base, Id. 83706-1255

Dear Chns Davenport,

I am writing to you in regard to the construction of the proposed air pollution emitting source for the advanced mixed waste treatment facility (AMWTF) located at the Idaho National Engineering and "Environmental" Laboratory (INEEL).

My husband and I completely deny this permit to build this incinerator to "process" toxic and nuclear waste. This is a ludicrous idea and in ~~my~~ <sup>our</sup> opinion the worst possible way to deal with toxic and nuclear waste. It is common sense that nuclear and toxic waste needs to be disposed of in a way that creates the least amount of exposure. Putting the waste into the air will expose 1,000's of people and travel many many miles.

This method seems terribly hard to control and monitor. mixed waste incinerators have been outlawed in Europe because they are so dangerous and can not be monitored properly ~~to~~ affectively. This is a nuclear and Toxic waste incinerator. we are kidding ourselves if we think this is safe. This just makes no sense. There are dairy and agricultural farms, a national park with millions of visitors and beautiful land and wildlife, and lastly families and communities that all live down wind from this proposed incinerator.

We understand that Montana and Wyoming have not and will not be informed about the proposed air pollution emitting source at the INEEL which brings me to another point, the lack of public information of this project is tremendous. There have been no public hearings till the DEQ. stepped in to do their role. EPA. never had public hearings. The people of the USA, Idahoans, the people of Montana & Wyoming all need to be informed and

heard. As I understand it this is the largest nuclear waste processor in the country. This is a big proposal and needs through, prudent and cautious consideration. Instead this proposal seems to be rushed and a premature solution to a very serious matter. Nuclear and toxic waste in our air will affect the health and well being of thousands of people perhaps millions.

This project is politically driven and not scientifically studied for the best interest of the environment and all of us who live near the INEEL. If this incinerator is built it will be a disaster waiting to happen. Please do not build the air pollution emitting source.

Sincerely,

Jeanne Knot  
P. Oeller.

Dear Chris at DEQ,

Please accept these comments:

RECEIVED

JUN 18 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

- INEEL is out of control. They want to release so. into the air and now they want to work on deadly diseases like ANTHRAX and BOTULISM! Will they want to burn these things in their handy-dandy incinerator?? I've read about it, but still do NOT trust it at all

- Less is more. They are already creating small disasters on a large scale over there. How much is enough? They'll just want to do more and more. They will need more incinerators and more solutions to THE PROBLEMS THEY CREATE! (botulism anthrax)

It's like a monster growing in our backyard.

- Frequently we hear of "small accidents" over there that send people to the hospital, or funeral home. We don't get much of the details, and I don't trust them.

Thank-you!

Sincerely,

Suzanne Kneeland

SUZANNE KNEELAND

PO Box 11951

Jackson, WY 83002

PS - What do Yellowstone Nat. Park + Grand Teton Nat. Park say about this?

Is the Yellowstone Ecosystem in danger because of the fool's house?

**URGENT!**

We, Citizens of Teton County, Wyoming, are extremely concerned & opposed to the proposed construction of an

**INCINERATION FACILITY**

in SE Idaho, which will release known carcinogens into the atmosphere. **PLEASE SIGN!**

PLEASE RETURN  
TO HARVEST  
BY  
THURSDAY  
3 PM.

NAME	BOX	PLACE
1. Davey Hough	2009	Jackson 83007
2. Laura Bedford	3431	Jackson 83001
3. Margaret Banan	3441	Jackson 83001
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
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20.		

RECEIVED

JUN 18 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

RECEIVED

JUN 21 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

WRITTEN RESPONSE to  
each question I have  
submitted as they appear to  
be serious omissions in the  
permit application.

Thank you -

MMS

TESTIMONY OF  
MARGARET MACDONALD STEWART  
AT THE PUBLIC HEARING FOR  
AN AIR QUALITY PERMIT TO CONSTRUCT

AN AIR POLLUTION EMITTING FACILITY AT INEEL

TWIN FALLS, IDAHO MAY 26, 1999

My name is Margaret Macdonald Stewart and I have been a resident of Blaine Co. Idaho for 28 years.

The Cold War has left us with no good options for dealing with nuclear waste and contamination. We must proceed with caution and concern for the health and safety of our environment and for the nuclear site workers and nearby and downwind residents.

I have spent a great deal of time reading through the BNFL permit application for construction of the planned "treatment" facility and I have many questions and concerns about its content and obscure reasoning. At the end of this first portion of my comments I have provided a list of 27 specific questions about the permit which I believe are necessary to answer before any permit is granted. Until these questions are adequately and scientifically answered, I am adamant in my request to deny this permit request.

First, I would like to ask where was the public involvement opportunity in the EPA permitting process?

I find it an extreme dereliction of duty for DEQ to not have notified the citizens of Montana and Wyoming - people who will be directly downwind from this facility and its incinerator - of the plans for this facility. I am aware that you are required to notify only those who are within a 50-mile radius of the pollution source, but how, in good conscience and with any scientific reasoning, can you possibly deny these people the information that known carcinogens and radionuclides will be drifting their way. This is truly unconscionable behavior.

RECEIVED

JUN 10 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

Meridian, Ida

June 5, 1999

Dear Sirs;

I think an incinerator  
would be wonderful!

There was one in the  
Yellowstone Park at Lake  
years ago that burned  
all the trash! Never  
any problem with smoke  
wind took it away.

It would be so much  
better than filling our land  
and seas with garbage and  
poison.

Sincerely,

Darcky Kirk  
2905 W Franklin  
Meridian Ida

83642

I, along with many other concerned and alarmed citizens, want to know that since this is a privatized project, what will be the public's access to air quality and monitoring records? Privatized contracts give incentive to treat some waste that doesn't need to be treated. What are the guarantees that only waste needing to be treated will be treated?

Quarterly air quality monitoring reports are completely inadequate. The public has a right to know immediately when there has been an emission exceedence, not three months later, and then to have that number averaged into emissions for a three month period is unacceptable.

I am vehement in demanding that records of all emission exceedences be publicly released within 24 hours of occurrence. This permit deals with pounds per hour of treatment rather than emissions per treatment. Public record of emissions per treatment must be part of this permit.

This permit is for treatment of 85,000 cubic meters of mixed waste. What is the permitting process after that amount has been treated and will the public be involved in any decisions to allow additional waste treatment?

What happens to radioactivity at 1500 degrees F?

We must always link any treatment of waste with buried waste that remains a treat to our aquifer. This entire proposal seems driven by politics and compliance with the settlement agreement of 1995 rather than by science and health concerns. This seems a disgrace to the entire process and should be much more closely addressed. I agree that some of the waste now stored above ground needs to be treated and stabilized to prevent further threat to our aquifer, however, neither this permit application nor the final EIS on the entire AMWTF ever scientifically addresses how much waste must be treated and why. This is not science. There must be scientific evidence and justification for treatment of each barrel of waste to be treated.

I am extremely concerned that this permit application is not based on adequate science. How can a scientific document calculate emissions from a smokestack when the contents of the barrels to be incinerated are not known? I realize that each barrel will be characterized before treatment, but this permit relies on information not available until such characterization occurs. **BAD SCIENCE.**

It is unclear from the permit document what volumes of waste are to be treated. The numbers 65,000 cubic meters, 85,000 cubic meters, 120,000 cubic meters, and 185,000 cubic meters appear almost randomly. If this is to be a legal document, the exact numbers to be incinerated must be stated and be validated.

I will continue to spend a great deal of time keeping a close watch on the treatment process no matter what. I will continue to raise concerns and expect my concerns to be adequately answered.

Finally, I would like to point out that this public hearing was originally not to have taken place. A non-profit, grassroots nuclear watchdog organization noticed last year that the Advanced Mixed Waste Treatment Facility project was only to undergo an environmental assessment before construction began. An environmental assessment requires no public participation. This watchdog group wrote a letter directly to then-Secretary of Energy Pena noting that by Department of Energy's own regulations, all incinerator facilities must undergo a complete environmental impact statement. Secretary Pena immediately issued a press release stating that the AMWTF would indeed undergo an EIS.

The troubling aspect of this event is that the state of Idaho's own INEEL Oversight Committee never requested an EIS, nor did any members of the INEEL Citizen's Advisory Board. One is left not only to wonder, but sadly realize that neither of these bodies really cares about the health and safety of the citizens of Idaho or of those people downwind from this facility. This fact is not only disturbing, but very alarming. The citizen nuclear watchdog organization had to carry out the role of protecting Idahoans from unsafe practices at the INEEL, a role that the Oversight Committee is paid to do and did not do. The CAB is also at fault for not demanding an EIS.

Again, I strongly request that this permit to construct be denied.

Margaret Macdonald Stewart  
122 Board Loop P.O. Box 4090 (mailing address)  
Ketchum, Idaho 83340

*Margaret Macdonald Stewart*

5-26-99

**QUESTIONS FOR DEQ  
AIR QUALITY HEARING  
FOR PERMIT TO CONSTRUCT  
AN AIR POLLUTION EMITTING FACILITY  
AT INEEL  
PERMITTEE - BNFL**

**HEARING - TWIN FALLS, ID MAY 26, 1999**

**QUESTIONS BY  
MARGARET MACDONALD STEWART**

Questions pertain to DEQ document dated 4/22/99 - "To all parties interested in BNFL, Inc. Application to Construct an Air Pollution Source:

1. Pg. 2 - Why are the following emission limits combined?  
Lead with cadmium?  
Arsenic with beryllium, chromium, and antimony?  
Hydrochloric acid with chlorine gas?
2. Pg. 3 - Radionuclide emission limit (1.9)  
WHAT ABOUT EXPOSURE TO THE WORKERS ON-SITE?
3. Pg. 3 - What is an absorber? (2.1.4)  
What is an adsorber? (2.1.7)
4. Pg. 6 - What is NESHAP application approved by EPA dealing with radionuclide inventory?
5. Pg. 7 - Why is this not done BEFORE startup? A lot can get screwed up in 60 days. (3.3) "within 60 days after achieving facility startup, permittee shall have developed and submitted a CEM/Quality assurance, Quality control program describing procedures to be followed that will assure compliance of permit."
6. Pg. 8 - Permittee shall collect and measure radionuclide emissions from stacks  
Please explain why collection of radionuclides is possible from emissions and not possible to capture and collect them before expulsion into the atmosphere. (3.6)
7. Pg. 9 - Radionuclide monitoring Quality Assurance (3.8) Why not BEFORE startup?
8. Pg. 9 - Operations and Maintenance manual due 60 days after startup. Why not BEFORE startup? (3.9)
9. Pg. 9 - Initial performance testing - (3.11) What happens if IPT shows non-compliance with the permit? Shut down? Fines?
10. Pg. 9 - Annual performance testing - (3.12) The terms within this section seem extraordinarily long. Too much time for major problems to arise.
11. Pg. 10 - Reporting permit exceedances - (4.3) THESE MUST BE MADE PUBLIC!!

12. Pg. 10 – Certification of documents (4.6) – Who is “a responsible official”?

Questions pertain to Appendix A – HEPA filters

13. Pg. 11 – Why is it so long (90 days) to determine efficiency of HEPA filters? (1.1)
14. Pg. 11 – Why isn't O&M manual required BEFORE startup? (2.4)
15. Pg. 11 – Why isn't Quality assurance program required BEFORE startup? (2.5)
16. What happens to used HEPA filters after they are removed from operation? What happens to the residue collected from the used HEPA filters?
17. Pg. 12 – Who is the Director (C)?
18. Pg. 12 – Is the public notified 15 days prior to compliance testing and are the results made public? (F) Again, why so long after startup?

Questions pertain to document dated 4/7/99 – memorandum to Orville Green

19. Project Description is incomplete – There is no mention of waste from other DOE sites to be treated.  
Paragraph #2 – “...supercompaction and /or microencapsulation” should read “and/or macroencapsulation.”

Questions pertain to document dated 4/7/99 – memorandum to Susan Richards

20. Very confusing and seemingly contradictory numbers compared to numbers cited elsewhere in the document. Ie – page 6 of document 1/12/99 memo to Robert Wilkosz (paragraph beginning with “There were numerous assumptions...”
21. Pg. 8 – Stack emissions from Technical Memorandum – There appear to be a large number of “emission general assumptions” This isn't good enough for a technical document.
22. Pg. 8.- Radionuclide emissions from Technical Memorandum – Why is there no mention of exposure to workers on-site?
23. Pg. 17 – Modeling (4) – Does this statement include radionuclides?
24. Pg. 19 – MACT metals Emission Approach – Why are these elements combined in their Limits?

Questions pertain to document dated 1/12/99 – memorandum to Robert Wilkosz

25. Pg. 2- “...excess air will be added to completely combust off-gases...” then 2 Sentences later, “...off-gases will be vented...” Will there be off-gases or not?
26. Pg. 5 – Exposure doses will accumulate over 13-30 years. Was the MEI exposed over 13 or 30 years?
27. Pg. 5 – Please make public MEI exposure rate @ NNE site where predominant wind Flows. At SSW sector MEI was exposed well over acceptable limits and this Only means the radionuclide emissions will be monitored????? BAD SCIENCE.

**Additional questions:**

On page 1 ("criteria paragraph") of Mike Simon's statement of DEQ Proposed Permit to Construct, presented on May 26, 1999 at the Public Hearing in Twin Falls, it reads, "... The source will emit air pollutants below the limits specified in state and federal air quality rules..".

Yet, on page 6 of the memo to Robert Wilkosz (dated January 12, 1999) it reads, "...an unabated dose of 3.9 mrem/yr. was predicted by the model. This is well above the cut off value of 0.1 mrem/yr."

These two statements appear to be in direct contradiction. Could you please explain.

What do you mean by "abated releases or doses" and "unabated doses"?

Thank you for answering these additional questions along with all those on the previous four pages.

MMS  
6/17/99

	INITIALS	DATE	REFERENCE
PREPARED BY			
CHECKED BY			
APPROVED BY			

RECEIVED

JUN 23 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

June 18, 1999

To whom it may concern,

After reading about the proposed burning of nuclear waste, ~~we~~ felt compelled to write a letter. ~~We~~ <sup>We</sup> are strongly against this and hope that the government will look for safer and less toxic to the environment solutions for waste disposal. We live in a pristine mountain area and are dedicated to keeping it that way.

Thank you for addressing <sup>our</sup> ~~my~~ concerns.

Leslie Nelson Feltman  
Mike Feltman

Leslie and Mike Feltman  
PO Box 985  
Ketchum ID 83340

5/24/99

RECEIVED

JUN 23 1999

DIV. OF ENVIRONMENTAL QUALITY  
ADMINISTRATIVE OFFICE

990675

Dear Sir/Madam(s)

Jackson Hole Residents  
have not been given adequate  
information about this  
new incinerator. I am not  
sure it is safe -

Remember - They said  
Rocky Flats - Not to  
worry.

Extend Public Involvement

Bob Wemple

BOB WEMPLE  
P O BOX 441  
MOOSE, WY 83012

RECEIVED

JUN 24 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

Chris Navenport  
Idaho DEQ  
1410 N. Hilton  
Boise, ID 83705

June 22, 1999

Dear Chris,

I have been frightened and concerned to hear of the proposal to build a nuclear waste incinerator at INEEL.

There is clear evidence the emissions will pollute the environment. Not only the air quality but everything the waste particles fall on or in. The full spectrum of its affects is at this time not determined.

I am a mother, wife, taxpayer and registered voter. I own a small business in Jackson and struggle daily with the high cost of living here on a middle class income. However, I am not willing to jeopardize my health and that of my family in such an obvious way.

In January of 1999 I had surgery to remove a brain tumor. One person in 17,000 in the U.S. is diagnosed with this disease every year. In the last two years we have had four such diagnoses in our small community, three since January of 1999. Sadly one young woman has already passed away. This is just a small fraction of the

total number of cancers diagnosed every year.

I'm a mother of a 3 1/2 year old child. The most important goal in my life is to help raise him and help him become a healthy, happy, and productive adult.

We already have so much in our environment we are exposed to that endangers our health. I for one, do not want to add needlessly to the challenge of living and pursuing a healthy lifestyle.

I have live in Jackson 20 years and have seen many changes both positive and not so great. To state that a nuclear incinerator down wind from my home would jeopardize my life and that of my family and friends would be an understatement.

I intend to do what I can to see this doesn't happen.

Sincerely,  
Kate English  
P.O. Box 7401

Jackson, WY 83002

cc Jackson Hole News  
cc Jackson Hole Guide



# Snake River Alliance

Box 1731 • Boise ID 83701 • 208/344-9161 • Fax 208/344-9305 • Email: [allister@snakeriveralliance.org](mailto:allister@snakeriveralliance.org)  
Box 4090 • Ketchum ID 83340 • 208/726-7271 • Fax 208-726-1531 • Email: [mstewart@snakeriveralliance.org](mailto:mstewart@snakeriveralliance.org)  
310 E. Center • Pocatello ID 83201 • 208/234-4782 • Fax 232-4922 • Email: [srabb@earthlink.net](mailto:srabb@earthlink.net)



June 28, 1999

Chris J. Davenport  
Program Development Specialist  
Technical Services Bureau  
Idaho Division of Environmental Quality  
1410 North Hilton  
Boise, ID 83706-1255  
BY FAX: 208/373-0417

RECEIVED

JUN 24 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

## COMMENTS ON BNFL's APPLICATION FOR A PERMIT TO CONSTRUCT AN AIR POLLUTION EMITTING SOURCE FOR THE ADVANCED MIXED WASTE TREATMENT FACILITY

Dear Mr. Davenport:

The following comments and questions are submitted on behalf of the nearly 1,300 members of the Snake River Alliance, an Idaho-based grassroots group that has monitored activities at the Idaho National Engineering and Environmental Laboratory since 1979.

One of the Alliance's core concerns since the mixed waste plant was first proposed is BNFL's ability to accurately characterize the waste to be treated there. That concern is relevant whether or not the waste is incinerated.

Our experience to date leads to the conclusion that just about anything can be in just about any INEEL waste barrel. How does BNFL know/decide what analytical tests to perform during the sorting step to insure accurate characterization? The exact nature of the feed can change emissions, particularly under upset conditions. For instance, if the removal efficiency of a HEPA filter drops, BNFL has 10 days to change it (A.2.2). The environmental and human health impact of those 240 hours might vary significantly depending on what the feed inventory is during that time. The lack of credible, currently available waste characterization is of particular concern given the modeling assumptions outlined in the January 12, 1999, memo to Robert Wilcosz. In real life, there is no way we will find that "radionuclides were evenly distributed throughout the waste." The "documented inventory of the radionuclides stored at the TSA" will be found

inaccurate. The modeling assumption that "any unidentified DOE waste would be similar in content, composition and required treatment as the waste that is currently stored at the TSA" will also fail in the face of reality. Assumptions about the chemical makeup of INEEL and other waste are similarly problematic. Add to these uncertainties the certainty that this plant's optimal operation will be compromised by upsets, operational flux, equipment and human error, breakdowns, et al., and we may eventually find its risks unacceptable. Some further clarity on waste characterization may come from the incinerator feed waste analysis plan incorporated in the Hazardous Waste Management Act permit. It is appropriate, therefore, to delay final approval of this PTC until that plan is available.

The proposed permit requires development of a number of operating and quality assurance documents, but not until after the facility has operated for some time. All such documents must be submitted by BNFL and approved by DEQ before facility startup even if they are later modified as appropriate. All such documents must be available for public review during the approval process. These plans include but are not limited to: continuous emissions monitor quality assurance/quality control program (3.3), radionuclide monitoring quality assurance program (3.8), and operations and maintenance manual (3.9).

Why are some emission limits (1.) combined: lead with cadmium; arsenic with beryllium, chromium, and antimony; hydrochloric acid with chlorine gas?

Though the Alliance recognizes the difficulty and expense of annual performance testing, we object to a 3-year suspension of those tests (3.12).

How is information about exceedances made available to the public (4.3).

Please give examples of "requests for confidential treatment" (4.6). Everything else listed in this section is precisely the kind of information that should be public.

Will the 15-day notifications of compliance tests (A.F.) be made public by DEQ?

It is our understanding that the final 20,000 cubic meters covered by this permit may well include off-site waste. The project description in the April 7 memo from Susan Richards to Orville Green is therefore inaccurate. In the next paragraph, "supercompaction and/or microencapsulation" should read "and/or macroencapsulation."

Do the modeling conclusions summarized on page 17 of the technical memorandum include radionuclides?

"The EPA is proposing not to specifically regulate the other seven (7) metals identified which are cobalt, manganese, nickel, selenium, barium, silver, and thallium" (tech memo, p. 19). Why?

It's stated in the January 12, 1999, memo to Robert Wilkosz that "here [secondary combustion chamber], excess air will be added to completely combust the resulting off gases.... Off-gases will be vented from the secondary combustion chamber to the APCS" (p. 2). Will there be off-gases or not?

Why are AACCs based on an annual averaging period?

The emissions modeling done for this permit application exemplifies an oddity seen so frequently in INEEL analyses. Conservative values, number-crunching ad nauseam, and then, "emissions from two bag houses... were left out" (January 12, 1999, p. 5). Oh, well.

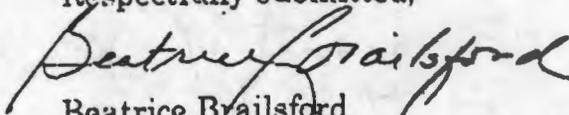
BNFL plans to operate this facility for 13 to 30 years. What was the duration of the MEI's exposure?

It is our understanding that the RCRA permit application will include a full-blown risk assessment that will evaluate impacts on-site and out to 50 kms. Final approval of this PTC should therefore be linked to the RCRA permit.

What are the cumulative impacts of the treatment of hazardous chemicals, toxic heavy metals, and radionuclides?

Another fundamental question that continues to hound this project is: Why? "The DEQ has determined that since BNFL has proposed an incinerator with the highest degree of destruction removal for PCBs mandated by any federal or state regulation, that a specific review of alternative control technologies considering energy, economics and the environment is not warranted." But when all is said and done and burned, we're left with plutonium. It might prove unreasonable to burn PCBs when the plutonium, which is both more persistent and more difficult to contain, remains.

Respectfully submitted,

  
Beatrice Brailsford  
Program director

*We would appreciate written answers to our questions*



# Alpha Bravo Interiors

CUSTOM WINDOW COVERINGS

DESIGN AND INSTALLATION

P.O. BOX 1126 • HAILEY, IDAHO 83333

(208) 788-3564

BRAD & ANNA BILLGER

Date: June 28, 1999

To: Chris Davenport

Company: Division of Environmental Quality

FAX Phone Number: 373-0417

CC:

From: Brad Billger

Subject:

RECEIVED

JUN 28 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

# of pages (including this cover sheet): 1

**Message:** Chris — The FAX is to show my & WIFE'S concern For air Quality — re: the proposed INCINERATOR @ THE INEEZ IN Idaho. Our concerns are many and particularly in regard to a private company "British Nuclear Fuel" operating such a proposed Facility with an inability for (US) the public likely having NO control over its use. (Being NOT gov't regulated — Please comment if you would and send current status of this to us.  
Thank you — Brad Billger

If you do not receive all pages, please call back immediately.

Hailey, Idaho

FAX: (208) 788-6562

# FAX SHEET

1063

BOARD OF COUNTY COMMISSIONERS  
TETON COUNTY, WY

200 S. Willow  
P.O. Box 3594  
Jackson, WY 83001

Tel: 307/733.8094  
Fax: 307/733.4451

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

RECEIVED  
JUN 28 1999

Date: June 28, 1999 208 373 0422 (2 373 0417)

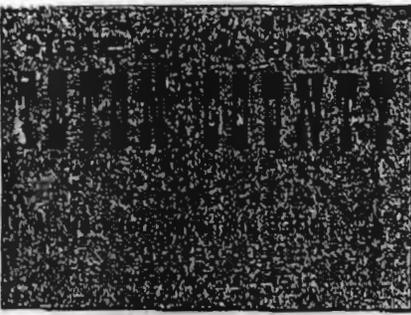
To: Chris Davenport, Program Dev Specialist

From: County Commissioner, Sandy Shuptrine  
phone 307 733 8094  
fax " " 4451

# of pages (including cover sheet): 3

Comments: thank you for considering  
my comments re: AMWTP @ INEEL.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



2083

June 27, 1999

**Commissioners**

- ANN STEPHENSON, CHAIR
- BILL PADOLEFORD, VICE-CHAIR
- SANDY SHUPTRINE
- BOB SHERVIN
- JOLYNN COONCE

Chris J. Davenport  
 Program Development Specialist  
 Division of Environmental Quality  
 1410 N. Hilton  
 Boise, ID 83706-1255

Dear Mr. Davenport:

Thank you for extending the comment period and providing an opportunity to comment on the BNFL, Inc. proposed permit to construct for an air pollution emitting source. I write to you as an individual county commissioner from Teton County, Wyoming. Other commissioners are interested in this issue, but due to insufficient time for them all to get abreast of the subject and to the fact that several are away and cannot be consulted, this should not be construed as a county position, only my own.

My comments consist primarily of several questions and a request or two. The fact that our county is 'downwind' of the INEEL has always created some insecurity among residents here and raises several questions:

1. Despite prevailing winds, it appears that DEQ's analysis of expected emissions was done in a fifty mile radius from the site. Shouldn't areas downwind get additional consideration as an area of impact? Is there a possibility that the mountain ranges to the east and north, especially the high elevation Tetons, might create a 'fallout' situation that could cause concentration of radionuclides or hazardous substances if dispersion is hampered? I notice in my own information gathering that effects 100 miles from a nuclear facility have often been analyzed and that negative health impacts have been identified. While our base population is relatively low, there are many months of the year when the population of our community at least equals that of Idaho Falls. I hope we are considered a significant population center in the region and worthy of analysis.
2. While no one wants or intends for 'upset' conditions to occur at the AMWTP, what protections are in place for the general public and workers when they do? How quickly will reports of upsets be conveyed by BNFL, Inc. to DEQ and what responses will occur? Have you taken into consideration BNFL's record of compliance in Great Britain and France? Are you secure that the public health and safety is met?
3. Is the dispersion of the substances that will be incinerated into the airshed the most responsible way to deal with them? I realize we humans have created a terrible dilemma for ourselves regarding the disposal of radioactive wastes, but lets be absolutely sure we are doing the best thing. The record up to this point provides little or no confidence to a lay person. Indeed, it continues to be a worldwide problem in search of a solution.



3 of 3

Page 2 AMWTP comments/Shuptrine

It is unsettling to me that review of this proposal has been rather strictly compartmentalized. What entity is looking at the whole picture? I am hopeful the Governors of our two states will agree to the sharing of information across state lines. The citizens of our community are asking for more information and it seems as if all officials should facilitate, not hinder, that opportunity. I hope you will agree. Should this occur, I hope you might be able to participate in a public information meeting we would like to schedule for either August 19th or 26<sup>th</sup> in Jackson. We would also invite representatives of Wyoming's DEQ.

In the end, this is a highly technical and complex subject. I, and I assume most other people, must rely on your expertise, judgement and good faith to look out for the rest of us. We ask you to do the right thing for the present as well as future generations. Perhaps there are ways to further ensure the safety of an AMWTP that Idaho DEQ will require.

Finally, this process is one in which our community is obviously interested. May we request some kind of direct notification of permitting hearings and deadlines? Our office would be pleased to distribute such notices to local newspapers. Our fax number is (307) 733 4451.

Thank you for considering my comments.

Sincerely,

*Sandy Shuptrine*

County Commissioner Sandy Shuptrine



June 23, 1999

To: Chris Davenport  
From: Michael Hall  
Re: Incinerator

I live in Wilson, Wyoming and I've read that particles from the incinerator could possibly reach me and yet being outside of a 50 mile area from this incinerator I will not even know when the burns are taking place. I am very concerned that these extremely toxic emissions will not be as insignificant as predicted. I feel certain that this incinerator will pollute the air and cause cancers to the people living within a certain breathing distance from it.

Until there is a proven history that an incinerator will not harmfully affect people, plants and animals I am adamantly against the building of this facility.

Sincerely,

*Michael Hall*

Michael Hall

PERSONNEL

JUN 28 1999





June 23, 1999

Chris Davenport, Idaho, DEQ  
1410 N. Hilton  
Boise, ID 83706

Dear Mr. Davenport,

I'm writing to you to express my deep concern and reservations over the building of the incinerator. My resistance does not stem from the philosophy of "N.I.M.B." (not in my backyard) because I don't want to leave these horrendous toxic waster problems to the future generations. I also don't want to build an incinerator that may do more harm than good at this moment in time.

I am of the generation who does not trust authority: the government, big business, etc. There are just too many examples where people of responsibility and high rank covered up or excluded information and therefore placed innocent lives at risk

I cannot trust that an incinerator built by private business and monitored by British Nuclear Fuels employees would really tell us if the particular matter release was at a risk stage. I feel that if there were any problems we (the people living within breathing distance of any floating particles) would never be notified in time to properly protect ourselves.

The risk is too high right now. The trust is too low. Please resist the building of this plant until there is absolute assurance that the air is fit for to breather for all living things.

Thank you for your consideration.

Sincerely,

A handwritten signature in black ink, appearing to read 'Sheila McCann', with a long horizontal flourish extending to the right.

Sheila McCann

PERCORNEL

JUN 28 1999



June 23, 1999

Mr. Chris Davenport  
DEQ Office - Air Quality  
1410 North Hilton  
Boise, Id 83706-1256

RECEIVED  
JUN 23 1999

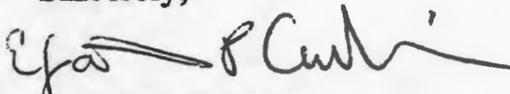
Dear Mr. Davenport,

I am writing this letter in protest to the proposed **Nuclear and Hazardous Waste Disposal Incinerator** contracted to be built on the INEEL sight by British Nuclear Fuels Limited.

I feel very strongly that the project not be able to continue one step further. The building of this treatment facility would be horrific and no one can truly say what ~~the~~ implications it will have on our health. I have recently seen studies that show increased levels of cancer already surrounding the INEEL sight. If being downwind from the INEEL has already increased our levels of cancer; we do not need more radioactive particles escaping into the air. **No matter how safe they say it will be we can take no chances.**

Please take into consideration of all the inhabitants of the Greater Yellowstone area when making your decision. We must protect our environment and the people who live in it. I trust as guardian of air quality you will make the responsible decision and stop the building of this proposed incinerator.

Sincerely,



Elizabeth P. Carlin  
PO Box 871  
Wilson, WY 83014

June 23, 1999

Mr. Chris Davenport  
DEQ Office – Air Quality  
1410 North Hilton  
Boise, Id 83706-1256

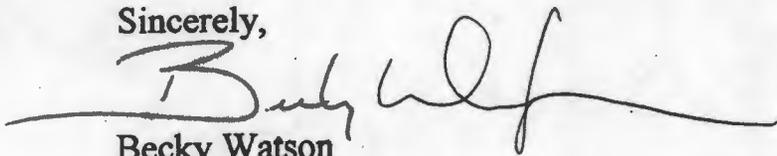
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Please take into consideration of all the inhabitants of the Greater Yellowstone area when making your decision. We must protect our environment and the people who live in it. I trust as guardian of air quality you will make the responsible decision and stop the building of this proposed incinerator.

Sincerely,



Becky Watson  
PO Box 871  
Wilson, WY 83014

PERSONNEL

JUN 28 1999

RECEIVED

JUL 07 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

Berte Hirschfield  
P. O. Box 580  
Wilson, WY 83014

June 28, 1999

Mr. Chris Davenport  
1410 Hilton  
Boise, ID 83706-1255

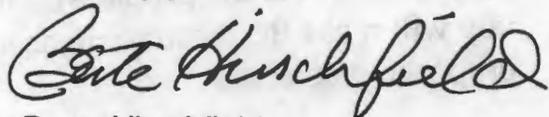
Dear Mr. Davenport:

Enclosed is the hard copy of the fax we sent you on June 26th. The fax number, (208) 373-0417 was given to me by Mr. Bob Bullock.

I have tired to reach you by phone, Friday, June 25th and today, but keep getting your recorded message. I have left my telephone number but have not heard from you.

I would like to confirm that you have received the fax.

Very truly yours,



Berte Hirschfield

Please direct this Petition to Chris Davenport, or to the  
proper party in DEQ

---

GERRY SPENCE  
Box 548  
JACKSON, WY  
83001

Fax 307-739-1345

Petition for Extension of Time to  
File Comments and For a Public Hearing

To: The Department of Environmental Quality:

Come now the undersigned citizens and residents of Teton County, Wyoming and file this petition requesting an extension of time within which to file their comments and requesting a public hearing concerning what has been denominated as the "Advanced Mixed Waste Treatment Project, (DOE/EIS-0290-D)" which is said to be a proposal to burn nuclear and other hazardous waste at the INEEL site near Idaho Falls, Idaho.

1. The citizens of Teton County, and Yellowstone National Park, Wyoming, are down-wind from this proposed incinerator which will spew certain hazardous particles into the air and which will be carried into this county,

all of which will potentially endanger the lives and health of the people of this county.

2. Because of their down-wind position, the citizens of Teton County, Yellowstone National Park, and its visitors are the real parties in interest in this matter, and will be chiefly those subjected to the dangers of the proposed project.
3. The government has failed to give these citizens any notice of the proposed project, the citizens having only learned of the project by indirection and hearsay, and have, therefore, not been given an opportunity to comment on the proposed project, to file their objections, and to be heard publicly concerning the same.
4. The undersigned allege and believe that the government through its authorized agencies has failed to give notice to the citizens most effected in order to by-pass public comment by those who, if given notice, have the best and most critical right to be heard.

5. The government and its agencies, notwithstanding existing rules and regulations concerning notice, has failed to give fair and proper notice, a matter over which the agencies have absolute control, and without such notice and the right to be heard the petitioners and the citizens of this county will be irreparably injured. The petitioners have no adequate remedy at law.

6. The petitioners believe that the particles that will be emitted from the incinerators are hazardous, that the same can cause death and serious, permanent bodily injury, that the same will bring on various and insidious diseases, and that the acts of the government and its agents in omitting the citizens of this county from consideration is both illegal, and without conscience.

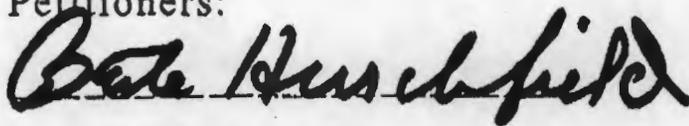
WHEREFORE the undersigned petitioners pray that the time for filing comments concerning the air quality and other considerations that may expire on June 28, 1999, be extended for ninety days and that a public hearing concerning the same be set within said extended time in

Jackson, Wyoming, so that all interested residents of the county may be fully and fairly informed and their concerns, testimony and interests fully heard.

Dated this 26<sup>th</sup> day of June, 1999.

By Fax: Attention Chris Davenport

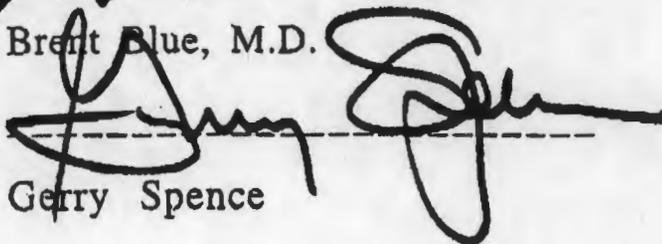
Petitioners:



Berte Hirschfield



Brent Blue, M.D.



Gerry Spence

1065

RECEIVED

JUN 28 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

Please direct this Petition to Chris Davenport, or to the  
proper party in DEQ

---

*[Faint, illegible handwritten signatures and text]*

2065  
RECEIVED

JUN 28 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

Petition for Extension of Time to  
File Comments and For a Public Hearing

To: The Department of Environmental Quality:

Come now the undersigned citizens and residents of Teton County, Wyoming and file this petition requesting an extension of time within which to file their comments and requesting a public hearing concerning what has been denominated as the "Advanced Mixed Waste Treatment Project, (DOE/EIS-0290-D)" which is said to be a proposal to burn nuclear and other hazardous waste at the INEEL cite near Idaho Fall, Idaho.

1. The citizens of Teton County, and Yellowstone National Park, Wyoming, are down-wind from this proposed incinerator which will spew certain hazardous particles into the air and which will be carried into this county,

all of which will potentially endanger the lives and health of the people of this county.

3 of 5

2. Because of their down-wind position, the citizens of Teton County, Yellowstone National Park, and its visitors are the real parties in interest in this matter, and will be chiefly those subjected to the dangers of the proposed project.
3. The government has failed to give these citizens any notice of the proposed project, the citizens having only learned of the project by indirection and hearsay, and have, therefore, not been given an opportunity to comment on the proposed project, to file their objections, and to be heard publicly concerning the same.
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4 05

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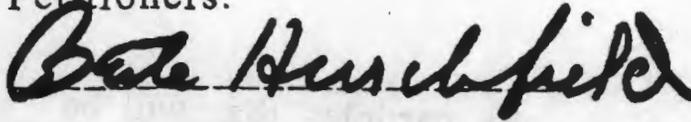
5-063

Jackson, Wyoming, so that all interested residents of the county may be fully and fairly informed and their concerns, testimony and interests fully heard.

Dated this 26<sup>th</sup> day of June, 1999.

By Fax: Attention Chris Davenport

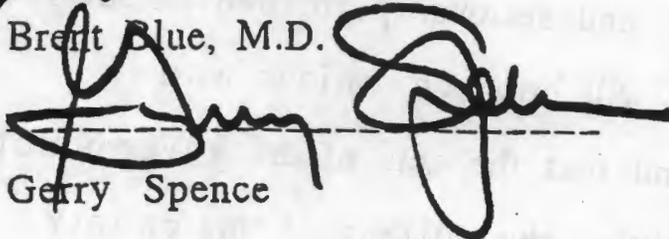
Petitioners:



Berte Hinchfield



Brent Blue, M.D.



Gerry Spence

Coalition 21  
P. O. Box 51232  
Idaho Falls ID 83405

June 28, 1999 by FAX

Division of Environmental Quality  
Idaho Department of Health and Welfare  
1410 N. Hilton Street  
Boise ID 83706-1255  
Att: Chris J. Davenport, Program Development Specialist

Coalition 21 is submitting these comments in support of DEQ's intent to issue a permit to BNFL Inc to construct the Advanced Mixed Waste Treatment Facility as an Air Pollution Emitting Source.

- The Advanced Mixed Waste Treatment Facility (AMWTF) is an important part of the INEEL waste management program. It will help rid Idaho of unwanted transuranic waste from Rocky Flats.
- AMWTF is a key element of the 1995 Nuclear Waste Agreement. The Idaho voters in the 1996 election overwhelmingly supported this agreement.
- The final repository for transuranic waste is the Waste Isolation Plant (WIPP) in New Mexico. However, space in WIPP is limited. Treatment in the AMWTF will reduce the volume shipped to WIPP. It will help ensure that WIPP has enough space.
- The purpose of the DEQ permitting process is to determine that the AMWTF acts responsibly in not releasing unnecessary pollutants into the air. We believe they have met that responsibility. They intend to meet new, tougher standards not yet formally proposed by the regulators.
- The primary protection against unnecessary release of airborne particles is High Efficiency Particulate Air (HEPA) Filters. As recent press reports indicated, these same filters are effective in removing allergy-causing dust in homes.
- The HEPA filters remove at least 99.97 per cent of particles whose diameter is several hundred times less than the diameter of the average human hair.
- In addition to the filters, the off-gas will pass through both centrifugal and wet spray scrubbers.
- The opponents of AMWTF are prone to use the glib and false phrases. One is that plutonium is the most dangerous material known to man. Another is that inhaling one particle of plutonium can cause lung cancer.



# Snake River Alliance

□ Box 1731 · Boise ID 83701 · 208/344-9161 · Fax 208/344-9305 · Email: [allister@snakeriveralliance.org](mailto:allister@snakeriveralliance.org)  
□ Box 4090 · Ketchum ID 83340 · 208/726-7271 · Fax 208-726-1531 · Email: [mstewart@snakeriveralliance.org](mailto:mstewart@snakeriveralliance.org)  
□ 310 E. Center · Pocatello ID 83201 · 208/234-4782 · Fax 232-4922 · Email: [srabh@earthlink.net](mailto:srabh@earthlink.net)



July 6, 1999



Steve Allred  
DEQ Administrator  
Division of Environmental Quality  
1410 North Hilton  
Boise, ID 83706-1255



Dear Mr. Allred:

On behalf of the 1300 members of the Snake River Alliance, I am requesting that the air quality permitting process for BNFL, Inc.'s Advanced Mixed Waste Treatment Facility at INEEL, including public participation and public hearings be extended.

It is the opinion of the Snake River Alliance, as iterated in comments submitted earlier, that the air quality permit process should remain open until the Hazardous Waste Management Act permit/ Resource Conservation Recovery Act (RCRA) permit process is complete for the Advanced Mixed Waste Treatment Facility at INEEL. The Hazardous Waste Combustion Unit Manual published by EPA's Region Six Center for Combustion Science and Engineering has recommended that the RCRA permit and the permit to construct an air pollution source comment periods run concurrently.

Under the RCRA process any permits that preceded the RCRA permit should be incorporated into the RCRA permitting process, and therefore the public should also have the opportunity to continue commenting on the permit to construct, as new information becomes available. This adjustment would allow our neighbors in Wyoming ample time to comment on the permit to construct.

Please feel free to contact me to discuss the Snake River Alliance's request for an extension.

Sincerely,

Pamela Allister  
Executive Director

Cc: ✓ Chris J. Davenport  
Program Development Specialist  
Idaho Division of Environmental Quality  
Rocky Barker, Idaho Statesman  
Kathleen Trever, State of Idaho Oversight Program

P.O. Box 217  
Jackson, Wyoming 83001  
June 29, 1999

Chris Davenport  
Idaho Department of Environmental Quality  
1410 N. Hilton  
Boise, Idaho 83706

RECEIVED  
JUL 02 1999  
DIV OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

Dear Chris:

I add my voice to that of many who are opposed to the incineration of nuclear waste products at INEEL. It is difficult to understand the rationale of such a decision when the health and welfare of downwind neighbors is at stake. Wyoming takes seriously the issue of nuclear waste and has refused to accept storage or disposal sites. I hope Idaho will begin to see the hazards, already proven by the cancer statistics in the counties around INEEL, and not impose those same hazards on neighbors.

The Center for Disease Control is to be commended for voicing their opinion on such a "hot issue". We all know INEEL is a large employer in Idaho Falls and environs. However, the people of Idaho need to know the hazards and make wise decisions about the future of all of us.

Thank you for your consideration of my views.

Sincerely,



Joyce A. Jansa Corcoran

plutonium in their teeth.

Radioactively contaminated pigeons were found about three miles away from the reprocessing facility. Analyses of the birds found 250,000 Bq/kg caesium-137 in their feathers and 420 Bq/kg caesium-137 in their meat. Since their feathers also contained 26,000 Bq/kg alpha-emitting plutonium, these pigeons would be considered "flying radwaste" according to German nuclear law and would need to be handled accordingly. That means that the contaminated pigeons would have to be disposed of in a nuclear interim or final disposal site.

In 1997, the technetium-99 concentration in lobsters caught near Sellafield was as much as 52,000 Bq per kilogram. This peak value is 42 times higher than the amount of radioactivity in food above which, in case of a nuclear accident, the European Commission would require that measures were taken to protect the population (the Commission's limit value is 1,250 Bq/kg).

Plants also concentrate the radioactivity discharged into the sea. In samples of bladder wrack (*fucus vesiculosus* - a species of brown algae) that were taken in April 1995 and May 1996 on the Irish coast, concentrations of technetium-99 were registered between 4,000 to 5,000 Bq/kg.

Pasture soil near Sellafield is loaded with 7,500 Bq americium-241 and 9,200 Bq caesium-137 per kilogram; according to German nuclear law, the concentration of americium-241 in this soil would classify it as radwaste (sample S3).

In samples of sediment from the River Esk near Sellafield, concentrations of 29,600 Bq americium-241 and 7,320 Bq caesium-137 per kilogram were found (Sample S32a). This river sediment can also be classified as radwaste.

## 5. Conclusion

The reprocessing of spent fuel constitutes an infringement of the German Nuclear Act. In the Nuclear Act, it says (§9a,1), "Whoever...operates...facilities in which nuclear fuels are handled, must take care, to protect the public, that residual radioactive materials are utilised harmlessly or are disposed of in a regulatory way as radioactive waste (direct final storage)." The analysis of samples from Sellafield proves that there is no "harmless utilisation". The future SPD-led Government must legally forbid reprocessing immediately, which is what the SPD has been calling for many years.

Christian Bussau, Greenpeace Germany (October 1998)

Sample taken from	Newbiggin Bridge	farmland	farmland	mud flats, River Esk	mud bank, River Esk	mud bank, River Esk	mud bank, River Esk
Site	Newbiggin, near Sellafield	Newbiggin, near Sellafield	Newbiggin, near Sellafield	Muncaster	Muncaster Bridge, near Sellafield	Muncaster Bridge, near Sellafield	Muncaster Bridge, near Sellafield
Date	9 May 1992	22 May 1998	14 June 1998	22 May 1998	9 June 1992	3 July 1998	3 July 1998
Am-241	4790	7460	1250	2900	8520	29600	10160
Co-60	19	22	16.4	9.5	40	13.1	13.8
Cs-137	8748	9170	466	2420	9435	7320	7102
Pu-238	467				1450		1866*
Pu-239/240	2548				6747		9598*

### 3. Comparison of Sellafield and Chernobyl samples

Figure 1 shows a comparison of the Sellafield and Chernobyl samples.

Contamination generated by radioactive pollution near Sellafield is comparable to that around Chernobyl.

For example, soil in the towns of Newbiggin and Muncaster (11.5 kilometres from Sellafield) is up to 400 times as contaminated by americium-241 as the soil 11 kilometres from Chernobyl. The load of americium-241 at a distance of 11 kilometres from Chernobyl is 75.1 Bq/kg. At a distance of 11.5 km from Sellafield in the towns of Newbiggin and Muncaster, the americium-241 load is between 1,250 and 29,600 Bq/kg.

The cobalt-60 load in the vicinity of Sellafield is higher than in the vicinity of Chernobyl. In the samples taken at distances of 4.5 to 20 kilometres from Chernobyl, the cobalt-60 load is 6.4 to 12.6 Bq/kg. In the towns of Newbiggin and Muncaster, 11.5 kilometres from Sellafield, cobalt loads of 13.1 to 40 Bq/kg were found.

At a distance of 11 kilometres from Sellafield or Chernobyl respectively, the caesium-137 load is about the same. In one sample that was taken at a distance of 11 kilometres from Chernobyl, analysis found a load of 7,483 Bq/kg caesium-137. In Newbiggin and Muncaster, 11.5 kilometres from Sellafield, the caesium-137 load varies from 466 to 9,435 Bq/kg.

The region around Chernobyl is prohibited for humans - but in these English towns, people live and work.

### 4. The full dimensions of radioactive contamination in Sellafield

The radioactivity discharged from Sellafield into the sea inevitably reaches the food chain, at the end of which are human beings.

In Cumbria, in the direct vicinity of Sellafield, the risk of leukaemia for children and youth is up to ten times higher than the national average. A study of more than 3,300 youth in Britain and Ireland found that traces of

Table 1: Soil samples taken on 15 September 1998 near Chernobyl, concentrations of radioactive trace substances, activity in Bq/kg (wet weight). Each sample contained 300 grams of soil taken at 0-5 cm depth. n.n. = no evidence found.

	Sample T4	Sample T3	Sample T2	Sample T7	Sample T1	Sample T6	Sample T5	Sample T8
Distance from reactor	800 m west	2.5 km west	4.5 km west	11 km south	13 km west	13 km southwest	14 km southwest	20 km southeast
Type of soil	sandy	sandy	forest	forest	sandy	forest	forest	forest
Site	forst. "Red Forest"	sloping path, Lubyanska way	Chistogolovka, centre of village	Korogod way, 4th kilometre	corridor under high voltage mast	forest, street Chernobyl-Korogod	Stretshanka, centre of village	riverbank, River Usch
Am-241	1296	686	261	75.1	7.4	57	6.7	51.7
Co-60	85.4	103	12.6	n.n.	n.n.	6.8	n.n.	6.4
Cs-137	82070	91150	19350	7483	720	5170	862	3580
Pu-238								
Pu-239/-240								

## 2. Radioactive contamination generated by the Sellafield reprocessing plant

The Sellafield nuclear facility has been operating since 1952. Currently, nine million litres of radioactive effluent are pumped into the Irish Sea daily from the Sellafield reprocessing plant. To date, about 500 kilograms of plutonium have been discharged into the sea. Radionuclides are distributed widely by ocean currents. Wind and waves also transport radioactive material back to land.

### Greenpeace sampling:

In May/June 1998 and previously in May 1992, Greenpeace carried out comprehensive sampling in the vicinity of the Sellafield reprocessing plant, to document the radioactive contamination of the environment and flora and fauna. Greenpeace also took samples from a broader area around Sellafield. In addition to effluent and seafloor samples that were taken at the end of the pipeline, samples taken from grazing pastures and river beds near the facility were also sent to Germany for analysis. These samples were analysed by the City of Hamburg Environment Office and the University of Bremen.

### Measurement results:

Table 2: Samples taken from the vicinity of Sellafield, concentrations of radioactive trace substances, activity in Bq/kg (wet weight). \* = dry sample.

	Sample S1a	Sample S3	Sample S33	Sample S4	Sample S5	Sample S32a	Sample S32a
Analysed by	University of Bremen	University of Bremen	Hamburg Environment Office	University of Bremen	University of Bremen	Hamburg Environment Office	University of Bremen
Distance of	11.5 km	11.5 km	11.5 km	11.5 km	11.5 km	11.5 km	11.5 km

# GREENPEACE

## DANMARK

### SELLAFIELD'S SURROUNDINGS ARE CONTAMINATED AS SEVERELY AS THE REGION AROUND CHERNOBYL

Radioactive contamination of the environment caused by the Sellafield reprocessing plant is far more disastrous than was previously known. Samples taken near Chernobyl by Greenpeace activists in September 1998 and compared to samples from Sellafield show that Sellafield's surroundings today are as contaminated as the Chernobyl region. The area around the stricken reactor, the so-called 30 kilometre zone, is prohibited to humans and is no longer used for agricultural purposes. However, in the vicinity of the Sellafield reprocessing plant, people live and work, pursue agricultural activities and continue to fish and swim in the Irish Sea.

#### 1. Radioactive contamination generated by the Chernobyl reactor catastrophe

On 26 April 1986, the worst nuclear accident in the world, to date, occurred at the Chernobyl nuclear power plant. Within a few seconds, Chernobyl reactor block number four was completely destroyed by a nuclear explosion. Concrete, graphite and large parts of the highly radioactive reactor core were hurled into the air. Smoke and steam developed into a radiation cloud which rose two kilometres into the atmosphere and moved across the western part of the Soviet Union and on towards central Europe. The cloud was eventually dispersed over all of the northern hemisphere. The release of several tonnes of radioactive material from Block 4 led to the widespread contamination of soil, plants, humans and animals. Ground water will also be contaminated for a long time by radioactive substances. The so-called restricted area within a radius of 30 kilometres around the reactor (2,800 km<sup>2</sup>) will remain contaminated for decades and is no longer usable for agricultural purposes.

#### Greenpeace sampling:

Greenpeace took eight samples in the vicinity of Chernobyl at distances of 800 meters to 20 kilometres from the reactor. The samples were analysed by the University of Bremen.

#### Measurement results:

concerns surrounding Sellafeld at the OSPAR talks in Brussels later this month.

Contents Page for this Issue

Reply to: An Phoblacht/Republican News

An Phoblacht/Republican News · Thursday 4 September 1997

# An Phoblacht

REPUBLICAN NEWS



## Sellafield 'mess' slammed

**The Celtic League in describing the British government's monitoring of pollution in the Irish Sea as "an uncoordinated mess" have called for urgent independent assessment of the Sellafield plant.**

"It is clear that the pollution from the plant is continuing, extensive, contaminating both the land, air and marine environment, entering the food chain and contaminating human and animals", say the League.

The accusation comes in light of recent research indicating that plutonium from Sellafield is now being found in the teeth of children, with contamination levels higher in children living near the plant.

Now the League has written to Labour Environment Secretary Michael Meacher to establish a body to monitor the pollution coming from Sellafield and rectify "a quite disgraceful shortcoming from an environmental point of view which your office should address".

According to the League, recent changes in BNFL (Sellafield's owner) reprocessing operations have altered the composition of the effluent being pumped into the Irish Sea. An increase in the levels of Technetium-99, which is known to accumulate in shellfish, particularly lobsters, means that lobsters are now 92 times as radioactive as they were four years ago. This makes them 30 times over the EU limit for consumption "after a nuclear accident". Technetium-99 is a man-made substance which is a by product of the reprocessing of spent nuclear fuel.

The League, in assuring people they are not being alarmist, say that the Irish and Danish governments will highlight the

**NOTE (1) Beside UK domestic clients, Sellafield has signed plutonium reprocessing contracts with Japan, Germany, Switzerland, Italy, Spain, Sweden and The Netherlands.**

---

**Bruce Hall Greenpeace Nuclear Disarmament Campaign 1436 U Street NW Washington, DC 20009  
Tel: 202-319-2514, Fax 202-462-4507 Eml: <[bruce.hall@wdc.greenpeace.org](mailto:bruce.hall@wdc.greenpeace.org)>**

## Plutonium Found In Teeth of Children Throughout Britain

### Greenpeace Calls For Plutonium Reprocessing Plants' Closure

Amsterdam / London, 1 August 1997-- A new study funded by the British Department of Health has found plutonium in the teeth of children throughout England, Northern Ireland, Scotland and Wales. The study shows that radioactive discharges from the Sellafield plutonium reprocessing factory (1) have contaminated people throughout the region. "This is a real wake-up call" said Damon Moglen of Greenpeace. "We cannot be complacent. There is no possible excuse or justification for poisoning children with plutonium. The British government should immediately **Stop Reprocessing At Sellafield And Cease All Radioactive Discharges To The Environment .**"

The study, entitled "**Variations in the Concentration of Plutonium, Strontium-90, and Total Alpha emitters in Human Teeth Collected within the British Isles**", has been published in *The Science of the Total Environment Journal* (Elsevier). The study involved the evaluation of over 3,300 teeth which had been extracted from adolescent children in the U.K.

Plutonium contamination found in the teeth ranged from 3 to 7 millibecquerels per kilogram. The levels of contamination are directly dependent on the distance at which the children live from the Sellafield plutonium reprocessing plant, on the Irish Sea coast of Cumbria. The study's authors concluded that the source of plutonium has been radioactive discharges from the Sellafield plant, which is operated by the government-controlled British Nuclear Fuels Ltd (BNFL). The study suggests that the plutonium contamination is "consistent" with aerial discharges from the BNFL plant. Previous studies have shown that Sellafield's marine discharges have lead to plutonium contamination of the coastal environment.

In order for plutonium to accumulate in childrens' teeth, particles of the highly radiotoxic material would most probably be inhaled and filtered through the bloodstream before being deposited in bones, teeth and/or the liver. Plutonium, which is an alpha-emitter, is highly carcinogenic and remains an extreme health hazard for tens of thousands of years if released to the environment. Plutonium is effectively "man-made" and has been produced primarily for use in nuclear weapons.

The study's dramatic findings are reminiscent of revelations in the late 1950s, early '60s that above-ground nuclear tests had lead to radioactive contamination of childrens' bones and teeth. Public protest against this contamination lead to the negotiation of the 1963 Limited Test Ban Treaty (LTBT) which banned atmospheric nuclear tests. "The international community moved decisively to stop the poisoning of children by nuclear weapons tests, now it must do the same with radioactive contamination and plutonium reprocessing" said Moglen.

The new revelations about pollution from Sellafield come in the midst of growing concern in France about the La Hague plutonium factory, which annually pumps some 230 million liters of nuclear waste into the Atlantic. A recent study has identified a leukemia cluster among children living near the la Hague reprocessing plant. In addition, recent sampling by Greenpeace has revealed the discharges from the government-controlled plant have turned the sea-bed into a nuclear waste dump.

For information:

Damon Moglen, Greenpeace International, t. +1 202 319 2513

Luisa Colasimone, Greenpeace Press Desk, t. +31 20 52 49 546

Grand Teton Natural History Association  
established as a not-for-profit corporation in 1937, has  
provided generations of park visitors with interpretive materials  
intended to inspire an appreciation of the unique natural and  
cultural heritage found in the Greater Yellowstone Ecosystem.

Please make the health of  
little ones like this your  
guide in managing nuclear  
waste. I am fearful that  
the proposed incinerator will  
be damaging to my family's  
health and I am opposed

Printed on recycled paper. © 1995 by Grand Teton Natural History Association

to its construction.

Sincerely,  
Libby Great Wood



Chris Davenport  
1410 Hilton  
Boise, ID  
83706-1255

(PO Box 915 • Wilson • 83014)



entitled to protect  
our health & environ-  
ment.

We look to  
you to take care  
of the public

A handwritten signature in cursive script, appearing to read "Jodi Vessae". The signature is fluid and stylized, with a long horizontal stroke at the end.

Jodi Vessae  
Box 1030  
Wilson, WY 83014

6/25/99

DEAR MR. CAVENPORT RECEIVED

I AM WRITING JUN 28 1999

REQUEST FROM THE DIV. OF ENVIRONMENTAL QUALITY  
AND HAZARDOUS WASTE

AN EXTENSION OF THE JUNE 28  
DATE FOR PUBLIC COMMENT.  
I KNOW THAT WAS AN EXTENDED  
DATE ALREADY, BUT SINCE  
THERE WAS NOT PUBLIC  
NOTIFICATION HERE IN  
JACKSON, WE ARE JUST  
FINDING OUT ABOUT THIS  
PROPOSED INCINERATOR  
NOW. SINCE IT WILL AFFECT  
US, WE FEEL WE ARE  
ENTITLED TO A PUBLIC  
MEETING. BNFL HAS  
A DISASTEROUS RECORD.  
SEE ENCLOSED ARTICLES.  
AS US. CITIZENS WE ARE  
OVER

Mr Chris Hovenport  
Program Development Specialist  
Division of Environmental Quality  
1410 N. Hilton  
Boise, Idaho  
83706-1255

RECEIVED

JUN 30 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

June 26, 1999

Dear Sir,

Regarding the D.E.Q. Air Quality Permit to Construct  
an air Pollution emitting facility at LNEEL.

Before any permit is issued we the People need  
to have proof, not theory, that all land down  
wind from this facility will not be contaminated  
with fall out from the proposed incinerators.

The health and safety, short term and long term, of  
all living things must be the first consideration.

The 50 mile radius from the proposed plant  
is irresponsible. Lands in Montana, Wyoming,  
all of southern Idaho, Nevada and Oregon could be  
impacted.

Until it can be proven what the fallout will  
be from a trial unit demonstration. The  
permit should not be approved.

Other is not acceptable!

Factor are acceptable.

Sincerely,

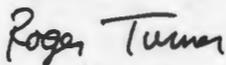
Richard S. Meyer  
Box 627  
Sun Valley, ID. 83353

**MACT Metals Emission Approach Approach-** Page 19 of the April 7, 1999 Technical Memorandum. This section, also discusses a short-cut method recommended by EPA for compliance by grouping several metals together, and by dropping the requirement for regulating seven hazardous Air Pollutants (HAPs) which may be emitted by the facility.

**COMMENT:** The rationale behind withdrawing the regulation of HAPs (both metals and organics) from this facility is completely groundless. The applicant is treating some of the most toxic waste in the United States, which includes a large number of HAP substances regulated under the Clean Air Act section 112. There is no precedence stated for allowing the facility to ignore federal and state regulations simply because it is difficult to do so. Federal regulations (40 CFR part 63) requires an application process for regulating these substances, it is an "applicable requirement" under Title V, and therefore must be incorporated into the permit. Also the State of Idaho has incorporated by reference the regulations controlling these hazardous air pollutants and therefore IDEQ has an obligation separate from EPA to follow these regulations and to fully regulate these Hazardous Air Pollutants. NESHAP regulations are one of the most important permit criteria, and therefore it is unacceptable that the correspondence and analysis by EPA wherein they unilaterally decide to simply cut out compliance requirements of the Clean Air Act is not available in the permit docket available to the public. For such an important project it is important that the facility is required to conform with the EPA regulations that are applicable, including all of the NESHAP regulations. The permit should be re-drafted with all of the NESHAP pollutants regulated, and incorporated into the permit. All correspondence and determinations by EPA should be included in the docket, and referenced in the permit, but this should not substitute for the State of Idaho's obligation to regulate these pollutants separately and independently (as long as they are at least as stringent as EPA regulations).

**Summary** The BNFL permit application has relied upon certain assumptions that are not documented: That the RCRA permit, and it's required destructive removal efficiency will be met, that the waste-stream fed to the treatment systems are predictable and can be characterized and separated appropriately, that the *potential to emit* estimates are equivalent to controlled emission estimates, and that the permit meets the federal requirements of Title V and Title I of the Clean Air Act. Unfortunately the above issues have not been documented in the proposed permit. The PTC permit should be held open and revised for public comment through the comment period pending for the RCRA permit, to enable stakeholders to learn about the regulatory coverage of both regulatory systems, and of any gaps that are revealed in protecting the residents of Idaho. The permit needs to adhere to all of the NESHAP regulations, and to incorporate EPA determinations and correspondence into the docket available to the public. The permit should clarify which requirements are federal and which are based on state regulations.

Sincerely,



Roger Turner

facilities. According to 40 CFR part 70.2 (Operating Permit requirements) *Major Source* is defined as a stationary source or group of stationary sources shall be considered part of a single industrial grouping if all of the pollutant emitting activities at such source or group of sources on contiguous or adjacent properties belong to the same Major Group as described in the standard Industrial Classification Manual. BNFL should revise their application accordingly, and combining the total emissions of INEEL with the *Potential to Emit* emissions from the AMWTP. **Applicant needs to follow federal NESHAP requirements** - The applicant has only received authority from EPA for operating the AMWTP based on 40 CFR part 61, subpart H (radionuclides). Although the State of Idaho has incorporated by reference 40 CFR Part 63, (see IDAPA 16.01.01.107) the applicant failed to include the requirements of this section in the application. EPA promulgated the final rule for "General Provisions" of NESHAP regulations in 1994 (59 Fed Reg. 12408, codified at 40 CFR part 63 Subpart A), and they are separate from the requirements of part 61. They represent the minimum requirements necessary for the implementation of Clean Air Act section 112 standards. (The AMWTP includes the potential release of several CAA 112 pollutants.) This section includes a pre-construction program at 63.5 (b) (3) for any owner or operator of any stationary source that emits, or has the *potential to emit* any hazardous air pollutant listed in or pursuant to section 112(b) of the Act. A separate application to the Administrator of EPA (or to the State of Idaho if delegated the authority) is required in order to receive approval of a new major source. The above requirement is an "applicable requirement" under Title V of the Clean Air Act and therefore should be included in BNFL's application, and in the proposed (and final) PTC permit. It should be noted that if the application is approved by EPA, it may contain additional, or more stringent recordkeeping, monitoring, or emission standards than presently proposed.

If BNFL utilizes the appropriate *potential to emit* definition, as required in Title V applications, in estimating the total plant emissions, the emission estimates will change considerably. The BNFL application should include emission estimates using the both the *potential to emit* definition, and emissions with full controls in place.

One of the issues addressed in these general provisions is the determination whether the source is "major" depending upon the source's "potential to emit". At the BNFL facility the estimated emissions after controls should not be the same as the *potential to emit*. The potential to emit analysis by BNFL should include only federally enforceable controls, or effective emission limits that are imposed by State regulations. The BNFL application should be revised with emission estimates that follow EPA guidance with respect to *potential to emit* estimates in one category and in a separate category estimate the emissions assuming all proposed controls are in place.

**MACT Standard. Organic Emissions Approach-** On Page 19 of the April 7, 1999 Technical Memorandum it states that the EPA has determined that specifically regulating each compound would be "impractical and not implementable", very costly and would pose an unreasonable compliance and monitoring burden to the facility. Therefore EPA has proposed a multi-faceted approach which does not require testing for all of the potential HAP emissions. Unfortunately the correspondence from EPA related to this determination is not available in the docket. This information needs to be available so that specific regulations or guidance which led to the EPA decision is available to the public.

The *Hazardous Waste Combustion Unit Manual* published by EPA's Region 6, Center for Combustion science and Engineering, has recommended that permitting authorities issue a joint RCRA and CAA permit if both are required.

In general the BNFL does not contain sufficient information in the permit application to demonstrate that the separation and characterization of the waste stream can be carried out in such a manner to create a homogeneous waste-stream and predictable treatment efficiency. However IDEQ has an obligation to protect human health and the environment through this permitting process and should not issue a permit to the facility if there are questions or concerns about the ability of BNFL to operate safely and to comply with all environmental regulations.

**Emission estimates by BNFL are in error.** The BNFL uses the following assumption in estimating the emissions from the AMWTP: Since they must meet the RCRA permit-based Destruction Removal Efficiency limits, they simply plug in this efficiency requirement and estimate their emissions accordingly. Unfortunately BNFL has not adequately demonstrated that they can actually meet the RCRA requirement. The waste entering the AMWTP is not homogeneous, and the separation technology proposed is not fool-proof, the process is dependent upon visual inspection and is subject to human error, and these factors all contribute to scenarios which underestimate emissions. The Air Quality Permit to Construct application should stand alone with respect to emission estimates, and not simply assume that the applicant will meet the RCRA incineration permit requirements. The application failed to adequately estimate emissions under real situations. The applicant failed to estimate emissions based on the *potential to emit*, as defined under 40 CFR part 70. *Potential to emit* means the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. BNFL failed to follow federal regulations in distinguishing their *potential to emit* from that of their estimate of the emissions downstream from all the controls. Not all of the controls are federally enforceable, and cannot be considered in estimating the *potential to emit* emissions. The permit needs to be rewritten following Clean Air Act requirements.

Further the permit must state which sections of the permit are federally enforceable and which are enforceable under the State regulations. The draft permit fails to distinguish these as required under 40 CFR Part 70.6 (b)(2):

Notwithstanding paragraph (b)(1) of this section, the permitting authority shall specifically designate as not being federally enforceable under the Act any terms and conditions included in the permit that are not required under the Act or under any of its applicable requirements. Terms and conditions so designated are not subject to the requirements of Secs. 70.7, 70.8, or of this part, other than those contained in this paragraph (b) of this section.

The applicant claims that they are a minor source with respect to the AMWTP (at page 5, Technical memorandum, April 7, 1999). However, as mentioned above, BNFL failed to estimate the emissions using correct *potential to emit* methodology, pursuant to Title V and Title I. The BNFL may be a "major source" after correct emission estimates are complete. For purposes of determining "major source" categories IDEQ should combine emissions from other INEEL



# Snake River Alliance

- Box 1731 · Boise ID 83701 · 208/344-9161 · Fax 208/344-9305 · Email: [allister@snakeriveralliance.org](mailto:allister@snakeriveralliance.org)
- Box 4090 · Ketchum ID 83340 · 208/726-7271 · Fax 208-726-1531 · Email: [mstewart@snakeriveralliance.org](mailto:mstewart@snakeriveralliance.org)
- 310 E. Center · Pocatello ID 83201 · 208/234-4782 · Fax 232-4922 · Email: [srabb@earthlink.net](mailto:srabb@earthlink.net)



June 28, 1999

Chris J. Davenport  
Program Development Specialist  
Division of Environmental Quality  
1410 Hilton  
Boise, ID 83706-1255  
FAX (208) 373-0417

RECEIVED

JUN 30 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

**SUBJECT: PROPOSED PERMIT TO CONSTRUCT; BNFL FACILITY AT INEEL**

Thank-you for the opportunity to comment on the proposed Permit to Construct for the Advanced Mixed Waste Treatment Project (AMWTP) at the INEEL.

No mixed waste treatment project which includes this type of waste is in operation. The goal of the project is to reduce the waste volume and to make waste acceptable for the WIPP repository in New Mexico. The BNFL application proposes to treat radioactive TRU and mixed waste --not necessarily in the most efficient way, nor in a way which minimizes the release of Hazardous Air Pollutants (HAPs) -- but in a way that yields an acceptable form of WIPP waste. This waste includes an unknown mixture of plastics, rubber, radionuclides, metal, debris and sludges which potentially may yield a significant amount of Hazardous Air Pollutants. The IDEQ should recognize that the goal of the AMWTP and of the permit to construct (PTC) may conflict with each other. For example the separation and characterization of the wastes before treatment is not designed to maximize treatment efficiency nor to minimize control of emissions. The IDEQ should therefore take a close look at the questionable methods of separation and characterization of the waste stream to ensure that the appropriate emission limits and controls become as important as the correct blend for WIPP. The IDEQ should consider feedstock limits to the treatment systems which would individually limit the percentage content (or mass limits) of metals, plastics, sludges, and halogens, in order to control the conditions which could lead to upsets and the release of HAPs, radionuclides or criteria pollutants.

The BNFL and the Idaho DEQ should consider leaving the comment period open for the Permit to Construct through the hazardous waste (RCRA) permit comment period. Frequently all stakeholders involved, including the permittee, learn more about the project and requirements when the full regulatory picture unfolds. In this way IDEQ may enhance the permit for all parties by having the air quality permit issue open for comment during the RCRA permitting process.

June 24, 1999

Chris Davenport  
Idaho DEQ  
1410 N Hilton  
Boise, Idaho 83706

RECEIVED  
JUN 29 1999  
DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

Dear Chris,

I am writing to strongly protest the "crush and burn" plant proposed by British Nuclear Fuels. The prospect of massive amounts of toxic emissions being released into the air is threatening to the health and welfare of the population. The more knowledge I have gained about nuclear waste, the scarier it is. I realize disposing of nuclear waste is a gigantic problem. However releasing massive amounts of carcinogenic material into the atmosphere seems an incredibly poor solution. Particulate matter does NOT measure the most toxic of the waste material and to delude the public is truly an injustice.

Furthermore, for the DEQ to not consider that Idaho would be attracting massive amount of nuclear waste being brought into the state for incineration is naive. What is the state of Idaho getting out of this proposed project? It seems to me, no amount of money is worth risking the long term health of the population. Why is the DEQ even considering letting British Nuclear Fuels build a plant BEFORE an emission monitoring plan is formulated?

I am adamantly opposed to the current proposal and urge you to explore other alternatives.

Most sincerely,



Carla A. Parks  
4130 Eaton St.  
Mountain View, CO 80212

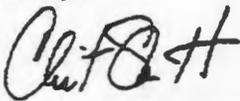
4. Many places within this document are references that procedure and monitoring manuals demonstrating how operations will be in compliance with the permit will be developed for DEQ approval within 60-90 days *after* facility startup. To produce such important manuals *after* startup of the facility is unacceptable.

5. All emission exceedences must be reported and made public within 24 hours of occurrence. Quarterly air monitoring reports that have been averaged over a 3 month period are grossly inadequate. The public has a right to know when the air they breathe has been contaminated -- not three months later through a diluted statistic.

And finally, it should be encouraged that all participating agencies do their jobs. Neither the state INEEL Oversight Committee, nor the Citizens Advisory Board ever requested that an EIS process be completed on the AMWTF project. DOE's own regulations require that all incinerators must undergo a full EIS. Extremely close scrutiny of such a massive and potentially environmentally threatening facility is mandatory.

Again, thank you for the opportunity to express these concerns by way of public comment on this proposed project. The people of Idaho have a right to know about a facility that is intended to treat mixed waste which contains both radioactive and hazardous components, and how it will affect their lives.

Sincerely,



Senator Clint Stennett  
District 21

CS:cp

DISTRICT 21  
BLAINE, CAMAS,  
GOODING, LINCOLN  
JIMMIE MORE COUNTIES

HOME ADDRESS  
P.O. BOX 475  
KETCHUM, IDAHO 83340  
HOME (208) 726-8106  
BUSINESS (208) 788-4504

STATE CAPITOL  
P.O. BOX 83720  
BOISE, IDAHO 83720-0081



## Idaho State Senate

**SENATOR CLINT STENNETT**  
DEMOCRATIC LEADER

### COMMITTEES

RESOURCES & ENVIRONMENT  
LOCAL GOVERNMENT & TAXATION  
AGRICULTURAL AFFAIRS  
LEGISLATIVE COUNCIL

June 29, 1999

Department of Environmental Quality  
ATTENTION: Director Steve Allred  
1410 N. Hilton  
Boise, ID 83706-1255

**RE: Public Comment:  
PERMIT APPLICATION TO DEQ BY BNFL TO CONSTRUCT  
HAZARDAROUS WASTE INCINERATOR**

Dear Director Allred:

As the State Senator from District 21, I appreciate the opportunity to provide comment on the permit application to DEQ by British Nuclear Fuels Limited (BNFL) to construct an advanced mixed waste treatment facility at the INEEL.

As a strong supporter of responsible stewardship for Idaho's lands and air, I would like to make mention of my grave concerns about this document.

1. Neither this permit application nor the Final EIS ever scientifically addresses how much waste *must* be treated and *why*. A privatized contract could be construed as an incentive to treat waste that does not need to be treated. Scientific evidence must be provided to justify treatment of every barrel of waste to be treated.
2. Many concerns surround the privatisation process. Of greatest importance is how much public access will there be to records of operations and, in particular, to air monitoring and emissions reporting?
3. This permit application is based on many "general assumptions" or available information. There are charts showing predicted emissions of radionuclides and carcinogenic elements, yet before each barrel of waste to be treated is opened and characterized it is impossible to know what will be going into the incinerator. With no prior knowledge of what will be burned, how can this document know what the emissions will be?

RECEIVED

JUN 29 1999

DIV. OF ENVIRONMENTAL QUALITY  
ADMINISTRATIVE OFFICE**facsimile**  
TRANSMITTAL

**to:** Director Steve Allred and Mike Simon: DEQ  
**fax #:** 208-373-0417  
**re:** Public Comment: INEEL INCINERATOR  
**date:** June 29, 1999  
**pages:** 3, including cover sheet.

**ATTENTION: DEPARTMENT OF ENVIRONMENTAL QUALITY PUBLIC  
OPINION COMMENTS**

Attached you will find a copy of a letter from Senator W. Clint Stennett, District 21, to Director Steve Allred at DEQ concerning public comment on the proposed permit application to DEQ by British Nuclear Fuels Limited to construct an advanced mixed waste treatment facility at the INEEL.

Please accept our apologies for being one day late with our comments. The senator has been on travel status for state business and just returned to Idaho today. We sincerely hope that you will add the senator comments to the compilation of others that we know you will be receiving on this matter.

Thank you for accepting our comments.

Christine Peck  
Chief of Staff  
Senate Democrats  
Idaho State Legislature  
208-332-1351

radioactive waste was identified throughout the dump, along with chemical and asbestos wastes. Last year Dounreay tried to contain the waste by surrounding the seaward side with a geotextile membrane but a storm tore it within a few months, releasing more rubble into the sea and exposing waste drums in the landfill. Dounreay estimates it will take until 2002 to move the waste and decontaminate the area.



Unauthorized waste discharged

The Chapelcross nuclear reactor in south-west Scotland, operated by British Nuclear Fuels, has been officially warned by the Scottish Environment Protection Agency after unauthorised discharges of 26,000 gallons of tritium contaminated waste water into the Solway Firth. The radioactive water was used to cool spent fuel rods and was discharged as a result of human error and poor procedures.



## N-Base Briefing News Early April 1999

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### Jobs to go at Sellafield

British Nuclear Fuels is looking to cut 500 of its 6,500 employees at Sellafield as part of its cost-cutting exercise intended to reduce costs by 25 per cent over two years. BNFL instead the jobs reductions were not connected to the millions of pounds it is losing each month because of the closure of the THORP reprocessing plant and the plutonium fuel plant which is still awaiting a government decision on whether the plant can be opened or not. THORP was closed for nearly half of 1998 and has been shut-down since December because of a serious problem with blocked pipes.

## N-Base Briefing News Mid May 1999

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### Sellafield's plutonium gone missing

Scientists are unable to account for about 40 per cent of the plutonium and its daughter product americium discharged from Sellafield into the Irish Sea - from 1952 to 1995 an estimated 182 kilograms of plutonium was pumped into the sea.

The study by scientists from the Ministry of Agriculture, Fisheries and Food (MAFF) carried out over several years involved widespread sampling of the seabed around the Irish Sea. The researchers expected to be able to account for the plutonium by measuring levels in their samples and from other surveys which have found plutonium and americium from Sellafield all the way up the west coast of Scotland, around into the North Sea, along the Nordic coastlines and as far away as Greenland. A recent joint German and Norwegian survey found significantly raised plutonium levels in the North Sea.

However the scientists found they could not account for 36 per cent of the discharged plutonium and 40 per cent of the americium. They believe it may be buried deep in sand on the seabed - samples were only taken up to 25cm down into the sand and mud. The seabed of the Solway Firth and Morecambe Sands are thought to be two of the areas where the highly dangerous particles may be buried, although without further work it is now really known what has happened to the plutonium. What the research has shown, however, is that the existing assumptions on the behaviour and dispersion of discharges are probably inaccurate.

The following documents were downloaded from the N-Base WWW site at:  
[www.n-base.org.uk/public/intro.htm](http://www.n-base.org.uk/public/intro.htm)

### N-Base Briefing News Late Jan 1999

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#### New THORP closure ends BNFL target hopes

British Nuclear Fuels has announced that a blocked pipe closed the THORP reprocessing plant on 17th December. For the first time in the plant's near five-year operating history, the company has admitted it will fail to meet this year's production target of reprocessing 900 tonnes of spent fuel.

The blocked pipe is in the same system where a leak last year closed THORP for five months. The problem is at the start of the reprocessing system when the cladding is cut off the fuel elements and the rods cut into pieces. It was metal fragments from this process which caused last year's problems and could now be blocking the one-inch pipe. Cumbrians Opposed to a Radioactive Environment (CORE) reported that the spare pipe system was already in use after last year's problems so no further back-up is available.

The admission by BNFL that it cannot meet this year's production target - together with warnings on a steep fall in revenue due to repeated closure of the site's reprocessing plants - is particularly significant. Since before its operation opponents have argued that THORP would be unable to meet BNFL predictions of 7,000 tonnes in the first 10 years operations resulting in profits of GBP500 million. Now the company's confidence is beginning to look increasingly misplaced. Since starting work THORP has reprocessed only 1,455 tonnes instead of the 2,800 required to meet the 10-year target. To make up the difference BNFL would have to reprocess at the rate of 900 tonnes a year.

#### Tritium problems

BNFL has also admitted to CORE that since the leaking pipe accident last year no fuel for UK advanced gas-cooled reactors had been reprocessed by THORP and was unlikely to be until summer 1999. Currently only foreign BWR fuel has been reprocessed, confirming CORE's assertions that THORP's operational problems are not only the wear-and-tear effects of metal particles on pipes, but also the production of unexpected volumes of tritium vapour.

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plus any additional associated damage from the same track, were always repaired with total efficiency could there be any possibility of a dose threshold for consequent cellular effects."

UNSCEAR 1993 Report, p.636, para.84.

"Biological effects are believed to arise predominantly from residual DNA changes that originate from radiation damage to chromosomal DNA. It is the repair response of the cell that determines its fate. The majority of damage is repaired, but it is the remaining unrepaired or misrepaired damage that is then considered responsible for cell killing, chromosomal aberrations, mutations, transformations and cancerous changes."

UNSCEAR 1993 Report, p.680-681, para.323.

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single cancers, humans would never develop cancer from any cause (including high-dose radiation). But lots of people do develop cancer. Fatal cancer. In the USA, 22% of all deaths are due to cancer.

#### Part 6. A Five-Point Summary

**Point One:** The radiation dose from x-rays, gamma rays, and beta particles is delivered by high-speed electrons, traveling through human cells and creating primary ionization tracks. Whenever there is any radiation dose, it means some cells and cell-nuclei are being traversed by electron-tracks. There are about 600 million typical cells in 1 cubic centimeter.

**Point Two:** Every track --- without any help from another track --- has a chance of inflicting a genetic injury if the track traverses a cell-nucleus.

**Point Three:** There are no fractional electrons. This means that the lowest "dose" of radiation which a cell-nucleus can experience is one electron-track.

**Point Four:** There is solid evidence that extra human cancer does occur from radiation doses which deliver just one or a few tracks per cell-nucleus, on the average. See paragraphs ee-mm, above.

**Point Five:** Thus we know that there is no dose or dose-rate low enough to guarantee perfect repair of every carcinogenic injury induced by radiation. Some carcinogenic injuries are just unrepaired, unrepairable, or misrepaired. The "troublesome trio."

**Conclusion:** It is factually wrong to believe or to claim that no harm has ever been proven from very low-dose radiation. On the contrary. Existing human evidence shows cancer-induction by radiation at and near the lowest possible dose and dose-rate with respect to cell-nuclei. By any reasonable standard of scientific proof, such evidence demonstrates that there is no safe dose or dose-rate below which dangers disappear. No threshold-dose. Serious, lethal effects from minimal radiation doses are not "hypothetical," "just theoretical," or "imaginary." They are real.

#####

"The extent to which radiation-induced DNA damage may be correctly repaired at very low doses and very low dose rates is beyond the resolution of current experimental techniques. If DNA double-strand breaks are critical lesions determining a range of cellular responses, including perhaps neoplastic transformation, then it may be that wholly accurate cellular repair is unlikely even at the very low lesion abundance expected after low dose and low-dose-rate irradiation."

UNSCEAR 1993 Report, p.634, para.74.

"It is highly unlikely that a dose threshold exists for the initial molecular damage to DNA, because a single track from any ionizing radiation has a finite probability of producing a sizable cluster of atomic damage directly in, or near, the DNA. Only if the resulting molecular damage,

per exposure, ranged from 0.3 track to 12 tracks, with this distribution: 0.3; 0.7; 1.2; 1.3; 2.1; 6.2; 10; 12 tracks. In other words, some studies meet a very strict definition of lowest possible radiation dose (para. cc, above), and others are nearly minimal.

hh. If only the 6-track, 10-track, and 12-track studies existed, someone would be sure to speculate that "maybe 6 tracks overwhelm a cell's repair-capacity. Maybe there is a safe dose at 4 tracks." Six tracks (average) correspond with radiation doses of 2 to 5 rads, so such speculation would be hard to reconcile with evidence of abundant repair-capacity at 100 to 500 rads (see para. h, above). In any case, such speculation is ruled out by the studies showing excess cancer from even lower track-averages per nucleus.

ii. By any reasonable standard of proof, the combination of human epidemiology and track-analysis demonstrates that there is no threshold dose or dose-rate below which "repair" invariably prevents health harm.

jj. It is an error to assert that no human evidence exists of harm to health at minimal dose-levels. It does exist (see Reference List, flagged (#) entries). Cancer is a very serious harm. The flagged studies rule out speculation that low-dose radiation may be either risk-free or "good for you." Moreover, if radiation carcinogenesis is the result of residual injury to the genetic molecules, then the flagged studies strongly warn us that there is no safe dose of gonadal irradiation with respect to human inherited afflictions.

kk. It is especially powerful evidence when a common result arises from a variety of radiation experiences. The flagged studies include infants in-utero, children, adolescents, young women, high-energy gamma rays, medical x-rays, acute single doses, acute serial doses, and chronic occupational doses.

ll. It is worth noting that acute serial doses, in women who received repeated low-dose chest fluoroscopies, occurred with plenty of time for the repair-system to complete its work on damaged molecules before the next x-ray exam (para. g, above). If repair could always work flawlessly when the x-ray dose is low, then such women would show no radiation-induced cancer from the very high radiation doses which they gradually accumulated. After flawless repair-work, the women would never have any cancer-risk left from the previous exposure when they received the next exposure in the series. Each exposure would occur on a "clean slate."

mm. The evidence of excess breast cancer in the fluoroscoped women is very solid, and shows a positive dose-response. This evidence of radiation-induced human cancer is widely acknowledged and cited --- but not many people recognize that it is evidence of cancer-induction resulting from nearly minimal doses of radiation per exposure (about 6 to 10 tracks per average cell-nucleus, per x-ray examination).

nn. Our final point concerns the immune response. We've heard people speculate like this: "Even if a fraction of low-dose genetic damage is unrepaired, or unrepairable, or misrepaired at the lowest dose-levels, the resulting cancers would be so few that the immune system and the body's other defenses against cancer would eliminate them." The evidence in the flagged studies refutes that speculation, and so does logic. If a body's natural defenses automatically eliminate

explains why ionizing radiation is so "good" at breaking chromosomes and inflicting other complex injuries on the genetic molecules. Every track --- acting without help from any other track --- has a chance of causing an unreparable carcinogenic injury in a cell.

y. At high radiation doses, many tracks from high-speed electrons pass through every cell-nucleus. We focus on the nucleus because that is where the human's genetic molecules are located. How many tracks? At 100 rads from medical x-rays, about 130 primary tracks cross every cell-nucleus (Gofman 1990; based on 30 KeV x-rays on the average, from 90 kV peak). At 100 rads from gamma rays, about 300 tracks cross every cell-nucleus (Gofman 1990; based on ~630 KeV gamma rays from radium-226 or decay of cesium-137 into stable barium-137).

z. What happens at low doses? When the total dose is about 0.75 rad (750 milli-rads) from medical x-rays, the average number of tracks per cell-nucleus is one track (Gofman 1990, Table 20-M). At total doses of about 0.33 rad (330 milli-rads) from radium-226 or cesium-137, the average number of tracks per cell-nucleus is one track. At a total annual dose of 0.1 rad from natural background sources, the average number of tracks per cell-nucleus is a fraction of one track during a year.

aa. But electrons can not be subdivided into fractions. So, either a cell-nucleus experiences an electron-track, or it does not. Yes or no. At very low total doses, some nuclei experience one track or a few tracks, and other nuclei experience no irradiation at all.

bb. When the average number of tracks per nucleus is one track, 37% of the nuclei experience no track at all, 37% experience one track, 18% experience two tracks, 6% experience 3 tracks (Gofman 1990, Table 20-N).

cc. Tracks are a special property making ionizing radiation very different from toxic chemicals. Chemicals can be present in a cell-nucleus at lower and lower concentrations. For chemicals, there is no minimum concentration. But for ionizing radiation, one track is the least possible invasion it can inflict upon a cell-nucleus. At the cellular level, one track is the lowest possible "dose," and one track presents the least possible challenge for the repair-system. The split-second occurrence of one track is also the slowest possible dose-rate.

dd. If human evidence shows health harm caused by doses which deliver just one or a few tracks per cell-nucleus, then such evidence wipes out the hope that "repair" can ever deliver a threshold or safe dose (para. n, above).

#### Part 5. Human Studies Showing Radiation-Induced Cancer from Minimal Doses

ee. In the mainstream medical literature are quite a number of epidemiological studies showing that even minimal doses of ionizing radiation induce extra cases of cancer. The references are flagged (#) in the list.

ff. - For the flagged studies, we figured out the average number of tracks per nucleus caused by each exposure (Gofman 1990). gg. The average number of tracks through each cell-nucleus,

Gofman 1990, we developed the method and the evidence in detail. Full presentation takes 70 pages --- not suitable for a journal. We wanted to know if the threshold issue, for ionizing radiation, could be settled. Our analysis proves, by any reasonable standard of scientific proof, that there is no safe dose or dose-rate of ionizing radiation.

p. We have found no refutation of our proof. On the contrary, our method is extensively confirmed in the 1993 report of the United Nations (UNSCEAR 1993, esp. pp.627-636, p.681, p.696 Table 17).

q. For readers to understand how our method overcomes the obstacles described above (para. n), you need to know how ionizing radiation "works." It works very differently from toxic chemicals (para. cc, below).

#### Part 4. How Ionizing Radiation "Works"

r. Ionizing radiation includes beta particles, alpha particles, gamma rays, and x-rays; the term excludes radio, microwave, infra-red, and visible radiations.

s. Beta particles are electrons --- but they differ from the ordinary non-beta electrons in the human body in one important way. Beta particles are endowed with biologically unnatural energy. This energy causes them to travel through the cell (and beyond) at high speed, like tiny bullets.

t. Many radioactive atoms (called radio-nuclides, radio-isotopes) decay into stable atoms by spitting out beta particles --- or alpha particles, which are much larger. Radio-nuclides often emit gamma rays too, in the process of decaying into stable nuclides.

u. Gamma rays are photons --- a sort of light having too much energy for humans to see. X-rays are like gamma rays, except x-rays have less energy per photon. Both are generated by "nature" and by man-made generators. v. The photons of x-rays and gamma rays do their damage to cells by knocking electrons out of ordinary molecules and causing them to become beta particles --- which travel through the cell (and beyond) with biologically unnatural energy. There are about 600 million typical cells in 1 cubic centimeter.

w. The biological damage caused by ionizing radiation, including gamma rays and x-rays, is due to high-speed particles traveling through cells and unloading concentrated amounts of energy in unnatural places at random. Each particle creates a very narrow path of disturbance (called a primary "ionization track") as it unloads energy at irregular intervals. Alpha particles don't travel far; they unload their energy within just a few cells. Since virtually no one claims any threshold dose (safe dose) for alpha irradiation, our work involves high-speed electrons (para. s + v, above).

x. The amount of energy transferred in an instant, from the high-speed electron to nearby molecules, is often many times larger than the single energy-transfers which occur "anyway" in normal cell chemistry and metabolism. This unique feature of ionizing radiation probably

("acute" dose-delivery), is about 1,000 times higher than the total annual natural dose. And yet experiments show that human cells mobilize enough repair capacity (repair enzymes) to cope with 100 rads all at once. Indeed, repair capacity seems not overwhelmed even at doses of 500 rads and more.

- i. The explanation for residual, post-repair damage is not a lack of repair-capacity or time, but rather an inherent inability of the repair-system to fix certain complex injuries to genetic molecules.
- j. A radiation-induced chromosome abnormality does not always kill the cell in which it persists, nor does it always prevent the cell from dividing. When the injured cell divides, the same injury is replicated in the new cells. In the A-bomb survivors, extra chromosome abnormalities have been observed even 40 years after the bombings. Their radiation-causation is indicated by the positive dose-response: The higher the bomb-dose, the higher the frequency of abnormalities (Kodama 1993).
- k. Residual unrepaired and misrepaired chromosome damage in human blood samples, irradiated in lab dishes (in vitro), is visually detectable at acute radiation doses as low as 2 rads, despite crude methods of observation (Lloyd 1988). Moreover, the residual genetic damage which can not be detected with such methods may swamp the amount detected.
- l. Does residual damage also exist, after repair-time, if low doses are received slowly by living humans (in vivo)? Yes. For example, extra chromosome damage has been observed among Alaskan natives from nuclear fallout, in spite of very gradual accumulation of about 0.08 rad of extra exposure per year for 10 years (AEC 1970); extra chromosome damage has been observed among nuclear dockyard workers exposed very slowly to less than 5 rads per year (Evans 1979); extra chromosome damage has been observed among various populations living where the chronic natural dose from radiation is above average (for example, see Barcinski 1975; Maruyama 1976). [One rad is also called 0.01 Gray.]

### Part 3. Where's the Controversy, in View of Such Evidence?

- m. If residual genetic damage has been observed even from low radiation doses at slow dose-rates (para. L, above), how can anyone still claim that evidence of harm at low doses is "just hypothetical," or that harm requires high doses?
- n. Here's how. If challenged, they say: (1) Since a connection is just hypothetical between real-world health effects and misrepaired or unrepaired genetic injury from radiation, the evidence of harm to health from low-dose radiation is just hypothetical; and (2) Since there are radiation doses lower than occupational doses, and lower than fallout doses, and lower than any doses we can ever afford to study, the harm at these lower doses will always remain unproven. They suggest that maybe, at some extremely low dose or dose-rate, "repair" becomes perfect.
- o. We recognized a method which could cope with both difficulties. Beginning with Gofman 1971 (pp.275-277), it evolved in Gofman 1981 (pp.405-411), and Gofman 1986 (pp.6-14). In

that journals and other media contribute to cancer (and inherited afflictions) whenever they include disproven claims which encourage a casual attitude toward extra exposures to low-dose ionizing radiation. We believe that you want to help prevent such miseries.

## Part 2. Some Introductory Information

Assertions in this communication are supported in detail, and with very specific sourcing, in Gofman 1990 (Chapters 18, 19, 20, 21, 32, 33).

- a. Cancers require the presence of damaged genetic molecules in the single cells which turn malignant. Likewise, inherited afflictions require the presence of damaged genetic molecules in the single cell from which a baby develops. The genetic molecules in a human cell-nucleus are the 46 human chromosomes, each consisting of one double-strand DNA helix plus associated proteins.
- b. After damage occurs to a genetic molecule, the cell attempts to repair it. If the cell achieves perfect repair, the genetic molecule regains its "mint quality" --- as if no damage had ever occurred.
- c. The menace to health involves the genetic damage which is unrepaired, unrepairable, or misrepaired. The "troublesome trio."
- d. When the damage is complex --- for example, when the opposite strands of the double helix have been broken --- pieces of the DNA double-helix sometimes end up in the wrong place, or become permanently lost. These failures of repair are not in dispute.
- e. By contrast, the cell is exquisitely efficient at repairing injury to single strands of the double helix. It has been estimated that, every day, each cell copes with at least 10,000 DNA injuries induced by routine chemical sources (including free radicals produced by the cell itself). Such standard repairs might be compared to replacing a lamp's broken light bulb with a new bulb. After "repair," the lamp works perfectly again.
- f. Ionizing radiation has demonstrated beyond any doubt its ability to break both strands of the DNA double helix at the same time. This ability has made it "famous" among toxic agents as a chromosome-breaker. (If only one DNA strand breaks, the other strand holds the chromosome together.)
- g. Countless experiments have been done on cells to measure the speed with which they repair radiation-induced DNA damage, both single-strand and double-strand injuries. Even after extremely high radiation doses, that repair which does occur is complete within about 8 hours, and most of it is complete within about 2 hours.
- h. An "extremely high radiation dose" can be understood by comparison with the annual dose which everyone receives from natural sources. Excluding radon, the natural dose per year is about 0.1 rad. Therefore a common experimental dose to cells of 100 rads, delivered in an instant

What Is Factually Wrong with This Belief:  
"Harm from Low-Dose Radiation Is Just Hypothetical --- Not Proven"  
By John W. Gofman, M.D., Ph.D.  
Fall 1995

Contents:

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- References

The Author: John W. Gofman, M.D., Ph.D, is Professor Emeritus of Molecular and Cell Biology at the University of California (Berkeley), former Associate Director of the Livermore National Laboratory, and author of four scholarly books on radiation health effects.

Part 1. An "Open Letter" to Editors of Major Journals and Newspapers, to Science Reporters and Physicians

Advances in identifying the causes of cancer and inherited afflictions receive much attention in your publications and broadcasts --- because you and your customers care very much about preventing these miseries.

You do not want mistakes slipping through your various filters against misinformation. The mistake we address here is the claim that harm from ionizing radiation, a proven carcinogen and mutagen, is "only hypothetical" at low dose-levels. This misinformation is routinely treated as credible and is disseminated widely; recent conduits include the Journal of the Amer. Medical Association (Skolnick 1995, p.367, p.368), the Lancet (Hulka 1995, p.885), the Wall Street Journal (Chase 1995, p.B-1), Nuclear News (Sept.1995, p.26) --- and even a current syllabus for residents in radiology (Goldberg 1995, p.5, p.7).

The purpose of this communication is to show you, in abbreviated fashion, the factual basis for rejecting the claim that no harm has yet been proven from low-dose radiation --- and for rejecting suggestions that your duty is to fight "radio-phobia" over a carcinogen which "requires" high doses.

The stakes are worth some of your time. How so? Because ionizing radiation is not an exotic carcinogen and mutagen which exposes a small segment of the population. Low-dose ionizing radiation is received from natural background sources, numerous medical procedures, nuclear pollution, flying, and sometimes from occupational exposures. How many other proven human carcinogens can you name to which everyone is exposed on a daily and lifelong basis?

The evidence that there is no safe dose-level of ionizing radiation (no threshold dose) means

UNIVERSITY OF CALIFORNIA, BERKELEY  
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May 11, 1999  
LETTER OF CONCERN.

To Whom It May Concern:

During 1942, Robert E. Connick and I led the "Plutonium Group" at the University of California, Berkeley, which managed to isolate the first milligram of plutonium from irradiated uranium. (Plutonium-239 had previously been discovered by Glenn Seaborg and Edwin McMillan.) During subsequent decades, I have studied the biological effects of ionizing radiation --- including the alpha particles emitted by the radioactive decay of plutonium.

By any reasonable standard of biomedical proof, there is no safe dose, which means that just one decaying radioactive atom can produce permanent mutation in a cell's genetic molecules. My own work showed this in 1990 for xrays, gamma rays, and beta particles (Gofman 1990: Radiation-Induced Cancer from Low-Dose Exposure). For alpha particles, the logic of no safe dose was confirmed experimentally in 1997 by Tom K. Hei and co-workers at Columbia University College of Physicians and Surgeons in New York (Proceedings of the National Academy of Sciences (USA) Vol.94, pp.3765-3770, April 1997, "Mutagenic Effects of a Single and an Exact Number of Alpha Particles in Mammalian Cells").

It follows from such evidence that citizens worldwide have a strong biological basis for opposing activities which produce an appreciable risk of exposing humans and others to plutonium and other radioactive pollution at any level. The fact that humans cannot escape exposure to ionizing radiation from various natural sources --- which may well account for a large share of humanity's inherited afflictions --- is no reason to let human activities increase the exposure to ionizing radiation. The fact that ionizing radiation is a mutagen was first demonstrated in 1927 by Herman Joseph Muller, and subsequent evidence has shown it to be a mutagen of unique potency. Mutation is the basis not only for inherited afflictions, but also for cancer.

Very truly yours,  
/signed/  
John W. Gofman, M.D., Ph.D.  
Professor Emeritus of Molecular and Cell Biology

While the risk may be remote of someone working at the site, farming at Menan, walking down the street at Arco or Idaho Falls, or driving along US 20 inhaling mutagenic radionuclides emitted from the AMWTF, the risk would be even more remote if the emission were disallowed.

Finally, reports of problems with waste handling, unaccounted-for plutonium and americium, and leaks at BNFL facilities at Sellafield, Thorp, and Dounreay in the United Kingdom prompt us to wonder why they should be permitted to operate here. (Information communicated by N-Base, Scottish Environmental Trust, which surveys and publicly reports on the state of the civil nuclear industries in the UK -- see attachments.) It would appear that downsizing pressures in the British nuclear industry are forcing BNFL to seek market opportunities elsewhere. In order to improve its market position, BNFL will have great incentives to import additional waste into Idaho to sustain and increase future levels of processing at the INEEL AMWTF, thus adding risk to Idaho workers and residents that would not otherwise exist.

For these reasons, we oppose the issuance of a permit to construct a mixed waste incinerator at INEEL.

Sincerely,

A handwritten signature in cursive script, appearing to read "Gary Richardson", with a long horizontal line extending to the right.

Gary Richardson  
Coordinator

Enclosures



PO Box 2863  
Boise, Idaho 83701

June 28, 1999

Chris J. Davenport, Program Development Specialist  
Technical Services Bureau  
Idaho Division of Environmental Quality  
1410 N. Hilton  
Boise, ID 83706-1255

Dear Mr. Davenport:

The Idaho Clean Air Force is an unincorporated Idaho nonprofit association representing the interests of thousands of Idahoans whose health and well-being are threatened by air pollution. The ICAF is helping those people to become an effective voice on air quality issues and to inform the general public and the mass media about serious threats to health and well-being posed by air pollutants.

The Idaho Clean Air Force concurs in the May 27, 1999 comments of Scott Brown submitted on behalf of the Idaho Conservation League especially as they relate to the release of dangerous pollutants to the ambient air.

We understand that in proposing to issue British Nuclear Fuels, Ltd. a permit to construct a mixed waste incinerator as part of its Advanced Mixed Waste Treatment Facility, DEQ is relying on assurances that radionuclide emissions from the permitted facility will not exceed "acceptable" levels as determined by the federal government. Especially in light of recent actions taken by the US Environmental Protection Agency attempting to revoke National Ambient Air Quality Standards in the Boise area in disregard of the Clean Air Act, we think it essential that the state itself ensure that operation of the AMWTF not endanger the health of workers at the Idaho National Engineering and Environmental Laboratory or the general public downwind of the plant.

We urge DEQ reviewers to consider mounting evidence that *no* level of plutonium particles breathed into the lung is acceptable: "By any reasonable standard of biomedical proof, there is no safe dose, which means that just one decaying radioactive atom can produce permanent mutation in a cell's genetic molecules." (John W. Gofman, M.D., Ph.D., Professor Emeritus of Molecular and Cell Biology, University of California, Berkeley, text of letter and report attached) In this light, one must consider the relative risk of dispersing radionuclides into the ambient air through incineration as compared with other methods of waste treatment that do not entail this danger.

have some concerns  
about the British Nuclear  
Fuels Co. - its  
record of safety is in  
question! -

Thank - you

Debra McGuire

PERSONNEL

JUN 28 1999

- Their latest tactic is to whip up unwarranted fear about AMWTF among residents in Jackson Hole WY, a community about 100 miles away from the AMWTF. Analyses by the applicant show that even 50 miles the effects of the AMWTF on air quality will be undetectable.
- The current plan for AMWTF calls for incineration of only a limited amount of combustibles. The over-all disposal of transuranic waste could well be much more cost effective if all combustibles were burned. DEQ's permit should allow all such burning.

The applicant has so far successfully met all milestones in this important project. Coalition 21 urges DEQ to grant the permit in a timely manner so the project's schedule can continue to be met.

Very truly yours

*Original signed by*

Richard Kenney, President  
Coalition 21

Attention Chris Davenport ~

I am a resident of  
Jackson Hole, Wyo.

I am very concerned  
about the safety of the  
proposed increases at the  
DWEB. I heartily  
urge you to extend  
the comment period + to  
have an environmental  
impact study here in  
Wyo. done. I also

August 5, 1999

Mr. Chris Davenport  
Program Development Specialist  
DEQ  
1410 N. Hilton  
Boise, Idaho 83706-1255

AD 17 00

Dear Mr. Davenport:

RE: Air Quality Comment Period

We are joining County and State officials and the majority of citizens of Northwestern Wyoming in demanding the same rights as the citizens of Idaho in asking for a reopening of the comment period on air quality resulting from the proposed mixed hazardous waste incinerator in the Arco area. As we are downwind of the incinerator site, we will be more affected by the emissions from this facility than will a large part of the state of Idaho. Moreover, we recognize that public comment in Eastern Idaho has inevitably been inhibited by intimidation from the corporations economically benefitting from handling nuclear and hazardous wastes to be shipped to them from other nuclear facilities.

We are concerned with the ignoring of the monitors of emissions during a test burn at Arco in the past and with the lack of knowledge of the cumulative and synergistic effects of thirteen years of incineration of a combination of nuclear and hazardous wastes. It seems that there is also a lack of knowledge of exactly what is to be burned. How then can permits be granted for constructing air-pollution emitting sources? Moreover, what guarantees do we have that contracts for incinerating such wastes will not be renewed beyond thirteen years?

Democracy is not limited by state lines nor are air flows. We who will be most affected by the emissions from the proposed incinerator deserve to be heard as do the citizens of the United States whose national parks lie downwind from the facility.

Sincerely yours,

Page McNeill, Conservation Chair, TGS, P.O. Box 3955, Jackson WY 83001  
The Teton Group of the Sierra Club and Concerned Citizens of Wyoming

- Robb Reavill Robb Reavill P.O. Box 8487 Jackson WY 83002
- Kim Gromer Kim Gromer P.O. Box 2514 Jackson, WY 83001
- CURTIS OLSON Curtis Olson P.O. Box 8283 JACKSON, WY 83002
- CARRIE NAUGHTON Carrie Naughton P.O. BOX 589 MOOSE, WY 83012
- LLOYD DORSEY Lloyd Dorsey P.O. Box 567 WILSON, WY 83014
- MAK P. BRAY Mak P. Bray 450 Trap Club Jackson, WY 83001
- Maggie MacDonald Maggie MacDonald P.O. Box 10313 Jackson, WY 83002
- Tony Tully Box 1538 Pinedale, WY 82941
- Nikona Nikona P.O. Box 611 Moose WY 83012
- Betty Leith Box 232 Moose WY 83012
- Tom Madson Box 9546 Jackson WY 83002

# ***FAX SHEET***

**Teton County Clerk  
P.O. Box 1727  
Jackson, WY 83001  
307-733-4430 or 307-739-8681 FAX**

FBI/DOJ  
AUG 19 1999

**TO: Chris Davenport, Program Development Specialist, DEQ**

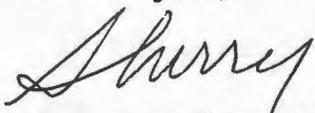
**FROM: Sherry L. Daigle, County Clerk**

**RE: Resolution**

**Number of pages including this one 1**

**Following is a copy of a Resolution adopted by the Teton County Commission on July 26, 1999, concerning the Nuclear Waste Incinerator at the INEEL for your record and information. I apologize if this has been duplicated.**

**Thank you,**



**Sherry L. Daigle  
County Clerk**

RESOLUTION  
(I.N.E.E.L.)

AUG 19 1999

**WHEAREAS**, the Board of County Commissioners of Teton County, Wyoming, have been made aware than Environmental Impact Statement is in progress regarding the potential for airborne emissions from a proposed nuclear waste incinerator at the Idaho National Engineering and Environmental Laboratory (I.N.E.E.L.) near Arco, Idaho; and

**WHEARAS**, the public comment period for the Environmental Impact Statement has expired without any notice to residents of Teton County, Wyoming, or any reasonable opportunity to provide official comments or otherwise be properly heard in the course of preparation of the Environmental Impact Statement; and

**WHEREAS**, Teton County, Wyoming, is directly downwind from the proposed facility and the health and safety of the citizens of Teton County, Wyoming, are directly affected by the safety or lack thereof of any emissions coming from the proposed nuclear waste incinerator; and

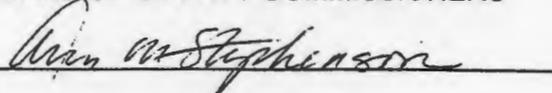
**WHEREAS**, the Board of County Commissioners of Teton County, Wyoming, do not wish to take an official position for or against the proposed nuclear waste facility at this time, but feel that it is imperative that the citizens of Teton County, Wyoming, receive proper and fair legal notice and opportunity to be heard on the official record of the Environmental Impact Statement now in progress with relation to any airborne emissions from the proposed nuclear waste incinerator;

**NOW, THEREFORE**, having met and duly considered this matter, it is hereby **RESOLVED** that the Board of County Commissioners of Teton County, Wyoming, officially and directly petitions Idaho Governor Dirk Kempthorne; The Idaho Department of Health and Welfare, Division of Environmental Quality; and The United State Department of Energy, for the reopening the public comment portion of the official record of the above referenced Environmental Impact Statement for a period of sixty (60) days, with corresponding hearings as required by law, and for proper and legal notice to the citizens of Teton County, Wyoming, that they may be afforded a fair and reasonable opportunity to be heard on the official record of the Environmental Impact Statement regarding airborne emissions from the proposed nuclear waste incinerator to be located at I.N.E.E.L.

**AND FURTHER RESOLVED** that assistance be and is hereby officially and respectfully requested from Wyoming Governor James Gerring, as well as the Wyoming Congressional Delegation consisting of U.S. Senators Craig Thomas and Michael Enzi, and U.S. Representative Barbara Cubin; for the purpose of reopening the public comment portion of the official record of the above referenced Environmental Impact Statement for a period of sixty (60) days, with corresponding hearings as required by law, and for proper and legal notice to the citizens of Teton County, Wyoming, that they may be afforded a fair and reasonable opportunity to be heard on the official record of the Environmental Impact Statement regarding airborne emissions from the proposed nuclear waste incinerator to be located at I.N.E.E.L.

Adopted at the meeting of the Board of County Commissioners held the 26<sup>th</sup> day of July, 1999.

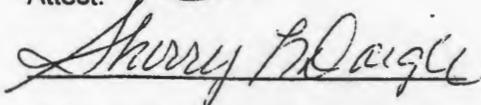
BOARD OF COUNTY COMMISSIONERS



Ann M. Stephenson, Chair



(Seal)  
Attest:



Sherry Daigle, County Clerk

**MOSKOWITZ BRESTOFF WINSTON & BLINDERMAN, LLP**

1880 Century Park East, Suite 350  
Los Angeles, CA 90067-1603

Tel: 310/785-0550 Fax: 310/785-0880

**MEMO**

**From: Barbara Blinderman**  
Direct Tel: 310/550-1675  
Direct Fax: 310/550-7684

**To: Mike Simon**  
**FAX: 208/373-0417**  
**No. of Pages (including this one): 1**  
**Date: August 30, 1999**  
**Re: Correct name and address**

RECEIVED

AUG 30 1999

DIV. OF ENVIRONMENTAL QUALITY  
AIR & HAZARDOUS WASTE

**Mike Simon:**

**Thanks for putting me on the mailing list. Correct spelling and address on the letterhead. Barbara Blinderman**

DIVISION OF ENVIRONMENTAL QUALITY  
SCHEDULED HEARING  
AND CONTINUATION OF PUBLIC COMMENT PERIOD  
REGARDING AN APPLICATION TO CONSTRUCT  
AN AIR POLLUTION EMITTING SOURCE

TUESDAY, MAY 25, 1999

AT 7:00 P.M.

AMERITEL INN  
EAGLE ROCK ROOM WEST  
IDAHO FALLS, IDAHO

Reported By:  
Kimberly Carpenter, CSR #600

EASTERN IDAHO COURT REPORTERS  
P. O. Box 50853  
Idaho Falls, ID 83405  
(208) 529-0222

I N D E X

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THE HEARING OFFICER: DAVID SHIPMAN

DEQ STATEMENT: MIKE SIMON P. 6

PUBLIC COMMENTS:

MR. KENNEY P. 17

MR. COMMANDER P. 19

MR. MAYNARD P. 21

MR. BARRACLOUGH P. 23

MS. SHUPTRINE P. 30

EXHIBITS Marked Admitted

No exhibits marked.

1 P R O C E E D I N G S

2 -oOo-

3 THE HEARING OFFICER: If everyone would  
4 take their seats, please, we're ready to begin  
5 the public hearing.

6 Let the record show that I am David  
7 Shipman, the designated hearing officer for the  
8 Idaho Division of Environmental Quality. It is  
9 7:05 on the 25th day of May, 1999. We are in the  
10 Eagle Rock Room West in Idaho Falls, Idaho.

11 This is the time and place set to  
12 receive oral comments on the application and the  
13 proposed permit to construct an air pollution  
14 emitting source relating to the Advanced Mixed  
15 Waste Treatment Facility proposed by BNFL, Inc.

16 The purpose of this proceeding is to  
17 gather the facts, views, or arguments from all  
18 interested persons relative to the proposed  
19 application and permit so that they may receive  
20 consideration by the Division.

21 I will accept written statements or  
22 documents at the hearing today if relevant and  
23 signed by the persons presenting them. The  
24 materials will be included as exhibits in the  
25 record, which will later be transmitted to the

1 Idaho Division of Environmental Quality,  
2 Custodian of Records.

3 Let the record show that affidavits are  
4 on file regarding publications of the notice of  
5 the opportunity for public comment at least  
6 30 days prior to the close of the scheduled  
7 comment period as specified in Idaho Department  
8 of Health and Welfare Rules and Regulations  
9 Section 16.01.209.a.iii(d).

10 Such publications were made in the  
11 Coeur d'Alene Press, Idaho State Journal,  
12 Idaho Statesman, Lewiston Morning Tribune,  
13 Post Register and Times News on April 14, 1999.

14 The first hearing was requested for  
15 Idaho Falls on April 15, 1999. A second hearing  
16 was requested for the Twin Falls area on April  
17 26, 1999. A third hearing was requested for the  
18 Boise area on May 4, 1999.

19 Let the record show that the affidavits  
20 are on file regarding publications of the notice  
21 of these public hearings. Such publications were  
22 made in the Coeur d'Alene Press, Idaho Statesman,  
23 Lewiston Morning Tribune, Post Register and the  
24 Times News on April 24; the Idaho Statesman,  
25 Post Register, Times News on May 3; and the

1 Idaho Statesman on May 8, 1999. Said publication  
2 was also made in the Idaho State Journal on  
3 April 26, 1999. These publications were timely  
4 made and other necessary notice requirements have  
5 been met.

6 As an informal proceeding, there is no  
7 right to cross-examine a person offering a  
8 comment, nor is there a right to counsel or  
9 subpoena. No objections or procedures of a  
10 technically legal nature will be received.

11 As the hearing officer, I am the sole  
12 regulator of the course of the presentations,  
13 including, but not limited to, a determination  
14 that the comments are outside the scope of the  
15 proposed air pollution permit or that comments  
16 are unduly repetitious.

17 I am not here to answer questions or to  
18 explain any part of the proposed permit, although  
19 I, myself, might ask questions to further explore  
20 or amplify the information presented.

21 All those interested parties attending  
22 this proceeding are asked to sign in on the  
23 roster by the entrance, indicating a desire, if  
24 any, to make an oral presentation. I ask that  
25 you try to limit your comments to between five

1 and ten minutes.

2 After a brief statement prepared by the  
3 Division summarizing the application, the results  
4 of their analysis, and the proposed permit, each  
5 person will be given an opportunity to speak at  
6 least once prior to any person being heard a  
7 second time.

8 I will remind you that this hearing is  
9 on the air quality aspects of the proposed  
10 project and that only comments concerning that  
11 topic may be considered.

12 Also, please refrain from expressing  
13 your approval or disapproval of a speaker's  
14 comments by applause or other means. This is  
15 disrupting to an orderly presentation of views  
16 and consumes time from the speakers.

17 At this time, the Division's statement  
18 will be read into the record, followed by the  
19 oral presentations.

20 MR. MIKE SIMON: Mr. Hearing Officer,  
21 ladies and gentlemen, my name is Mike Simon. I  
22 am an air quality engineer in the Air Quality  
23 Permitting Section of the Division of  
24 Environmental Quality in the Department of Health  
25 and Welfare for the State of Idaho.

1           My testimony will briefly outline the  
2 scope of the Department's authority in drafting  
3 the proposed permit, our actions leading to this  
4 hearing, the content of the proposed permit, and  
5 how the Department will respond to the comments  
6 received during the public comment period and at  
7 this hearing.

8           The Division of Environmental Quality is  
9 charged by Idaho State statute and the Federal  
10 Clean Air Act to operate a program to issue air  
11 pollution permits. The purpose of this program  
12 is to safeguard Idaho's air quality and to limit  
13 and control emissions of air contaminants from  
14 sources.

15           The Department carefully evaluates  
16 facility plans for construction of air pollution  
17 sources to ensure that the sources are capable of  
18 meeting state and federal air quality standards.  
19 It is critical that the limitations of the  
20 Department's permitting authority be understood.

21           The Department does not act as a  
22 statewide planning and zoning board to decide  
23 where facilities should be located, nor should  
24 it. Local governments, not a State agency in  
25 Boise, should decide where pollution air --

1 potential air pollution emitting facilities are  
2 to be located, and they should also decide what  
3 types of industrial facilities are allowed in  
4 their community.

5           The Department requires companies such  
6 as BNFL, Incorporated, to provide an application  
7 containing plans and specifications detailing the  
8 type of facility to be constructed and the type  
9 and amount of expected emissions.

10           Once all the necessary information has  
11 been submitted and the application is declared  
12 complete, the Department reviews the data to make  
13 sure the following criteria is met:

14           First, that no violations of the outside  
15 ambient air quality standards will occur during  
16 normal operations of the facility;

17           Second, that the source will emit air  
18 pollutants below the limits specified in state  
19 and federal air quality rules;

20           And, third, that various additional  
21 requirements, such as testing, operating and  
22 reporting procedures will be followed in order to  
23 demonstrate continuous compliance with state and  
24 federal air quality rules.

25           The Department assumes that all

1 facilities will be built in populated areas and  
2 issues or denies permits based on the same  
3 criteria statewide. The Department does not  
4 determine where industries will operate, but does  
5 determine compliance with state and federal air  
6 quality regulations.

7 Consequently, your comments on suggested  
8 permit improvements, identification of omissions,  
9 or how the permit conforms or does not conform to  
10 state or federal air quality regulations are the  
11 types of comments that are most helpful to us.

12 The proposed air quality permit at issue  
13 in this hearing is in regard to the construction  
14 and operation of the Advanced Mixed Waste  
15 Treatment Facility. The proposed facility is to  
16 be located at the Radioactive Waste Management  
17 Complex on the Idaho National Engineering and  
18 Environmental Laboratory.

19 BNFL, Incorporated, submitted a permit  
20 application on October 13, 1998, which was  
21 reviewed by the Department. The application was  
22 declared complete on November 16, 1998, and a  
23 proposed permit was then drafted.

24 The application materials, DEQ's  
25 analysis and the proposed permit have been

1 available for public inspection at the  
2 Idaho Falls Public Library and at the Division of  
3 Environmental Quality Regional Offices located in  
4 Idaho Falls, Pocatello, Twin Falls, Lewiston,  
5 Coeur d'Alene, and at the State Office in Boise.

6 The availability of these materials was  
7 published on April 14, 1999, in the Coeur d'Alene  
8 Press, Idaho State Journal, The Idaho Statesman,  
9 the Lewiston Morning Tribune, the Post Register  
10 and the Times News.

11 Public hearings were requested and have  
12 been available -- been made available in  
13 Idaho Falls, Twins Falls and Boise. In addition,  
14 public information meetings regarding the air and  
15 hazardous waste permitting process have also been  
16 made available at the same locations.

17 According to state air quality rules, an  
18 opportunity for a public hearing has been  
19 provided for the proposed permit. Public  
20 hearings provide anyone an opportunity to give  
21 verbal testimony regarding the air quality  
22 issues.

23 Public hearings have been scheduled for  
24 May 25 in Idaho Falls, May 26 in Twin Falls, and  
25 May 27 in Boise. The public comment period for

1 submitting written comments ends on May 28,  
2 1999.

3 BNFL, Incorporated, proposes to  
4 construct a facility to treat mixed waste  
5 currently stored on-site at the INEEL. The  
6 facility includes an incinerator and other  
7 process areas which require permit limitations to  
8 ensure compliance with state and federal air  
9 quality standards.

10 The proposed permit has been developed  
11 with specific emission rate limits, operating  
12 limits, monitoring, record keeping and reporting  
13 requirements, as well as emissions testing to  
14 ensure continuous compliance with the air quality  
15 standards.

16 Radionuclide emissions from this  
17 facility are required to meet EPA's NESHAP  
18 standards for Radionuclide Emissions from DOE  
19 facilities. These standards required the use of  
20 EPA-approved models and methods in determining  
21 that radionuclide emissions would meet the  
22 standard.

23 The project -- the projected dose of  
24 radiation takes into account the contribution of  
25 all expected radionuclides. The resulting

1 modeled dose equivalent is a function of the  
2 primary exposure pathways; ingestion, inhalation  
3 and deposition.

4 EPA has conducted a review of this  
5 modeling analysis, along with the facility's  
6 proposed radionuclide emission control and  
7 approved the construction of the facility. The  
8 proposed permit includes EPA's requirements to  
9 monitor radionuclide emissions from the  
10 facility.

11 The permit also contains emission  
12 standards from EPA's proposed Maximum Achievable  
13 Control Technology standards for hazardous waste  
14 combustors. This proposed regulation contains  
15 emission limitations for specific hazardous air  
16 pollutants determined by EPA research to be  
17 emitted from hazardous waste combustion.

18 The state has incorporated these  
19 specific emission limits and has required  
20 continuous emission monitoring for mercury,  
21 hydrocarbons and carbon monoxide. Annual  
22 emissions testing is also required to demonstrate  
23 compliance with permit standards for particulate  
24 matter, heavy metals and other hazardous air  
25 pollutants.

1           In addition to emissions testing, the  
2 facility will be required to maintain records  
3 documenting air pollution, control equipment  
4 performance and efficiency and develop quality  
5 assurance/quality control programs for continuous  
6 emissions monitoring and radionuclide  
7 monitoring.

8           The facility will also be required to  
9 submit quarterly reports to the Department  
10 demonstrating that the facility is in compliance  
11 with radionuclide standards.

12           The Department's Hazardous Waste  
13 Permitting Bureau is currently reviewing the  
14 facility's hazardous waste permit application for  
15 completeness. Once this application is  
16 determined complete, a draft permit will be  
17 prepared and the public will be given an  
18 opportunity to review and comment.

19           The Air Quality Permitting Bureau is  
20 very interested in hearing comments pertaining to  
21 the proposed permit. No one should feel they  
22 must have a detailed technical knowledge of the  
23 document in order to provide useful comments.

24           Many of our permits are modified prior  
25 to final issuance because a citizen brought out

1 some point he or she felt should not be  
2 overlooked. The Department takes public input  
3 very seriously, and your comments are  
4 appreciated.

5 We are constrained in this hearing,  
6 however, to consider only comments relevant to  
7 the air quality permit itself. The air quality  
8 permitting process is limited to air quality  
9 topics only and cannot address other issues.

10 The proposed permit does not release  
11 BNFL, Incorporated, or the Department of Energy  
12 from complying with all other applicable federal,  
13 state and local requirements. Anything you think  
14 we might have overlooked, was needlessly  
15 included, or if something should have been done  
16 differently according to the law, are the types  
17 of comments that are most useful to us.

18 The final decision on the proposed  
19 permit will be made within the confines of  
20 federal law, state statute and the Idaho air  
21 quality rules. If BNFL, Incorporated, fulfills  
22 all requirements of the laws, they are entitled  
23 to an air quality Permit to Construct.

24 The Department, however, has clear  
25 discretion on many issues, and we are always

1 interested in suggestions regarding the permit or  
2 nonconformance of the permit with air quality  
3 rules.

4 Oral or written comments at this hearing  
5 or written comments mailed to the Department are  
6 welcome. Once the comment -- public comment  
7 period closes on May 28, 1999, at 5 p.m. Mountain  
8 Daylight Time, the Department will respond to all  
9 relevant comments in a public comment response  
10 package.

11 This package will consist of the hearing  
12 transcript from this hearing, all written public  
13 comments received during the comment period, the  
14 hearing officer's certification and the final  
15 action taken on the permit. The Department can  
16 issue the permit, issue a revised permit, or deny  
17 the permit if there is a compelling reason to do  
18 so.

19 The response package will be made  
20 available to the public at the Idaho Falls Public  
21 Library and at the Division of Environmental  
22 Quality Regional Offices located in Idaho Falls,  
23 Pocatello, Twin Falls, Lewiston, and  
24 Coeur d'Alene, and at the State Office in Boise.

25 Any further comments on this project

1 after this hearing must be submitted by May 28,  
2 1999, 5 p.m. Mountain Daylight Time to Chris  
3 Davenport, Division of Environmental Quality,  
4 1410 North Hilton, Boise, Idaho, 83706-1255.  
5 Thank you.

6 THE HEARING OFFICER: To begin, I will  
7 call upon persons in order who indicated on the  
8 roster a wish to be heard. Since these  
9 proceedings will be recorded, I ask that those  
10 who wish to make oral presentations to come  
11 forward to the microphone, state their name,  
12 spelling their last name, and then proceed with  
13 their comments.

14 And if, for some reason, you put down  
15 "no" initially when you signed in, that you  
16 didn't want to make a comment, you will have an  
17 opportunity at the end. After I have gone  
18 through the sign-in sheet, I will ask if anybody  
19 else has a comment. So, you will have an  
20 opportunity to come forward if you change your  
21 mind.

22 I'm also going to ask that you folks in  
23 the back do me a favor. If, for some reason, the  
24 microphone isn't picking up a person's voice and  
25 you can't hear, will you just let me know,

1 because we'll make sure we adjust the  
2 microphone.

3 All right. First on the list of people  
4 who have signed in and indicated a wish to make  
5 public comment is Richard A. Kenney.

6 MR. KENNEY: I'm Dick Kenney of  
7 Idaho Falls, and I represent Coalition 21. And  
8 Coalition 21 strongly supports the issuing of the  
9 air quality permit for this advanced waste --  
10 Advanced Mixed Waste Treatment Facility.

11 In support of that -- of the -- in  
12 support of that license, I have the following  
13 comments. I'm terribly concerned with the  
14 relentless regulatory campaign for radiation and  
15 hazardous materials emission levels below our  
16 natural background levels.

17 This is costing us billions of dollars,  
18 and it's not increasing our quality of life, but,  
19 rather, producing many unjustified fears which  
20 are creating health problems.

21 If we were to powder a Brazil nut or a  
22 banana and push it up the stack of this facility,  
23 it would not pass. That's how stringent they  
24 are. And that's from both a nuclear standpoint  
25 and from a hazardous materials standpoint.

1 I suspect, also, that the smoke from a  
2 cigarette would not pass the emissions standards  
3 as they are now in -- issued for this facility.  
4 So, it gives you an idea of how stringent they  
5 are and how little reason there is to have  
6 concerns.

7 The advanced mixed -- Advanced Mixed  
8 Waste Treatment Facility is to be built on much  
9 more stringent specifications than the Waste  
10 Reduction Experimental Facility that's now  
11 operating at the site and has had over 100 burns  
12 with no -- no deleterious effects.

13 And if we're not concerned about that  
14 incinerator, why should we be concerned about the  
15 advanced -- Advanced Mixed Waste Treatment  
16 Facility?

17 The shame is that, because of the  
18 unfounded protests of incinerators around the  
19 country, only a small fraction of the material  
20 that should go through the incinerator will go  
21 through the incinerator. And, therefore, there  
22 will be much more waste to be disposed than --  
23 than could be.

24 The other shame is that those that  
25 protest and fight against every solution that

1 comes up for treating and actually getting rid of  
2 nuclear waste is just preventing the solution of  
3 a problem, costing us billions of dollars, and  
4 also is robbing the country, and the world, in  
5 many cases, of a clean energy source. Thank  
6 you.

7 THE HEARING OFFICER: The next person  
8 who indicated they would like to make public  
9 comment is John C. Commander.

10 MR. COMMANDER: Thank you. My name is  
11 John C. Commander, C-O-M-M-A-N-D-E-R. And I  
12 represent the Idaho Section of American Nuclear  
13 Society and Coalition 21.

14 This air pollution permit is just one of  
15 a long series of steps to bring the Advanced  
16 Mixed Waste Treatment Facility on-line. We feel,  
17 that the organization, the project that has  
18 brought this project this far along, has been  
19 very responsible and has met its technical  
20 challenges.

21 We've looked at the -- we've looked at  
22 the preliminary design of the air pollution  
23 control systems and find it to be a  
24 state-of-the-art system. It will certainly meet  
25 all of the State's standards and federal

1 regulations regarding pollution emissions.

2 And it will probably do better than  
3 that. It will probably be about at least ten  
4 times better than what is the minimum  
5 requirements.

6 So, we definitely recommend that this  
7 permit be issued and that this construction move  
8 ahead with this very necessary facility.

9 THE HEARING OFFICER: Okay. The next  
10 person who indicated that they might like to make  
11 public comment is Olivia A. Murray.

12 MS. MURRAY: No comments at this time.  
13 Thank you.

14 THE HEARING OFFICER: All right. So,  
15 Ms. Murray, at this time you do not wish to make  
16 a public comment; correct?

17 MS. MURRAY: That's correct.

18 THE HEARING OFFICER: Okay. The next  
19 person who indicated they might like to make a  
20 comment is Mary Schmidt.

21 MS. SCHMIDT: I have no comment at this  
22 time either. Possibly later, though.

23 THE HEARING OFFICER: And just to be  
24 sure that it's on the record, then, Ms. Schmidt,  
25 at this time you do not wish to make public

1 comment; correct?

2 MS. SCHMIDT: Correct.

3 THE HEARING OFFICER: The next person  
4 who indicated they might like to make public  
5 comment is R.D. Maynard.

6 MR. MAYNARD: I'll make my comment.

7 THE HEARING OFFICER: All right.

8 Mr. Maynard.

9 MR. MAYNARD: I'm R.D. Maynard. I live  
10 in Arco, Idaho, which is about 15 miles from the  
11 facility that's being --

12 UNIDENTIFIED AUDIENCE MEMBER: Would you  
13 speak up, please?

14 THE HEARING OFFICER: Would you spell  
15 your name, too, so we have it correct for the  
16 record, please.

17 MR. MAYNARD: Okay. The initials R.D.,  
18 M-A-Y-N-A-R-D. Like I said, I live about 15  
19 miles from this proposed facility.

20 I am a business representative for the  
21 operating engineers and president of the Idaho  
22 State Building Trades Counsel, which represents  
23 about 3,000 construction workers in Eastern  
24 Idaho. I'm also a school board member for the  
25 district of Butte County.

1 I've dealt with BNFL since they were  
2 awarded this contract. I've been involved in  
3 about every step of this process. I'm confident,  
4 as close as I live, that BNFL will do this work  
5 in an environmentally safe manner.

6 This is part of the Governor's  
7 Settlement Agreement between the State of Idaho  
8 and DOE, and it was voted on by the people of the  
9 state of Idaho by a large margin to accept this  
10 agreement. We want the waste out. And this  
11 process will help us accomplish that.

12 As I said before, I live in Arco. I've  
13 raised a family there. My wife and I's parents  
14 live there. Our brothers and sisters live  
15 there. And we're concerned. But we want the  
16 waste out, and we feel this process will  
17 accomplish that.

18 I'm asking the State of Idaho to hurry  
19 with this permit so we can start this process and  
20 do everything in their power to make sure that  
21 this facility gets built so we can accomplish and  
22 finally get the waste that's been promised --  
23 it's removal from the State of Idaho by DOE for  
24 25, 30 years. That's all.

25 THE HEARING OFFICER: Just in case some

1 of you folks came in after I already started the  
2 proceeding, there is a sign-up sheet at the back  
3 of the room. I ask that everyone sign in. And  
4 you can indicate on that sheet whether or not you  
5 would like to make public comment.

6 The next person who has indicated they  
7 would like to make comment this evening is Jack  
8 Barraclough.

9 MR. BARRACLOUGH: Jack Barraclough. I'm  
10 the state representative from this area,  
11 District 29 --

12 THE HEARING OFFICER: Excuse me. If you  
13 would spell your name, too, please.

14 MR. BARRACLOUGH: I'm not sure. Capital  
15 B-A-R-R-A-C-L-O-U-G-H. Just like it sounds. --  
16 a state representative from District 29 serving  
17 my 4th term.

18 I'm chairman of the Environmental  
19 Affairs Committee in the House of  
20 Representatives. I'm cochairman of the  
21 Environmental Common Sense Initiative, and I'm on  
22 a number of national panels on low-level and  
23 high-level waste.

24 In 1948 and 1949, while I was still  
25 working for the Geological Survey in Boise, a

1 group of officials looked at all the government  
2 facilities, 112 sites, throughout the country to  
3 see where a place would be suitable for peaceful  
4 uses of atomic energy. They settled on two  
5 sites; Fort Peck, Montana, and the INEL site.

6 And so a competition among government  
7 facilities, large government land masses,  
8 selected this site. And some of the reasons they  
9 selected this site is because of the water  
10 availability, the air quality, the remoteness,  
11 low seismic energy, and things of that nature  
12 that they looked at.

13 And that really pertains to tonight's  
14 meeting, is that this is a fine location to do  
15 studies of this nature and to do operations and  
16 to solve waste problems.

17 In 1969, I looked at the RWMC and felt  
18 it was not a suitable place to bury transuranic  
19 waste in sediments that have been deposited by  
20 the Big Lost River within probably a few hundred  
21 years and because it was above the aquifer.

22 In 1970 I was the lone voice then that  
23 said not to bury transuranics, this is not the  
24 place for disposal. In 1970, they stopped  
25 burying transuranic waste for disposal.

1           And so this material is something that I  
2 followed really, essentially, most of my adult  
3 life. In 1976, I published the first report in  
4 the country about the environmental effects of  
5 the Radioactive Waste Management Complex. And so  
6 I've followed this.

7           And, of course, a month ago, it was a  
8 great reward for me personally to see those  
9 shipments leave Idaho and go to the Waste  
10 Isolation Pilot Plant. Because in 1969, I said,  
11 there's better places than the Arco desert to put  
12 transuranic waste for final disposal.

13           Along this time, in 1949, our offices  
14 were right across from the U.S. Weather Bureau,  
15 which is now -- then become the National Weather  
16 Service. And, for all these years, this group of  
17 scientists did a bunch of extensive research on  
18 tattoos and radar tracking. And I would submit  
19 that INEL is probably one of the best studied  
20 remote areas anywhere I can think of in the  
21 country.

22           The Air Resources Office of the Weather  
23 service was so -- their studies and models were  
24 so good that they've gone all over the country,  
25 down to Oak Ridge, they've gone to Los Angeles,

1 they've even -- and done extensive studies using  
2 their models, their predictive models about the  
3 air shed and the airflow.

4           And so we really know a lot about the  
5 air quality in both directions and quantities and  
6 times and so forth. And their predictive models  
7 are very impressive as they launch these tattoos  
8 with radios on them and tracked them all over the  
9 Valley.

10           And sometimes they'll go up the Big Lost  
11 River Valley and come down the Little Lost and so  
12 forth. And so we really do know a lot about the  
13 air quality, which is very important for this  
14 facility.

15           I think you should always look at waste  
16 disposal as a solution to a problem as a  
17 package. For example, the State helped to shut  
18 down the new waste calciner at the chem. plant --  
19 or Entech, I guess, as they call it now -- and to  
20 stop processing liquid waste in stainless steel  
21 tanks because of air quality and other problems.

22           And maybe -- maybe that was right. But  
23 at least, now, we're back to -- to using the new  
24 waste calciner, which is the second growth of the  
25 old waste calciner that went on-line in 1963 at

1 the chem. plant. And this is one of the better  
2 facilities in the country.

3 And air quality shouldn't be a stop for  
4 waste solutions. We're very fortunate in Idaho.  
5 It's the only state to have a Governor's  
6 Agreement. Oh, recently, the state allowed the  
7 new waste calciner to operate, and it's operating  
8 at this time.

9 And I'd rather see that liquid waste  
10 processed into calcine for an interim step and  
11 later into -- into a more durable form, than have  
12 the waste in the -- liquid waste in the tanks and  
13 not being processed.

14 So, I think when you look at -- you  
15 shouldn't focus on one detail about any -- any  
16 waste problem, but you should look at the whole  
17 package. And it kind of becomes, do the benefits  
18 outweigh the risk. Is it better to do this or  
19 better to not do this?

20 And I think we -- Idaho has -- INEL has  
21 experience with the WERF facility. We're  
22 processing a lot of combustible materials. And I  
23 support anything that puts waste into better form  
24 that's less leachable or less mobile to affect  
25 our air quality or our water quality.

1           And I think a lot of this air permit is  
2 kind of based on, can BNFL -- BNFL, whatever --  
3 can it do a suitable quality job of protecting  
4 the air resources and getting rid of this  
5 transuranic waste in a much more stable form so  
6 it can go to the Waste Isolation Pilot Plant?

7           So, based on my experience of dealing  
8 with radioactive materials all my adult life, I  
9 strongly support this facility and support this  
10 air permit. And I think it's the right thing to  
11 do, and I think it's the right thing for Idaho.

12           In my studies in the legislature, I have  
13 a chance to look at all the air quality  
14 problems. Not only in Idaho. I just back from  
15 working with the California people, and I just  
16 got back from Jacksonville, Florida, working on  
17 the national low-level waste. And I've been to  
18 all different commercial and DOE facilities  
19 burying waste.

20           So, I have a -- really a broad view of  
21 the problems throughout the country. We've done  
22 all the heavy lifting. We know what the problems  
23 are. We know how to do it. Now it's time to get  
24 on with the process. Thank you very much.

25           THE HEARING OFFICER: The next person

1 who indicated they might like to make comment is  
2 Roger Turner.

3 MR. TURNER: No comment right now.

4 THE HEARING OFFICER: So, Mr. Turner,  
5 just for the record, at this time you don't wish  
6 to make comment; is that correct?

7 MR. TURNER: Yes.

8 THE HEARING OFFICER: The next person  
9 who has indicated they would like to make comment  
10 is Sandy Shuptrine.

11 MS. SHUPTRINE: I would like to reserve  
12 the option to speak later, if possible.

13 THE HEARING OFFICER: Okay. At this  
14 time, then, Ms. Shuptrine, you do not wish to  
15 make a comment; is that correct?

16 MS. SHUPTRINE: That's correct.

17 THE HEARING OFFICER: Are there any  
18 other people? I'm going to ask the gentleman  
19 here at the back.

20 Anybody else signed in at this point?

21 UNIDENTIFIED SPEAKER: No.

22 THE HEARING OFFICER: Well, that is  
23 everyone who has indicated they would like to  
24 make comment. I will open it up. If somebody,  
25 for some reason, would like to make comment but

1 didn't indicate that on the sign-in sheet, you're  
2 welcome to come forward at this time. We'll  
3 introduce you and you can make your public  
4 comment.

5           Anyone else that would like to make a  
6 comment at this time?

7           Okay. Among those of you who did make  
8 public comment, is there anyone who would like to  
9 make a second comment for the record?

10           Very well. All right. At this time,  
11 I'm going to close the hearing, unless someone  
12 else has a comment they would like to make.

13           MS. SHUPTRINE: I would like to make a  
14 comment, if I could.

15           THE HEARING OFFICER: Okay.  
16 Ms. Shuptrine, if you would like to make a  
17 comment now, why don't you please come forward.

18           Say your name and spell it, please.

19           MS. SHUPTRINE: I will. My name is  
20 Sandy Shuptrine. Last name spelled  
21 S-H-U-P-T-R-I-N-E.

22           I'm a county commissioner from Teton  
23 County, Wyoming. And I am here, along with our  
24 county engineer and our public health nurse, to  
25 basically listen to the presentation. And not

1 specifically for the purpose of making comment,  
2 but, rather, to gather a little bit more  
3 information. I am reluctant to admit that we  
4 have just woken up over there and don't have much  
5 information about this project.

6 We do have a couple of questions and  
7 concerns that we'd just like to put in the  
8 record, if we could, based on what we've heard so  
9 far this evening.

10 One is that we do live in a county that  
11 has Class 1 areas due to the national park, and  
12 we are wondering if base monitoring has been done  
13 in those areas. We're also down wind, basically,  
14 from this facility.

15 In our own county, we are doing some  
16 base monitoring and are wondering what kind of  
17 base monitoring has been done in regards to the  
18 Class 1 areas that I think are important to all  
19 of us in this region.

20 And I -- at this point in time, that is  
21 the primary question and concern that we might  
22 have. Thank you.

23 THE HEARING OFFICER: Does anyone else  
24 have a public comment they would like to make?

25 This hearing, having been called,

1 commenced at 7:05 p.m. o'clock, and it is now  
2 7:42 p.m., and is now closed. The record,  
3 together with the exhibits, will be transmitted  
4 to the Division of Environmental Quality.

5           Anyone wishing to submit further  
6 comments should address them in writing to  
7 Chris -- that's C-H-R-I-S -- J. Davenport,  
8 D-A-V-E-N-P-O-R-T, Division of Environmental  
9 Quality, 1410 North Hilton, H-I-L-T-O-N, Boise,  
10 Idaho, 83706-1253. All final written comments  
11 must be received at the above address by 5 p.m.  
12 Mountain Daylight Time on May 28, 1999.

13           The oral comments presented at this  
14 hearing and the written comments received by the  
15 deadline for submittal of comments will be  
16 reviewed and considered by the Division of  
17 Environmental Quality. A statement of final  
18 action will be made available to the public.

19           Thank you all for coming.  
20           (The hearing was completed at 7:45 p.m.)

21           \*\*\*\*\*

22  
23  
24  
25

1     knocks off other plutonium particles. So the last  
2     filter sitting there is knocking off little bits  
3     every now and then, another one flecks off and  
4     comes on out into Idaho Falls.

5             You know, the way accidents go, you  
6     don't know which way the weather's going to go, but  
7     when they had a big accident in '61, the weather in  
8     an inversion layer for a solid week came down to  
9     Rupert and Burley. Like a good neighbor, INEL is  
10    there.

11            So at any rate, I want DEQ to track down  
12    that paper, since I am trying to do it, as well.  
13    Really, what I want them to do is the questions I  
14    asked them at the scoping hearings, is before you  
15    build in the incinerator, you really should in a  
16    scientific manner do an upstream count and  
17    downstream count with the real plutonium particles,  
18    see how well they work, see how well they work  
19    against the small ones.

20            Don't give us theoretical test particles  
21    and tell us how well they work. And then have me  
22    dig up these other ones that say, oh, yeah, little  
23    particles fleck through the plutonium in the  
24    filter.

25            They can do these tests. They have done

1 upstream and downstream counts. I had Don talk to  
2 a doctor at the University of Minnesota last month,  
3 running up my phone bill once again, and he agreed  
4 there's no better way to test that plutonium in  
5 actual real data to see what's going to be coming  
6 out of that than to test it upstream and  
7 downstream, particle count. And if it works as  
8 well as they say, great. Then we still get to look  
9 at the accidents.

10 But bottom line is they don't want to  
11 know this stuff. And I do. And we will see what  
12 happens. But anyhow, let's see, I think that's  
13 about it. Nice talking to you.

14 MR. CRABTREE: Dr. Rickards submits one  
15 document, which will be marked as Exhibit D.

16 The next person on the list is Duane  
17 Reynolds.

18 MR. REYNOLDS: Duane Reynolds from Twin  
19 Falls, Idaho. A primary concern that I have is  
20 that the entire process seems to be politically  
21 driven and not driven by scientific concern. We  
22 seem to be once again attempting to harness science  
23 to the political donkey, and I'm not sure that  
24 that's the way science was intended to be handled.

25 Proper planning and foresight have

1 proven many times to be more cost effective than  
2 trying to clean up a mess afterwards. This has  
3 been shown not only in natural disasters, we are  
4 seeing with this particular process having to clean  
5 up a mess that should have been cleaned up a long  
6 time ago, should have been accounted for a long  
7 time ago, and if it had been, we wouldn't be into  
8 the billions of dollars that we are now.

9 To me, prudence and caution should be  
10 the bywords in this process. I read in the  
11 literature that I picked up this evening an  
12 aggressive schedule is necessary to meet the  
13 deadlines established by the settlement agreement.  
14 To me, that implies that this is completely  
15 politically driven and not driven by the concerns  
16 of science.

17 To me, there are two concerns. As  
18 Dr. Rickards mentioned, there's a day-to-day  
19 monitoring, and the anomalies, the accidents. To  
20 me, this process seems to be designed to address  
21 only the day-to-day and not to address the  
22 anomalies.

23 In fact, as I understand it, the  
24 monitoring and reporting process is designed to  
25 avoid monitoring and reporting of significant

1 anomalies. Any monitoring should be extensive,  
2 real time with immediate reporting. The public and  
3 Idaho deserves to know and deserves to know  
4 immediately, not several years later.

5 Averages in monitoring reporting are no  
6 good. We have to have, in order to interpret any  
7 information that's given to us as an average, we  
8 have to know standard deviations. If you spend 24  
9 hours at zero degrees centigrade and zero -- and 24  
10 hours at 100 degrees centigrade, that's not the  
11 same thing as spending 48 hours in 50 degrees  
12 centigrade.

13 A question that I asked of the INEL is  
14 why should we trust that the waste disposal process  
15 will be handled responsibly when the history of  
16 INEL is rife with numerous examples of negligence  
17 and error, errors that I would add that have not  
18 been reported for years afterwards.

19 I believe that Idaho should no longer be  
20 a lab, a national nuclear experimental station. I  
21 think it's worth pointing out the technology works  
22 well most of the time, and that's what we are  
23 talking about here, is the day-to-day operations.

24 But all you need is one mistake in a  
25 high stakes game to make everything go bad. I

1 believe it's time for Idaho to stand up and refuse  
2 to be the dumping ground for the rest of the  
3 nation. I believe that Idaho is not for sale.

4 Our air is not for sale, our water is  
5 not for sale, our public health is not for sale,  
6 nor should it be. I believe we must respect the  
7 land with which we are entrusted.

8 Those of us that are aware of the think  
9 globally, act globally phrase know that Idaho has  
10 to be taken care of by Idahoans. Californians,  
11 New Yorkers, the French, the Chinese, they are not  
12 concerned about us. We have to speak up for  
13 ourselves.

14 I believe that a premature solution, as  
15 we are apparently headed toward, contains its own  
16 dangers. Often, if we arrive at a premature  
17 conclusion that is flawed, that precludes a more  
18 satisfactory solution to the problem.

19 Finally, I'd like to say that the lands  
20 around the INEL are some of the most isolated that  
21 you will find in the lower 48. They contain  
22 qualities that we should protect. They contain  
23 solitude, the value that is increasingly difficult  
24 to find in our society, one that people are  
25 increasingly driven to find outside of their cities

1 and towns.

2 If we destroy these empty places, we  
3 will have nothing left to go to when the craziness  
4 of our cities drives us some place. We won't have  
5 anywhere to go.

6 Finally, I'd like to quote something I  
7 read. I wish I could provide the right attribute  
8 to it. It was given in a hearing by a farmer in  
9 Colorado. And they were discussing more or less  
10 the same issue there.

11 And after a nice presentation by the  
12 federal entity that was responsible for the  
13 hearing, he said "you know, being patriotic doesn't  
14 mean being stupid." Thank you.

15 MR. CRABTREE: Thank you. Bill and Karen  
16 Arkoosh?

17 MR. ARKOOSH: My name is Bill Arkoosh,  
18 A-r-k-o-o-s-h, Gooding. First, I'd like to ask the  
19 DEQ to deny the permit for some of the following  
20 reasons: There's financial benefits, who derives  
21 those? Probably the company that builds the  
22 plant. Maybe a few extra jobs in Idaho. But it  
23 could end up like paying \$10,000 for a cow.

24 How are you ever going to get your money  
25 back? If the environment is injured and so on. I

1 think the main thing is believability. There has  
2 been much propaganda that government agencies have  
3 put out that is not true. I think we can start  
4 with Clinton and work on down to the state level.

5 I think one example is Nevada tests in  
6 the fifties. They exposed many people with  
7 radioactivity and much cancer. And also during  
8 those tests, they made sure -- tried to make sure  
9 that the prevailing winds at the time, the weather  
10 forecasts, that they went over unpopulated areas or  
11 relatively unpopulated.

12 But there was many people. Not the main  
13 population centers that were exposed to these  
14 areas -- in these areas, and cancer rates. In  
15 actuality, it was a utilitarian philosophy. It's  
16 okay for some people to die, or be injured in the  
17 quest for progress.

18 There's also the well injection problem  
19 at INEL. They did that and finally decided that  
20 wasn't the right thing to do. So there's been many  
21 very serious mistakes. Exposure pathways, they  
22 mentioned that. I guess that presumes that you  
23 want the prevailing winds to go where -- again,  
24 near unpopulated areas where people do not  
25 inhabit. I guess it's okay if John Peavey has a

1 shepherd out there and the winds go over and  
2 kill him, but that's one problem, perhaps.

3 In the quarterly report -- or quarterly  
4 report, it's assinine even to consider. I don't  
5 see how the DEQ could even put in their thing,  
6 because it's just after the feathers have gone to  
7 the four winds.

8 Radioactivity is kind of like death.  
9 You don't come back from it in our lifetime. And  
10 in many, many, many generations in the future. I  
11 think, if it's safe enough to build for prevailing  
12 winds over Boise, let's build it. If not, I think  
13 we shouldn't.

14 Also, so far tonight, there hasn't been  
15 anybody speak in favor of this proposal, so I think  
16 at least DEQ could find some instrument to defer to  
17 the people of Idaho and we can abide by their  
18 choice and decision. Thank you.

19 MR. CRABTREE: Thank you. Marc McGregor  
20 would be next on the list, as indicating a desire  
21 to present a statement.

22 MR. MCGREGOR: Thank you, Mr. Hearing  
23 Examiner. Ladies and gentlemen, my name is Marc,  
24 M-a-r-c, McGregor, M-c, G-r-e-g-o-r. I'd like to  
25 make some general comments about three aspects of

1 mixed waste incineration. About efficiency, about  
2 flaws in the permitting process itself, and about  
3 exposure.

4 It's generally accepted worldwide that  
5 incineration is a poor way to treat waste. Any  
6 kind of waste. Municipal waste incinerators, for  
7 example, mixed waste incinerators, largely have  
8 already been phased out in Europe because they are  
9 dangerous to public health.

10 Now, these are incinerators that treat  
11 nothing more than household waste, household  
12 products. When you permit a mixed waste  
13 incinerator in the United States, you generally  
14 calculate the emissions at the best theoretical  
15 efficiency of that incinerator. And that  
16 efficiency is rarely attained, and it is never  
17 sustained.

18 One example is a permit in Idaho,  
19 IMSAMET, an aluminum recycling plant at Hauser.  
20 For the first seven years of its operation, it's my  
21 understanding it could be only six, but for the  
22 first seven years, given a one to six-month  
23 notification that there would be on-site stack  
24 tests, and the ability to know exactly when you are  
25 going to be tested, that plant failed to meet the

1 permitting requirements every single time. Even  
2 though they knew the test was coming. The same is  
3 true for the municipal waste incinerator in  
4 Spokane, Washington.

5 When you look at this percentage of  
6 inefficiency, even the theoretical, high efficiency  
7 percentage, and you multiply the amount that gets  
8 through by the total pounds or tonnage that gets  
9 burned, there's still a very large amount of waste  
10 that gets put out in the air. When that's toxic  
11 waste, that's even worse. When it's radioactive  
12 toxic waste, it's worse yet.

13 There is another aspect to this, and  
14 Dr. Rickards mentioned it, the synergistic effect.  
15 When you burn household waste, you create dioxins.  
16 An example is the municipal waste incinerator at  
17 Rotterdam in the Netherlands, which I understand  
18 has been since shut down.

19 But in just burning household waste,  
20 they decided that maybe they ought to take a look  
21 at the milk fat and milk in the cow -- coming from  
22 the cows at the dairy that's just across the bay,  
23 within sight of the incinerator. When they tested  
24 that milk, they found that the milk fat contained  
25 so much dioxin, it was a hazardous waste, itself.

1           When you look at hazardous waste by  
2           itself -- and this is mixed waste, it's not only  
3           hazardous, toxic chemicals, but it's radioactive,  
4           as well -- but looking at hazardous waste, you have  
5           to look at a couple of other items.

6           As Mr. Arkoosh brought up, credibility  
7           is an issue on both sides of the table. So let me  
8           just add, throw out some information that might  
9           give you an idea of my credibility. Among the  
10          fields of law in which I practice, air quality is  
11          one. And in 1994, I sat on the negotiations to  
12          help negotiate the air toxics regulations for the  
13          state of Idaho.

14          Now, in my written and oral comments at  
15          that time, I made the point that the Idaho  
16          Association of Commerce and Industry was given  
17          everything it asked for in those regulations, with  
18          one exception. It wanted to measure the emissions  
19          at the first location of a dwelling. But the  
20          federal regulations already said you measure at the  
21          property line. That's the only thing they didn't  
22          get.

23          I also made the comments that, among the  
24          states that do have toxic air regulations, Idaho  
25          has the lowest screening levels. We are dead last

1 among the states that do have air toxic regulations  
2 for screening toxics.

3 When you look at toxics emissions and  
4 look at one of these permits that is -- for  
5 example, the aluminum plant is 83 pages. The first  
6 10 pages are the weather plate. The rest of it are  
7 lists with probably a dozen toxics on each page  
8 with an amount of maximum emissions at a rate that  
9 that plant is able to put out. I'm sorry, IMSAMET  
10 is 53 pages, so you have 10 pages times 12 -- well,  
11 not 10 pages. Probably 40 pages times 12 toxics.

12 As Dr. Rickards mentioned, there's been  
13 no testing about synergistic effects, taking these  
14 two chemicals, combining them; after there's a  
15 chemical reaction, coming up with something that's  
16 even worse than those two chemicals combined. And  
17 there are no regulations that deal with that,  
18 either.

19 But the other problem is in the  
20 permitting process there's no regulation of what  
21 they call additive effects. You take one of these  
22 toxics and you are allowed to emit enough to kill  
23 one in a million. You don't look at the fact that  
24 you are actually emitting 70 of these, so you are  
25 killing 70 in a million. You just look at one at a

1 time. That's not just Idaho, unfortunately.  
2 That's nationwide.

3 So when you get one of these permits,  
4 each chemical, you are allowed to kill one person  
5 in a million. And then you can have 70, 80, 100,  
6 1,000 chemicals from that facility added on top.

7 Permits do not address cumulative  
8 effects. And it's interesting, too, that even for  
9 what the Clean Air Act calls criteria pollutants,  
10 things like oxides of nitrogen, oxides of sulfur,  
11 even carbon monoxide, in many cases DEQ now  
12 requires continuous emission testing from the  
13 stack. Every minute of every year, the test is  
14 supposed to occur. And that's for something as  
15 toxic as sulfuric acid. It's amazing that those  
16 requirements are not included here.

17 Also, for criteria pollutants, and this  
18 is another flaw in the permitting process, there is  
19 a scheme within the Clean Air Act called prevention  
20 of a significant deterioration. It's a type of  
21 permit.

22 When you have a certain amount of even  
23 carbon monoxide, when you have a situation like  
24 this, the federal land manager of the closest class  
25 one air, and that would be Yellowstone, is allowed

1 to comment. In fact, his -- receiving his or her  
2 comment and giving that weight in the permitting  
3 process is a requirement under the Clean Air Act.

4 And yet we hear this evening from  
5 Ms. Glaccum that those folks haven't even been  
6 notified. And, of course, it's not carbon monoxide  
7 that we are dealing with, it's toxic air pollutants  
8 that also happen to be radioactive.

9 And this mixed waste incinerator,  
10 Mr. Chisholm used the word ludicrous. Using --  
11 having a mixed waste incinerator anywhere is  
12 ludicrous. Even conceiving of a concept, even  
13 conceiving an idea is ludicrous.

14 We don't need to have a degree in  
15 Physics. If it helps, I do have a degree in  
16 Physics. But we don't need to have a degree in  
17 Physics to know what the half lives of plutonium  
18 and uranium are and strontium 90.

19 The way you deal with -- the best way we  
20 know of, which is pretty meager, to deal with  
21 radioactive waste is to minimize exposure. Whether  
22 you vitrify it, put it in glass, whether you put it  
23 in a container that's not going to burn through  
24 with the acidic aspect of the waste and pollute the  
25 groundwater, whatever you do, you minimize

1 exposure.

2 That's what Yucca Mountain is all about,  
3 trying to make sure we put it in a spot and put up  
4 the signs so that a quarter of a million years down  
5 the road, or is it half a million after so many  
6 half lives, somebody is going to understand you are  
7 not supposed to go underground. That's actually  
8 part of the thinking of Yucca Mountain. And here  
9 we are putting it into the air. It makes  
10 absolutely no sense, whatsoever.

11 Now, an application for a mixed waste  
12 incinerator at Hanford was introduced, I think it  
13 was, about six years ago. After some controversy,  
14 it was withdrawn. The reasons -- I have not heard  
15 what the reasons are, I don't think they are widely  
16 known, but apparently, they had enough sense not to  
17 reintroduce the concept at Hanford.

18 And if such a plant has not worked well  
19 at Savannah River after they have had so many years  
20 to perfect it, why will it work here? Or anywhere  
21 else. For these reasons, it makes no sense to  
22 permit a mixed waste incinerator anywhere on the  
23 planet, and certainly it would be a detriment to  
24 public health in Idaho.

25 So given the lack of efficiency, given

1 the flaws that have been stated by Dr. Rickards and  
2 Ms. Glaccum, particularly the fact that the  
3 cumulative impacts of co-contributing sources have  
4 not been considered and that the worst case  
5 scenarios have not been considered, there's no  
6 question that this permit should be denied. Thank  
7 you.

8 MR. CRABTREE: Thank you.

9 Julie Rodman has indicated an interest  
10 in presenting a statement.

11 MS. RODMAN: Hi, I'm Julie Rodman.  
12 R-o-d-m-a-n. And I live just outside of  
13 Fairfield. I just have a couple points that I have  
14 a problem with on this incinerator.

15 First, it doesn't make the waste any  
16 safer. Just by incinerating it, by crushing it and  
17 consolidating it in our state doesn't make it any  
18 safer for anyone.

19 And in addition, will bring more waste  
20 into Idaho. We have plenty of waste here as it  
21 is. It seems to me that this whole process got  
22 started because we wanted to get the waste out of  
23 Idaho. We signed the deals, we said that we wanted  
24 the waste gone.

25 Well, here we are bringing more in.

1 Bringing it in from who knows where. It's just  
2 other -- or additional DOE sites. They won't tell  
3 us what is coming.

4 And I think by building the incinerator  
5 in Idaho and making the facility and creating the  
6 structure, you have opened the door for them to  
7 bring in more and more and more and more. We have  
8 the building. We don't need to build another one.  
9 Idaho's got it. Let's ship it all out there. It  
10 opens the door to let anything come in. And as we  
11 have seen, all it takes is a change of a governor  
12 and you will get a new deal written for you.

13 Additionally, Idaho is not a safe place  
14 to put this waste. We sit atop, as we all know,  
15 the greatest aquifer in this part of the world.  
16 One third of Idaho drinks from that aquifer  
17 directly. All the people downstream on the Snake,  
18 everyone downstream on the Columbia, everything in  
19 the ocean proper thrives on water, drinks from our  
20 aquifer. One drop here ends up who knows where  
21 downstream.

22 And the other thing that I have  
23 questions about, and haven't heard much addressed  
24 on, I was driving out across going to Blackfoot the  
25 other day, stopped at the little Craters of the

1 comment; correct?

2 MS. SCHMIDT: Correct.

3 THE HEARING OFFICER: The next person  
4 who indicated they might like to make public  
5 comment is R.D. Maynard.

6 MR. MAYNARD: I'll make my comment.

7 THE HEARING OFFICER: All right.

8 Mr. Maynard.

9 MR. MAYNARD: I'm R.D. Maynard. I live  
10 in Arco, Idaho, which is about 15 miles from the  
11 facility that's being --

12 UNIDENTIFIED AUDIENCE MEMBER: Would you  
13 speak up, please?

14 THE HEARING OFFICER: Would you spell  
15 your name, too, so we have it correct for the  
16 record, please.

17 MR. MAYNARD: Okay. The initials R.D.,  
18 M-A-Y-N-A-R-D. Like I said, I live about 15  
19 miles from this proposed facility.

20 I am a business representative for the  
21 operating engineers and president of the Idaho  
22 State Building Trades Counsel, which represents  
23 about 3,000 construction workers in Eastern  
24 Idaho. I'm also a school board member for the  
25 district of Butte County.

1 I've dealt with BNFL since they were  
2 awarded this contract. I've been involved in  
3 about every step of this process. I'm confident,  
4 as close as I live, that BNFL will do this work  
5 in an environmentally safe manner.

6 This is part of the Governor's  
7 Settlement Agreement between the State of Idaho  
8 and DOE, and it was voted on by the people of the  
9 state of Idaho by a large margin to accept this  
10 agreement. We want the waste out. And this  
11 process will help us accomplish that.

12 As I said before, I live in Arco. I've  
13 raised a family there. My wife and I's parents  
14 live there. Our brothers and sisters live  
15 there. And we're concerned. But we want the  
16 waste out, and we feel this process will  
17 accomplish that.

18 I'm asking the State of Idaho to hurry  
19 with this permit so we can start this process and  
20 do everything in their power to make sure that  
21 this facility gets built so we can accomplish and  
22 finally get the waste that's been promised --  
23 it's removal from the State of Idaho by DOE for  
24 25, 30 years. That's all.

25 THE HEARING OFFICER: Just in case some

1 of you folks came in after I already started the  
2 proceeding, there is a sign-up sheet at the back  
3 of the room. I ask that everyone sign in. And  
4 you can indicate on that sheet whether or not you  
5 would like to make public comment.

6 The next person who has indicated they  
7 would like to make comment this evening is Jack  
8 Barraclough.

9 MR. BARRACLOUGH: Jack Barraclough. I'm  
10 the state representative from this area,  
11 District 29 --

12 THE HEARING OFFICER: Excuse me. If you  
13 would spell your name, too, please.

14 MR. BARRACLOUGH: I'm not sure. Capital  
15 B-A-R-R-A-C-L-O-U-G-H. Just like it sounds. --  
16 a state representative from District 29 serving  
17 my 4th term.

18 I'm chairman of the Environmental  
19 Affairs Committee in the House of  
20 Representatives. I'm cochairman of the  
21 Environmental Common Sense Initiative, and I'm on  
22 a number of national panels on low-level and  
23 high-level waste.

24 In 1948 and 1949, while I was still  
25 working for the Geological Survey in Boise, a

1 group of officials looked at all the government  
2 facilities, 112 sites, throughout the country to  
3 see where a place would be suitable for peaceful  
4 uses of atomic energy. They settled on two  
5 sites; Fort Peck, Montana, and the INEL site.

6 And so a competition among government  
7 facilities, large government land masses,  
8 selected this site. And some of the reasons they  
9 selected this site is because of the water  
10 availability, the air quality, the remoteness,  
11 low seismic energy, and things of that nature  
12 that they looked at.

13 And that really pertains to tonight's  
14 meeting, is that this is a fine location to do  
15 studies of this nature and to do operations and  
16 to solve waste problems.

17 In 1969, I looked at the RWMC and felt  
18 it was not a suitable place to bury transuranic  
19 waste in sediments that have been deposited by  
20 the Big Lost River within probably a few hundred  
21 years and because it was above the aquifer.

22 In 1970 I was the lone voice then that  
23 said not to bury transuranics, this is not the  
24 place for disposal. In 1970, they stopped  
25 burying transuranic waste for disposal.

1           And so this material is something that I  
2 followed really, essentially, most of my adult  
3 life. In 1976, I published the first report in  
4 the country about the environmental effects of  
5 the Radioactive Waste Management Complex. And so  
6 I've followed this.

7           And, of course, a month ago, it was a  
8 great reward for me personally to see those  
9 shipments leave Idaho and go to the Waste  
10 Isolation Pilot Plant. Because in 1969, I said,  
11 there's better places than the Arco desert to put  
12 transuranic waste for final disposal.

13           Along this time, in 1949, our offices  
14 were right across from the U.S. Weather Bureau,  
15 which is now -- then become the National Weather  
16 Service. And, for all these years, this group of  
17 scientists did a bunch of extensive research on  
18 tattoos and radar tracking. And I would submit  
19 that INEL is probably one of the best studied  
20 remote areas anywhere I can think of in the  
21 country.

22           The Air Resources Office of the Weather  
23 service was so -- their studies and models were  
24 so good that they've gone all over the country,  
25 down to Oak Ridge, they've gone to Los Angeles,

1 they've even -- and done extensive studies using  
2 their models, their predictive models about the  
3 air shed and the airflow.

4           And so we really know a lot about the  
5 air quality in both directions and quantities and  
6 times and so forth. And their predictive models  
7 are very impressive as they launch these tattoos  
8 with radios on them and tracked them all over the  
9 Valley.

10           And sometimes they'll go up the Big Lost  
11 River Valley and come down the Little Lost and so  
12 forth. And so we really do know a lot about the  
13 air quality, which is very important for this  
14 facility.

15           I think you should always look at waste  
16 disposal as a solution to a problem as a  
17 package. For example, the State helped to shut  
18 down the new waste calciner at the chem. plant --  
19 or Entech, I guess, as they call it now -- and to  
20 stop processing liquid waste in stainless steel  
21 tanks because of air quality and other problems.

22           And maybe -- maybe that was right. But  
23 at least, now, we're back to -- to using the new  
24 waste calciner, which is the second growth of the  
25 old waste calciner that went on-line in 1963 at

1 the chem. plant. And this is one of the better  
2 facilities in the country.

3 And air quality shouldn't be a stop for  
4 waste solutions. We're very fortunate in Idaho.  
5 It's the only state to have a Governor's  
6 Agreement. Oh, recently, the state allowed the  
7 new waste calciner to operate, and it's operating  
8 at this time.

9 And I'd rather see that liquid waste  
10 processed into calcine for an interim step and  
11 later into -- into a more durable form, than have  
12 the waste in the -- liquid waste in the tanks and  
13 not being processed.

14 So, I think when you look at -- you  
15 shouldn't focus on one detail about any -- any  
16 waste problem, but you should look at the whole  
17 package. And it kind of becomes, do the benefits  
18 outweigh the risk. Is it better to do this or  
19 better to not do this?

20 And I think we -- Idaho has -- INEL has  
21 experience with the WERF facility. We're  
22 processing a lot of combustible materials. And I  
23 support anything that puts waste into better form  
24 that's less leachable or less mobile to affect  
25 our air quality or our water quality.

1           And I think a lot of this air permit is  
2 kind of based on, can BNFL -- BNFL, whatever --  
3 can it do a suitable quality job of protecting  
4 the air resources and getting rid of this  
5 transuranic waste in a much more stable form so  
6 it can go to the Waste Isolation Pilot Plant?

7           So, based on my experience of dealing  
8 with radioactive materials all my adult life, I  
9 strongly support this facility and support this  
10 air permit. And I think it's the right thing to  
11 do, and I think it's the right thing for Idaho.

12           In my studies in the legislature, I have  
13 a chance to look at all the air quality  
14 problems. Not only in Idaho. I just back from  
15 working with the California people, and I just  
16 got back from Jacksonville, Florida, working on  
17 the national low-level waste. And I've been to  
18 all different commercial and DOE facilities  
19 burying waste.

20           So, I have a -- really a broad view of  
21 the problems throughout the country. We've done  
22 all the heavy lifting. We know what the problems  
23 are. We know how to do it. Now it's time to get  
24 on with the process. Thank you very much.

25           THE HEARING OFFICER: The next person

1 who indicated they might like to make comment is  
2 Roger Turner.

3 MR. TURNER: No comment right now.

4 THE HEARING OFFICER: So, Mr. Turner,  
5 just for the record, at this time you don't wish  
6 to make comment; is that correct?

7 MR. TURNER: Yes.

8 THE HEARING OFFICER: The next person  
9 who has indicated they would like to make comment  
10 is Sandy Shuptrine.

11 MS. SHUPTRINE: I would like to reserve  
12 the option to speak later, if possible.

13 THE HEARING OFFICER: Okay. At this  
14 time, then, Ms. Shuptrine, you do not wish to  
15 make a comment; is that correct?

16 MS. SHUPTRINE: That's correct.

17 THE HEARING OFFICER: Are there any  
18 other people? I'm going to ask the gentleman  
19 here at the back.

20 Anybody else signed in at this point?

21 UNIDENTIFIED SPEAKER: No.

22 THE HEARING OFFICER: Well, that is  
23 everyone who has indicated they would like to  
24 make comment. I will open it up. If somebody,  
25 for some reason, would like to make comment but

1 didn't indicate that on the sign-in sheet, you're  
2 welcome to come forward at this time. We'll  
3 introduce you and you can make your public  
4 comment.

5           Anyone else that would like to make a  
6 comment at this time?

7           Okay. Among those of you who did make  
8 public comment, is there anyone who would like to  
9 make a second comment for the record?

10           Very well. All right. At this time,  
11 I'm going to close the hearing, unless someone  
12 else has a comment they would like to make.

13           MS. SHUPTRINE: I would like to make a  
14 comment, if I could.

15           THE HEARING OFFICER: Okay.  
16 Ms. Shuptrine, if you would like to make a  
17 comment now, why don't you please come forward.

18           Say your name and spell it, please.

19           MS. SHUPTRINE: I will. My name is  
20 Sandy Shuptrine. Last name spelled  
21 S-H-U-P-T-R-I-N-E.

22           I'm a county commissioner from Teton  
23 County, Wyoming. And I am here, along with our  
24 county engineer and our public health nurse, to  
25 basically listen to the presentation. And not

1 specifically for the purpose of making comment,  
2 but, rather, to gather a little bit more  
3 information. I am reluctant to admit that we  
4 have just woken up over there and don't have much  
5 information about this project.

6 We do have a couple of questions and  
7 concerns that we'd just like to put in the  
8 record, if we could, based on what we've heard so  
9 far this evening.

10 One is that we do live in a county that  
11 has Class 1 areas due to the national park, and  
12 we are wondering if base monitoring has been done  
13 in those areas. We're also down wind, basically,  
14 from this facility.

15 In our own county, we are doing some  
16 base monitoring and are wondering what kind of  
17 base monitoring has been done in regards to the  
18 Class 1 areas that I think are important to all  
19 of us in this region.

20 And I -- at this point in time, that is  
21 the primary question and concern that we might  
22 have. Thank you.

23 THE HEARING OFFICER: Does anyone else  
24 have a public comment they would like to make?

25 This hearing, having been called,

1 commenced at 7:05 p.m. o'clock, and it is now  
2 7:42 p.m., and is now closed. The record,  
3 together with the exhibits, will be transmitted  
4 to the Division of Environmental Quality.

5           Anyone wishing to submit further  
6 comments should address them in writing to  
7 Chris -- that's C-H-R-I-S -- J. Davenport,  
8 D-A-V-E-N-P-O-R-T, Division of Environmental  
9 Quality, 1410 North Hilton, H-I-L-T-O-N, Boise,  
10 Idaho, 83706-1253. All final written comments  
11 must be received at the above address by 5 p.m.  
12 Mountain Daylight Time on May 28, 1999.

13           The oral comments presented at this  
14 hearing and the written comments received by the  
15 deadline for submittal of comments will be  
16 reviewed and considered by the Division of  
17 Environmental Quality. A statement of final  
18 action will be made available to the public.

19           Thank you all for coming.  
20           (The hearing was completed at 7:45 p.m.)

21           \*\*\*\*\*

22  
23  
24  
25

1       knocks off other plutonium particles. So the last  
2       filter sitting there is knocking off little bits  
3       every now and then, another one flecks off and  
4       comes on out into Idaho Falls.

5                You know, the way accidents go, you  
6       don't know which way the weather's going to go, but  
7       when they had a big accident in '61, the weather in  
8       an inversion layer for a solid week came down to  
9       Rupert and Burley. Like a good neighbor, INEL is  
10      there.

11               So at any rate, I want DEQ to track down  
12      that paper, since I am trying to do it, as well.  
13      Really, what I want them to do is the questions I  
14      asked them at the scoping hearings, is before you  
15      build in the incinerator, you really should in a  
16      scientific manner do an upstream count and  
17      downstream count with the real plutonium particles,  
18      see how well they work, see how well they work  
19      against the small ones.

20               Don't give us theoretical test particles  
21      and tell us how well they work. And then have me  
22      dig up these other ones that say, oh, yeah, little  
23      particles fleck through the plutonium in the  
24      filter.

25               They can do these tests. They have done

1 upstream and downstream counts. I had Don talk to  
2 a doctor at the University of Minnesota last month,  
3 running up my phone bill once again, and he agreed  
4 there's no better way to test that plutonium in  
5 actual real data to see what's going to be coming  
6 out of that than to test it upstream and  
7 downstream, particle count. And if it works as  
8 well as they say, great. Then we still get to look  
9 at the accidents.

10 But bottom line is they don't want to  
11 know this stuff. And I do. And we will see what  
12 happens. But anyhow, let's see, I think that's  
13 about it. Nice talking to you.

14 MR. CRABTREE: Dr. Rickards submits one  
15 document, which will be marked as Exhibit D.

16 The next person on the list is Duane  
17 Reynolds.

18 MR. REYNOLDS: Duane Reynolds from Twin  
19 Falls, Idaho. A primary concern that I have is  
20 that the entire process seems to be politically  
21 driven and not driven by scientific concern. We  
22 seem to be once again attempting to harness science  
23 to the political donkey, and I'm not sure that  
24 that's the way science was intended to be handled.

25 Proper planning and foresight have

1 proven many times to be more cost effective than  
2 trying to clean up a mess afterwards. This has  
3 been shown not only in natural disasters, we are  
4 seeing with this particular process having to clean  
5 up a mess that should have been cleaned up a long  
6 time ago, should have been accounted for a long  
7 time ago, and if it had been, we wouldn't be into  
8 the billions of dollars that we are now.

9 To me, prudence and caution should be  
10 the bywords in this process. I read in the  
11 literature that I picked up this evening an  
12 aggressive schedule is necessary to meet the  
13 deadlines established by the settlement agreement.  
14 To me, that implies that this is completely  
15 politically driven and not driven by the concerns  
16 of science.

17 To me, there are two concerns. As  
18 Dr. Rickards mentioned, there's a day-to-day  
19 monitoring, and the anomalies, the accidents. To  
20 me, this process seems to be designed to address  
21 only the day-to-day and not to address the  
22 anomalies.

23 In fact, as I understand it, the  
24 monitoring and reporting process is designed to  
25 avoid monitoring and reporting of significant

1 anomalies. Any monitoring should be extensive,  
2 real time with immediate reporting. The public and  
3 Idaho deserves to know and deserves to know  
4 immediately, not several years later.

5 Averages in monitoring reporting are no  
6 good. We have to have, in order to interpret any  
7 information that's given to us as an average, we  
8 have to know standard deviations. If you spend 24  
9 hours at zero degrees centigrade and zero -- and 24  
10 hours at 100 degrees centigrade, that's not the  
11 same thing as spending 48 hours in 50 degrees  
12 centigrade.

13 A question that I asked of the INEL is  
14 why should we trust that the waste disposal process  
15 will be handled responsibly when the history of  
16 INEL is rife with numerous examples of negligence  
17 and error, errors that I would add that have not  
18 been reported for years afterwards.

19 I believe that Idaho should no longer be  
20 a lab, a national nuclear experimental station. I  
21 think it's worth pointing out the technology works  
22 well most of the time, and that's what we are  
23 talking about here, is the day-to-day operations.

24 But all you need is one mistake in a  
25 high stakes game to make everything go bad. I

1 believe it's time for Idaho to stand up and refuse  
2 to be the dumping ground for the rest of the  
3 nation. I believe that Idaho is not for sale.

4 Our air is not for sale, our water is  
5 not for sale, our public health is not for sale,  
6 nor should it be. I believe we must respect the  
7 land with which we are entrusted.

8 Those of us that are aware of the think  
9 globally, act globally phrase know that Idaho has  
10 to be taken care of by Idahoans. Californians,  
11 New Yorkers, the French, the Chinese, they are not  
12 concerned about us. We have to speak up for  
13 ourselves.

14 I believe that a premature solution, as  
15 we are apparently headed toward, contains its own  
16 dangers. Often, if we arrive at a premature  
17 conclusion that is flawed, that precludes a more  
18 satisfactory solution to the problem.

19 Finally, I'd like to say that the lands  
20 around the INEL are some of the most isolated that  
21 you will find in the lower 48. They contain  
22 qualities that we should protect. They contain  
23 solitude, the value that is increasingly difficult  
24 to find in our society, one that people are  
25 increasingly driven to find outside of their cities

1 and towns.

2 If we destroy these empty places, we  
3 will have nothing left to go to when the craziness  
4 of our cities drives us some place. We won't have  
5 anywhere to go.

6 Finally, I'd like to quote something I  
7 read. I wish I could provide the right attribute  
8 to it. It was given in a hearing by a farmer in  
9 Colorado. And they were discussing more or less  
10 the same issue there.

11 And after a nice presentation by the  
12 federal entity that was responsible for the  
13 hearing, he said "you know, being patriotic doesn't  
14 mean being stupid." Thank you.

15 MR. CRABTREE: Thank you. Bill and Karen  
16 Arkoosh?

17 MR. ARKOOSH: My name is Bill Arkoosh,  
18 A-r-k-o-o-s-h, Gooding. First, I'd like to ask the  
19 DEQ to deny the permit for some of the following  
20 reasons: There's financial benefits, who derives  
21 those? Probably the company that builds the  
22 plant. Maybe a few extra jobs in Idaho. But it  
23 could end up like paying \$10,000 for a cow.

24 How are you ever going to get your money  
25 back? If the environment is injured and so on. I

1 think the main thing is believability. There has  
2 been much propaganda that government agencies have  
3 put out that is not true. I think we can start  
4 with Clinton and work on down to the state level.

5 I think one example is Nevada tests in  
6 the fifties. They exposed many people with  
7 radioactivity and much cancer. And also during  
8 those tests, they made sure -- tried to make sure  
9 that the prevailing winds at the time, the weather  
10 forecasts, that they went over unpopulated areas or  
11 relatively unpopulated.

12 But there was many people. Not the main  
13 population centers that were exposed to these  
14 areas -- in these areas, and cancer rates. In  
15 actuality, it was a utilitarian philosophy. It's  
16 okay for some people to die, or be injured in the  
17 quest for progress.

18 There's also the well injection problem  
19 at INEL. They did that and finally decided that  
20 wasn't the right thing to do. So there's been many  
21 very serious mistakes. Exposure pathways, they  
22 mentioned that. I guess that presumes that you  
23 want the prevailing winds to go where -- again,  
24 near unpopulated areas where people do not  
25 inhabit. I guess it's okay if John Peavey has a

1 shepherd out there and the winds go over and  
2 kill him, but that's one problem, perhaps.

3 In the quarterly report -- or quarterly  
4 report, it's assinine even to consider. I don't  
5 see how the DEQ could even put in their thing,  
6 because it's just after the feathers have gone to  
7 the four winds.

8 Radioactivity is kind of like death.  
9 You don't come back from it in our lifetime. And  
10 in many, many, many generations in the future. I  
11 think, if it's safe enough to build for prevailing  
12 winds over Boise, let's build it. If not, I think  
13 we shouldn't.

14 Also, so far tonight, there hasn't been  
15 anybody speak in favor of this proposal, so I think  
16 at least DEQ could find some instrument to defer to  
17 the people of Idaho and we can abide by their  
18 choice and decision. Thank you.

19 MR. CRABTREE: Thank you. Marc McGregor  
20 would be next on the list, as indicating a desire  
21 to present a statement.

22 MR. MCGREGOR: Thank you, Mr. Hearing  
23 Examiner. Ladies and gentlemen, my name is Marc,  
24 M-a-r-c, McGregor, M-c, G-r-e-g-o-r. I'd like to  
25 make some general comments about three aspects of

1 mixed waste incineration. About efficiency, about  
2 flaws in the permitting process itself, and about  
3 exposure.

4 It's generally accepted worldwide that  
5 incineration is a poor way to treat waste. Any  
6 kind of waste. Municipal waste incinerators, for  
7 example, mixed waste incinerators, largely have  
8 already been phased out in Europe because they are  
9 dangerous to public health.

10 Now, these are incinerators that treat  
11 nothing more than household waste, household  
12 products. When you permit a mixed waste  
13 incinerator in the United States, you generally  
14 calculate the emissions at the best theoretical  
15 efficiency of that incinerator. And that  
16 efficiency is rarely attained, and it is never  
17 sustained.

18 One example is a permit in Idaho,  
19 IMSAMET, an aluminum recycling plant at Hauser.  
20 For the first seven years of its operation, it's my  
21 understanding it could be only six, but for the  
22 first seven years, given a one to six-month  
23 notification that there would be on-site stack  
24 tests, and the ability to know exactly when you are  
25 going to be tested, that plant failed to meet the

1 permitting requirements every single time. Even  
2 though they knew the test was coming. The same is  
3 true for the municipal waste incinerator in  
4 Spokane, Washington.

5 When you look at this percentage of  
6 inefficiency, even the theoretical, high efficiency  
7 percentage, and you multiply the amount that gets  
8 through by the total pounds or tonnage that gets  
9 burned, there's still a very large amount of waste  
10 that gets put out in the air. When that's toxic  
11 waste, that's even worse. When it's radioactive  
12 toxic waste, it's worse yet.

13 There is another aspect to this, and  
14 Dr. Rickards mentioned it, the synergistic effect.  
15 When you burn household waste, you create dioxins.  
16 An example is the municipal waste incinerator at  
17 Rotterdam in the Netherlands, which I understand  
18 has been since shut down.

19 But in just burning household waste,  
20 they decided that maybe they ought to take a look  
21 at the milk fat and milk in the cow -- coming from  
22 the cows at the dairy that's just across the bay,  
23 within sight of the incinerator. When they tested  
24 that milk, they found that the milk fat contained  
25 so much dioxin, it was a hazardous waste, itself.

1           When you look at hazardous waste by  
2           itself -- and this is mixed waste, it's not only  
3           hazardous, toxic chemicals, but it's radioactive,  
4           as well -- but looking at hazardous waste, you have  
5           to look at a couple of other items.

6           As Mr. Arkoosh brought up, credibility  
7           is an issue on both sides of the table. So let me  
8           just add, throw out some information that might  
9           give you an idea of my credibility. Among the  
10          fields of law in which I practice, air quality is  
11          one. And in 1994, I sat on the negotiations to  
12          help negotiate the air toxics regulations for the  
13          state of Idaho.

14          Now, in my written and oral comments at  
15          that time, I made the point that the Idaho  
16          Association of Commerce and Industry was given  
17          everything it asked for in those regulations, with  
18          one exception. It wanted to measure the emissions  
19          at the first location of a dwelling. But the  
20          federal regulations already said you measure at the  
21          property line. That's the only thing they didn't  
22          get.

23          I also made the comments that, among the  
24          states that do have toxic air regulations, Idaho  
25          has the lowest screening levels. We are dead last

1 among the states that do have air toxic regulations  
2 for screening toxics.

3 When you look at toxics emissions and  
4 look at one of these permits that is -- for  
5 example, the aluminum plant is 83 pages. The first  
6 10 pages are the weather plate. The rest of it are  
7 lists with probably a dozen toxics on each page  
8 with an amount of maximum emissions at a rate that  
9 that plant is able to put out. I'm sorry, IMSAMET  
10 is 53 pages, so you have 10 pages times 12 -- well,  
11 not 10 pages. Probably 40 pages times 12 toxics.

12 As Dr. Rickards mentioned, there's been  
13 no testing about synergistic effects, taking these  
14 two chemicals, combining them; after there's a  
15 chemical reaction, coming up with something that's  
16 even worse than those two chemicals combined. And  
17 there are no regulations that deal with that,  
18 either.

19 But the other problem is in the  
20 permitting process there's no regulation of what  
21 they call additive effects. You take one of these  
22 toxics and you are allowed to emit enough to kill  
23 one in a million. You don't look at the fact that  
24 you are actually emitting 70 of these, so you are  
25 killing 70 in a million. You just look at one at a

1 time. That's not just Idaho, unfortunately.  
2 That's nationwide.

3 So when you get one of these permits,  
4 each chemical, you are allowed to kill one person  
5 in a million. And then you can have 70, 80, 100,  
6 1,000 chemicals from that facility added on top.

7 Permits do not address cumulative  
8 effects. And it's interesting, too, that even for  
9 what the Clean Air Act calls criteria pollutants,  
10 things like oxides of nitrogen, oxides of sulfur,  
11 even carbon monoxide, in many cases DEQ now  
12 requires continuous emission testing from the  
13 stack. Every minute of every year, the test is  
14 supposed to occur. And that's for something as  
15 toxic as sulfuric acid. It's amazing that those  
16 requirements are not included here.

17 Also, for criteria pollutants, and this  
18 is another flaw in the permitting process, there is  
19 a scheme within the Clean Air Act called prevention  
20 of a significant deterioration. It's a type of  
21 permit.

22 When you have a certain amount of even  
23 carbon monoxide, when you have a situation like  
24 this, the federal land manager of the closest class  
25 one air, and that would be Yellowstone, is allowed

1 to comment. In fact, his -- receiving his or her  
2 comment and giving that weight in the permitting  
3 process is a requirement under the Clean Air Act.

4 And yet we hear this evening from  
5 Ms. Glaccum that those folks haven't even been  
6 notified. And, of course, it's not carbon monoxide  
7 that we are dealing with, it's toxic air pollutants  
8 that also happen to be radioactive.

9 And this mixed waste incinerator,  
10 Mr. Chisholm used the word ludicrous. Using --  
11 having a mixed waste incinerator anywhere is  
12 ludicrous. Even conceiving of a concept, even  
13 conceiving an idea is ludicrous.

14 We don't need to have a degree in  
15 Physics. If it helps, I do have a degree in  
16 Physics. But we don't need to have a degree in  
17 Physics to know what the half lives of plutonium  
18 and uranium are and strontium 90.

19 The way you deal with -- the best way we  
20 know of, which is pretty meager, to deal with  
21 radioactive waste is to minimize exposure. Whether  
22 you vitrify it, put it in glass, whether you put it  
23 in a container that's not going to burn through  
24 with the acidic aspect of the waste and pollute the  
25 groundwater, whatever you do, you minimize

1 exposure.

2 That's what Yucca Mountain is all about,  
3 trying to make sure we put it in a spot and put up  
4 the signs so that a quarter of a million years down  
5 the road, or is it half a million after so many  
6 half lives, somebody is going to understand you are  
7 not supposed to go underground. That's actually  
8 part of the thinking of Yucca Mountain. And here  
9 we are putting it into the air. It makes  
10 absolutely no sense, whatsoever.

11 Now, an application for a mixed waste  
12 incinerator at Hanford was introduced, I think it  
13 was, about six years ago. After some controversy,  
14 it was withdrawn. The reasons -- I have not heard  
15 what the reasons are, I don't think they are widely  
16 known, but apparently, they had enough sense not to  
17 reintroduce the concept at Hanford.

18 And if such a plant has not worked well  
19 at Savannah River after they have had so many years  
20 to perfect it, why will it work here? Or anywhere  
21 else. For these reasons, it makes no sense to  
22 permit a mixed waste incinerator anywhere on the  
23 planet, and certainly it would be a detriment to  
24 public health in Idaho.

25 So given the lack of efficiency, given

1 the flaws that have been stated by Dr. Rickards and  
2 Ms. Glaccum, particularly the fact that the  
3 cumulative impacts of co-contributing sources have  
4 not been considered and that the worst case  
5 scenarios have not been considered, there's no  
6 question that this permit should be denied. Thank  
7 you.

8 MR. CRABTREE: Thank you.

9 Julie Rodman has indicated an interest  
10 in presenting a statement.

11 MS. RODMAN: Hi, I'm Julie Rodman.  
12 R-o-d-m-a-n. And I live just outside of  
13 Fairfield. I just have a couple points that I have  
14 a problem with on this incinerator.

15 First, it doesn't make the waste any  
16 safer. Just by incinerating it, by crushing it and  
17 consolidating it in our state doesn't make it any  
18 safer for anyone.

19 And in addition, will bring more waste  
20 into Idaho. We have plenty of waste here as it  
21 is. It seems to me that this whole process got  
22 started because we wanted to get the waste out of  
23 Idaho. We signed the deals, we said that we wanted  
24 the waste gone.

25 Well, here we are bringing more in.

1 Bringing it in from who knows where. It's just  
2 other -- or additional DOE sites. They won't tell  
3 us what is coming.

4 And I think by building the incinerator  
5 in Idaho and making the facility and creating the  
6 structure, you have opened the door for them to  
7 bring in more and more and more and more. We have  
8 the building. We don't need to build another one.  
9 Idaho's got it. Let's ship it all out there. It  
10 opens the door to let anything come in. And as we  
11 have seen, all it takes is a change of a governor  
12 and you will get a new deal written for you.

13 Additionally, Idaho is not a safe place  
14 to put this waste. We sit atop, as we all know,  
15 the greatest aquifer in this part of the world.  
16 One third of Idaho drinks from that aquifer  
17 directly. All the people downstream on the Snake,  
18 everyone downstream on the Columbia, everything in  
19 the ocean proper thrives on water, drinks from our  
20 aquifer. One drop here ends up who knows where  
21 downstream.

22 And the other thing that I have  
23 questions about, and haven't heard much addressed  
24 on, I was driving out across going to Blackfoot the  
25 other day, stopped at the little Craters of the

PUBLIC HEARING  
REGARDING APPLICATION TO CONSTRUCT  
AN AIR POLLUTION EMITTING SOURCE

Docket No. 10AP-9901

Before MR. MICHAEL CRABTREE, Hearing Officer

May 26, 1999

7:15 p.m.

Canyon Springs Inn

Twin Falls, Idaho

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- D - Peter Rickards News Release

1 MR. CRABTREE: This is the time and place  
2 set for public hearing on an air quality permit  
3 application. The applicant is BNFL, Inc. The  
4 project is advanced mixed waste treatment  
5 facility.

6 This is docket number 10AP dash 9901.  
7 Today is May 26, 1999. We are located at the Best  
8 Western Canyon Springs Inn Hotel in Twin Falls,  
9 Idaho.

10 I am Michael Crabtree, I'm the hearing  
11 officer for the Division of Environmental Quality.  
12 It is now approximately 7:15 p.m. on May 26, 1999.

13 This is the time and place set to  
14 receive oral comment on the application and the  
15 proposed permit to construct an air pollution  
16 emitting source relating to the advanced mixed  
17 waste treatment facility proposed by the BNFL, Inc.

18 The purpose of this proceeding at this  
19 time is to gather the facts and views or arguments  
20 from any interested persons relative to the  
21 proposed application and permit so that we may  
22 receive -- so they may receive consideration by the  
23 division.

24 I will accept written statements or  
25 documents at any time if they are signed. And if

1 you have some, would you please indicate to me. We  
2 will assign them a docket letter or number so that  
3 we can keep track of them in the record. These  
4 materials will then be included as exhibits in the  
5 record, which will be transmitted to the Idaho  
6 Division of Environmental Quality, the custodian of  
7 records.

8 The record should reflect that there are  
9 affidavits on file regarding the publication of the  
10 notice of the opportunity for public comment, at  
11 least 30 days prior to the close of the scheduled  
12 comment period, as specified in the Idaho  
13 Department of Health and Welfare Rules and  
14 Regulations Section 16.01.209 point lower case a,  
15 point lower case three i's, point d, lower case.

16 These publications were made in the  
17 Coeur d'Alene Press, the Idaho State Journal, the  
18 Idaho Statesman, the Lewiston Morning Tribune, the  
19 Post Register and the Times-News in Twin Falls on  
20 April 14th, 1999.

21 The first hearing was requested for  
22 Idaho Falls on April 15, 1999. The second hearing  
23 was requested for the Twin Falls area on April 26,  
24 1999. The third hearing was requested for the  
25 Boise area on May 4th, 1999. These records are on

1 file regarding the publications of the notice for  
2 these public hearings.

3 The publications, as I said, were made  
4 in the Coeur d'Alene Press, Idaho Statesman,  
5 Lewiston Morning Tribune, Post Register and the  
6 Times-News on April 24th. Then also published in  
7 the Idaho Statesman, the Post Register, the  
8 Times-News on May 3rd and the Idaho Statesman on  
9 May 8th, 1999. Publication was also made in the  
10 Idaho State Journal on April 26, 1999. These  
11 publications were timely made and other necessary  
12 notice requirements have been met.

13 This is an informal proceeding. There  
14 is no right to cross examine any person who stands  
15 here and offers comment. Nor is there right to  
16 counsel or subpoenas. No objections or procedures  
17 of a technically legal nature will be received.

18 As the hearing officer, I am the sole  
19 regulator of the course of the presentation,  
20 including, but not limited to, a determination that  
21 comments are outside the scope of the proposed air  
22 pollution permit, or that comments are unduly  
23 repetitious.

24 I personally am not here to answer any  
25 questions or to explain any part of the proposed

1 permit. I might myself ask any questions of the  
2 speaker to further explore or clarify any  
3 information or statement that the speakers make.

4 As I indicated before, any interested  
5 persons attending this proceeding are asked to  
6 please sign in on the sign-in sheet by the entrance  
7 and indicate a desire, if you have one, to make an  
8 oral presentation. I will ask that you try to  
9 limit your comments to between 5 and 10 minutes.

10 There will be, first, a brief statement  
11 prepared by the division, summarizing the  
12 application, the results of their analysis and the  
13 proposed permit. And then each person will be  
14 given an opportunity to speak at least once prior  
15 to any person being heard a second time.

16 I do remind you that this hearing is on  
17 the air quality aspects of the proposed project and  
18 that only comments concerning that topic may be  
19 considered. Please refrain from expressing your  
20 approval or disapproval of a speaker's comments by  
21 applause or other means. This is disrupting and  
22 makes it difficult for the court reporter to be  
23 able to accurately transcribe the comments that are  
24 being made.

25 Does anyone have any questions at this

1 point in time?

2 (No response.)

3 MR. CRABTREE: All right, let's proceed to  
4 the first part, then. The division representative  
5 will read into the record the division's statement  
6 and then we will go to the oral presentations.

7 MR. SIMON: Mr. Hearing Officer, ladies  
8 and gentlemen, my name is Mike Simon. I'm an air  
9 quality engineer in the Air Quality Permitting  
10 Section of the Division of Environmental Quality in  
11 the Department of Health and Welfare for the state  
12 of Idaho.

13 My testimony will briefly outline the  
14 scope of the department's authority in drafting the  
15 proposed permit, our actions leading to this  
16 hearing, the content of the proposed permit, and  
17 how the department will respond to the comments  
18 received during the comment period and at this  
19 hearing.

20 The Division of Environmental Quality is  
21 charged by Idaho state statute and the Federal  
22 Clean Air Act to operate a program to issue air  
23 pollution permits. The purpose of this program is  
24 to safeguard Idaho's air quality and to limit and  
25 control emissions of air contaminants from

1 sources.

2 The department carefully evaluates  
3 facility plans for construction of air pollution  
4 sources to ensure that the sources are capable of  
5 meeting state and federal air quality standards.  
6 It is critical that the limitations of the  
7 department's permitting authority be understood.

8 The department does not act as a  
9 statewide planning and zoning board to decide where  
10 facilities should be located, nor should it. Local  
11 governments, not a state agency in Boise, should  
12 decide where potential air pollution emitting  
13 facilities are to be located, and they should also  
14 decide what types of industrial facilities are  
15 allowed in their community.

16 The department requires companies such  
17 as BNFL, Incorporated to provide an application  
18 containing plans and specifications detailing the  
19 type of facility to be constructed and the type and  
20 amount of expected emissions.

21 Once all the necessary information has  
22 been submitted and the application is declared  
23 complete, the department reviews the data to make  
24 sure the following criteria is met: First, that no  
25 violations of the outside ambient air quality

1 standards will occur during normal operations of  
2 the facility.

3 Second, that the source will emit air  
4 pollutants below the limits specified in state and  
5 federal air quality rules.

6 And third, that various additional  
7 requirements such as testing, operating and  
8 reporting procedures will be followed in order to  
9 demonstrate continuous compliance with state and  
10 federal air quality rules.

11 The department assumes that all  
12 facilities will be built in populated areas and  
13 issues or denies permits based on the same criteria  
14 statewide. The department does not determine where  
15 industries will operate, but does determine  
16 compliance with state and federal air quality  
17 regulations.

18 Consequently, your comments on suggested  
19 permit improvements, identification of omissions or  
20 how the permit conforms or does not conform to  
21 state or federal air quality regulations are the  
22 types of comments that are most helpful to us.

23 The proposed air quality permit at issue  
24 in this hearing is in regard to the construction  
25 and operation of the advanced mixed waste treatment

1 facility.

2 The proposed facility is to be located  
3 at the radioactive waste management complex on the  
4 Idaho National Engineering and Environmental  
5 Laboratory. BNFL, Inc. submitted a permit  
6 application on October 13, 1998, which was reviewed  
7 by the department. The application was declared  
8 complete on November 16th, 1998 and a proposed  
9 permit was then drafted.

10 The application materials, DEQ's  
11 analysis and the proposed permit have been made  
12 available for public inspection at the Idaho Falls  
13 Public Library and at the Division of Environmental  
14 Quality regional offices located in Idaho Falls,  
15 Pocatello, Twin Falls, Lewiston, Coeur d'Alene and  
16 at the state office in Boise.

17 The availability of these materials was  
18 published on April 14th, 1999 in the Coeur d'Alene  
19 Press, Idaho State Journal, Idaho Statesman, the  
20 Lewiston Morning Tribune, the Post Register and the  
21 Times-News.

22 Public hearings were requested and have  
23 been made available in Idaho Falls, Twin Falls and  
24 Boise. In addition, public informational meetings  
25 regarding the air and hazardous waste permitting

1 process have also been made available at the same  
2 locations.

3 According to state air quality rules, an  
4 opportunity for a public hearing has been provided  
5 for the proposed permit. Public hearings provide  
6 anyone an opportunity to give verbal testimony  
7 regarding the air quality issues.

8 Public hearings have been scheduled for  
9 May 25th in Idaho Falls, May 26th in Twin Falls,  
10 and May 27th in Boise. The public comment period  
11 for submitting written comments ends on May 28th,  
12 1999.

13 BNFL, Inc. proposes to construct a  
14 facility to treat mixed waste currently stored on  
15 site at the INEEL. The facility includes an  
16 incinerator and other process areas which require  
17 permit limitations to ensure compliance with state  
18 and federal air quality standards.

19 The proposed permit has been developed  
20 with specific emission rate limits, operating  
21 limits, monitoring, recordkeeping and reporting  
22 requirements, as well as emissions testing to  
23 ensure continuous compliance with the air quality  
24 standards.

25 Radionuclide emissions from this

1 facility are required to meet EPA's NESHAP  
2 standards for radionuclide emissions from DOE  
3 facilities. These standards required the use of  
4 EPA-approved methods and models in determining that  
5 radionuclide emissions would meet the standard.

6 The projected dose of radiation take  
7 into account the contribution of all expected  
8 radionuclides. The resulting modeled dose  
9 equivalent is a function of the primary exposure  
10 pathways; ingestion, inhalation and deposition.

11 EPA has conducted a review of this  
12 modeling analysis, along with the facility's  
13 proposed radionuclide emission control, and has  
14 approved the construction of this facility. The  
15 proposed permit includes EPA's requirements to  
16 monitor radionuclide emissions from the facility.

17 The permit also contains emission  
18 standards from EPA's proposed maximum achievable  
19 control technology standards for hazardous waste  
20 combustors. This proposed regulation contains  
21 emission limitations for specific hazardous air  
22 pollutants determined by EPA research to be emitted  
23 from hazardous waste combustion.

24 The state has incorporated these  
25 specific emission limits and has required

1 continuous emission monitoring for mercury,  
2 hydrocarbons and carbon monoxide.

3 Annual emissions testing is also  
4 required to demonstrate compliance with permit  
5 standards for particulate matter, heavy metals and  
6 other hazardous air pollutants.

7 In addition to emissions testing, the  
8 facility will be required to maintain records  
9 documenting air pollution control equipment  
10 performance and efficiency and to develop quality  
11 assurance/quality control programs for continuous  
12 emissions monitoring and radionuclide monitoring.  
13 The facility will also be required to submit  
14 quarterly reports to the department demonstrating  
15 that the facility is in compliance with the  
16 radionuclide standards.

17 The departments's Hazardous Waste  
18 Permitting Bureau is currently reviewing the  
19 facility's hazardous waste permit application for  
20 completeness. Once this application is determined  
21 complete, a draft permit will be prepared and the  
22 public will be given an opportunity to review and  
23 comment.

24 The Air Quality Permitting Bureau is  
25 very interested in hearing comments pertaining to

1 the proposed permit. No one should feel that they  
2 must have detailed technical knowledge of the  
3 document in order to provide useful comments.

4 Many of our permits are modified prior  
5 to final issuance because a citizen brought out  
6 some point he or she felt should not be  
7 overlooked. The department takes public input very  
8 seriously and your comments are appreciated.

9 We are constrained in this hearing,  
10 however, to consider only comments relevant to the  
11 air quality permit itself. The air quality  
12 permitting process is limited to air quality topics  
13 only, and cannot address other issues.

14 The proposed permit does not release  
15 BNFL, Inc. or the Department of Energy from  
16 complying with all other applicable federal, state  
17 and local requirements. Anything you think we  
18 might have overlooked, was needlessly included, or  
19 if something should have been done differently  
20 according to the law are the types of comments that  
21 are the most useful to us.

22 The final decision on the proposed  
23 permit will be made within the confines of federal  
24 law, state statute and the Idaho air quality  
25 rules. If BNFL, Inc. fulfills all requirements of

1 the laws, they are entitled to an air quality  
2 permit to construct.

3 The department, however, has clear  
4 discretion on many issues, and we are always  
5 interested in suggestions regarding the permit or  
6 nonconformance of the permit with the air quality  
7 rules.

8 Oral or written comments at this  
9 hearing, or written comments mailed to the  
10 department are welcome. Once the public comment  
11 period closes on May 28th, 1999 at 5:00 p.m.  
12 mountain daylight time, the department will respond  
13 to all relevant comments in a public comment  
14 response package.

15 This package will consist of the hearing  
16 transcript from this hearing, all written public  
17 comments received during the comment period, the  
18 hearing officer's certification and the final  
19 action taken on the permit. The department can  
20 issue the permit, issue a revised permit or deny  
21 the permit if there is a compelling reason to do  
22 so.

23 The response package will be made  
24 available at the public -- to the public at the  
25 Idaho Falls Public Library and at the Division of

1 Environmental Quality regional offices located in  
2 Idaho Falls, Pocatello, Twin Falls, Lewiston,  
3 Coeur d'Alene and at the state office in Boise.

4 Any further comments on this project  
5 after this hearing must be submitted by May 28th,  
6 1999, 5:00 p.m. mountain daylight to Chris  
7 Davenport, Division of Environmental Quality, 1410  
8 North Hilton, Boise, Idaho, 83706 dash 1255.

9 I'd also advise to please contact Chris  
10 Davenport for a possibility of an extension to this  
11 comment period. Thank you.

12 MR. CRABTREE: Thank you. Are you all able  
13 to hear okay? This microphone is kind of a problem  
14 microphone. You have to get right up to it.

15 I'd like to tell you that before we  
16 started, I was advised that the time frame for  
17 additional comments, as was just being mentioned  
18 being May 28th, I believe the deadline is probably  
19 going to be extended an additional 30 days. That  
20 decision apparently is in the works. The final  
21 statement on that will be published in the legal  
22 notices, so please keep an eye out for that.

23 It's time now to turn to the  
24 presentation of your comments. I have the initial  
25 sign-in sheet, and I'm not indicating any

1 preference or any priority. I'm simply going to go  
2 straight down the list to those who have indicated  
3 that they do wish to make comment.

4 And as each of you who do wish to make  
5 comment come forward, I would ask you to please  
6 remember that the real importance here is that your  
7 comments go into the transcript, so we need you to  
8 speak clearly and articulately and take your time.  
9 And please, when you start, state your name and  
10 then spell your last name. Then the record will be  
11 good and clear.

12 The first person on this list is  
13 Mr. David Kipping, who has indicated that he would  
14 like to testify. Mr. Kipping?

15 MR. KIPPING: I think I'd like to defer  
16 for the moment and maybe come back a little bit  
17 later.

18 MR. CRABTREE: Very well, Mr. Kipping  
19 defers. Sort of like Congress, isn't it. The next  
20 person on the list is, and please forgive me,  
21 Margaret Stewart? Is that correct?

22 MS. STEWART: Yes.

23 MR. CRABTREE: Miss Stewart, do you wish to  
24 make comment? Please come forward.

25 MS. STEWART: My name is Margaret

1 Macdonald Stewart, M-a-c little d-o-n-a-l-d,  
2 Stewart, S-t-e-w-a-r-t, no hyphen. These are  
3 incomplete comments. My typed comments will be  
4 submitted at a later date. But these are just  
5 things that breeze through my mind.

6 The cold war has left us with no good  
7 options on what to deal -- what to do with nuclear  
8 waste. Something that we should all be mindful of  
9 every day when we talk about nuclear waste is that  
10 treatment of nuclear waste must always be linked  
11 with dealing with the buried waste that remains  
12 above our aquifer, imperiling it as we speak.

13 As for this permitting session, this  
14 permit is for 85,000 cubic meters of plutonium  
15 contaminated waste, as I understand it. Some areas  
16 of the document that I was referring to before talk  
17 about 65,000 cubic meters. I need some sort of  
18 clarification between the 65 and the 85,000 cubic  
19 meters.

20 What is the permitting process after the  
21 original 85 slash 65,000 cubic meters are treated?  
22 I have a question about the ability to accurately  
23 determine air emissions. The boxes and barrels  
24 that will be coming into the facility are to be  
25 characterized for treatment or nontreatment.

1           Characterization leads me to believe  
2           that you don't know what's in the barrels or  
3           boxes. If you don't know what's in the barrels or  
4           boxes, how can you possibly determine beforehand  
5           what the emissions are going to be that comes out  
6           of the smokestack from an incineration process?

7           I'm also curious to know about where was  
8           the public involvement opportunity in the EPA  
9           permitting process. One of my grave concerns in  
10          the entire facility is the privatization concern,  
11          particularly with dealing with air quality  
12          records. Once a facility is privatized, what  
13          access does the public have to any of their  
14          records?

15          We can't ask for a FOIA, Freedom of  
16          Information Act. We need to know what is coming  
17          out. How can we verify what is coming out of the  
18          smokestack, or what are the results of any of the  
19          air quality tests.

20          The privatized contract gives incentive  
21          to treat some waste that doesn't need to be  
22          treated, which could also tie into the air quality  
23          issue of -- I think that has not been addressed  
24          very adequately.

25          This whole plan seems not to be driven

1 enough by science and health concerns, but other  
2 concerns that I'll let you fill in the blanks  
3 with. I'm very emphatic on demanding that emission  
4 exceedures from any of the smokestacks must be made  
5 public. The public is going to be affected  
6 severely or otherwise by emissions that come out of  
7 the smokestack. Be they radionuclide or chemical  
8 emissions, the public has a right to know.

9 We live here. This permit deals with  
10 pounds per hour of treatment, rather than emissions  
11 per treatment. I'd like an explanation of that,  
12 please.

13 And finally, I would like to say that no  
14 matter what the treatment process is, I for one,  
15 and I imagine quite a few other people in this  
16 room, will continue to keep a very close watch on  
17 the process, no matter what it is.

18 And I will continue to raise concerns  
19 until those concerns are answered, which by the  
20 way, very few of those concerns of the public were  
21 ever adequately addressed in the final EIS on the  
22 record of decision that was released based on those  
23 unanswered questions in the EIS. And I for one  
24 will not be quiet until my answers are answered --  
25 my questions are answered. Thank you.

1 MR. CRABTREE: Thank you. Next on the list  
2 is Ellen -- Glaccum, is that correct?

3 MS. GLACCUM: I am Ellen Glaccum, it's  
4 G-l-a-c-c-u-m. As a 30-year resident of Idaho  
5 that's interested in the health and safety of  
6 Idahoans, I urge DEQ to deny this application for  
7 the following reasons: One, DEQ technical analysis  
8 is fundamentally flawed in that the scope of the  
9 project was underestimated by some 100,000 cubic  
10 meters.

11 DEQ asserts in its project description,  
12 quote, the AMWTF will process approximately 65,000  
13 cubic meters of alpha low-level mixed waste,  
14 TRU-contact handled MW and radioactive-only waste  
15 from the TSA. The facility also has the capability  
16 to treat up to an additional 20,000 cubic meters,  
17 for a total 85,000 cubic meters of similar waste  
18 from the INEEL and other U.S. DOE regional and  
19 national waste streams, unquote. This statement  
20 woefully misrepresents the truth.

21 Here is how the DOE describes the  
22 project in the record of decision dated March of  
23 1999. Quote, the decision to proceed with the  
24 construction and operation of the advanced mixed  
25 waste treatment project facility allows the U.S.

1 Department of Energy to treat and prepare for  
2 shipment and disposal of 65,000 cubic meters of DOE  
3 transuranic waste, alpha-contaminated low-level  
4 mixed waste and low-level mixed wastes currently  
5 stored at INEEL. Further, DOE could treat at the  
6 AMWTP up to 120,000 cubic meters of additional  
7 waste from the INEEL or other DOE sites, for a  
8 total of 185,000 cubic meters.

9 The project is designed to handle  
10 185,000 cubic meters of nuclear and hazardous waste  
11 and to burn an unknown amount of this volume. DOE  
12 won't know until it examines each barrel, but the  
13 guess at this point is around 25 percent that will  
14 be burned.

15 Independent scientists, however, have  
16 asserted that there is no way to estimate now how  
17 much will be burned. And for a further description  
18 of this, you should see the EIS testimony of  
19 physicist Hisham Zerriffi. DEQ must analyze the  
20 impacts of the entire project, not a portion of  
21 it. To do otherwise is fraudulent and  
22 unacceptable.

23 To give you an idea of the size of the  
24 nuclear and hazardous waste in question, I pressed  
25 my husband to do a little bit of high school math.

1 One cubic meter is approximately three-by-three  
2 feet. 65,000 cubic meters, if laid in a long line,  
3 is approximately 195,000 feet long, or  
4 approximately 40 miles.

5 120,000 cubic meters would be 360,000  
6 feet, or approximately 73 miles long. And 185,000  
7 cubic meters, which is what this thing is designed  
8 to do, would stretch approximately 113 miles.

9 Number two, a January 12th, 1999  
10 memorandum details the results of DEQ modeling of  
11 British Nuclear Fuel's incinerator. In reading  
12 this, the following points have caused me great  
13 concern.

14 First, "Based upon a modeling analysis  
15 of the potential abated radionuclide releases, an  
16 EDE, which is effective dose equivalent, of 6.7E  
17 dash 03 millirems per year was calculated for the  
18 MEI, which is the maximally exposed individual,  
19 located along the southern edge of the INEEL  
20 property boundary. It was found that the majority  
21 of the predicted dose could be attributed to  
22 americium 241, plutonium 238 and plutonium 239."  
23 This was from page 6 of that memorandum.

24 My question is since inhalation of  
25 plutonium is the most dangerous way that humans can

1 be exposed, how can the DEQ accept this high level  
2 of atmospheric exposure?

3 Secondly, quote, an analysis of the  
4 unabated radionuclide emission from the flue will  
5 have the smallest -- the flue that will have the  
6 smallest contribution to the facility's overall  
7 radionuclide emissions was completed in order to  
8 determine whether or not monitoring and testing of  
9 the pollution control equipment will be needed. An  
10 unabated dose of 3.9 millirems per year was  
11 predicted by the model. This is well above the  
12 cutoff value of .1 millirems a year. As a result,  
13 monitoring of all five flues releasing  
14 radionuclides into the atmosphere will be required  
15 as outlined in 40 CFR 61.93. This was the quote  
16 from the DEQ memo.

17 My question, then, is if the flue  
18 contributing the smallest amount of radionuclides  
19 produces 3.9 millirem per year, what is the total  
20 of the five flues that contribute radionuclides?  
21 Is that 19.5 millirems a year or is it more? And  
22 why didn't the DOE address this?

23 Next, on pages 8, 7, 5 and 1, various  
24 concerns were raised regarding the dioxin/furan  
25 emissions. And my question is why should the DEQ

1 allow any emissions of this dangerous toxic  
2 carcinogen?

3 Next, in addition to dioxin/furan, there  
4 are about 43 other highly toxic pollutants which  
5 will be expelled into the atmosphere by British  
6 Nuclear Fuels. This witch's brew includes PCBs,  
7 dichloroethanes, trichloroethanes,  
8 tetrachloroethanes, arsenic, lead, mercury,  
9 asbestos, et cetera. In fact, it's hard to find a  
10 toxic which will not be emitted from this  
11 incinerator.

12 And my question is how can the DEQ allow  
13 this?

14 Next, there's another quote from the  
15 same memo. Quote, due to the facility's location,  
16 co-contributing sources were not considered in this  
17 ambient impact analysis. This was on page 4.

18 My question, since the INEEL already  
19 contributes significant amounts of hazardous and  
20 radioactive emissions into the atmosphere,  
21 shouldn't a legitimate scientific analysis address  
22 the cumulative impacts of both existing and  
23 proposed emissions?

24 Next, here's a quote. Quote, general  
25 statewide background concentrations for criteria

1 pollutants were used in this analysis.

2 Question, why weren't the background  
3 concentrations for INEEL used?

4 Next, "The maximum dose rate is expected  
5 to occur to the north northeast due to the  
6 predominant wind flow."

7 My question, given this fact, why  
8 weren't the states of Wyoming and Montana informed  
9 about this proposed pollution source? Chris  
10 Davenport here of DEQ and I had a conversation  
11 about this, and he told me the DEQ had not and was  
12 not planning to inform our downwind neighbors. In  
13 my opinion, this is an outrageous oversight and not  
14 very neighborly.

15 In conclusion, it's my opinion that a  
16 public agency charged with protecting environmental  
17 quality cannot possibly allow a foreign company to  
18 pollute our air with high levels of plutonium,  
19 americium and every hazardous chemical known to  
20 man.

21 DEQ analysis is flawed and inadequate.  
22 DEQ needs to consider the cumulative emissions at  
23 INEEL, needs to start with a baseline of background  
24 concentrations at INEEL, and most certainly must  
25 consider the entire volume of hazardous and nuclear

1 waste -- 185,000 cubic meters -- that British  
2 Nuclear Fuels plans to, quote, treat. Thank you.

3 MR. CRABTREE: Would you like to have your  
4 written comments marked and entered into the --

5 MS. GLACCUM: Please.

6 MR. CRABTREE: We will mark those as  
7 Exhibit A. And the Exhibit A is from Ellen  
8 Glaccum.

9 The next person on the list is Judy  
10 Ruprecht, who indicates she may wish to make a  
11 statement.

12 MS. RUPRECHT: I think I will defer and  
13 have written comments instead.

14 MR. CRABTREE: Thank you. Mrs. Ruprecht  
15 defers.

16 Next on the list would be Senator  
17 Peavey.

18 SENATOR PEAVEY: Thank you very much for the  
19 opportunity, and I certainly want to compliment  
20 Margaret and Ellen for a very, very comprehensive  
21 and very meaningful testimony.

22 I think I'd first like to talk a little  
23 bit about the process of the public gathering of  
24 information. I think it's a very truncated  
25 process. I don't think there are very many people

1 in this state who are aware at all of the enormous  
2 impact this could have on their lives, their  
3 health, their economic viability.

4 I know this incinerator and processing  
5 center that we set up at INEL is -- was part of the  
6 1995 agreement. People ratified that agreement  
7 pretty heavily. But in the debate, there was no  
8 discussion, to speak of, of this incinerator. The  
9 debate concentrated on get the waste out and stop  
10 the shipments, and that was about as far as the  
11 press coverage was concerned.

12 I know we tried to bring this  
13 incinerator up, and it was very inadequately  
14 covered. I think the -- maybe the one exception  
15 would be the Times-News with Nils' coverage.

16 Now, you may have some people show up  
17 here tomorrow night, because it was announced in  
18 the paper on Sunday that there was going to be a  
19 hearing on Thursday. Not Wednesday, but Thursday.

20 I would urge the DEQ to go around the  
21 state, especially in the Mud Lake area, and tell  
22 people what's going on, wait a short time, perhaps  
23 a month or so, and then go back and take some  
24 testimony.

25 We have, you know, the health

1 considerations and the livelihood -- the lives of  
2 people aside, there is a very large, growing dairy  
3 industry in southern Idaho in Jerome, Gooding, Twin  
4 Falls, Lincoln counties. And much of the alfalfa  
5 hay comes from the Mud Lake, Terreton areas of  
6 eastern Idaho, directly downwind from this  
7 facility.

8           And I would wonder if those folks up  
9 there that grow that alfalfa and the people who  
10 milk the cows across the river shouldn't be  
11 somewhat concerned about the image of one of the  
12 largest nuclear hazardous waste operations in the  
13 country, what impact that would have on their  
14 livelihoods.

15           Stringency. I feel that it is really a  
16 shape that we are going to be locked in by federal  
17 mandates that we cannot exceed. But hopefully --  
18 our congressional delegation and our new governor  
19 campaigned on federal mandates, they were very much  
20 against federal mandates, so I am sure we can count  
21 on them to let Idaho set its own stringency. Hold  
22 your breath, folks.

23           I think the permit should address the  
24 grandfather rights. If hopefully we can make this  
25 facility much more responsive to the local

1 interests, not a national interest as it is now,  
2 with the federal government, the national Congress  
3 setting the standards for us, what we have to  
4 breathe, what we have to have on our crops.

5 We should -- we should be able to raise  
6 the requirements without any problem, whatsoever.  
7 So I don't think there should be any guarantees  
8 that BNFL can operate this facility for any long  
9 term at the initial standards. I think the permit  
10 should have expiration dates, review dates, very  
11 close, especially in the beginning, so that we can  
12 review.

13 I think a 90-day recordkeeping is  
14 totally inadequate. You have to have the absolute  
15 spikes and valleys of those emissions hour-by-hour,  
16 minute-by-minute. When they exceed the allowable  
17 effluent, that's a water term, but we need to know  
18 that. And a 90-day period is absolutely  
19 inadequate.

20 The monitors should be downwind, not  
21 upwind. A monitor on the southern boundary is  
22 obviously strategically placed so it will pick up a  
23 very slight amount of the effluent or the stuff  
24 coming out of the stacks. It needs to be in the  
25 northerly and northeastern quadrant of the INEEL.

1 I think that people in Yellowstone,  
2 there should be some concern about what impact this  
3 is going to have on the tourism and the Yellowstone  
4 ecosystem. It's directly downwind, and the state  
5 of Wyoming certainly should be consulted. Montana,  
6 as well. And the people at the park.

7 I think that -- I don't have a lot of  
8 confidence in what's going on here. I think it's a  
9 very rushed process. It was written into the 1995  
10 agreement that the state shall promptly issue an  
11 air quality permit for a legally sufficient  
12 application.

13 And I hope that with the new governor  
14 and a new administration that we take some time,  
15 make sure people know what we are getting into, and  
16 then have an adequate chance to comment. Thank you  
17 very much. My name is P-e-a-v-e-y, John. Carey,  
18 C-a-r-e-y, Idaho. Thank you.

19 MR. CRABTREE: Thank you. Next on the list  
20 is Bill Chisholm. Mr. Chisholm is approaching, so  
21 he must want to make comment.

22 MR. CHISHOLM: Bill Chisholm,  
23 C-h-i-s-h-o-l-m. John got some of my speech, I  
24 guess. He must have been looking over my shoulder,  
25 so I'll leave out some of that part.

1           I guess we are supposed to be talking  
2 about air quality, but I think you got to be  
3 talking about people. You are talking about air  
4 quality. I will start with a quick little story.

5           Among other things, I do work on  
6 disasters, and down in California one time doing  
7 damage assessment after some terrific flooding down  
8 there, and I was in a mobile home park, and these  
9 people's houses. The mobile home was wiped out.  
10 The personal belongings were wiped out and all the  
11 mementos of their family were wiped out as well in  
12 this flood.

13           I was in there, it was a very emotional  
14 thing. The wife was crying, the husband was spaced  
15 out. And I got in a car to leave. I had to drive  
16 out over a levee. The levee was designed to  
17 separate the river from the people.

18           The mobile home park was built between  
19 the river and the levee. I tell that to people,  
20 people go "that's ludicrous." I go "well, yeah,  
21 there are lots of ludicrous decisions made, to  
22 serve short-term political interest."

23           Albert Einstein said at the dawn of the  
24 nuclear age "all things have changed but for our  
25 mode of thinking, and thus we rush toward

1 unparalleled disaster." Another time he said "we  
2 cannot solve our problems at the same level of  
3 thinking at which we created them."

4 Ours is supposed to be a government of,  
5 for and by the people. John alluded to the fact  
6 that the incinerator was part of a 1995 settlement  
7 agreement. It was a back room, back closet, closed  
8 door agreement. It was not the kind of public  
9 process necessary in a free society.

10 In my opinion, when the process is  
11 flawed, the project or policy that comes out of a  
12 process that's flawed is equally flawed. And we  
13 have to go back, we have to get this back in a more  
14 open and a more open process so the people have  
15 some genuine feeling that their views and their  
16 concerns are being addressed.

17 Now, we in Idaho are cynical. In fact,  
18 most of the people in this country are cynical  
19 about decisions made by the government. We have a  
20 50-year track record of some pretty poor decisions,  
21 including INEL.

22 I never will use that new word, because  
23 I think it's a disgrace to that other word,  
24 environment. So we have to open that process. The  
25 man from DEQ said that we can deny this permit with

1 compelling reason. I think when you have a flawed  
2 permit, there is compelling reason to deny that  
3 permit.

4 I'm going to hand in here tonight -- I  
5 have seven steps toward a nuclear solution. I had  
6 originally five steps, and I spent a couple weeks  
7 in the Bannock County Jail. I had a little time to  
8 think, and I come up with two more.

9 And the first step in that -- my first  
10 step is integrity and honor in domestic and foreign  
11 affairs. This gets back to the process. We have  
12 to have a honorable process. We don't have -- if  
13 people aren't involved in the process, it's not an  
14 open process in which we have dialogue and people  
15 are treated with respect. We don't have a process  
16 that has integrity.

17 Moneys, resources and labor need to be  
18 looked at as investments rather than expenditures.  
19 We have to make sure when we are spending bucks  
20 that we are actually getting something for it  
21 instead of just filtering money to the big  
22 corporations, which has often been the case in  
23 relation to the nuclear energy.

24 We need a national energy policy, one  
25 that's actually going to solve our problems.

1                    Reassessment of our defense needs, I  
2 wrote at the time, it said.

3                    And then a moratorium on all nuke waste  
4 shipments until we actually come up with a national  
5 nuclear waste policy.

6                    And then there's a nuclear waste  
7 commission, one that -- A lot of times what we  
8 have is we have sort of the science that's put  
9 forth by DOE; and there are other people who have  
10 opinions, and oftentimes that is not part of the  
11 genuine information that's available to the  
12 public. And it needs to be part of the total  
13 process so we have confidence.

14                    I also am submitting a paper I wrote on  
15 the concepts called tri-spherical thinking. It's a  
16 holistic mode of thinking which hopefully will lead  
17 the DEQ and others that are making policy decisions  
18 towards that which Einstein said, a change of our  
19 mode of thinking. Thank you.

20                    MR. CRABTREE:        Thank you. We will mark the  
21 seven steps document, one page, as Exhibit B; the  
22 tri-spherical document, two pages, as Exhibit C.

23                    Next on the list is Jason Miller,  
24 indicating maybe.

25                    MR. MILLER:         I'm going to write in my

1 comment.

2 MR. CRABTREE: Thank you, Mr. Miller will  
3 submit his comments in writing.

4 And next would be Curt Cantrell.

5 MR. CANTRELL: Curt Cantrell,  
6 C-a-n-t-r-e-l-l. I don't have any fancy synonyms  
7 to say or much, but I'm a farmer here in southern  
8 Idaho and I like to farm. But my grandmother  
9 informed me I have been a seventh generation farmer  
10 from her family all the way back to Illinois when  
11 on her great-grandmother's side of the family.

12 Now, I don't think seven generations  
13 from now there will be any farms in Idaho if this  
14 goes through. We don't need this here. It's  
15 something that's made for some place else. I don't  
16 know, maybe the moon, maybe the sun, but not in  
17 Idaho.

18 I got four kids and when these kids were  
19 little, they watched a show with Pinky and the  
20 Brain. This one was a mouse. And he wants to find  
21 a way to take over the world every day. He wakes  
22 up, he wants to take over the world.

23 Phil Batt found out a way to take over  
24 the world. Nobody will want Idaho. If we trash  
25 it, it's gone. We can't bring it back. We only

1 get one shot. That's about all I have to say about  
2 it.

3 MR. CRABTREE: Thank you, Mr. Cantrell.

4 Next on the list would be Peter  
5 Rickards.

6 MR. RICKARDS: Hi, everybody, good to see  
7 you again. And Peter Rickards, R-i-c-k-a-r-d-s.  
8 Good to see you again, too, Linda. Typing away.

9 And you know, it just sort of drives me  
10 crazy to hear how important public input is to  
11 these folks. I want to give a little history on  
12 the air quality permits. If you have any  
13 constructive ideas, they'd love to adapt them.

14 In 1991, they had an air quality permit  
15 for a pilot plant that would dissolve 17 different  
16 types of fuel. And at the time, the state air  
17 quality permits required accident analysis.

18 And they did an accident analysis of a  
19 critical little putting too much of those fuel rods  
20 too close together; instantaneous, immense number  
21 of curies coming off; and the dose came out  
22 incredibly small, just like their doses. And well  
23 within the permit level of 10 millirems.

24 And 10 millirems is about a chest  
25 x-ray. And you don't give chest x-rays needlessly

1 to pregnant women because fetuses develop so  
2 quickly, there is an incredible danger to do that.  
3 If they are in a car accident, life and death, they  
4 may take an x-ray. A baby may survive it and do  
5 well. But you simply don't give out doses of 10  
6 millirems to pregnant women. But that is the legal  
7 limit.

8 So I called up the fellow who did the  
9 critical analysis, and I did have him on the phone  
10 tape, and asked him certain questions about it.  
11 And he actually strangely enough started talking  
12 about how he had blown the dose in the analysis  
13 extra fast and extra high away from the people to  
14 eliminate the dose, to weaken the dose.

15 I asked him if this accident happened in  
16 an inversion layer, which holds down the weather,  
17 when you have 4,000 curies of radioactive cesium  
18 that have a half life of 30 minutes, so 2,000  
19 curies is given off in that next 30 minutes, if  
20 your pregnant wife is changing her tire on Route  
21 26, what would her dose be?

22 And what he said is "I could have  
23 calculated with the RSAC computer code, but I used  
24 the air dose computer code, which really isn't used  
25 for accidents."

1                   Actually, none of the thousands of  
2                   curies coming off on the analysis were actually in  
3                   the analysis. They got wiped out. Intentionally.  
4                   And when I sent him an affidavit in the air quality  
5                   permit appeal stating the four places he lied, two  
6                   days later, he's dead of a heart attack. It was a  
7                   career-ending affidavit. He may have died for  
8                   other reasons.

9                   However, I asked the state people, Larry  
10                  Echohawk and Cecil Andrus at the time, "Let's get  
11                  your independent monitoring team in here to verify  
12                  that the RSAC-4 computer code would have answered  
13                  this accident analysis, and they used the wrong  
14                  one."

15                 Larry blocked that. He said "that's not  
16                 our interest. We are interested in air quality,  
17                 not disasters that happen at the nuclear  
18                 facility." And Cecil Andrus, he was okay with  
19                 that.

20                 So their response to my input on the  
21                 public permit was to take away the accident  
22                 analysis. It's really no longer required in  
23                 Idaho. This is a permit which is lined with K-Y  
24                 jelly and you better believe it's still going to  
25                 hurt.

1           And to be real specific, there's nothing  
2 prohibiting these folks from looking at accidents.  
3 But they just really, really don't want to with the  
4 history given. However, the thing says this  
5 project can't give a 10 millirem dose to the  
6 public.

7           So I went through the impact statement  
8 for the incinerator, and I went to the accident  
9 analysis division, and actually they had analysis  
10 of really extreme kinds of accidents that they  
11 considered unlikely.

12           But they also had some that were  
13 anticipated. Fire involving the waste and the box  
14 line, the fire involving the waste in the drum  
15 line, a loss of AC power, which happens on a yearly  
16 basis out there. And dropped waste box outdoors  
17 during transfer. That actually came up with the  
18 highest one. But these folks have accidents all  
19 the time.

20           Basically, I asked them at the scoping  
21 hearings here, in your experimental incinerator,  
22 the WERF incinerator on September 11th of 1991,  
23 they did a yearly inspection on the HEPA filters,  
24 and they will tell you in every crowd that they had  
25 three in a row. One is great, three in a row is

1       tremendous.

2                   And they have bags in the bag house to  
3       prefilter that. Well, on that inspection, they had  
4       six bags that were dislodged and all three filters  
5       in a row breached. That's just not good for  
6       filtering. Somehow or another, the alarms had  
7       never gone off. If you talked to them, well,  
8       nothing ever really happened.

9                   When I asked them to analyze that kind  
10       of accident which has already happened at  
11       experimental 1, they basically tied that in with  
12       the explosion analysis in here. And actually, that  
13       may be a little high, but they didn't do any other  
14       analysis, so I'm going to go with that as a 200  
15       millirem dose to the public, to your pregnant  
16       wife. That's about 20 chest x-rays for your  
17       pregnant wife. And I bet if we got some  
18       independent people to do this analysis, that's the  
19       tip of the iceberg.

20                   But it's really a question of whether  
21       you want to look at the permit and only look at  
22       good days and say "are we going to grant this  
23       permit, it's an incredibly low dose;" or if you  
24       want to look realistically at what has happened  
25       there already and say "they will exceed the 10

1 millirem dose and we will not grant this permit."

2 That's a choice that they have decided  
3 from the time of Cecil Andrus on to avoid looking  
4 at. But who knows. If people speak up, if the  
5 public finds out that we have been lied to, we are  
6 not looking at accident analysis. What they call  
7 incredibly safe, oh, could kill some thousand  
8 people or so, you never know. But it won't happen  
9 right away. These kinds of cancers take 5, 10, 15  
10 years to work their way into the system.

11 So anyhow, on my written analysis, I  
12 gave the accident analysis pages and I'd like you  
13 to at least explain, when you grant the permit, why  
14 those are not important.

15 One of the second points here is the  
16 original permit was for the 65,000 cubic meters  
17 that's stacked aboveground since 1970, brought in  
18 from Colorado, and they estimated that curies  
19 content to be 650,000 curies. Actually, they  
20 estimated it to be about 450,000 curies, and buffed  
21 it up by a little bit to be on the safe side, and  
22 there was a strange letter in the permit.

23 It said, you know, things look so darn  
24 good, instead of for a permit requiring 650,000  
25 curies for 13 years, how about we do 650,000 curies

1 each year. And DOE, our Division of Environmental  
2 Quality said "great, looks good to me." So they  
3 bumped that up 13 times fold the curie content of  
4 the Idaho waste they have permission to burn every  
5 year.

6 Now, are they covering up the capacity,  
7 the true capacities of the incinerator, do they  
8 have other plans to bring in highly radioactive  
9 waste to Idaho? I think so. It's right in their  
10 own documents.

11 In fact, Kathleen Trevor here, the  
12 independent monitoring team -- and I'm really tired  
13 of doing your job for you -- but I have her on my  
14 phone tape admitting that she can't legally by the  
15 deal force them to take more than half of the  
16 aboveground plutonium. The other half that's  
17 aboveground that's been classified as low level,  
18 she can't force them to do it.

19 They have plans, when you look at the  
20 waste management impact statement, every single  
21 alternative in it has us dump that on site. They  
22 can legally do it. Why would they bother? They  
23 have a lot of other waste they'd like to bring in  
24 first. They'd like to incinerate it, to crush it  
25 up, to have a great, bright, shiny future for the

1 nuclear industry.

2 They don't want to overfill WIPP with  
3 buried waste they promised to take out. When the  
4 WIPP manual came out in 1997, they said "to meet  
5 the Idaho deal, we are going to leave all the  
6 buried waste in Idaho. We are going to take half  
7 of what's aboveground."

8 That's okay with Kathleen. She actually  
9 complained at the draft hearing and said "what do  
10 you mean, taking half of what's aboveground?" Then  
11 I had to inform her that's the deal she signed.  
12 And when the final thing came out and said the same  
13 thing, we haven't heard a word out of her or out of  
14 Lance or anybody.

15 So at any rate, a couple other points.  
16 As a citizen member of the Centers for Disease  
17 Control advisory panel, which is studying the  
18 historical dose of the first 45 years of accidents  
19 and intentional nuclear releases from the facility,  
20 we don't know the damage they have done with all  
21 the accidents they have had. That is not a done  
22 study.

23 But what I have learned is animal  
24 studies have never been done for synergy. And  
25 synergy is -- let me try and explain it. It's a

1 scientific term for when two compounds combine  
2 together to have a dramatically worse effect than  
3 one individual by itself and one by another.

4 So they have done animal studies on  
5 benzene, to see how much an animal can take before  
6 they get cancers. They have standards for that.  
7 But we have many, many chemicals that are going to  
8 be coming out of these machines together, the  
9 incinerator, and we have never done animal studies  
10 on it.

11 Guess what, we are the guinea pigs.  
12 Where they have had the guinea pigs before in  
13 Tennessee at their incinerator, they have a whole  
14 bunch of the mixed toxic chemicals, they have had  
15 nothing but trouble since they fired it up. They  
16 have had workers unable to get out of bed, tremors,  
17 like heavy metal poisoning things.

18 And I frankly just think after 45 years  
19 and every time I ask those questions at the scoping  
20 hearings, we ought to test those chemicals, what's  
21 coming out of that incinerator on animals first;  
22 and I think the rats were doing the tests for us,  
23 but the rats are in Boise and they are doing the  
24 tests on us.

25 The other part on the filters, if you

1 don't look at the accidents where they are knocked  
2 out of alignment, if everything is working well, do  
3 the filters filter the smaller particles better  
4 than -- well, I'm going to confuse myself here. Do  
5 the particles get filtered as well as they claim  
6 when the filters are actually working well? I have  
7 had questions on that.

8           Actually at the air quality permits back  
9 in '91, they basically claim these .3 micron test  
10 particles are the hardest to filter. They are  
11 99.97 percent efficient. Even with the particles  
12 smaller than that get filtered better.

13           99.97 percent means three out of 10,000  
14 plutonium particles of that size are going to get  
15 through. But what they claim in writing is that  
16 the smaller particles are filtered better than  
17 those test particles. The smaller they get, the  
18 better they are filtered.

19           It doesn't make sense to me. I wanted  
20 to see proof of that, and what they gave me as  
21 proof, one of the experiments was that -- from  
22 E. B. Moore, a paper from 1984; and on it, the .1  
23 micron particles were actually getting through  
24 easier than the .3 particles, exact opposite of  
25 what they said.

1                   Once again, I don't get any more  
2 documents as soon as I prove what they have shown  
3 me backs up what I say, not them. They don't like  
4 to share any more documents. But in continuing to  
5 do Kathleen's job for her, I try and get ahold of  
6 the HEPA filter experts across the country.

7                   So in the last month, I got this paper  
8 from Harvard, a doctor at Harvard who considers  
9 himself one of the top ten experts in the country  
10 on HEPA filters. And this article caught my mind.  
11 I haven't gotten the article yet. I'm still trying  
12 to track it down through the CDC. Kathleen is not  
13 looking for it.

14                   Intermittent penetration of plutonium  
15 through four HEPA filters in a series has been  
16 reported attributed to the effects of recoil  
17 energy, resuspending such particles following a  
18 disintegration.

19                   And they gave a reference for that  
20 paper. It was done in 1977 by nuclear people. And  
21 basically, what that means is when you have a  
22 filter that has plutonium on it, the next particles  
23 to come along and as that plutonium disintegrates  
24 and hits that high energy alpha particle which will  
25 destroy and mutate particles in your body, it



1 Moon interpretive center, went in, looked at the  
2 displays, and I was struck by one that had a time  
3 line of the Arco site out there.

4 And it shows pretty regular 2,000-year  
5 eruptions out at the site. Well, it's been over  
6 2,000 years since the last one. You look on the  
7 little time line, where that last one was supposed  
8 to be, that's gone in the past.

9 Well, you leave the little information  
10 center and you are out driving across the site, and  
11 well, there's a big southern butte, there's the  
12 other big cinder cones, the site's ringed by  
13 volcanos. Is that the best place to put an  
14 incinerator?

15 I have lived in Idaho my whole life. I  
16 was born here. I grew up in the Wood River  
17 Valley. And undoubtedly, I have been exposed  
18 somewhat. I don't know if it's come out yet. No  
19 one said anything, but I'm sure having lived in  
20 this state this long, I have received a dose.

21 I don't want to breathe the air and know  
22 that it contains plutonium or could contain  
23 plutonium. I don't need to be exposed again. I  
24 don't want to be exposed again. Let's not build  
25 this in Idaho. Thank you.

1 MR. CRABTREE: Thank you. Mr. Kipping, do  
2 you still defer?

3 MR. KIPPING: I think I'll -- others have  
4 stated the case better than I.

5 MR. CRABTREE: And Miss Ruprecht?

6 MS. RUPRECHT: Ditto. I'll submit my  
7 comments in a written form.

8 MR. CRABTREE: You will submit, very well,  
9 thank you. Are there any other persons at this  
10 time who would desire to make any public statement  
11 for the record? Yes.

12 MS. MACDONALD STEWART: I want to know -- I  
13 was the first to testify and I didn't turn my paper  
14 over to see one last statement that I had.

15 MR. CRABTREE: Okay.

16 MS. MACDONALD STEWART: That I didn't  
17 vocalize.

18 MR. CRABTREE: Okay, please state your name  
19 again.

20 MS. MACDONALD STEWART: Again, my name is  
21 Margaret Macdonald Stewart, and actually, it was  
22 what I was going to begin my statement with.

23 I think it's very important for everyone  
24 in this room and for beyond to know that when this  
25 facility was originally proposed, there were no

1 environmental impact statements required. The  
2 advanced mixed waste facility or project was  
3 supposed to go through with only an environmental  
4 assessment, meaning there were no public hearings.

5 There's a citizen nuclear watchdog group  
6 that asked the Secretary of Energy in Washington,  
7 D.C. to please demand that an EIS be done. It was  
8 not requested by either the state oversight  
9 committee. An EIS was not requested by the  
10 citizens advisory board.

11 It came down to concerned citizens. And  
12 I am proud of you all for being concerned about  
13 this, and we need to be concerned more often and  
14 more vocally. And it's our air that we breathe all  
15 across the state and all across the nation. That's  
16 it.

17 MR. CRABTREE: Thank you. Senator.

18 SENATOR PEAVEY: Can I have a second time at  
19 bat, I guess. Very briefly, John Peavey again. I  
20 want to state that I am unequivocally opposed to  
21 the construction of this facility and want to be on  
22 record as having said that.

23 However, I think we have been had, and  
24 so the comments I have made are trying to make this  
25 permit, if it is granted, as difficult and as

1 responsible as we possibly can. I think there  
2 ought to be a separate criteria for weather  
3 conditions.

4 Peter Rickards mentioned the inversion  
5 in 1961 that carried the radioactive iodine down  
6 across Magic Valley. I think the mother of my kids  
7 probably got dosed enough that she succumbed to  
8 bone cancer several years later. I think the  
9 cancer ridge out of Rupert probably is responsible  
10 for that.

11 I think there ought to be separate, some  
12 very stringent requirements for the operation of  
13 this thing in rainy, snowy weather where we do  
14 bring the pollutants down to the ground, in the  
15 farming areas, the grazing areas.

16 There shouldn't be any limited liability  
17 on this operation. It's a for-profit operation and  
18 they ought to be fully responsible for any damage  
19 that's done to the economy, the entire state,  
20 Yellowstone Park, anything downwind.

21 The penalties and fines that are  
22 assessed ought to be exponentially increased so  
23 that there is no possible way that they can say  
24 "well, you know, there's a \$100 a day or \$1,000 a  
25 day or maybe even a \$10,000 penalty, but we are

1 making so much more than that, we will just sort of  
2 let this slip by here and keep operating." It  
3 ought to exponentially increase.

4 I have got a lot of confidence in the  
5 people of the state of Idaho that when they wake up  
6 to what's being shoved down their throats, they are  
7 going to be outraged over this. Thank you.

8 MR. CRABTREE: Thank you. Yes?

9 MS. HAKALA: Can I make a comment?

10 MR. CRABTREE: Would you like to make a  
11 comment, please?

12 MS. HAKALA: My name is Barbara Hakala.  
13 I live in Triumph, Idaho. And I just want to go on  
14 the record as being adamantly opposed to this  
15 project. One small voice.

16 MR. CRABTREE: Yes, would you like to make  
17 a comment?

18 MS. ARKOOSH: I'm Karen Arkoosh,  
19 A-r-k-o-o-s-h. And John said that he thought that  
20 we probably had been had. I don't think we have  
21 been had. I think there's time. I think there's  
22 resources. And I think we'd better get the hell  
23 out there and fight. I want to go on record for  
24 myself and my kids and my grandkids. Don't build  
25 this. Get out there and stop it. Thank you.

1 MR. CRABTREE: Yes, sir?

2 MR. BONDURANT: Thank you. I'm Jim  
3 Bondurant. I'm from Kimberly. That's  
4 B-o-n-d-u-r-a-n-t. I'm also a member, as some of  
5 you know, of the INEEL citizens advisory board.

6 What I have to say about this tonight is  
7 that I think that all of your questions should be  
8 answered. And I think you should all -- those that  
9 have identifiable questions, they should be  
10 answered. And hopefully, an answer to the person  
11 that gave it, as well as putting the answer in the  
12 hearing -- what do you want to say -- summary. Not  
13 the summary, but the appendices.

14 Some of you may not realize, but what  
15 you are doing here is punching a balloon. When the  
16 air is in the balloon, you punch the balloon, and  
17 it moves a little bit. But overall, nothing  
18 changes.

19 And on these processes like an EIS or an  
20 application for air pollution permit, once  
21 something's on paper, the decision has been made  
22 and all you are doing is changing things a little  
23 bit. And the citizens have to get out there and  
24 get to where they have input into that  
25 decision-making process and the discussion before

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at this hearing, the written comments received by the deadline for submittal of comments will be reviewed and considered by the Division of Environmental Quality. Ultimately, a statement of final action will be made available to the public.

I wish to thank you all for attending and for presenting your views and wish you all the best.

This hearing is now closed.

(Whereupon, the hearing closed at 9:00 p.m.)

1 REPORTER'S CERTIFICATE

2  
3 STATE OF IDAHO )  
4 County of Twin Falls ) SS

5  
6 I, LINDA LEDBETTER, a Notary Public and  
7 Certified Shorthand Reporter in and for the state  
8 of Idaho, do hereby certify:

9 That the foregoing hearing was taken down by  
10 me in shorthand at the time and place therein  
11 named, and thereafter reduced to print under my  
12 direction; and that the foregoing transcript  
13 contains a full, true and verbatim record of the  
14 said hearing.

15 I further certify that I have no interest in  
16 the event of the action.

17 WITNESS my hand and seal this 29<sup>th</sup> day of  
18 May, 1999.

19  
20 Linda Ledbetter  
21 Linda Ledbetter  
22 Idaho CSR Number 26  
23 My commission expires 10/12/00  
24  
25

1 anything gets on paper.

2 MR. CRABTREE: Thank you.

3 Any further public comments for the  
4 record?

5 (No response.)

6 MR. CRABTREE: Seeing none, then I will try  
7 to bring this to a close. Still seeing none, I  
8 will still continue, then. The time is now  
9 approximately five minutes until 9:00, and  
10 formally, then, this hearing having been called, is  
11 now closed.

12 The record, consisting of the  
13 transcript, together with the exhibits that have  
14 been submitted, will be transmitted to the Division  
15 of Environmental Quality. You do have the option  
16 and anyone wishing to submit further comments  
17 should address them in writing and sign them and  
18 send them to this address: Chris J. Davenport,  
19 Division of Environmental Quality, 1410 North  
20 Hilton, Boise, Idaho, 83706-1255. Anyone need me  
21 to repeat that?

22 MR. ARKOOSH: One more time.

23 MR. CRABTREE: One more time: Chris,  
24 C-h-r-i-s, J. Davenport, Division of Environmental  
25 Quality, 1410 North Hilton, Boise, Idaho,

1 83706-1255. Those comments should be written, they  
2 should be signed. You might as well take them,  
3 while you are at it, and send them to that  
4 address. Technically right now, they are due by  
5 May 28th at 5:00. Although, as I indicated  
6 earlier, there's a very strong indication that that  
7 time line will be extended for 30 additional days.  
8 It's May 26.

9 MRS. ARKOOSH: If it isn't, do they have a  
10 fax? We will never get it there by then.

11 MR. CRABTREE: Mr. Davenport is here.  
12 Would you accept faxed comments, Mr. Davenport?

13 MR. DAVENPORT: Yes.

14 MR. SIMON: Mike Simon of DEQ. Even if  
15 the public comment period does close on the 28th,  
16 we will still receive comments from you folks.  
17 It's not like there's a clock that stops and we  
18 will not receive comments. We will still entertain  
19 comments.

20 MR. CRABTREE: Thank you. And,  
21 Mr. Davenport, would you tell us what your fax  
22 number is?

23 MR. DAVENPORT: 373-0417.

24 MR. CRABTREE: The number was 373-0417.

25 Thank you. All right, the oral comments presented

Twin Falls Hwy -  
5-26-99

Exhibits

A : 2 pg. doc. - Ellen Glaccum

B : Seven Steps - Bill Christolm

C : Tri-Spherical Thinking Bill Christolm

D : News Release - Dr Peter Richards

E :

F :

Testimony of Ellen R. Glaccum

Idaho Department of Environmental Quality Hearing on British Nuclear Fuel's application to construct an Air Pollution Emitting Source. Twin Falls, Idaho. May 26, 1999

As a 30-year resident of Idaho who is interested in the health and safety of Idahoans, I urge the DEQ to deny this application for the following reasons:

1. DEQ technical analysis is fundamentally flawed in that the scope of the project was under-estimated by some 100,000 cubic meters. DEQ asserts in its Project Description, "The AMWTF will process approximately 65,000 cubic meters of alpha low-level mixed waste, TRU contact handled MW and radioactive only waste from the TSA. The facility also has the capability to treat up to an additional 20,000 cubic meters, for a total 85,000 cubic meters of similar waste from the INEEL and other U.S. DOE regional and national waste streams." This statement woefully misrepresents the truth.

Here is how the DOE describes the project in the Record of Decision, dated March 1999. "The decision to proceed with the construction and operation of the Advanced Mixed Waste Treatment Project facility allows the U.S. Department of Energy to treat and prepare for shipment and disposal of 65,000 cubic meters of DOE transuranic waste, alpha-contaminated low-level mixed waste, and low-level mixed wastes currently stored at INEEL. Further, DOE could treat at the AMWTF up to 120,000 cubic meters of additional waste from the INEEL or other DOE sites, for a total of 185,000 cubic meters."

The project is designed to handle 185,000 cubic meters of nuclear and hazardous waste and to burn an unknown amount of this vast volume. (DOE won't know until it examines each barrel but the guess at this point is around 25%. Independent scientists have asserted that there is no way to estimate how much will be burned -- See EIS testimony of physicist Hisham Zerriffi). DEQ must analyze the impacts of the entire project -- not a portion of it. To do otherwise is fraudulent and unacceptable.

To give an idea of the size of the nuclear and hazardous waste in question, my husband did a little high school math. One cubic meter is approx 3x3 feet. 65,000 cubic meters if laid in a long line is approx 195,000 feet long, or approx 40 miles. 120,000 cubic meters would be 360,000 feet, or approx 73 miles long. 185,000 cubic meters would stretch approx 113 miles!

2. A January 12, 1999 memorandum details the results of DEQ modeling of British Nuclear Fuel's incinerator. The following points have caused me great concern:

(A). "Based upon a modeling analysis of the potential abated radionuclide releases, an EDE (effective dose equivalent) of  $6.7E-03$  mrem/yr was calculated for the MEI (maximally exposed individual) located along the Southern edge of the INEEL property boundary. It was found that the majority of the predicted dose could be attributed to Am-241, Pu-238, and Pu-239." (p.6) Question: Since inhalation of plutonium is the most dangerous way mammals can be exposed, how can the DEQ accept this high level of atmospheric exposure?

Exhibit A 5-26-99  
2 pages  
Michael E. Leatham,  
Reg. Officer

B. "An analysis of the unabated radionuclide emission from the flue that will have the smallest contribution to the facility's overall radionuclide emissions was completed in order to determine whether or not monitoring and testing of the pollution control equipment will be needed. An unabated dose of 3.9 mrem/yr was predicted by the model. This is well above the cutoff value of 0.1 mrem/yr. As a result, monitoring of all five flues releasing radionuclides into the atmosphere will be required as outlined in 40 CFR 61.93." (p. 6) Question: If the flue contributing the smallest amount of radionuclides produces 3.9 mrem/yr, what is the total amount of five flues — 19.5 mrem/yr, or more? Why didn't the DEQ address this?

C. On pages 8, 7, 5, and 1 various concerns regarding the dioxin/furan emissions rates were noted. Question: Why should the DEQ allow any emission of this dangerous toxic carcinogen?

D. In addition to dioxin/furan, there are 43 other highly toxic pollutants which will be expelled into the atmosphere by British Nuclear Fuels. This witches brew includes PCBs, Dichloroethanes, Trichloroethanes, Tetrachloroethanes, Arsenic, Lead, Mercury, Asbestos, etc. In fact, it's hard to find a toxic which is not included in projected emissions. Question: How can the DEQ allow this?

E. "Due to the facility's location, co-contributing sources were not considered in this ambient impact analysis." (p. 4) Question: Since the INEEL already contributes significant amounts of hazardous and radioactive emissions into the atmosphere, shouldn't a legitimate scientific analysis address the cumulative impacts of both existing and proposed emissions?

F. "General statewide background concentrations for criteria pollutants were used in this analysis." (p. 3) Question: Why weren't background concentrations for INEEL used?

G. "...the maximum dose rate is expected to occur to the north northeast (NNE) due to the predominant wind flow." (p.5) Question: Given this fact, why weren't the states of Wyoming and Montana informed about this proposed pollution source? Chris Davenport of DEQ told me that DEQ had not, and was not planning to, inform our downwind neighbors. This is an outrageous oversight.

In conclusion, it is my opinion that a public agency charged with protecting environmental quality cannot possibly allow a foreign company to pollute our air with high levels of plutonium, americium and every hazardous chemical known to man. DEQ analysis is flawed and inadequate. DEQ needs to consider the cumulative emissions at INEEL, needs to start with a baseline of background concentrations at INEEL, and most certainly must consider the entire volume of hazardous and nuclear waste — 185,000 cubic meters — that British Nuclear Fuels plans to "treat."

Ellen Glaccum

PO Box 113

Kithum, ID 83340

622-5431

P. 2 of 2

Bill Chisholm  
15073E Hwy 30  
Buhl, AR 26 83311

# SEVEN STEPS TOWARDS A NUCLEAR SOLUTION

The journey of a 1000 miles begins with a single step, what is offered here are seven steps a journey of 10,000 years, beginning with the acknowledgement of, and the taking of responsibility for, dealing with the problems of the nuclear issue. Seven steps towards our children's future.

No person, no place, no issue or idea exists in a vacuum, an island unto itself. We are all part of, a piece of, an inter-connected Whole; a sum of its' parts. The seven steps listed below, are an offering, a beginning of the questions that need to be answered, the posture taken. Seven steps that will, if taken, change the course of history. An opportunity, to give to species of all life a credible accounting of our actions.

## 1. Integrity and Honor in Domestic and Foreign Affairs

The people of the United States and of other nations from around the world are victims of what can only be termed "nuclear tyranny". Treaties violated, individual rights usurped, constitutions ignored, and the general health and well being of the planet and its inhabitants jeopardized. Such a record creates antagonism, ill-will and hatred for the United States, a nation supposedly founded on principles that respect life and liberty.

In order to back away from the dangers of the nuclear menace, it is imperative that the government of the United States, the most potent nuclear power in the world, conduct its affairs both foreign and domestic in an honorable and responsible manner. That we in fact, show respect for the principles of life and liberty. That we not lust for power and riches at the cost of life and liberty others. This discrepancy in our stated values and our acts, is the source of such distrust. Acting with integrity in the conduct of our governmental, business and personal affairs both at home and around the world will greatly strengthen the need out of which a solution will grow. To do otherwise only courts disaster, as Einstein warned us.

## 2. Monies, Resources and Labor as Investment

As a nations, we need to redefine the use of our labors, our technologies, our monies and the Earth's natural resources as investments in the future, rather than as mere expenditures in the

The nuclear waste problem is a national issue, and in truth a global issue. We as a nation must acknowledge our responsibility and deal with this issue. We must set forth a policy to address the reality that goes with the turf. This policy must encompass the best technological and environmental data available. It must be open to the scrutiny of all interested parties. It must be a policy that protects and respects the sovereignty of states, counties, tribes and individuals in order that the waste does not get forced onto the weakest political entity.

We should put into this policy the best socio-economic, environmental, ethical and scientific thought available. It should be a policy that encompasses the whole process, including production, or it will not have addressed the issue.

## 7. A National Nuclear Waste Policy

monies now in the budgets of the Departments of Energy and of Defense for waste handling, and from the nuclear industry.

TRI-SPHERICAL  
The Holisitic Mode of Thinking  
by  
Bill Chisholm

Albert Einstein was not only a notable physicist, he was also a notable thinker. Two of his observations are of particular note. At the dawn of the nuclear age he said "All things have changed, but for our mode of thinking." Similarly, but with a slightly different spin he observed that "We cannot solve our problems at the same level of thinking at which we created them."

Our thinking to date has operated on the premise that the elements or issues in our lives function in a isolated reality on a linear format. With this mind-set our vision is limited by that which is directly in front and in sight. We miss all the other elements and interactions which in fact surround each issue and go out in all directions in a dynamic and inter-related cosmic soup of mental , physical and spiritual possibilities.

Despite this tri-spherical reality most people, including most scientists, are "mono-reductive" linear thinkers; that is they reduce the totality of an issue to a narrow spectrum void of broader implications and interactions. What are we to expect when our most influential institutions are linear in nature. An authoritarian leader defines the issue and the scope of discussion, then we all react to the dogma. This is the dominant structure of the church, the state and most educational institutions. Though we have advanced our technological capabilities through physics, our mode of thinking is as archaic as in those days when many perceived the world as flat. We are thus trapped at a level of thinking which keeps us from seeing our problems in perspective or of finding viable and lasting solutions.

The practitioners and teachers of the ancient art and science of yoga teach us to see things in the context of the whole, the mental, the physical and spiritual as one. The word yoga means yoke or union of those three aspects of our reality. The mental, physical and spiritual exist not as separate realities, but as three aspects of a single reality. We create problems for ourselves when we fail to expand our thinking to include all ramifications of our actions.

In the public debates on our most critical socio-economic and environmental issues the terms are linear. They are defined along the narrow and short term advantage of special interests. Linear thinking allows for mis-defined issues and the polarization of the debate along preconceived parameters. For instance in education the

Exhibit C 5-26-99

2 pages

Member's Committee, May office

## NEWS RELEASE

The new plutonium incinerator will release millions of cancer causing plutonium particles into Idaho's fresh air. But don't ask Governor Kempthorne how many million plutonium particles he would recommend releasing in Idaho's air because he does not want you to know...but what you don't know ...can hurt you.

Kempthorne's green painted Division of Environmental Quality has rubber stamped approval of the state permit for this incinerator, that will import the nation's plutonium. Profit for Morrison-Knudson and British Nuclear Fuel mean plutonium for the Idaho people.

There are legal ways to stop this permit but our politicians are choosing to volunteer Idaho for frontline nuclear duty. Here are some of the problems...

1) The permit can be stopped if the incinerator will expose any Idahoan to more than 10 millirem(mrem) of radiation in a year. The state bureuacrats are choosing to look at the incinerator with rose colored glasses. The state has accepted the calculations that only look at good days. They choose to avoid radiation doses in bad weather(inversion layers) and hope the filters work well.

At the incinerator hearings, I pointed out the problem that already happened at INEEL's WERF incinerator on Sep.11,1991. Upon routine inspection they found " clamp failure of 6 bags in the baghouse, followed by blinding and subsequent pressure deformation of the initial bank of HEPA filteres." The accident reported" all 3 HEPA filters in a row were breached."

DEQ choose not to look at these types of problems, even though they will needlessly expose Idaho children and pregnant women to radiation. Why do our politicians choose to ignore this ? Why else would the nuclear businesses give them so much money?

In the EIS the DOE admits a failure of the filtering system could result in a radiation dose of 201 mrem to an Idahoan at the Highway 20/26 rest area. (AMWTP Final EIS p3-290, issue code:13) That's about 20 chest x-rays for your pregnant wife and well over the legal limit of 10 mrem! The EIS listed other more frequent "anticipated" accidents that all exceed the legal 10 mrem radiation dose.(AMWTP Final EIS TablesE-5-2, and E-5-11, and E-5-13,and E-5-15, and E-5-17)

2)The original permit was for the 13 years it will take to treat the plutonium waste stored above ground since 1970. This waste, from Colorado, is not including the buried waste. The permit originally was for the 650,000 curies, the above ground waste. Oddly, BNFL requested to drastically increase the permit to 650,000 curies per year for 13 years! The state said OK! Lord knows how much and what they will shove down Idaho's lungs, but this is ridiculous to permit. If the DOE is really going to treat all our above ground waste first then why move up the curie count? I asked before , why don't they close the loophole in the contract on page C1 that let's the DOE change the first 65,000 cubic meters to out of state plutonium? The obvious plan is written clearly in the Final EIS for WIPP and seperate EIS for Waste Management. They both plan on dumping the reclassified, now low- level plutonium on site in a new 200 acre dump. That's billions of cancer causing particles dumped in this flood zone. Note the state endorsed the ICPP clean up plan that opened a new 54 acre dump for the billions of plutonium particles. Gee they keep saying they're going to blend in the low-level plutonium and send it to WIPP, hmmm...

Exhibit D 5-24-99

*Markus L. ...*  
Markus L. ... , Hay officer

DEPARTMENT OF HEALTH AND WELFARE  
DIVISION OF ENVIRONMENTAL QUALITY  
STATE OF IDAHO

In Re: )  
)  
Public Comment Period and Hearing ) Docket No. 10AP-9901  
regarding an Application and )  
Proposed Permit to Construct an )  
Air Pollution Emitting Source )  
\_\_\_\_\_ )

BEFORE

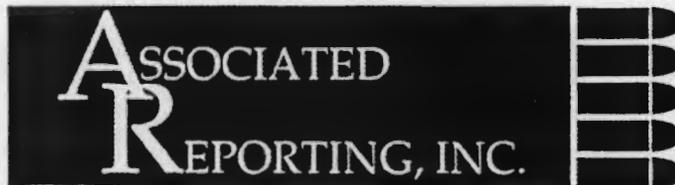
JEAN R. URANGA  
Hearing Officer

Date: May 27, 1999  
Time: 7:00 p.m.

Place: Division of Environmental Quality  
1410 North Hilton  
Conference Room B  
Boise, Idaho

Reported By:  
Pamela J. Leaton, CSR #200, RPR

**ORIGINAL**



200 N. Fourth Street v Suite 204 v Boise Idaho v 83702-6002  
1 800 588-3370 v 208 343-4004 v 208 343-4002 (Fax)

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1 P R O C E E D I N G S

2  
3 HEARING OFFICER: Okay. I'd like to go ahead and  
4 get started.

5 Let the record show that my name is Jean  
6 Uranga, the designated Hearing Officer for the Idaho  
7 Division of Environmental Quality. It's seven o'clock  
8 p.m. on the 27th of May, 1999.

9 We're in the Conference Center, Idaho Division  
10 of Environmental Quality, Boise, Idaho.

11 This is the time and place set to receive oral  
12 comments on the application and the proposed permit to  
13 construct an air pollution emitting source relating to  
14 the advanced mixed waste treatment facility proposed by  
15 BNFL Inc.

16 The purpose of this proceeding is to gather  
17 the facts, views or arguments from all interested  
18 persons relative to the proposed application and permit  
19 so that they may receive consideration by the Division.

20 I will accept written statements or documents  
21 at the hearing today, if relevant and signed by the  
22 person submitting them. The materials will be included  
23 as exhibits in the record, which will later be  
24 transmitted to the Idaho Division of Environmental  
25 Quality, Custodian of Records.

1           Let the record show that affidavits are on  
2 file regarding publications of the notices of  
3 opportunity for public comment at least 30 days prior to  
4 the close of the scheduled comment period as specified  
5 in Idaho Department of Health and Welfare Rules and  
6 Regulations, 16.01.209.A.3(d).

7           Such publications were made in The  
8 Coeur d'Alene Press, The Idaho State Journal, The Idaho  
9 Statesman, Lewiston Morning Tribune, Post Register and  
10 The Times News on April 14, 1999.

11           The first hearing was requested for Idaho  
12 Falls on April 15, 1999. The second hearing was  
13 requested for the Twin Falls area on April 26, 1999. A  
14 third hearing was requested for the Boise area on May  
15 4, 1999.

16           Let the record show that the affidavits are on  
17 file regarding publication of the notice of these public  
18 hearings. Such publications were made in The  
19 Coeur d'Alene Press, The Idaho Statesman, Lewiston  
20 Morning Tribune, Post Register and The Times News on  
21 April 24th. The Idaho Statesman, Post Register, Times  
22 News on May 3rd, and The Idaho Statesman on May 8th,  
23 1999.

24           Said publication was also made in the Idaho  
25 State Journal on April 26, 1999. These publications

1 were timely made and other necessary requirement notices  
2 have been met.

3 As an informal proceeding, there is no right  
4 to cross-examine a person offering a comment, nor is  
5 there a right to counsel or subpoena. No objections or  
6 procedures of a technically-legal nature will be  
7 received.

8 As the Hearing Officer, I am the sole  
9 regulator of the course of the presentations, including,  
10 but not limited, to a determination that the comments  
11 are outside the scope of the proposed air pollution  
12 permit, or that comments are unduly repetitious.

13 I'm not here to answer questions or to explain  
14 any part of the proposed permit, although I, myself,  
15 might ask questions to further explore or amplify the  
16 information presented.

17 All those interested parties attending this  
18 proceeding have been asked to sign in on the roster by  
19 the entrance, indicating a desire, if any, to make an  
20 oral presentation. I will ask that you try to limit  
21 your comments to between five and ten minutes.

22 After a brief statement prepared by the  
23 Division, summarizing the application, the results of  
24 their analysis and the proposed permit, each person will  
25 be given an opportunity to speak at least once prior to

1 any person being heard a second time.

2 I will remind you that this hearing is on the  
3 air quality aspects of the proposed project, and that  
4 only comments regarding that topic may be considered.

5 Also please refrain from expressing your  
6 approval or disapproval of a speaker's comments by  
7 applause or other means. This is disrupting to an  
8 orderly presentation of views and consumes time from the  
9 speakers.

10 At this time, the Division statement will be  
11 read into the record, followed by oral  
12 presentations.

13

14

**MIKE SIMON,**

15 appearing on behalf of the Division of Environmental  
16 Quality, came forward and gave the following statement:

17

18 MR. SIMON: Mrs. Hearing Officer, ladies and  
19 gentlemen, my name is Mike Simon.

20

21 I am the Air Quality Engineer in the Air  
22 Quality Permitting Section of the Division of  
23 Environmental Quality in the Department of Health and  
Welfare for the State of Idaho.

24

25 My testimony will briefly outline the scope  
of the Department's authority in drafting the proposed

1 permit, our actions leading to this hearing, the content  
2 of the proposed permit, and how the Department will  
3 respond to the comments received during the comment  
4 period and at this hearing.

5           The Division of Environmental Quality is  
6 charged by Idaho State statute and the Federal Clean Air  
7 Act to operate a program to issue air pollution permits.  
8 The purpose of this program is to safeguard Idaho's air  
9 quality and to limit and control emissions of air  
10 contaminants from sources.

11           The Department carefully evaluates facility  
12 plans for construction of air pollution sources to  
13 ensure that the sources are capable of meeting state and  
14 federal air quality standards. It is critical that the  
15 limitations of the Department's permitting authority be  
16 understood.

17           The Department does not act as a statewide  
18 planning and zoning board to decide where facilities  
19 should be located, nor should it. Local governments,  
20 not a state agency in Boise, should decide where  
21 potential air pollution emitting facilities are to be  
22 located, and they should also decide what types of  
23 industrial facilities are allowed in their community.

24           The Department requires companies, such as  
25 BNFL Incorporated, to provide an application containing

1 plans and specifications detailing the type of facility  
2 to be constructed and the type and amount of expected  
3 emissions.

4           Once all the necessary information has been  
5 submitted and the application is declared complete, the  
6 Department reviews the data to make sure the following  
7 criteria are met:

8           First, that no violations of the outside  
9 ambient air quality standards will occur during normal  
10 operations of the facility.

11           Second, that the source will emit air  
12 pollutants below the limits specified in state and  
13 federal air quality rules; and

14           Third, that various additional requirements,  
15 such as testing, operating and reporting procedures will  
16 be followed in order to demonstrate continuous  
17 compliance with state and federal air quality rules.

18           The Department assumes that all facilities  
19 will be built in populated areas and issues or denies  
20 permits based on the same criteria statewide. The  
21 Department does not determine where industries will  
22 operate, but does determine compliance with state and  
23 federal air quality regulations.

24           Consequently, your comments on suggested  
25 permit improvements, identification of omissions, or how

1 the permit conforms or does not conform to state or  
2 federal air quality regulations are the types of  
3 comments that are most helpful to us.

4 The proposed air quality permit at issue in  
5 this hearing is in regard to the construction and  
6 operation of the Advanced Mix Waste Treatment Facility.

7 The proposed facility is to be located at the  
8 Radioactive Waste Management Complex on the Idaho  
9 National Engineering and Environmental Laboratory.

10 BNFL Incorporated submitted a permit application on  
11 October 13th, 1998, which was reviewed by the  
12 Department. The application was declared complete on  
13 November 16th, 1998, and a proposed permit was then  
14 drafted.

15 The application materials, DEQ's analysis and  
16 the proposed permit have been made available for public  
17 inspection at the Idaho Falls Public Library and at the  
18 Division of Environmental Quality Regional Offices  
19 located in Idaho Falls, Pocatello, Twin Falls, Lewiston,  
20 Coeur d'Alene, and at the state office in Boise.

21 The availability of these materials was  
22 published on April 14th, 1999, in The Coeur d'Alene  
23 Press, Idaho State Journal, The Idaho Statesman, The  
24 Lewiston Morning Tribune, The Post Register and The  
25 Times News.

1 Public hearings were requested and have been  
2 made available in Idaho Falls, Twin Falls and Boise. In  
3 addition, public informational meetings regarding the  
4 air and hazardous waste permitting process have also  
5 been made available at the same locations.

6 According to state air quality rules, an  
7 opportunity for a hearing has been provided for the  
8 proposed permit. Public hearings provide anyone an  
9 opportunity to give verbal testimony regarding the air  
10 quality issues. Public hearings have been scheduled for  
11 May 25th in Idaho Falls, May 26th in Twin Falls, and May  
12 27th in Boise. The public comment period for submitting  
13 written comments ends on June 28th, 1999.

14 BNFL Incorporated proposes to construct  
15 a facility to treat mixed waste currently stored on site  
16 at the INEEL. The facility includes an incinerator and  
17 other process areas which require permit limitations to  
18 ensure compliance with state and federal air quality  
19 standards. The proposed permit has been developed with  
20 specific emission rate limits, operating limits,  
21 monitoring, record keeping and reporting requirements, as  
22 well as emission testing to ensure continuous compliance  
23 with air quality standards.

24 Radionuclide emissions from this facility are  
25 required to meet EPA's NESHAP standards for Radionuclide

1 Emissions from Department of Energy facilities. These  
2 standards require the use of EPA-approved methods and  
3 models in determining that radionuclide emissions would  
4 meet the standards. The projected dose of radiation in  
5 the methods take into account the contribution of all  
6 expected radionuclides. The resulting modeled dose  
7 equivalent is a function of the primary exposure  
8 pathways: ingestion, inhalation and deposition.

9 EPA has conducted a review of this modeling  
10 analysis, along with the facility's proposed  
11 radionuclide emission control system and approved the  
12 construction of this facility. The proposed permit  
13 includes EPA's requirements to monitor radionuclide  
14 emissions from the facility.

15 The permit also contains emission standards  
16 from EPA's proposed Maximum Achievable Control  
17 Technology standards for Hazardous Waste Combustors.  
18 This proposed regulation contains emission limitations  
19 for specific hazardous air pollutants determined by EPA  
20 research to be emitted from hazardous waste combustion.  
21 The state has incorporated these specific emission  
22 limits and has required continuous emission monitoring  
23 for mercury, hydrocarbons and carbon monoxide. In  
24 addition, annual emission testing is also required to  
25 demonstrate compliance with permit standards for

1 particulate matter, heavy metals and other hazardous air  
2 pollutants.

3           In addition to the emission testing, the  
4 facility will be required to maintain records  
5 documenting air pollution control equipment  
6 performance and efficiency and to develop quality  
7 assurance quality control programs for continuous  
8 emissions monitoring and radionuclide monitoring. The  
9 facility will also be required to submit quarterly  
10 reports to the Department demonstrating that the  
11 facility is in compliance with the radionuclide  
12 standards.

13           The Department's Hazardous Waste Permitting  
14 Bureau is currently reviewing the facility's hazardous  
15 waste permit application for completeness. Once this  
16 application is determined complete, a draft permit will  
17 be prepared, and the public will be given an opportunity  
18 to review and comment.

19           The Air Quality Permitting Bureau is very  
20 interested in hearing comments pertaining to the  
21 proposed permit. No one should feel that they must have  
22 a detailed technical knowledge of the document in order  
23 to provide useful comments. Many of our permits are  
24 modified prior to final issuance because a citizen  
25 brought out some point he or she felt should not be

1 overlooked. The Department takes public input very  
2 seriously, and your comments are appreciated.

3 We are constrained in this hearing, however,  
4 to consider only comments relevant to the air quality  
5 permit itself. The air quality permitting process is  
6 limited to air quality topics and cannot address other  
7 issues. The proposed permit does not release BNFL  
8 Incorporated or the Department of Energy from complying  
9 with all other applicable federal, state and local  
10 requirements: Anything you think we might have  
11 overlooked, was needlessly included, or if something  
12 should have been done differently according to law, are  
13 the types of comments that are most useful to us.

14 The final decision on the proposed permit will  
15 be made within the confines of federal law, state  
16 statute and the Idaho air quality rules. If BNFL  
17 Incorporated fulfills all requirements of the laws, they  
18 are entitled to an air quality permit to construct. The  
19 Department, however, has clear discretion on many  
20 issues. And we are also interested in suggestions  
21 regarding the permit, or nonconformance of the permit  
22 with the air quality rules.

23 Oral or written comments at this hearing or  
24 written comments mailed to the Department are welcome.  
25 Once the public comment period closes on June 28th,

1 1999 at 5:00 p.m. Mountain Daylight Time, the Department  
2 will respond to all relevant comments in a public  
3 comment response package. This package will consist of  
4 the hearing transcript from this hearing, all written  
5 public comments received during the comment period, the  
6 Hearing Officer's certification, and the final action  
7 taken on the permit. The Department can issue the  
8 permit, issue a revised permit, or deny the permit if  
9 there is a compelling reason to do so.

10 The response package will be made available to  
11 the public at the Idaho Falls Public Library and at the  
12 Division of Environmental Quality Regional Offices  
13 located in Idaho Falls, Pocatello, Twin Falls, Lewiston,  
14 Coeur d'Alene and at the state office in Boise.

15 Any further comments on this project after  
16 this hearing must be submitted by June 28th, 1999,  
17 5:00 p.m. Mountain Daylight Time to: Chris Davenport,  
18 Division of Environment Quality, 1410 North Hilton,  
19 Boise, Idaho, 83706-1255.

20 Thank you.

21 HEARING OFFICER: Thank you.

22 To begin, I will call upon persons in order  
23 who indicated on the roster are wished to be heard.

24 Since these proceedings will be recorded, I  
25 ask that those wishing to make oral presentations to

1     come forward to the microphone, state your name,  
2     spelling your last name, and proceed with your comments.

3                     Fritz Bjornsen?

4

5                                     **FRITZ BJORNSEN,**

6     came forward and gave the following statement:

7

8             MR. BJORNSEN: Fritz Bjornsen. My last name is  
9     spelled B-J-O-R-N-S-E-N.

10                     I'm speaking today as an individual, although  
11     I am a member of the board of directors of the Snake  
12     River Alliance.

13                     I have actually a number of questions here, as  
14     opposed to comments, in no particular order.

15                     First off, what procedures are in place to  
16     share data and monitoring results with the state  
17     holders? How will the information be disseminated?  
18     Will it be made available in a timely fashion? And will  
19     this information be archived at a location easily  
20     accessed by state holders?

21                     Is the oversight and monitoring by the state  
22     fully funded? Will additional personnel be required?  
23     What qualifications will monitoring personnel need to  
24     perform their duties?

25                     To what extent has the track record of similar

1 facilities been considered in this permit process? Has  
2 the contractor built and operated similar facilities?  
3 And what was the contractor's track record with respect  
4 to those facilities?

5 Is the technology unique to this facility?  
6 And has the new technology been tested or prototyped on  
7 a smaller scale? And to what extent has computer  
8 modeling been used in place of physical testing?

9 During the initial startup and testing, will  
10 the state be a part of the surrogate waste testing  
11 process? And what will the state -- during the first  
12 60 days of operation, will the state have a greater  
13 oversight during that period of time to ensure that the  
14 facility operates properly?

15 Okay. Let's see. The permit allows for an  
16 additional 20,000 cubic yards of materials beyond that  
17 which is presently identified and stored at the INEEL.  
18 This waste may or may not come from the site. If indeed  
19 waste is going to be brought in from other sites, has  
20 the impact of the shipping and the number of trucks  
21 and/or trains arriving been taken into consideration as  
22 part of this air quality permit?

23 This is pretty much all the questions I have.  
24 I may submit some written comments prior to the end of  
25 the comment period.

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Thank you.

HEARING OFFICER: Okay. Thank you very much.

Steve Hopkins?

**STEVE HOPKINS,**

appearing on behalf of the Snake River Alliance, came forward and gave the following statement:

MR. HOPKINS: My name is Steve Hopkins, H-O-P-K-I-N-S. And I'm with the Snake River Alliance of Idaho.

The Snake River Alliance will be submitting detailed written comments. At this time I just have something I'd like to read into the record, as soon as I can find it.

I understand that this facility is quite different than the WERF facility that's currently operating at the site, but I make this comment because it pertains to oversight of a similar facility in the incineration of radioactive waste.

On May 9th, 1997, the INEEL's current low-level mixed waste incinerator, the WERF, released, during a test run, hydrogen chloride into the atmosphere that significantly exceeded legal limits. With state and federal regulators at hand to witness the test burn,

1 operators chose to ignore indications of the mishap,  
2 believing the instruments were in error.

3 The burn continued for almost two hours,  
4 during which the instruments continued to register  
5 excessive hydrogen chloride discharges. Only when  
6 Lockheed took samples of the test run to the laboratory  
7 for analysis was it confirmed that WERF did indeed burn  
8 and release hydrogen chloride in levels that violated  
9 published pollution laws.

10 The Department of Energy guidelines currently  
11 state that operators should believe instrument readings  
12 and treat them as accurate, unless proven otherwise.  
13 Ignoring an unusual reading because an operator believes  
14 an instrument is faulty can cause abnormal conditions to  
15 be undetected.

16 This incident falls in discovering that the  
17 WERF incinerator emits PCBs. WERF is not allowed to  
18 burn PCBs greater than five parts per million. But an  
19 investigation revealed that it may have burned PCBs  
20 containing up to 600 parts per million.

21 So I read that into the record, hoping that  
22 the oversight of this facility will learn from this  
23 past mistake at WERF and not make a similar mistake.

24 The Snake River Alliance still remains radio  
25 agnostic about this facility. We understand that some

1 of this waste does need to be treated and some of this  
2 waste does need to be treated under WRIKA, which should  
3 be the sole driver for treating waste.

4 However, there's still some pretty burning  
5 questions about the need for treating a great volume of  
6 the waste. And we will continue to monitor this  
7 facility, as we have been all along.

8 And I would just like to remind the Division  
9 of Environmental Quality that you are Idaho's watchdog  
10 when it comes to this facility. But the Snake River  
11 Alliance, should this facility be built, will also be  
12 watching very closely.

13 Thank you.

14 HEARING OFFICER: Thank you very much.

15 Pam Allister?

16  
17 PAMELA ALLISTER,

18 came forward and gave the following statement:

19  
20 MS. ALLISTER: My name is Pamela Allister. I live  
21 in Boise, Idaho. I am the executive director of the  
22 Snake River Alliance. I'm speaking tonight as a private  
23 citizen. And I'm going to be speaking radio  
24 extemporaneously.

25 Let's see, I'm getting some signals. I don't

1 think this is even on. But now it just drives you out  
2 of the room. No? That's fine?

3 I'm going to be speaking extemporaneously  
4 about this particular air quality permit. The Snake  
5 River Alliance has a very competent program staff, and  
6 we have engaged the services of a number of consultants  
7 to help us with this process for the length of almost  
8 two years.

9 Where my thoughts lead, as I was thinking  
10 about coming here tonight, was a reminder of growing up.  
11 And when I was eight years old, I was living on a dairy  
12 farm. My parents were managing this farm. They didn't  
13 have even an inkling that at some point in time they  
14 were going to have to be concerned about what some 40  
15 different heavy metals and chemicals that would be in  
16 the air for themselves and their children to breathe.  
17 They had probably never heard of Iodine 131. I don't  
18 know if they really knew about plutonium.

19 And, yet, they should have been worried,  
20 because by the time my sister, my baby sister was born,  
21 ten years after myself, we were living in a part of the  
22 country that was experiencing fallout that we weren't  
23 told about that was sourced by our own government of  
24 Iodine 131, which had profound impact on the health of  
25 my sister, because we lived on a dairy farm and we drank

1 raw milk.

2 And so that kind of information leads me to  
3 think very carefully and thoughtfully and around some of  
4 the legalistic things that we would be, perhaps, hearing  
5 about. When I think about an incinerator, I do think  
6 about people and their health and animals and plants.

7 Literally in the issuing of a permit to  
8 construct this facility, we are jumping from the frying  
9 pan into the fire. And the pun is intended here. The  
10 Cold War left us with no good solutions for cleanup.

11 The Snake River Alliance is very concerned  
12 about a number of these wastes and the matter of urgency  
13 of getting them cleaned up in the fastest way possible.  
14 There's an immense amount of material at the INEEL  
15 facility that does need to be characterized and a  
16 plan for cleaning it up needs to be expedited as soon as  
17 possible.

18 It may be that it will be necessary in that  
19 plan to include some sort of incineration beyond what  
20 incineration is taking place now.

21 On the other hand, what we're experiencing and  
22 what I'm experiencing is that what's driving this  
23 decision is a political driver rather than a scientific  
24 driver or an urgency to protect the environment. And  
25 that issuing a permit of this nature, may, in a

1 premature fashion, lead us, for a long time to come,  
2 with things that we didn't anticipate we would have to  
3 cope with, such as we are now coping with the fallout of  
4 Iodine 131 on people 30 or 40 years later.

5 I, too, am going to read something into the  
6 record. This is from a publication by the Institute of  
7 Energy Environment Research. It was actually written a  
8 number of years ago, three or four years ago, but  
9 strangely, things don't change in this business. And I  
10 am offering this as a reading so that we bring the  
11 language down to something that is rather simply and  
12 easily understood.

13 Incinerators burn waste at high temperatures.  
14 The main purpose of incinerating radioactive waste is to  
15 reduce waste volume, since a large proportion consists  
16 of bulky items such as contaminated clothes, lumber and  
17 plastic. Incineration of waste that is mixed, a mixture  
18 of chemically hazardous and radioactive materials, known  
19 as mixed waste, has two principal goals. One, to reduce  
20 the volume and the total chemical toxicity of the  
21 waste.

22 There are health and environment risks.  
23 Incineration does not destroy the metals or reduce the  
24 radioactivity of this waste. Radioactive waste  
25 incinerators, when equipped with well-maintained, high

1 efficiency filters, can capture all but the smallest  
2 fraction of the radioactive isotopes and metals fed into  
3 them.

4 I'll give you a copy of this.

5 The fraction that does escape, however, tends  
6 to be in the form of small particles that are more  
7 readily absorbed by living organisms than larger  
8 particles.

9 Incinerators, like many combustion devices,  
10 such as automobile engines, convert combustible  
11 materials mainly to carbon dioxide and water in the form  
12 of steam. But they generally also create toxic  
13 by-products, known as products of incomplete combustion  
14 or PICs. PICs can be more toxic per unit weight than  
15 the original wastes. The total quantity and toxicity of  
16 PICs from incinerators is highly uncertain. The most  
17 widely-studied toxic PICs are known as dioxins.

18 I'm going to stop there and submit the rest of  
19 this into my final comments. And what is important for  
20 me to say here is that we are treading into unknown  
21 territory. Not only with this, but also with what I  
22 call the potentiation or interrelationship of what  
23 happens when we take 40 or 50 different substances and  
24 burn them at one time. We don't know. We know what  
25 each individual one would, perhaps, have an impact on

1 health, but when they're mixed together, we may be  
2 potentiating even further harm than we anticipate.

3 I also have a reminder. I'm going to take the  
4 liberty of reminding the Division of Environmental  
5 Quality that it is mandated to protect the health and  
6 welfare of the citizens. And in this mandate, it also  
7 must maintain a context of neutrality when it comes to  
8 the BNFL and other corporate contenders for permits.

9 Indeed the wisdom of Solomon may be needed to  
10 determine what ultimately is the best for the air  
11 quality of the people of Idaho.

12 Another reminder I have for the Division of  
13 Environmental Quality is that they need to continue to  
14 develop strategies to be public friendly. A great deal  
15 of time and attention has been spent in the discussion  
16 and analysis of this permit, a great deal of scientific  
17 and engineering capacity, but I have not experienced  
18 that the same has been expended in terms of the human  
19 context and the human care of people that are going to  
20 be impacted by this permit. And that there needs to be  
21 a continuous path opening the way to public  
22 participation.

23 I do wish to thank Chris Davenport for his  
24 willingness to work with me in providing a hearing here  
25 in Boise. On my own assessment of the time that I've

1 had to spend preparing for this hearing, I spent more  
2 time getting the hearing and getting the extension than  
3 I have spent on reading the application, which is --  
4 thank goodness I have a good staff. However, I think  
5 that's a sad commentary on the process of securing an  
6 air quality permit.

7 Thank you very much.

8 HEARING OFFICER: Thank you.

9 Jo Kirkpatrick?

10  
11 **JO KIRKPATRICK,**

12 came forward and gave the following statement:

13  
14 MS. KIRKPATRICK: I speak tonight as an individual.  
15 My name is Joanne Kirkpatrick. I go by the nickname of  
16 Jo, and I live in Boise.

17 I intend to submit written comments before the  
18 deadline, and so I will not say very much this evening.  
19 But there are a couple of things that trouble me very  
20 much about this project.

21 The first is, as far as I know, this is the  
22 first incinerator of this type to be proposed in the  
23 whole United States. If I'm wrong, somebody can correct  
24 me on that.

25 But if there had been such a facility in the

1 United States before, it seems to me we would have heard  
2 something about it, its functioning, its problems and so  
3 forth, and I haven't come across anything. So I think  
4 this is a serious issue.

5 Obviously there's probably a lot of natural  
6 resistance and objection to the idea of burning mixed  
7 wastes, which include radionuclides.

8 I'm also particularly concerned about it being  
9 located at the INEEL site in Idaho, because of the  
10 prevailing winds in the state of Idaho. The prevailing  
11 winds tend to be either west, northwesterly, east or  
12 southeasterly. So the fact that it's in INEEL doesn't  
13 necessarily mean that radioactive particulates may not  
14 reach the western part of the state. And if you're  
15 thinking of the westerly and northwesterly winds, it's  
16 entirely possible that they would move across state  
17 borders into the states of Wyoming, Montana and possibly  
18 further north into Canada.

19 I have participated before in citizen  
20 coalitions against nuclear power plants. And the basis  
21 of my participation before was and now still is that  
22 radioactivity travels in the air, and it travels by the  
23 wind patterns.

24 And another consideration about radioactive  
25 particulates, you know, very often comparisons are made

1 to, let's say, the amount of radiation a person might  
2 receive sitting in an airplane. But the person who is  
3 sitting in an airplane is not receiving radioactive  
4 particulates of dirt or dust, for example, in their  
5 lungs and into their breathing apparatus. But  
6 radioactivity that is spread over the countryside, as we  
7 already know from Chernobyl, and also from the BNFL  
8 experience in Sellafield in UK, does spread over the  
9 land mass and contaminants air, land and water.

10 I think this is a very dangerous proposition.  
11 Thank you.

12 HEARING OFFICER: Thank you very much.

13 Micaela deLoyola?

14

15 MICHAELA deLOYOLA,

16 came forward and read the following statement:

17

18 MS. deLOYOLA: My name is Micaela deLoyola,  
19 d-e-L-O-Y-O-L-A, and I'm reading this for Jane Holt,  
20 H-O-L-T, who could not be here today.

21

22 Craters of the Moon is a Class 1 National  
23 Monument Park. The air quality there cannot be degraded  
24 in any way by an incinerator-based program.

24

25 Also, the calcining plants have been  
reactivated at the INEEL, the next door neighbor to the

1 park. For what purpose, I don't know. But it, too, is  
2 an emitter of pollution. I've been told that yellow  
3 plumes have been sighted in that area.

4 An incinerator of this magnitude, running  
5 around the clock for a minimum of 13 years, more like  
6 20, is as hazardous as it gets.

7 Please deny this request.

8 And this is a quote from The Idaho  
9 Statesman 5-16-99.

10 "Visitors from around the world come to  
11 see the lava flows, hike, camp, watch birds, go biking  
12 or cross country skiing, study the stars and breathe  
13 some of the nation's cleanest air."

14 HEARING OFFICER: Thank you.

15 Jean Boyles?

16

17 JEAN BOYLES,

18 came forward and gave the following statement:

19

20 MS. BOYLES: I'm Jean Boyles, B-O-Y-L-E-S.

21 Before I start, yeah, I remember going to the  
22 airport in St. Louis, meeting a woman from Linn,  
23 Missouri, a very small community. Her mother was an  
24 activist. There was an incinerator proposed for Linn,  
25 Missouri, and she organized the community, and they

1       defeated it. So I'm hopeful.

2               The BNFL incinerator planned for the INEEL is  
3 an anachronism that should be denied. There are other  
4 options for treatment and storage of TRU waste. The  
5 scope of this project is too broad and complex for  
6 approval. It opens the door to unending sources of  
7 mixed waste from everywhere coming into Idaho for  
8 processing.

9               The incinerator is scheduled to operate around  
10 the clock from 2003 until 2015. Those are years. 13  
11 years. After 2015, up to 100,000 more cubic meters of  
12 nuclear waste may join the assembly line. We don't know  
13 where from or what is in it. It's insane to run the  
14 risk of any incineration unless doing so reduces some  
15 greater peril. It's certainly not indicated here.

16               No technology can guarantee zero emissions of  
17 microscopic particles and gases. Also, what becomes of  
18 the waste stream from treatment processing?

19               A far greater concern is all the mixed waste  
20 buried in pits at the INEEL. 26 acres of nuclear waste,  
21 mostly from Rocky Flats, Colorado, containing about two  
22 and a half tons of plutonium that will remain active for  
23 250,000 years, more than my life span.

24               The DOE, BNFL, whoever, should dig up the  
25 buried waste, stabilize it, store it on site in steel

1 containers and above ground for monitoring.

2 I'll submit this.

3 HEARING OFFICER: Okay. Thank you.

4 Pat Clark?

5

6 PAT CLARK,

7 came forward and gave the following statement:

8

9 MS. CLARK: Hi. My name is Pat Clark. I live in  
10 Boise, Idaho. I'm a member of the Snake River Alliance,  
11 and I'm an unpaid volunteer.

12 The Advanced Mixed Waste Treatment facility,  
13 in my estimation, is too expensive. It's untried and  
14 will not solve Idaho's serious nuclear waste problems.

15 Of the alternatives for dealing with hazardous  
16 waste coming into Idaho, incineration has the worst  
17 environmental impacts, according to the EIS draft.

18 Also, it will turn or could turn Idaho into a  
19 grand central station of waste slated for treatment.

20 20 percent of the waste initially slated for crush and  
21 burn is already stored in compliance with hazardous  
22 waste laws. INEEL plans to put the rest in compliance  
23 storage, even if BNFL's plant is never built.

24 Crushing reduces the volume by 80 percent, but  
25 does not make it safer. Could the volume reduction

1 increase the danger of uncontrolled criticality or a  
2 nuclear chain reaction?

3 I've enclosed a clipping on the Soviet TV  
4 discussing decades-old nuclear disasters in the Urals.  
5 It's part of my sheet here.

6 BNFL wants to burn 22 percent of the waste.  
7 It is unclear how much or how little of the waste  
8 actually requires incineration. Why put ourselves at  
9 risk?

10 If the mixed waste facility is built without  
11 the incinerator, there would be no need for it after  
12 2015. That's the year 2015, you guys.

13 With the incinerator, however, an additional  
14 120,000 cubic meters of waste may come to Idaho, and I  
15 assume from other states. The plant could go on and on  
16 until 2033.

17 65,000 cubic meters of mixed waste, mostly  
18 from Rocky Flats, is safely stored in steel containers  
19 above ground where it can be monitored. The real crisis  
20 is the TRU waste buried in pits covering the 26  
21 acres at INEEL. It needs to be excavated, stabilized  
22 and stored on site the same way. Incineration is not  
23 the answer.

24 There are safer options being researched. I  
25 think it's very significant that Lawrence Livermore

1 Laboratory refused an incinerator in 1990. We should  
2 too.

3 Thank you very much.

4 HEARING OFFICER: Thank you. Do you want to submit  
5 those written comments?

6 Thank you very much.

7 Gary Richardson?

8

9

**GARY RICHARDSON,**

10 came forward and gave the following statement:

11

12 MR. RICHARDSON: My name is Gary Richardson,  
13 R-I-C-H-A-R-D-S-O-N. I live in Boise.

14

15 I am coordinator of the Idaho Clean Air Force,  
16 a nonprofit association of hundreds of Idahoans  
17 organized to educate and inform the public and the media  
18 about air pollution threats to our health and  
19 well-being.

20

21 I want to thank those responsible for  
22 extending the public comment deadline on this proposal  
23 for another month. It gives some of us who are less  
24 well prepared more time to get well prepared.

25

My remarks this evening represent my personal  
opinions. We shall analyze the proposal and file more  
detailed comments on behalf of the Clean Air Force prior

1 to the June 28th deadline.

2 My remarks may be slightly outside the scope  
3 that you laid out legalistically.

4 It continues to boggle my mind -- I grew up in  
5 Cleveland, Ohio. I used to ride my bike to work across  
6 the Cleveland Flats where they smelted steel and  
7 refined oil and put the most God awful stuff into the  
8 air that you can imagine. But we didn't know any better  
9 back then, or at least I didn't. I don't think the  
10 regulators did.

11 It continues to boggle my mind that with all  
12 that we know now about the importance of breathing pure  
13 air, we as a society continue to allow the most precious  
14 of shared resources to be used as a waste repository.

15 In my opinion, no matter how minute the  
16 quantities, no amount of hazardous or radioactive  
17 substance should be purposely emitted into the air we  
18 all breathe, even in remote eastern Idaho.

19 All over this planet, incineration is being  
20 discredited as a method of waste disposal. So-called  
21 disposal. It's really reposal.

22 As other areas refuse to permit incinerators,  
23 if Idaho continues to approve them, it is only natural  
24 that we will receive the materials to be incinerated  
25 that others refuse.

1           As I understand it, the primary purpose of  
2 this project is to prepare waste that would otherwise  
3 not qualify for shipment to WIPP in New Mexico. Now, I  
4 don't like hazardous and nuclear waste sitting out in  
5 the Arco desert any better than anybody else. But if  
6 burning it to concentrate it for so-called better  
7 disposal will put any of it into the air, let it stay  
8 there. It's much safer.

9           Many of the 40-some substances proposed to be  
10 emitted are known carcinogens. Supposedly the standards  
11 that have been set protect us, but in many cases we  
12 don't know of a minimum safe level for some of these  
13 chemicals, some of these substances.

14           As someone earlier pointed out, when  
15 particulates become extremely fine, below two and a half  
16 microns, they can reach deep, deep into your lungs. So  
17 the very process of filtering out as much as you can of  
18 this means that the very smallest, most dangerous  
19 particles will be the ones that get carried off into the  
20 air.

21           So even if the proposed emissions are within  
22 the federal standards, it, to me, is unconscionable  
23 that regulators would allow any radioactive or hazardous  
24 particles to be emitted from this facility. To me, it  
25 just seems like the old delusion is the solution to

1 pollution ploy.

2           What we have, I think, is a discredited  
3 technology being applied to a nonexistent problem with  
4 unknown results. But we do know that some, supposedly  
5 minute amounts, but nonetheless, amounts that were not  
6 being emitted previously, will be put into the air that  
7 we all breathe. I don't think it's a good idea.

8           Thank you very much for this opportunity to  
9 comment.

10           HEARING OFFICER: Thank you.

11           James Maguire?

12

13                           **JAMES H. MAGUIRE,**

14 came forward and gave the following statement:

15

16           MR. JAMES MAGUIRE: I'm James H. Maguire. That's  
17 M-A-G-U-I-R-E. And please get the middle initial in  
18 there. There's another James Maguire in Boise, James B.  
19 Maguire, and I'm sure he -- well, I'm not sure, but he  
20 may not want his stance identified with mine.

21           I'm speaking extemporaneously. I'm a member  
22 of the Snake River Alliance, but I'm speaking as an  
23 individual.

24           I'd like to begin with a little personal  
25 anecdote about air quality. And it has to do with the

1 fact that in late 1944 and early 1945, my family and I  
2 resided in Richland, Washington. My father was working  
3 at the Hanford plant where they were processing uranium  
4 to develop the first atomic bomb. During that period,  
5 there were releases of radioactive iodine. My mother's  
6 younger sister was also at the Hanford facility,  
7 actually for a longer period, and in 1982, my mother  
8 developed cancer of the thyroid. Fortunately that's a  
9 slow-growth growing cancer, so she lived until just last  
10 year, though with the problems caused by the removal of  
11 her thyroid.

12 Her younger sister developed a number of  
13 cancers, too. And it may be coincidence. The release  
14 of the radioactive iodine may have nothing to do with  
15 their cancers. But so far as we know, there's no  
16 history of cancer in their family until those two  
17 developed it.

18 The Hanford plant is a little bit like Three  
19 Mile Island and like Chernobyl. At all those facilities  
20 there were releases of radioactivity into the air. And  
21 I'm sure that when those facilities were designed, the  
22 engineers and the people responsible were sure that they  
23 had good designs and that the probability of any  
24 accident was very, very low.

25 Well, as we know, there were accidents at

1 those facilities. And, yet, if you'll think about it,  
2 those are facilities all designed to contain dangerous  
3 substances, to contain the radioactivity.

4           What is being proposed here is a plan to  
5 actually spew the stuff out into the atmosphere. And  
6 supposedly it will be in safe particles and quantities,  
7 but what if there is an accident, as there have been  
8 accidents at other well-designed, well-planned  
9 facilities?

10           I have to agree with those who oppose this  
11 plan. It seems to me that as long as we can store the  
12 waste out there, it's safer where it is. And those who  
13 think that the British have a very good record with this  
14 kind of disposal should read a book by an Idaho author,  
15 Marilynne Robinson. It's called Mother Country, and it  
16 talks about some of the practices at Sellafield. I'm  
17 convinced that it would be foolish to proceed.

18           Thanks for giving me a chance to express my  
19 opinion.

20           HEARING OFFICER: Thank you.

21           Stephen Maguire?

22

23

24

25



1 about one planet when they all decided to go to a new  
2 air disposal -- air control system. Their rooms were  
3 entirely air locked, and no air could get out or come  
4 in. And it was called Breathe-o-Smart Systems.

5 The people asked what would happen if this  
6 air got contaminated, or if the air didn't get processed  
7 right? The answer was continually, Breathe-o-Smart says  
8 this will never happen. Well, it did happen. And so  
9 the people dealt with the consequences. Unfortunately,  
10 they were high.

11 I'd like to say this is relevant because we  
12 are having the same situation. We are having an  
13 incident in which the people, the BNFL, are saying that  
14 their product, and it is a product, will never have any  
15 problems. Whereas, unfortunately, this may happen, and  
16 there may be consequences.

17 Thank you.

18 HEARING OFFICER: Thank you very much.

19 Okay. That includes everybody that did sign  
20 in on the roster.

21 Chris, is there anyone else back there?

22 MR. DAVENPORT: That's it.

23 HEARING OFFICER: Did anybody not sign in that  
24 would like to speak?

25 Okay. Thank you.

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The hearing having been called and commenced at seven o'clock p.m., it is now 7:55 p.m., the hearing is now closed.

The record, together with the exhibits, will be transmitted to the Division of Environmental Quality. Anyone wishing to further comment should address them in writing to Chris Davenport, Division of Environmental Quality, 1410 North Hilton, Boise, Idaho, 83706-1253.

All final written comments must be received at the above address by five o'clock p.m. Mountain Daylight Time on June 28, 1999.

The oral comments presented at this hearing and the written comments received by the deadline for submittal of comments will be reviewed and considered by the Division of Environmental Quality. A statement of final action will be made available to the public.

Thank you very much.

(Exhibit A, B, C and D were marked for identification.)

(The hearing was concluded at 7:56 p.m.)

1 REPORTER'S CERTIFICATE

2  
3 STATE OF IDAHO )  
4 COUNTY OF ADA ) ss.

5  
6 I, PAMELA J. LEATON, Certified Shorthand Reporter  
7 and Notary Public in and for the State of Idaho, do  
8 hereby certify:

9 That said hearing was taken down by me in  
10 shorthand at the time and place therein named and  
11 thereafter reduced to typewriting under my direction,  
12 and that the foregoing transcript contains a full, true  
13 and verbatim record of said hearing.

14 I further certify that I have no interest in the  
15 event of the action.

16 WITNESS my hand and seal this 7th day of June,  
17 1999.

18  
19   
20 PAMELA J. LEATON  
21 CSR, RPR and Notary  
22 Public in and for the  
23 State of Idaho.

24 My Commission Expires: 3-9-2000  
25

Advanced Mixed Waste Treatment Facility  
Hearing - May 27, 1999- DEQ - Testimony

The BNFL incinerator planned for the INEEL is an anachronism that should be denied. There are other options for treatment and storage of TRU waste.

The scope of this project is too broad and complex for approval. It opens a door to unending sources of mixed waste from everywhere, coming into Idaho for processing.

The incinerator is scheduled to operate around the clock from April 2003 until 2015. 13 years! After 2015 up to 100,000 more cubic meters of nuclear waste may join the assembly line.

We don't know where from or what is in it.

It's insane to run the risks of any incineration unless doing so reduces some greater peril, certainly not indicated here.

No technology can guarantee zero emissions of microscopic particles and gases. Also, what becomes of the waste stream from treatment processing?

A far greater concern is all the mixed waste buried in Pits at the INEEL. Twenty six acres of nuclear waste, mostly from Rocky Flats, CO, containing about 2.5 tons of plutonium, that will remain active for 250,000 years!

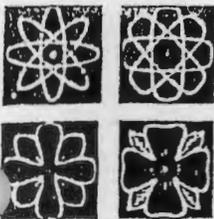
The DOE, BNFL, whoever, should dig up the buried waste, stabilize it and store it on site in steel containers and above ground for monitoring.

*Jean Boyles*

Jean Boyles  
1714 N. 7th St.  
Boise, Idaho 83702

Please include the attached sheets in the record.





## INEEL: DON'T BURN US

Nearly every step of the process to make nuclear bombs creates waste that is both radioactive and chemically hazardous. The hazardous components of nuclear waste can consist of anything from mercury to paint remover. The concentration of the radioactivity can vary. Like so much of the Cold War legacy, there are no perfect answers about what to do next with this waste, some of which the Department of Energy calls "mixed."

But thanks to sustained advocacy by groups such as the Snake River Alliance, management of the chemical toxins and hazardous heavy metals in the DOE's waste has been regulated under the Resource Conservation and Recovery Act since 1992. In Idaho and many other states, RCRA is administered by state government. Though states can set management standards more stringent than the Environmental Protection Agency's (and many do), Idaho's and the federal government's are identical.

**Management Requirements**  
Now that the federal government has to manage hazardous waste under the same law everyone else does, the DOE can finally be held accountable for how it deals with hazardous waste from cradle to grave. Proper storage and disposal can cover a range of activities. Regulatory requirements are based both on the specific waste in question and the physical attributes of the particular storage, treatment, or disposal facility. The goal is to insure that dangerous pollutants don't escape into the environment and hurt people.

Treatment, too, can vary. Different toxins pose different threats. Some hazardous waste has to be treated to reduce its toxicity, some to reduce mobility, some to destroy its explosive or caustic characteristics. In other words, the legally set goal for treatment varies depending on what environmental problem must be solved.

*The plant is scheduled to operate around the clock from April 2003 until 2015. That means a barrel of waste will be treated every half-hour, day and night, for 13 years.*

**Mixed Waste Storage**  
Some nuclear waste storage at the Idaho National Engineering and Environmental Laboratory has improved markedly since RCRA took effect there. For instance, until earlier this year, INEEL stored 17,600 55-gallon barrels of waste laced with both plutonium and industrial solvents in a giant tent. The barrels were packed so close together inspectors couldn't find the leaking ones. RCRA mandated that all the barrels be examined, leaking barrels put in larger ones, and then all moved into more structurally sound storage modules.

Liquid high-level waste contains heavy metals such as cadmium in an intensely radioactive acid bath. A RCRA enforcement action helped spur INEEL's efforts to empty 11 buried single-walled storage tanks containing 11,000 gallons of waste.

**Mixed Waste Treatment**  
Some hazardous waste can be treated through chemical neutralization, though that can increase the final volume. Incineration is another option, but after a development boom in the 1980s, it is growing less popular in the private sector because of a variety of concerns, not the least of which are environmental. The DOE, however, still has burning on the brain. Its mixed waste is incinerated in Idaho, Tennessee, and South Carolina.

INEEL's Waste Experimental Reduction Facility has routinely burned mixed waste since September 1995. Of the 92 cubic meters incinerated so far, about a third has come from outside the state.

Now a much larger mixed waste incinerator is slated to be built at INEEL. According to the private corporation that will own and operate the Advanced Mixed Waste Treatment Facility, the project is moving forward almost "at the speed of light"—faster, at least, than an Idaho wind.

### What's Next?

In December 1996, the DOE gave a privatized contract to British Nuclear Fuels, Ltd., to treat somewhere between 65,000 and 185,000 cubic meters of mixed waste at INEEL. A cubic meter is about 35 cubic feet. If 65,000 cubic meters were stacked between the goal posts of a football field, the pile of nuclear waste would be almost 48 feet tall. No matter how level, you couldn't play on it anymore.

BNFL may eventually re-

billion from the project. Obviously, the amount of mixed waste treated will help determine its final profit.

The DOE has never tried to incinerate plutonium-contaminated waste before. But that's precisely the first focus for treatment in the new plant. INEEL stacked over 50,000 cubic meters of plutonium-contaminated waste on an asphalt pad and then covered it with wood, plastic, and dirt in the 1970s and 1980s. That waste, plus the 17,600 barrels just moved out of the tent, will be the initial feed.

The plant is scheduled to operate around the clock from April 2003 until 2015. That means a barrel of waste will be treated every half-hour, day and night, for 13 years. Up to 20,000 cubic meters of mixed waste from unknown sources could be added in those first 13 years. After 2015, up to 100,000 more cubic meters of waste may join the assembly line. We don't know yet where that waste would come from, either.

Since the plan was announced, the Alliance has said Idahoans must know what's being treated, how it's being treated, and most important, why a particular treatment is chosen for a particular barrel of waste. In other words, we want to know what the problem really is and

help decide if the chosen treatment is the *best* solution.

That kind of analysis seems already to have made an impact. BNFL's original plan was that only about half the waste would escape incineration. The latest plan is that 78% will not be burned. Instead, it will be supercompacted, put in big barrels, and then surrounded by a kind of concrete. Though compaction will concentrate the radioactivity in the waste, macroencapsulating it in grout may help isolate it from the environment.

### The 22% Problem

Incineration has been used to treat every chemical problem on the planet, sometimes inappropriately, often unnecessarily. For instance, to justify building its South Carolina incinerator, the DOE claimed the need to reduce the hazards of benzene. But only 3% of the volume of waste to be incinerated is benzene. Cutting down to 22% the amount of mixed waste to be burned in Idaho is a welcome shift.

But it's insane to run the risks of any incineration unless doing so reduces some greater peril. Incineration generally creates by-products, such as dioxins, that are more toxic by unit weight than the original waste. Adding radioactivity to the

waste adds hazards to incineration. Radioactivity cannot be destroyed, but the intensely hot, long burn required to destroy organics such as carbon tetrachloride can vaporize it making it harder to catch on filters before it escapes into the air. It's also insane to incinerate if there are other ways to solve an identified environmental problem.

If you don't know where you're starting and you don't know what your destination looks like, traveling at the speed of light isn't really very helpful. Idahoans should zero in on some key questions before another incinerator is built at INEEL.

1. How big's the pile? The estimates of mixed waste to be treated in Idaho range over 300%. Before any major nuclear project begins, we must know when it will end.
2. How dangerous is it? We must know what specific hazards the waste slated for treatment poses to Idaho's land, water, air, and people *now*.
3. What can we do? We must know about *all* potential treatment technologies and their risks, costs, and benefits.
4. What's the *best* thing to do? We must—and can—balance current hazards, potential risks, and future benefits. And then we can decide how to proceed.

### Learn More...

BNFL Workshop on the Advanced Mixed Waste Treatment Facility and the law.

Wednesday, December 3 4 pm and 6:30 pm  
Grand Teton Mall Community Room, Idaho Falls

### ...Teach More

At the Alliance's insistence, the DOE will be preparing an environmental impact statement on the mixed waste plant. The first important step in an EIS is to tell the DOE all your concerns and ask any questions you want answered. That happens in scoping hearings. (The DOE must address your concerns and questions in the draft EIS, which will be released in summer 1998.)

Thursday, December 4 6 to 9 pm  
Borah High School library, Boise

Tuesday, December 9 6 to 9 pm  
Taylorview Junior High cafeteria, Idaho Falls

Call an Alliance office for more details.

### SNAKE RIVER ALLIANCE

1311 W Jefferson, Box 1731 · Boise, Idaho 83701 · (208) 344-9161  
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The Snake River Alliance is an Idaho-based grassroots group working for peace and justice, the end of nuclear weapons production activities, and responsible solutions to nuclear waste and contamination. We are proud of our nearly two decades of solid, responsible research, education, and community advocacy. The Bulletin is published six times a year.

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# Anti-nuclear groups want waste stored above ground

## They support leaving spent fuel at sites

By Tim Jackson  
Of The Journal

4-13-99  
I.S.J.

WASHINGTON — Leading nuclear watchdog groups today unveiled alternative proposals for coping with the nation's nuclear waste.

They called on the U.S. Department of Energy to dig up nuclear waste buried at the Idaho National Engineering and Environmental Laboratory and other federal sites, stabilize it and store it above ground while sound disposal options are developed.

The groups also called for the nation to reverse its recent opening of the Waste Isolation Pilot Plant in New Mexico for disposal of transuranic waste and to drop plans to open the proposed Yucca Mountain disposal site for high level waste in Nevada.

They called for leaving commercial spent nuclear fuel at more than 100 power reactors nationwide where it was generated, while the nation researches the feasibility of possibly safer options for isolating nuclear waste from the environment, such as deep sea disposal or burial deep beneath the earth's crust.

"INEEL's buried waste no one would argue is safe," said Beatrice Brailsford, Southeast Idaho coordinator with the Snake River Alliance.

"Pursuing flawed repositories is

taking resources away from addressing real problems in Idaho."

Brailsford urged DOE to stop wasting limited public money on plans to ship INEEL's safer above-ground stored post-1970 transuranic waste to the WIPP salt bed disposal site. Instead, she argued, it makes more sense to first excavate the transuranic waste buried in 26 acres of INEEL dumps before 1970.

That waste contains almost 2.5 tons of plutonium that will remain radioactive for almost 250,000 years. It's in unlined pits and trenches atop Southern Idaho's main drinking and irrigation water source, the Snake River Plain Aquifer.

She criticized DOE's exploration of technologies aimed at solidifying INEEL's buried waste in the ground instead of digging it up.

Brailsford and other members of the coalition, led by the Maryland-based Institute for Energy and Environmental Research Institute, disputed DOE scientists' claims that WIPP and Yucca Mountain are safe disposal sites.

"We have not spoken with DOE and so we don't have any reaction from them yet," Institute President Arjun Makhijani said, adding that while the coalition's proposals are no "silver bullet," they are better than DOE's present approach.

# SNAKE RIVER ALLIANCE

## !!! ALERT !!!

### What / Where . . .

The Department of Energy (DOE) wants to build a plant to "treat" nuclear waste that's contaminated with a mixture of plutonium and hazardous chemicals and metals at the Idaho National Engineering and Environmental Laboratory (INEEL). Anywhere from 65,000 to 185,000 cubic meters of mixed waste might go through the plant. The first 65,000 cubic meters are stored above ground at INEEL.

- The first waste planned for treatment is *not* contaminating the Snake River Aquifer like INEEL's buried waste is.
- INEEL has not fully explained *where the rest of the waste would come from*.

### Who / When / How . . .

INEEL has given British Nuclear Fuels (BNFL), which is owned by the British government, a \$1.18 billion private contract to own and operate the plant for anywhere from 13 to 30 years. BNFL's primary technologies are crush and burn. A quarter of the waste will be burned, three-quarters will be crushed.

- The DOE has chosen the most expensive option to build the mixed waste plant. If our own government, which produced the waste, financed the plant, it *could be built for 1/3 less*.

***From the time this plant was proposed, the Snake River Alliance has asked—***

### Why?

The mixed waste plant should only be built if we know that the pile of waste we end up with will be safer than the pile of waste we started with after the risks of crushing and burning radioactive and hazardous wastes are added in. The DOE has yet to justify the mixed waste plant on those fundamental terms.

- 20% of the waste initially slated for crush and burn is *already stored in compliance* with hazardous waste laws, and INEEL plans to put the rest in compliant storage, even if BNFL's plant is never built.
- Crushing reduces the volume of the waste by 80% but *does not make it safer*. It doesn't appear that the DOE has studied whether volume reduction will increase the danger of an uncontrolled criticality, or *nuclear chain reaction*.
- BNFL wants to burn 22% of the waste even though incineration has the *worst environmental impacts and would lengthen the time the plant operates*. Because of missing and/or contradictory waste characteristic inventories, it's not clear how much—or how little—of the waste actually *requires* incineration.
- This is the kind of waste INEEL wants to send to the Waste Isolation Pilot Plant. But WIPP isn't open and its hazardous waste permit hasn't come through. Even if it does, we don't know how much of the waste would meet WIPP's standards with *minimal treatment* such as simple repackaging, how much would after *crushing and burning*, or how much would *not* meet the standards *no matter what's done*. INEEL has not justified crushing and burning *all* the waste.
- Reducing the waste volume *does not reduce the cost of shipments to WIPP*.

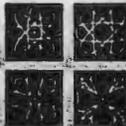
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email: sra@snakeriveralliance.org

*The Snake River Alliance is an Idaho-based grassroots group working for peace and justice, the end of nuclear weapons production activities, and responsible solutions to nuclear waste and contamination.*

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## SNAKE RIVER ALLIANCE

# !!! ALERT !!!

The National Environmental Policy Act requires that the Department of Energy seek public comment on its plans to burn and/or crush mixed waste. Under the law, the DOE *must* respond to your concerns.

### Written Comments...

Mail DOE-ID  
850 Energy Drive  
Idaho Falls, ID 83401  
ATTN: AMWTP EIS Document Manager  
Fax 208 / 526-0160

### Public Hearings...

**Tuesday, August 18**  
7 - 9:30 pm  
**Idaho Falls**  
Multipurpose Building Cafeteria,  
Eastern Idaho Technical College  
1600 South 2500 East

**Thursday, August 20**  
6:30 - 9 pm  
**Twin Falls**  
Student Union,  
College of Southern Idaho  
315 Falls Avenue

The hearings will include a brief presentation from the DOE, a question-and-answer period, and a period for comments from the public, which will be recorded by a court stenographer.

The Alliance is arranging a free van from Boise to the Twin Falls hearing and carpools from Pocatello to Idaho Falls. Call your Alliance office for details.

**Deadline for written comments:**  
**September 18, 1998**

**For more information,  
contact the  
Snake River Alliance**

**Boise • 208 / 344-9161  
Ketchum • 208 / 726-7271  
Pocatello • 208 / 234-4782**

Clip and send to Snake River Alliance • Box 1731 • Boise, ID 83701

### Stop The Waste & Clean It Up . . . Join the Snake River Alliance

\$100     \$40     \$25     \$15

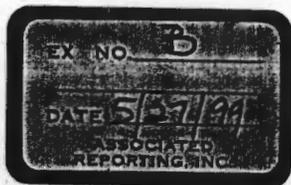
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Phone \_\_\_\_\_

Address \_\_\_\_\_

Work Phone \_\_\_\_\_

Email \_\_\_\_\_



DEQ - Testimony - AMWTF hearing  
5/27/99

The Advanced mixed waste Treatment Facility (AMWTF) is expensive, untried & will not solve Idaho's serious nuclear waste problems. Of the alternatives for dealing with hazardous waste coming to Ida, incineration has the worst environmental impacts (E.I.S. draft). It will turn Ida. into a Grand Central station of waste slated for "treatment".

20% of the waste initially slated for "crush & burn" is already stored in compliance with hazardous waste laws. INEEL plans to put the rest in compliant storage, even if BNFL's plant is never built.

Crushing reduces the volume by 80% but does not make it safer. Could the volume reduction increase the danger of uncontrolled criticality or nuclear chain reaction? (See the clipping on "Soviet T.V. reveals decades old nuclear disaster in Urals")

BNFL. wants to burn 22% of the waste. It is unclear how much or how little of the waste actually requires incineration? Why put ourselves at risk? If the mixed waste facility is built without the incinerator - there would be no need for it after 2015. With the incinerator however, an additional 120,000 Cubic meters of waste may come to Ida (from other states?) & the plant could go on & on until 2033.

65,000 cubic meters of mixed waste, mostly from Rocky Flats is safely stored in steel containers; above

ground, where it can be monitored.

The real crisis is the TRU waste buried in pits, covering 20 acres at INEEL. It needs to <sup>be</sup> excavated, stabilized & stored on site, the same way. Incineration is not the answer.

There are safer options being researched. I think it's very significant that Lawrence Livermore Laboratory refused an incinerator in 1990. We should too.

Thank you

Pat Clark

310 Crescent Rim #305

Bain, Id

83706

# Soviet TV reveals decades-old nuclear disasters in Urals

The Associated Press

MOSCOW — More than 30 years after a nuclear weapons plant exploded in the Ural Mountains, Soviet television reported that 400,000 people were affected by doses of radiation higher than the 1986 Chernobyl disaster.

The dosage accumulated from three accidents near the Urals town of Chelyabinsk: the weapons plant blast in 1957, a leakage in the early 1950s and another incident in 1967, television said.

Soviet television said the report, based on the findings of a 50-member commission of medical specialists, had been prepared one year ago, but was kept off the air by top television authorities. It was shown Thursday.

The Soviet Union admitted for the first time in June 1989 that a tank of radioactive waste had exploded at a weapons plant near Chelyabinsk in 1957. Before the Chernobyl explosion, Western experts called the Urals disaster the world's worst nuclear accident.

Television flashed figures on the screen saying that the Urals accident released 1.2 billion curies of radiation but gave no source for the data. The June 1989 Tass report on the accident said that 2 million curies had been released.

Fifty million curies of radiation were released in the Chernobyl

explosion in which at least 32 people died. The 1979 accident at the Three Mile Island power plant in Pennsylvania released 14 curies, a measure of the amount of radioactivity contained in a material.

Anatoly Tsyb, one of 50 medical specialists investigating the accident, said the area had been devastated by three accidents in all.

More than 100,000 people were affected by those releases of radiation, he estimated.

He did not say exactly where the nuclear weapons accident occurred, but some Western reports have said it was at the Soviet Union's first nuclear production plant in Kyshtym, about 55 miles northwest of Chelyabinsk.

In the early 1950s, radioactive wastes were dumped into the Tetcha River just north of Chelyabinsk. Then came the 1957 explosion and in 1967, wind carried radioactive waste over a lake in the area that dried up as a result. Television did not explain why the lake had vanished.

Tsyb said there were 935 cases of chronic radiation sickness in the area and that the incidence of leukemia was 40 percent higher than in a control group used for comparison.

He also said infant mortality is higher than average in the affected zone, which he said measured 5.5 miles by 65 miles.

Statesman 9/14/91

DEQ hearing May 27<sup>th</sup> - Mixed Waste Treatment Facility.

Craters of the moon is a class 1 National Monument Park. The air quality there cannot be degraded in any way by an incinerator-based program.

Also, - The calcining plant has been reactivated at The INEEL (the next door neighbor to the park) - for what purpose I don't know. But it too is an "emitter" of pollution. I have been told that yellow plumes have been sighted in that area.

An incinerator of this magnitude, running around the clock for a minimum of 13 years (more like 20) is as hazardous as it gets.  
Please deny this request.

Quote From Statesman - 5/16/99

Jane Holt  
2113 Division St.  
Boise, 83706

"Visitors from around the world come to see the lava flows, hike, camp, watch birds, go biking or cross country skiing, study the stars & breathe some of the nation's cleanest air."

Read by: Micaela de Loyola



## FACT SHEET

# Incineration of Radioactive and Mixed Waste

Incinerators burn waste at high temperatures. The main purpose of incinerating radioactive waste is to reduce waste volume, since a large proportion consists of bulky items such as contaminated clothes, lumber, and plastic. Incineration of waste that is a mixture of chemically hazardous and radioactive materials, known as "mixed waste," has two principal goals: to reduce the volume and the total chemical toxicity of the waste.

## Health and Environmental Risks

Incineration does not destroy metals or reduce radioactivity of wastes. Radioactive waste incinerators, when equipped with well-maintained, high efficiency filters, can capture all but a small fraction of the radioactive isotopes and metals fed into them. The fraction that does escape, however, tends to be in the form of small particles that are more readily absorbed by living organisms than larger particles.

Incinerators, like many combustion devices such as automobile engines, convert combustible materials mainly to carbon dioxide and water (steam). But they generally also create toxic by-products, known as "products of incomplete combustion" (or PICs). PICs can be more toxic per unit weight than the original wastes. The total quantity and toxicity of PICs from incinerators is highly uncertain.<sup>1</sup> The most

widely-studied toxic PICs are known as dioxins.

Dioxins and similar toxic chemical compounds accumulate in fatty tissue, increasing in concentration at each successive level of the food chain. Until 1993, regulations did not factor in food chain exposure.

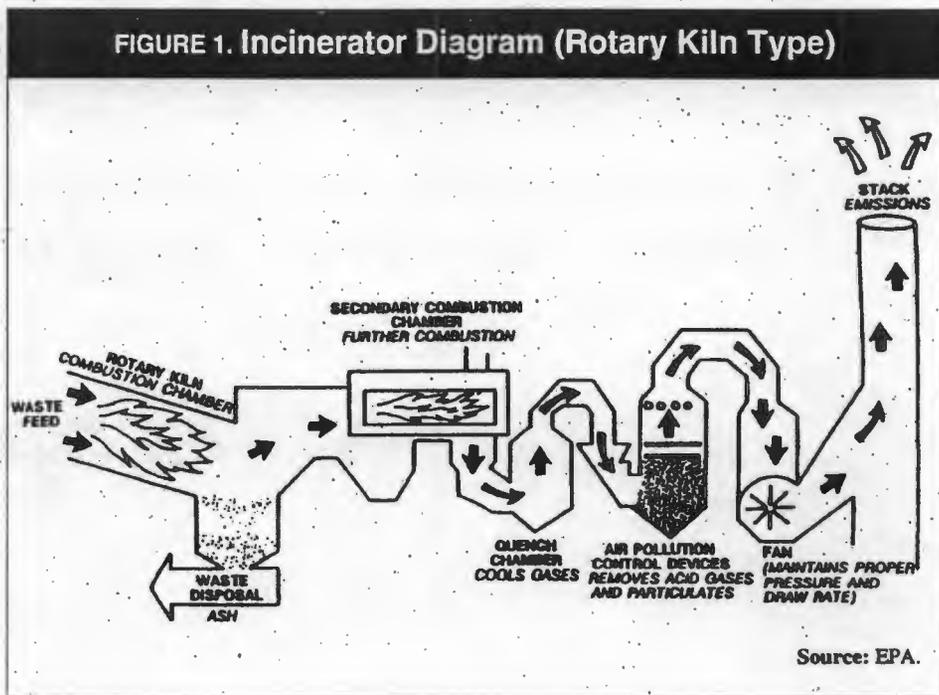
Although special filters can reduce toxic emissions to well below legal limits, they also concentrate toxins in ash. Landfilled ash and contaminated filters present greater threats to groundwater than the original wastes in some cases.<sup>2</sup> Permanent storage of ash in

well-monitored structures can minimize the risk of groundwater contamination.

## Incinerator Regulations

The federal government has set limits on radioactive releases from all incinerators burning radioactive waste (noted next page). For mixed waste incinerators, the federal Environmental Protection Agency (EPA) also sets limits on a variety of other pollutants based on the estimated health risks.<sup>3</sup> The "excess" cancer-risk standards—the risks to a person exposed for 70 years from an individual mixed waste

FIGURE 1. Incinerator Diagram (Rotary Kiln Type)



Source: EPA.

incinerator releasing its legal limit of specific air pollutants—are as follows:

- a 1 in 1,800 to 1 in 3,600 chance of fatal cancer from exposure to emissions of radioactivity (estimated using the radiation dose limit set by the federal government)<sup>4</sup>
- a 1 in 100,000 chance of contracting cancer from combined exposure to emissions of arsenic, beryllium, cadmium, chromium, as well as dioxins and furans (compounds similar to dioxins)

Some states have set more stringent limits. In addition, actual risks may be considerably lower for some of these hazards. For example, the Department of Energy (DOE) estimates that in 1991 its mixed waste incinerator near Oak Ridge, Tennessee emitted less than 3 percent of its legal limit for releases of radioactive materials. This translates into a risk of less than 1 in 60,000 to less than 1 in 120,000.

However, cancer may not be the primary hazard from some pollutants like dioxins; other effects such as disruption of the immune or reproductive systems may be more important.<sup>5</sup> U.S. standards for dioxins and furans are typically much weaker than European standards.<sup>6</sup>

The federal regulations for some emissions from mixed waste incinerators are designed to prevent both acute and chronic health effects, even if exposure occurs for a lifetime. Some other potentially toxic emissions are unregulated (for example, selenium and nickel).<sup>7</sup>

The range of uncertainty in risk estimates is great due to:

- difficulty establishing low-dose biological effects
- assumptions about exposure (such as location and age of the exposed individual)

## U.S. Department of Energy Existing and Proposed Incinerators

FACILITY NAME <sup>a</sup> /PLACE <sup>b</sup>	TYPE <sup>c</sup>	STATUS
Hanford/Richland, WA	MIXED <sup>d</sup>	planned
	MIXED	planned
INEL/Idaho Falls, Idaho	MIXED	standby
	MIXED	upgrading
LANL/Los Alamos, NM	MIXED	upgrading
	RAD	standby
Mound/Miamisburg, OH	MIXED	permitting
ORR/Oak Ridge, TN	RAD	operating
	MIXED	operating
Rocky Flats/Golden, CO	MIXED	planned
SRS/Aiken, SC	MIXED	construct.
	RAD	standby

<sup>a</sup> Hanford=Hanford Reservation; INEL=Idaho National Engineering Laboratory; LANL=Los Alamos National Laboratory; Mound=Mound Plant; ORR=Oak Ridge Reservation; Rocky Flats=Rocky Flats Plant; SRS=Savannah River Site

<sup>b</sup> closest population center

<sup>c</sup> RAD-radioactive waste only; MIXED-mixed waste

<sup>d</sup> Two mixed waste incinerators are planned for the Hanford Reservation

Sources: U.S. Department of Energy; Westinghouse Hanford Company

- lack of knowledge about non-cancer effects and effects of combinations of pollutants

Incinerators burning radioactive waste (as opposed to mixed waste) are not subject to federal limits on most toxic chemical emissions—including metals other than lead. Even lead may not be regulated in a polluted area, unless the incinerator is considered a significant source of regional pollution.<sup>8</sup>

Incinerator regulations often fail to address the acceptability of risks to the people subjected to those risks; in

other words, whether the risks are voluntarily or involuntarily imposed. Regulations generally also fail to account for impacts on plants and animals unless they are associated with human health impacts.

### Ash Regulations

Federal regulations allow the shallow burial—in specially designed landfills—of ash containing significant quantities of long-lived radioactive isotopes and toxic metals. Evidence suggests that even state-of-the-art landfills will eventually leak.<sup>9</sup> Yet, the regulations do not require monitoring and

control of contaminants for the length of time that ash will remain hazardous—thousands of years for some radioactive materials, and permanently, for chemically toxic metals.

### Compliance Issues

State and federal regulations require comprehensive emissions testing at most once a year. By contrast, in Germany testing is required every 6 months for dioxin and furans and every week for toxic metals.

For mixed waste incinerators, the EPA requires a series of compliance

tests designed to stress a facility's ability to meet regulations when waste inputs and temperatures are non-optimal. Routine emissions may exceed test emissions due to factors such as poor maintenance, carelessness or error on the part of the operator, and facility aging.<sup>10</sup>

### Accident Risks

Official risk assessments generally predict accidental releases that are less than the annual regulatory limits, but actual releases have not been well documented. For a DOE mixed waste

incinerator that was never operated, one assessment indicated that an explosion involving plutonium-contaminated waste could release 10 trillion times more plutonium than the DOE's predicted annual emissions.<sup>11</sup>

### Alternatives to Incineration

Alternatives can present their own environmental problems. Landfilling liquid wastes can contaminate groundwater while storing them can lead to explosions. Emerging techniques for destroying toxic compounds such as supercritical water oxidation and plasma arc pyrolysis may prove preferable to incineration (see glossary for descriptions). However, some wastes may not be treatable by a single system, requiring separation (for example, to remove metals) before treatment.

For some existing wastes, it may be impossible to keep risks low for both current and future generations. Reducing the production of waste is therefore the surest way to minimize future health and environmental hazards.

## Glossary

**Ash:** The dry residue that is left over after waste is burned.

**Dioxins and furans:** Two families of compounds (about 200 separate chemical variants in all) that are produced primarily as by-products of industrial processes (e.g., manufacture of some herbicides, the chlorine bleaching of wood pulp), through the incineration of chlorinated wastes, and from automobile engines.

**Plasma arc pyrolysis:** A non-flame thermal process that uses an electrically conductive gas to destroy chemical wastes. Systems can achieve extremely high temperatures for the destruction of liquid wastes or be attached to other combustion devices for destroying gaseous chemical compounds at near room temperature.

**Products of Incomplete Combustion (PICs):** Organic (carbon-containing) compounds formed during the burning process. While some PICs that have been identified are relatively harmless (for example, methane), many are highly toxic (dioxins, for example).

**Risk assessment:** The use of established methods to measure the risks posed by an activity such as incineration. Risk assessments typically evaluate the relationship between exposure to toxic substances and the subsequent occurrence of health effects.

**Rotary kiln:** A combustion chamber that rotates like a cement mixer to churn waste inputs.

**Supercritical water oxidation:** A process that dissolves chemicals in highly pressurized water. It takes place in an enclosed device, allowing fine particles to drop into the ash before gases are released to the atmosphere. (The Texaco Chemical Company is constructing a facility in Austin, Texas.)

**Toxic metals:** Metals that are toxic to humans in relatively low concentrations. Their toxicity depends on their chemical form.

This research was generously supported by The John D. and Catherine T. MacArthur Foundation, North Shore Unitarian Universalist Veatch Program, Peace Development Fund, Plowshares Fund, Public Welfare Foundation, Rockefeller Family Associates, W. Alton Jones Foundation, and The Winston Foundation for World Peace. Funding for preparation and distribution of this fact sheet were made possible by a donor-advised grant from The Lippincott Foundation via Peace Development Fund.

*This fact sheet is based on a 60 page report. It is intended only as a brief informational resource. For copies of the full report, please call IEER for details.*

## ENDNOTES

<sup>1</sup> According to the Environmental Protection Agency (EPA), emissions testing "has been able to identify and quantify only as much as 60% of the organic compounds [carbon-containing chemicals of which PICs are a subset] being emitted during any test." (55 Federal Register 7153; February 21, 1991).

<sup>2</sup> Denison, Richard, "Health and Environmental Hazards of Municipal Solid Waste Incinerator Ash," *Resource Recovery*, April 1989, pp. 14-17.

<sup>3</sup> These are limits that apply only to new permits for incinerators burning chemically hazardous waste (although some existing incinerators may be subject to nearly equivalent standards). Permits for operating incinerators may not be up for renewal for several years.

<sup>4</sup> The regulations do not state a risk limit for radiation, but rather a total dose limit that corresponds to some level of risk. The lower risk estimate in the text is recognized by EPA, while the higher one is an IEER estimate more consistent with a

recent study of British workers (Kendall et al., "Mortality and occupational exposure to radiation: first analysis of the National Registry for Radiation Workers," *British Medical Journal*, Vol. 304, No. 6821, 25 January 1992, pp. 220-225).

<sup>5</sup> Schmidt, K., "Puzzling Over a Poison," *U.S. News and World Report*, 6 April 1992, pp. 60-61.

<sup>6</sup> For example, the German limit on dioxins and furans from incinerators is up to 10 times more stringent than the U.S. limit (depending on the carbon to hydrogen ratio of the waste material).

<sup>7</sup> 55 *Federal Register* 7171; February 21, 1991.

<sup>8</sup> Emissions of some toxic PICs, such as dioxins and furans, as well as some additional metals from these incinerators will likely be regulated after November 1994, as a requirement of the Clean Air Act of 1990 (Section 129).

<sup>9</sup> For example, see: Bonaparte, Rudolph, and Beth A. Gross, "Field Behavior of Double Liner Systems," in Bonaparte, R. (ed.), *Waste Containment Systems: Construction, Regulation, and Performance*, New York: American Society of Civil Engineers, 1990, pp. 52-83.

<sup>10</sup> Cook, Richard J., "Incineration: Technology and Science?" paper presented at the Third Annual National Symposium: Incineration of Industrial Wastes, San Diego, CA, March 1-3, 1989, 9 pp.

<sup>11</sup> Goldfield, Joe, Niels Schonbeck, and Gale Biggs, "Rocky Flats Fluid Bed Incinerator: Exposure of Citizens due to Normal Operations and Explosions," prepared for the Sierra Club, Boulder, CO, September 1, 1987, 20 pp.

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Takoma Park, MD 20912

The Institute for Energy and Environmental Research (IEER) publishes a quarterly newsletter, *Science for Democratic Action*, which focuses on nuclear weapons and waste issues. For a free sample, or to be added to our mailing list, please send a note with your name and address. Books on nuclear issues available from IEER include *High-Level Dollars, Low-Level Sense: A Critique of Present Policy for the Management of Long-Lived Radioactive Waste and Discussion of an Alternative Approach* by Arjun Makhijani and Scott Saleska, *Radioactive Heaven and Earth: The Health and Environmental Effects of Nuclear Weapons Testing In, On, and Above the Earth* by International Physicians for the Prevention of Nuclear War (IPPNW) and IEER, and *Plutonium: Deadly Gold of the Nuclear Age* by IPPNW and IEER.

**RESPONSE TO COMMENTS  
ON THE  
PROPOSED AIR QUALITY PERMIT TO CONSTRUCT  
FOR THE  
BNFL - ADVANCED MIXED WASTE TREATMENT FACILITY**

**JULY 13, 2000**

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**INTRODUCTION**

This document is intended to respond to relevant written comments and oral testimony given during the public comment period for the proposed air quality Permit to Construct (PTC) for the Advanced Mixed Waste Treatment Facility (AMWTF). A public comment period for the U.S. Department of Energy (DOE)/BNFL Incorporated permit application and proposed air quality PTC was held from April 14, 1999 through June 28, 1999. The Idaho Division of Environmental Quality (DEQ) extended the public comment period on April 25, 1999, to allow for public hearings, and on May 28, 1999, to allow for additional time for the public to submit written comments. During this comment period, public informational meetings and public hearings were conducted on May 25 in Idaho Falls, May 26 in Twin Falls, and May 27 in Boise. Comment packages which included the application materials, DEQ's technical analysis, and the proposed permit were made available for public review at the Idaho Falls Public Library; the DEQ state office in Boise; the DEQ regional offices in Boise, Coeur d' Alene, Idaho Falls, Lewiston, Pocatello, and Twin Falls; the Wyoming Department of Environmental Quality state office in Cheyenne; and the Teton County Public Library in Jackson Hole, Wyoming.

DEQ received written and oral comments from over 200 individuals during the comment period for the PTC. Petitions for and against the AMWTF incinerator were also received. On April 7, 2000, the DOE notified DEQ that they no longer requested a permit for the mixed waste incinerator, evaporator, or microencapsulation systems. Public comments regarding the air quality aspects of the proposed permit and analysis have been summarized below. Due to the removal of the incinerator system, a large portion of the comments received no longer required response. Questions, comments, and/or suggestions received during the comment period which did not relate to the air quality aspects of the permit application, DEQ's technical analysis, or the proposed permit, were considered but are not specifically addressed in this document.

**PUBLIC COMMENTS AND DEQ RESPONSES**

**Comment 1:** A request was made that only annual limits be specified in the permit, thereby providing some degree of operational flexibility with respect to the proposed daily throughput limits.

**Response to 1:** Daily throughput limits are required in cases where pollutants have emission standards based on 24-hour averages. The box line and drum line may emit air pollutants which have emission standards based on 24-hour averages; therefore, the daily throughput limits will remain in the permit.

**Comment 2:** A request was made to delete the reference to manufacturer's specifications of the permit.

**Response to 2:** Section 2.6 of the permit establishes the requirements for proper operation of the air pollution control equipment at the facility. The air pollution control device operating parameters are to be maintained within O&M Manual specifications. The O&M Manual will establish the compliance limits for the operating parameters of the air pollution control equipment. As required by Section 3.6 of the permit, BNFL Inc. is required to develop an O&M Manual and propose limitations based on either applicable manufacturer specifications, specific limits established during testing, or limits based on the specific design of the system. These proposed limits will be reviewed and approved by DEQ.

**Comment 3:** A request was made to revise the permit so that if waste is accepted at the AMWTF which is determined to be inconsistent with the inventory presented in the original National Emission Standards for Hazardous Air Pollutants (NESHAP) application, that the permittee would then perform an emissions analysis in accordance with 40 CFR 61.93 to demonstrate that processing the waste will not lead to an exceedance of the dose limits established by the permit.

**Response to 3:** Section 2.7 of the permit has been added which allows for an analysis to be conducted, in accordance with NESHAP guidelines, when the radioactivity in the waste is inconsistent with the information used in the original NESHAP application.

**Comment 4:** A request was made for DEQ to reconsider the frequency of the Effective Dose Equivalent (EDE) determinations from quarterly to semi-annual. The comment stated that using quarterly or semi-annual emissions monitoring data to calculate annual EDE may lead to results that are not directly comparable to the annual point of compliance used in the INEEL annual NESHAP report. The comment states that semi-annual EDE determinations would reduce the intervals of EDE determinations while still providing an intermediate point in the year to demonstrate compliance with the standard.

**Response to 4:** Since the incinerator system has been removed from the design of the facility, quarterly EDE determinations are no longer warranted. Section 4.3 of the permit now only requires annual reporting in accordance with 40 CFR 61.94.

**Comment 5:** It is unclear from the permit document what volumes of waste are to be treated at this facility. The numbers 65,000 m<sup>3</sup>, 85,000 m<sup>3</sup>, 120,000 m<sup>3</sup>, and 185,000 m<sup>3</sup> appear almost randomly.

**Response to 5:** The PTC application submitted by BNFL Inc. is for 85,000 m<sup>3</sup> of waste. The PTC was drafted based on an analysis of 85,000 m<sup>3</sup> of waste to be processed at this facility. In order to clarify that the permit is based on this amount, DEQ has included Section 2.8 which states that the Permittee must obtain Department approval prior to processing more than 85,000 m<sup>3</sup> of waste. Section 3.2.5 was also added which requires the facility to document, on a monthly basis, the total volume of waste processed at this facility.

**Comment 6:** What is the permitting process if the facility wants to process more than 85,000 m<sup>3</sup> of waste, and will the public be involved in any decisions to allow additional waste treatment?

**Response to 6:** If the DOE and BNFL Inc. decide to process additional wastes exceeding the 85,000 m<sup>3</sup> permit limit, a permit modification application would be required for DEQ review and approval. Public notice and opportunity for comment will be given by DEQ for any such application.

**Comment 7:** There were several comments asking whether the information required by the permit (e.g., monitoring, recordkeeping, and reporting information) would be made available for public review.

**Response to 7:** The Idaho Public Records Law (Idaho Code §§ 9-337 through 9-350) provides the public access to qualifying governmental records. These records would include those required by

the air quality permit such as the monitoring, recordkeeping, reporting, and testing reports. To obtain public information, anyone may submit a request to DEQ.

**Comment 8:** Many comments stated disagreement with the permit conditions that requires Radionuclide Monitoring QA/QC, and O&M Manuals to have been developed within 60 days after facility startup. Comments state that these manuals should be required to be developed and approved prior to facility startup.

**Response to 8:** In response to these comments, DEQ has modified Sections of the permit to require that the programs and manuals be developed prior to facility startup. Section 4.1 of the permit has been changed to clearly state that the O&M Manuals and programs require submittal for DEQ approval prior to facility startup.

**Comment 9:** How can DEQ accept such a high level of atmospheric exposure for radionuclides when the effective dose equivalent (EDE) of 6.7E-03 mrem/yr was calculated for the maximum exposed individual?

**Response to 9:** Using EPA methods outlined in 40 CFR 61 (National Emission Standards for Hazardous Air Pollutants - NESHAP), the calculated maximum individual dose from airborne emissions for the most conservative location at which the public can be exposed to radioactive emissions from the AMWTF was calculated to be 6.7E-03 mrem/yr (this number can also be expressed as 0.0067 millirem per year). In addition, the effective dose equivalent for the nearest "off-site residence, business, office, or school", is 9.7E-04 mrem/yr (0.00097mrem/yr). Actual radionuclide emissions are expected to give a much smaller effective dose equivalent than what is predicted. The radionuclide emission standard for the AMWTF is 0.1 mrem/yr, and the EPA-approved analysis concluded that facility emissions will be well below this allowable limit. Additional note: with the removal of the incinerator and evaporator systems, the EDE will be slightly lower than what was originally calculated in the original NESHAP analysis.

**Comment 10:** One commentor asked that if the flue which contributed the smallest amount of radionuclide produces 3.9 mrem/yr, why didn't DEQ address the total amount of all five flues -- 19.5 mrem/yr, or more?

**Response to 10:** This issue is addressed in the applicant's NESHAP application, which was reviewed by DEQ and EPA. The NESHAP regulation requires that radionuclide emissions monitoring be made at release points which have a potential to discharge radionuclides greater than 0.1 mrem/yr. In determining potential emissions, EPA requires that radionuclide emissions be calculated without considering the control efficiencies of the air pollution control system. From the original estimation process, it was determined that all five flues that could contribute to radionuclide emissions will require monitoring. The 3.9 mrem/yr from the flue that would contribute the least means only that this particular flue would require monitoring, along with the other 4 flues, in accordance with 40 CFR 61.93(b). Radionuclide emissions released from the five flues, when considering operating the air pollution control equipment, have been determined to be well below 0.1 mrem/yr, as described in Response to 14. Additional note: with the removal of the incinerator and evaporator systems, there will only be two stacks requiring monitoring in accordance with NESHAP requirements.

**Comment 11:** Why should DEQ allow any emission of hazardous, toxic, or radioactive emissions?

**Response to 11:** State and Federal air quality standards are laws which serve to protect the public health and welfare while allowing for industrial activity. In part, the permitting process establishes which air quality standards apply to a proposed facility, and then sets specific operating, monitoring, recordkeeping, and testing requirements that the facility must follow to demonstrate

compliance with the air quality standards. The state and federal rules and regulations which govern air quality allow for facilities to emit air pollution, provided they emit at levels that are within state and federal air quality standards.

**Comment 12:** General statewide background concentrations for criteria pollutants were used in this analysis. Why weren't background concentrations for INEEL used?

**Response to 12:** The general statewide background values for criteria air pollutants were developed to be more conservative (higher in value) than the actual background concentrations that would be measured at the INEEL. This allowed for a more conservative approach in the modeling analysis when adding the predicted concentrations to the background values to compare to the applicable air quality standard.

**Comment 13:** Despite prevailing winds, it appears that DEQ's analysis of expected emissions was done in a fifty-mile radius from the site. Why not beyond the fifty-mile radius?

**Response to 13:** The modeling analysis was conducted to locate and predict the maximum impact from toxic air pollutants (TAP) and criteria air pollutants from the AMWTF. These maximum impacts were compared to the health-based state and federal air standards. For criteria air pollutants, the National Ambient Air Quality Standards (NAAQS) apply. For TAPs, the state's toxic acceptable ambient concentrations (AACC or AAC) apply. Radionuclide impacts must meet the National Emission Standards for Hazardous Air Pollutants (NESHAP). The EPA-approved dispersion models that were used in the analysis were the Industrial Source Complex (ISC) model and the CAP-88 model. The ISC model was used in the criteria air pollutant and TAP analysis, and the CAP-88 was used in the radionuclide analysis.

Considering the AMWTF stack heights, exhaust temperatures, building downwash effects, and the large property boundary of the INEEL, the receptor location with the maximum predicted impact was near a highway south of the facility. At this site of maximum impact, DEQ conservatively assumed that a sensitive population center would be located at that location. As a result, the analysis found that the TAP and criteria air pollutant impacts were well below allowable state and federal air quality standards at the point of maximum impact. Concentrations at receptor locations farther away from the location of maximum impact will be smaller. In summary, distances of 20, 50 and 100 miles from the location of predicted maximum impact would be increasingly lower than what is allowed by NAAQS, NESHAPs, AACCs, and/or AACs.

**Comment 14:** BNFL Inc. failed to follow federal regulations in distinguishing their potential to emit from that of their estimate of the emissions downstream from all controls. Not all controls are federally enforceable and cannot be considered in estimating the potential to emit.

**Response to 14:** DEQ requires that applicants perform emission estimations based on the maximum design capacity of the source and to consider any proposed control efficiencies in the calculations. DEQ reviews the emission calculations and performs a modeling analysis to determine whether controlled emissions would meet applicable air quality rules and regulations. A construction permit is then developed which incorporates limitations on the source which demonstrates compliance with the applicable emission standards. The permit conditions include appropriate throughput limits, monitoring, recordkeeping, and source testing requirements that are state and federally enforceable. The permit then defines the potential to emit of the facility.

**Comment 15:**

**Why weren't the states of Montana and Wyoming informed about the proposed facility?**

**Response to 15:**

In accordance with Idaho air quality regulations, an opportunity for a public comment period was required to be provided in at least one location in the region in which the AMWTF is proposed to be located. As part of the decision-making process to determine notification for public comment, DEQ reviewed the projected area of impact from airborne pollutants from the proposed facility. In doing this, DEQ considered how far from the source the emissions would contribute a concentration of one microgram per cubic meter ( $1.0 \mu\text{g}/\text{m}^3$ ) or greater based on a 24-hour average. The analysis indicated that there would not be a  $1.0 \mu\text{g}/\text{m}^3$  impact beyond 50 km from the proposed facility so DEQ did not include neighboring states in the initial notice of public comment.

Background - the  $1.0 \mu\text{g}/\text{m}^3$  value is typically used in Prevention of Significant Deterioration (PSD) review in determining whether a NAAQS and increment analysis is required if a PSD source has emissions which would increase pollutant concentrations by  $1.0 \mu\text{g}/\text{m}^3$  (24-hour average) or greater in any Class I area (Class I areas are areas designated of special national or regional value from a natural, scenic, recreation, or historic perspective). Though the AMWTF is not a PSD source, the DEQ analysis shows that there are no impacts greater than  $1.0 \mu\text{g}/\text{m}^3$  (24-hour average) on any Class I area (i.e., Craters of the Moon, Yellowstone, or Grand Teton) or across any state line from AMWTF emissions .

MS:ms



STATE OF IDAHO  
DEPARTMENT OF  
ENVIRONMENTAL QUALITY

1410 North Hilton • Boise, Idaho 83706-1255 • (208) 373-0502

Dirk Kempthorne, Governor  
C. Stephen Allred, Director

July 19, 2000

**CERTIFIED MAIL # P 102 114 148**

Frank Yaklich  
General Manager  
BNFL, Incorporated  
1970 East 17th Street, Suite 207  
Idaho Falls, Idaho 83404

RE: P-980040, BNFL, Inc., INEEL  
(Advanced Mixed Waste Treatment Facility, PTC No. 023-000001)

Dear Mr. Yaklich:

On October 13, 1998, the Idaho Department of Environmental Quality (DEQ) received a Permit to Construct (PTC) application from BNFL, Inc., for the proposed construction of the Advanced Mixed Waste Treatment Facility (AMWTF). On April 7, 1999, DEQ issued a proposed air quality PTC, and a public comment period was held from April 15 through June 28, 1999. On April 7, 2000, DEQ received a letter from the U.S. Department of Energy (DOE) requesting that the incinerator and evaporator units be removed from the permits. The incinerator and evaporator systems have been removed, and as a result of removing the incinerator system, the microencapsulation system has also been removed from this air quality PTC. These units are not authorized as part of this PTC and cannot be constructed.

Based on review of all application materials, public comments received, and all applicable state and federal rules and regulations; DEQ finds that this project meets the provisions of IDAPA 58.01.01.200 (*Rules for the Control of Air Pollution in Idaho*). Enclosed is PTC No. 023-00001 for the revised AMWTF.

This permit does not release the permittee from compliance with all other applicable federal, state, local, or tribal laws, regulations, or ordinances.

Please pay particular attention to the reporting requirements contained in Paragraph E of the General Provisions section of the permit. This information is needed to properly track the progress of the permit. Please refer to the appropriate permit number when submitting reports required in the Reporting Requirements section of the permit.

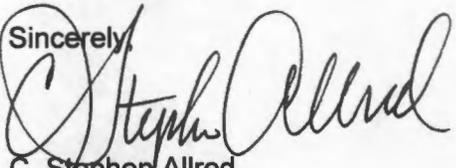
You are strongly encouraged to request a meeting with DEQ to discuss the permit terms and requirements with which your facility must comply. Mr. Mike Simon of the Air Quality Permit Program Office will contact you regarding this meeting. DEQ strongly recommends that, in addition to your facility's plant manager; your responsible official, environmental contact, and any operations staff responsible for day-to-day compliance with permit conditions also attend the meeting.

You, as well as any other entity, may have the right to appeal this final agency action pursuant to the Idaho Department of Health and Welfare Rules, Title 5, Chapter 3, "Rules Governing Contested Case Proceedings and Declaratory Rulings," by filing a petition with Paula Gradwohl, Hearings Coordinator, Department of Environmental Quality, 1410 N. Hilton - 2nd Floor, Boise, ID 83706-1255, within thirty-five (35) days of the date of this decision. However, DEQ encourages you to contact the Air Quality Permit

Frank Yaklich  
July 19, 2000  
Page 2

Program to address any concerns you may have with the enclosed permit prior to filing a petition for a contested case.

If you have any questions regarding the terms or conditions of the enclosed permit, please contact Mike Simon at (208) 373-0212.

Sincerely,  
  
C. Stephen Allred  
Director

CSA/MS:ms 86387 C:\DATA\SIMONL-MIAMWTP.PL

cc: Idaho Falls Regional Office  
DEQ State Office  
EPA Region 10

STATE OF IDAHO  
 PERMIT TO CONSTRUCT  
 AN AIR POLLUTION  
 EMITTING SOURCE

## PERMIT NUMBER

0 2 3 - 0 0 0 0 1

## AQCR

0 6 1

## CLASS

A 1

## SIC

9 9 9 9

## ZONE

1 2

## UTM COORDINATE (km)

3 3 5 . 3 , 4 8 1 7 . 8

## 1. PERMITTEE

Department of Energy / BNFL Incorporated

## 2. PROJECT

Advanced Mixed Waste Treatment Facility

## 3. MAILING ADDRESS

1970 E. 17th Street, Suite 207

## CITY

Idaho Falls

## STATE

Idaho

## ZIP CODE

83404

## 4. SITE LOCATION COUNTY

Butte

## NO. OF FULL-TIME EMPLOYEES

To Be Determined

## PROPERTY AREA AT SITE (Acreage)

56

## 5. PERSON TO CONTACT

Frank Yaklich

## TITLE

General Manager

## TELEPHONE

(208) 524-8484

## 6. EXACT PLANT LOCATION

INEEL/RWMC/Transuranic Storage Area

## GENERAL NATURE OF BUSINESS &amp; KINDS OF PRODUCTS

Mixed Waste Treatment

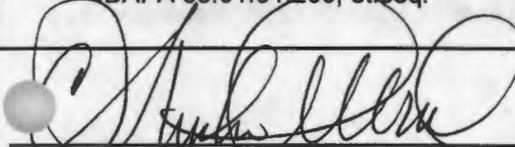
## 8. GENERAL CONDITIONS

This permit is issued according to the *Rules for the Control of Air Pollution in Idaho*, Section 58.01.01.200, and pertains only to emissions of air contaminants that are regulated by the State of Idaho and to the sources specifically allowed to be constructed by this permit.

This permit (a) does not affect the title of the premises upon which the equipment is to be located, (b) does not release the Permittee from any liability for any loss due to damage to person or property caused by, resulting from, or arising out of the design, installation, maintenance, or operation of the proposed equipment, (c) does not release the Permittee from compliance with other applicable federal, state, tribal, or local laws, regulations, or ordinances, (d) in no manner implies or suggests that the Idaho Department of Health and Welfare, Division of Environmental Quality (DEQ) or its officers, agents, or employees, assumes any liability, directly or indirectly, for any loss due to damage to person or property caused by, resulting from, or arising out of design, installation, maintenance, or operation of the proposed equipment.

This permit is not transferable to another person, place, piece or set of equipment. This permit will expire if construction has not begun within two years of its issue date or if construction is suspended for one year.

This permit has been granted on the basis of design information presented with its application. Changes of design or equipment may require Department approval pursuant to the *Rules for the Control of Air Pollution in Idaho*, IDAPA 58.01.01.200, et seq.

  
 DIRECTOR,  
 DEPARTMENT OF ENVIRONMENTAL QUALITY

DATE: July 19, 2000

**PERMIT TO CONSTRUCT  
PERMITTEE, PROJECT, AND LOCATION**

**PERMIT NUMBER**

BNFL, Incorporated  
Advanced Mixed Waste Treatment Facility  
INEEL/RWMC/TSA  
Idaho Falls, Idaho

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**SOURCE**

Advanced Mixed Waste Treatment Facility

**1. EMISSION LIMITS**

**1.1 Radionuclide Emission Limit**

The Advanced Mixed Waste Treatment Facility (AMWTF) shall operate in accordance with the requirements of the U.S. Environmental Protection Agency, National Emission Standards for Hazardous Air Pollutants (NESHAPs), 40 CFR Part 61, Subparts A and H. Radionuclide emissions from the AMWTF shall not by themselves, or in combination with radionuclide emissions from all other facilities located at the Idaho National Engineering and Environmental Laboratory (INEEL) site, cause any member of the public at any off-site point where there is a residence, school, business, or office to receive an effective dose equivalent to greater than ten millirem per year (10 mrem/yr); nor shall radionuclide emissions from the AMWTF by themselves cause any member of the public at any off-site point where there is a residence, school, business, or office to receive an effective dose equivalent to greater than one-tenth millirem per year (0.1 mrem/yr).

[40 CFR 61.92]

**1.2 Opacity Limit**

Emissions from any stack, vent, or functionally equivalent opening associated with the AMWTF, shall not exceed twenty percent (20%) opacity for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period as required by IDAPA 58.01.01.625 (*Rules for the Control of Air Pollution in Idaho*). Opacity shall be determined by the procedures contained in IDAPA 58.01.01.625.

[IDAPA 58.01.01.625, 5/1/94]

**2. OPERATING REQUIREMENTS**

**2.1 Install Grout Preparation Air Pollution Control Equipment**

The Permittee shall install, calibrate, maintain, and operate, in accordance with General Provision B and manufacturer's specifications, a baghouse (or equivalent) with a minimum designed control efficiency of 95% for particulate matter, to control emissions from the macroencapsulation grout preparation system.

[IDAPA 58.01.01.211.01, 5/1/94]

**2.2 Install Zone 3 Ventilation System Air Pollution Control Equipment**

The Permittee shall install, calibrate, maintain, and operate, in accordance with General Provision B and manufacturer's specifications, the following air pollution control equipment to control emissions from the following process areas which exhaust into the zone 3 ventilation system:

2.2.1 Three (3) stages of HEPA filters shall control emissions from the drum line conveyor, drum line area, drum assay conveyor area, central conveyor system, north box line conveyor/drum staging area, south box line conveyor/drum staging area, north box line, south box line, and the supercompaction/macroencapsulation glovebox. Each HEPA filter stage shall contain a minimum of two (2) HEPA filters constructed in parallel for which one filter shall be used to control emissions while the second filter is used as a backup.

<b>DATE:</b> July 19, 2000
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**PERMIT TO CONSTRUCT  
PERMITTEE, PROJECT, AND LOCATION**

BNFL, Incorporated  
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Idaho Falls, Idaho

**PERMIT NUMBER**

0 2 3 - 0 0 0 0 1

**SOURCE**

Advanced Mixed Waste Treatment Facility

2.2.2 A single stage carbon adsorption unit shall control emissions from the drum line conveyor, drum line area, drum assay conveyor area, central conveyor system, north box line conveyor/drum staging area, and the south box line conveyor/drum staging area. A second stage carbon adsorption unit shall be installed as a backup unit for any one of the first stage units. Each carbon adsorption stage shall contain a minimum of two (2) carbon adsorbers constructed in parallel for which one adsorber shall be used to control emissions while the second adsorber is used as a backup.

[IDAPA 58.01.01.211.01, 5/1/94]

2.3 Install Glovebox Ventilation System Air Pollution Control Equipment

The Permittee shall install, calibrate, maintain, and operate, in accordance with General Provision B and manufacturer's specifications, the following air pollution control equipment to control emissions from the following process areas which exhaust into the glovebox ventilation system:

2.3.1 Three (3) stages of HEPA filters shall control emissions from the special case waste glovebox, sample extraction glovebox, and the analytical laboratory glovebox systems. Each HEPA filter stage shall contain a minimum of two (2) HEPA filters constructed in parallel for which one filter shall be used to control emissions while the second filter is used as a backup.

2.3.2 A single stage carbon adsorption unit shall control emissions from the special case waste glovebox, sample extraction glovebox, and the analytical laboratory glovebox systems. A second stage carbon adsorption unit shall be installed as a backup unit for any one of the first stage units. Each carbon adsorption stage shall contain a minimum of two (2) carbon adsorbers constructed in parallel for which one adsorber shall be used to control emissions while the second adsorber is used as a backup.

[IDAPA 58.01.01.211.01, 5/1/94]

2.4 Drum Line Throughput Limits

The maximum daily throughput of the facility drum line shall not exceed 22,512 pounds per day (lb/day). The maximum annual throughput of the facility drum line shall not exceed 4,108 tons per any consecutive twelve (12) month period (T/yr).

[IDAPA 58.01.01.211.01, 5/1/94]

2.5 Box Line Throughput Limits

The maximum daily throughput of the facility box line shall not exceed 26,718 pounds per day (lb/day). The maximum annual throughput of the facility box line shall not exceed 4,876 tons per any consecutive twelve (12) month period (T/yr).

[IDAPA 58.01.01.211.01, 5/1/94]

**DATE:** July 19, 2000

**PERMIT TO CONSTRUCT  
PERMITTEE, PROJECT, AND LOCATION**

BNFL, Incorporated  
Advanced Mixed Waste Treatment Facility  
INEEL/RWMC/TSA  
Idaho Falls, Idaho

**PERMIT NUMBER**

0 2 3 - 0 0 0 0 1

**SOURCE**

Advanced Mixed Waste Treatment Facility

**2.6 Air Pollution Control Device Operating Requirements**

At a minimum, the Permittee shall maintain the following air pollution control device operating parameters within Operation and Maintenance (O&M) Manual specifications:

- 2.6.1 The pressure drop across the baghouse (or equivalent) in the grout preparation system;
- 2.6.2 Total hydrocarbon breakthrough limits for each first-stage carbon adsorption unit located in the facility ventilation systems; and
- 2.6.3 All HEPA filters operated within this facility shall follow the requirements specified in Appendix A of this permit.

[IDAPA 58.01.01.211.01, 5/1/94]

**2.7 Limitations on Radionuclide Inventory**

Radioactive waste to be treated at the AMWTF shall be consistent with the radionuclide inventory presented in the National Emission Standards for Hazardous Air Pollution (NESHAP) application, dated October 1998, which was approved by the U.S. Environmental Protection Agency. When the waste is inconsistent with the original radionuclide inventory, the Permittee shall conduct an emissions analysis using the NESHAP guidelines contained in 40 CFR 61. This analysis must demonstrate that processing the waste will meet the requirements of the radionuclide emission limit in this permit. If performed, this information shall be submitted to DEQ.

[IDAPA 58.01.01.211.01, 5/1/94]

**2.8 Facility Throughput Limit**

The Permittee shall not process more than eighty five thousand cubic meters (85,000m<sup>3</sup>) of waste at this facility without prior DEQ approval.

[IDAPA 58.01.01.211.01, 5/1/94]

**3. MONITORING AND RECORDKEEPING REQUIREMENTS**

**3.1 Hydrocarbon Monitor**

The Permittee shall install, calibrate, maintain, and operate, in accordance with manufacturer's specifications, a monitor to measure and record hydrocarbon emissions after each first stage carbon adsorption unit.

[IDAPA 58.01.01.211.01, 5/1/94]

**3.2 Monitor and Record Operating Parameters**

The Permittee shall record the following information. The most recent two (2) years' compilation of records shall be kept on site, in a log, and shall be made available to DEQ representatives upon request.

- 3.2.1 The throughput of the drum line once per day in units of pounds and once per month in units of tons;
- 3.2.2 The throughput of the box line once per day in units of pounds and once per month in units of tons;

**DATE: July 19, 2000**

**PERMIT TO CONSTRUCT  
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Advanced Mixed Waste Treatment Facility  
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**PERMIT NUMBER**

0 2 3 - 0 0 0 0 1

**SOURCE**

Advanced Mixed Waste Treatment Facility

- 3.2.3 The total hydrocarbon breakthrough for each first-stage carbon adsorption unit once every twelve (12) hours of operation;
- 3.2.4 The pressure drop across the grout system baghouse (or equivalent) once every twenty-four (24) hours of operation; and
- 3.2.5 The total volume of waste processed at this facility once per month and in units of cubic meters (m<sup>3</sup>).  
[IDAPA 58.01.01.211.01, 5/1/94]

**3.3 Radionuclide Stack Monitoring**

The Permittee shall collect and measure radionuclide emissions from the zone 3 stack and the glovebox stack in accordance with 40 CFR 61.93. Radionuclides shall be measured using the procedures described in 40 CFR 61, Appendix B, Method 114.

[40 CFR 61.93(b)]

**3.4 Radionuclide Recordkeeping**

The Permittee shall maintain records documenting the methods and procedures used in determining compliance with the emission standard in accordance with 40 CFR 61.95. Records shall include, but are not limited to, measurements, calculations, analytical methods, sampling, monitoring, and procedures used to derive values for input parameters to determine effective dose equivalent. The Permittee shall then use this information to calculate the effective dose equivalent to demonstrate compliance with the AMWTF standard contained in Section 1.1 of this permit in accordance with 40 CFR 61 requirements. All documentation shall be sufficient to allow an independent auditor to verify the accuracy of the determination made of the facility's compliance with the standard. The most recent five (5) years' compilation of records shall be kept on site and shall be made available to DEQ representatives upon request.

[40 CFR 61.95]

**3.5 Radionuclide Monitoring Quality Assurance Program**

Prior to facility startup, the Permittee shall have developed a radionuclide monitoring QA program in accordance with 40 CFR 61.93 and shall follow all provisions in accordance with 40 CFR 61, Appendix B, Method 114. All QA program documentation shall remain on site at all times and shall be made available to DEQ representatives upon request.

[40 CFR 61.93(b)(2)(iv)]

**3.6 Operations and Maintenance Manual Requirements**

Prior to facility startup, the Permittee shall have developed and submitted for DEQ approval an Operations and Maintenance Manual (O&M Manual), including all relevant manufacturer's specification information for all air pollution control devices and associated monitoring equipment. At a minimum, the O&M Manual shall describe the procedures that will be followed to comply with General Provision B of this permit and applicable

**DATE:** July 19, 2000

**PERMIT TO CONSTRUCT  
PERMITTEE, PROJECT, AND LOCATION**

BNFL, Incorporated  
Advanced Mixed Waste Treatment Facility  
INEEL/RWMC/TSA  
Idaho Falls, Idaho

**PERMIT NUMBER**

0 2 3 - 0 0 0 0 1

**SOURCE**

Advanced Mixed Waste Treatment Facility

manufacturer's operating and maintenance specifications. A copy of this manual shall also remain on site at all times and shall be made available to DEQ representatives upon request.

[IDAPA 58.01.01.211.01, 5/1/94]

**4. REPORTING REQUIREMENTS**

**4.1 Initial Reporting**

Prior to facility startup, the Permittee shall submit to DEQ for approval a copy of each of the following:

- 4.1.1 The O&M Manual required by Section 3.6 of this permit.
- 4.1.2 The O&M Manual required by Appendix A, Section 2.4 of this permit.
- 4.1.3 The QA program required by Appendix A, Section 2.5 of this permit.

[IDAPA 58.01.01.211.01, 5/1/94]

**4.2 Reporting Permit Deviations**

The Permittee shall submit a report to DEQ within fifteen (15) days of discovering a deviation of any term or condition of this permit. The report shall contain the date(s), duration and description of the deviation(s), and the procedures taken to remedy the cause of the deviation(s).

[IDAPA 58.01.01.211.01, 5/1/94]

**4.3 NESHAPs Annual Report**

The Permittee shall submit a copy of the annual report required by 40 CFR 61.94 to the U.S. EPA and the Idaho DEQ no later than June 30 of each calendar year.

[40 CFR 61.94, IDAPA 58.01.01.211.01, 5/1/94]

**4.4 Certification of Documents**

All documents including, but not limited to, application forms for Permits to Construct, records, monitoring data, supporting information, requests for confidential treatment, testing reports, and compliance certifications submitted to DEQ shall contain a certification by a responsible official in accordance with IDAPA 58.01.01.123. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document(s) are true, accurate, and complete.

[IDAPA 58.01.01.123, 5/1/94]

All DEQ Reporting required by this permit shall be sent to:

Air Quality Permit Compliance  
Division of Environmental Quality  
Idaho Falls Regional Office  
900 N. Skyline, Suite B  
Idaho Falls, Idaho 83402

**DATE:** July 19, 2000

**APPENDIX A**  
**HEPA FILTER GENERAL REQUIREMENTS**

**1. MONITORING REQUIREMENTS**

- 1.1. The Permittee shall conduct periodic, in-place efficiency tests on each certified HEPA filter or HEPA filter bank, as applicable. The first test shall be conducted within ninety (90) days of startup and subsequent tests shall be conducted at least every (twelve) 12 months thereafter, per Nuclear Air Cleaning Handbook, ERDA 76-21, Section 8.3.5, "Frequency of Testing." Testing will be conducted using guidelines of ASME N510, Section 10, "HEPA Filter Bank In-Place Test." In addition, after replacement or installation of a HEPA filter, an in-place efficiency test shall be conducted within ninety (90) days of the date that the HEPA filter is placed in operation.
- 1.2. A pressure monitoring device shall be maintained to enable monitoring of the pressure drop across each certified HEPA filter bank. The pressure drop monitoring equipment shall be maintained in good working order. The pressure drop shall be recorded once on a daily basis when the HEPA filter bank is in use.

**2. OPERATING REQUIREMENTS**

- 2.1. Certified HEPA filter efficiency shall be maintained at or above 99.97 percent removal efficiency as determined by the guidelines of ASME N510, Section 10.
- 2.2. If the removal efficiency of a certified HEPA filter or HEPA filter bank, as applicable, falls below 99.97 percent as determined by ASME N510, Section 10, the Permittee shall isolate the certified filters or replace the filters within (ten) 10 days.
- 2.3. Each certified HEPA filter shall be operated at a pressure drop that is limited to less than 5.0 inches water column. If the total pressure drop across the HEPA filter bank exceeds 5.0 inches water column, the Permittee shall isolate it or replace it within ten (10) days.
- 2.4. Prior to facility startup, the Permittee shall have developed and submitted for DEQ approval an O&M Manual which describes the procedures which will be followed to assure compliance with Sections 1 and 2 of this permit Appendix.
- 2.5. Prior to facility startup, the Permittee shall have developed and submitted for DEQ approval a quality assurance program, based on ASME N510 guidelines, which defines methods and procedures that will be used to assure that quality and representative data are collected while performing in-place HEPA filter tests and measuring pressure drops across HEPA filters banks.

**3. REPORTING REQUIREMENTS**

- 3.1. The results of the initial in-place HEPA filter bank test conducted using the guidelines of ASME N510, Section 10 shall be reported to DEQ within thirty (30) days of performing the test.
- 3.2. The Permittee shall submit a quarterly report to DEQ, based on a quarter calendar year and due thirty (30) days after the end of each quarter, containing the following information for DEQ review. A copy of these records shall also be kept on site at all times and shall be made available to DEQ representatives upon request:
  - 3.2.1 The dates and results of all in-place efficiency tests using the guidelines of the ASME N510 HEPA filter bank in-place test method.
  - 3.2.2 The dates of replacement of HEPA filter elements.
  - 3.2.3 The dates when the HEPA filter pressure drop exceeded the requirements of Section 2.3 of this permit Appendix.

**DATE:** July 19, 2000

**PERMIT TO CONSTRUCT GENERAL PROVISIONS**

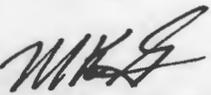
- A. All emissions authorized herein shall be consistent with the terms and conditions of this permit and the *Rules for the Control of Air Pollution in Idaho*. The emission of any pollutant in excess of the limitations specified herein, or noncompliance with any other condition or limitation contained in this permit, shall constitute a violation of this permit and the *Rules for the Control of Air Pollution in Idaho*, and the Environmental Protection and Health Act, Idaho Code 39-101, et.seq.
- B. The Permittee shall at all times (except as provided in the *Rules for the Control of Air Pollution in Idaho*) maintain in good working order and operate as efficiently as practicable, all treatment or control facilities or systems installed or used to achieve compliance with the terms and conditions of this permit and other applicable Idaho laws for the control of air pollution.
- C. The Permittee shall allow the Director, and/or the authorized representative(s), upon the presentation of credentials:
1. To enter at reasonable times upon the premises where an emission source is located, or in which any records are required to be kept under the terms and conditions of this permit; and
  2. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit, to inspect any monitoring methods required in this permit, and require stack emission testing in conformance with IDAPA 58.01.01.157 when deemed appropriate by the Director.
- D. Nothing in this permit is intended to relieve or exempt the Permittee from compliance with any applicable federal, state, or local law or regulation, except as specifically provided herein.
- E. The Permittee shall notify DEQ, in writing, of the required information for the following events within five (5) working days after occurrence:
1. Initiation of Construction - Date
  2. Completion/Cessation of Construction - Date
  3. Actual Production Startup - Date
  4. Initial Date of Achieving Maximum Production Rate - Production Rate and Date
- F. If emission testing is specified, the Permittee must schedule such testing within sixty (60) days after achieving the maximum production rate, but not later than one hundred and eighty (180) days after initial startup. Such testing must **strictly** adhere to the procedures outlined in IDAPA 58.01.01.157 and shall not be conducted on weekends or state holidays without prior written DEQ approval. Testing procedures and specific time limitations may be modified by DEQ by prior negotiation if conditions warrant adjustment. DEQ shall be notified at least fifteen (15) days prior to the scheduled compliance test. Any records or data generated as a result of such compliance test shall be made available to DEQ upon request.
- The maximum allowable operating rate shall be limited to 120% of the average operating rate attained during any performance test period, for which a test protocol has been granted prior approval by DEQ, unless (1) the test demonstrates noncompliance, (2) a more restrictive operating limit is specified elsewhere in this permit, or (3) at such an operating rate, emissions would exceed any emission limit(s) set forth in this permit.
- G. The provisions of this permit are severable, and if any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

<b>DATE:</b> July 19, 2000
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July 13, 2000

## MEMORANDUM

**TO:** Orville D. Green, Program Administrator  
State Air Quality Program

**FROM:** Mike Simon, Air Quality Permit Manager   
Air Quality Permit Program

**SUBJECT:** **PERMIT TO CONSTRUCT TECHNICAL ANALYSIS**  
P-980040, BNFL Inc., INEEL  
(Advanced Mixed Waste Treatment Facility)

### PURPOSE

The purpose for this memorandum is to set out the legal and technical basis which satisfies the requirements of IDAPA 16.01.01.200 (*Rules for the Control of Air Pollution in Idaho*) for issuing Permits to Construct (PTCs).

### PROJECT DESCRIPTION

The primary purpose of the Advanced Mixed Waste Treatment Facility (AMWTF) will be the treatment of mixed waste (MW) that is currently stored on site at the Radioactive Waste Management Complex (RWMC) on the Idaho National Engineering and Environmental Laboratory (INEEL). The AMWTF will be designed, built, and operated by BNFL Inc. (BNFL), under contract with the U.S. Department of Energy (DOE). The AMWTF will treat waste stored at the Transuranic (TRU) Storage Area (TSA) of the RWMC to produce final waste forms that may be disposed of at the Waste Isolation Pilot Plant in New Mexico or another permitted facility. The AMWTF will process approximately 65,000 m<sup>3</sup> of alpha low-level mixed waste (MW), TRU contact handled MW, and radioactive-only waste from the TSA. The facility also has the capability to treat up to an additional 20,000 m<sup>3</sup>, for a total of 85,000 m<sup>3</sup> of similar waste from the INEEL and other U.S. DOE regional and national waste streams.

TSA stored waste slated for treatment will be retrieved from storage, characterized, transported to the AMWTF, pretreated (as applicable) in the box or drum lines, and treated to a final form by supercompaction and/or macroencapsulation. Incineration, evaporation, and microencapsulation have been removed from the design of the facility and alternative technologies may be proposed in the future. Treated wastes will temporarily be stored on site and then transported off site to an approved disposal facility.

The facility will normally operate twenty-four (24) hours per day and 330 days per year. However, for purposes of operational flexibility, the permit application was developed assuming year-round continuous operations and emissions estimates are based on 8,760 hours of operation per year. The planned operational duration of the AMWTF is approximately thirteen (13) years.

### SUMMARY OF EVENTS

On April 16, 1998, DEQ received a PTC application from BNFL for the AMWTF. On May 22, 1998, the application was declared complete. On July 13, 1998, BNFL withdrew the PTC application based upon the removal of the vitrifier system.

On October 13, 1998, DEQ received a new PTC application (Revision 1) from BNFL. On November 4, 1998, DEQ received information regarding EPA's approval of the NESHAP application and information regarding the incinerator. On November 16, 1998, the application was determined complete. On January 12, 1999, DEQ received additional information regarding radioactivity of the waste. On January 12, 1999, DEQ received replacement pages for the PTC application. On January 22, 1999, DEQ received a written request from BNFL to review a draft PTC in accordance with IDAPA 16.01.01.209.01.b.i. On March 12, 1999, DEQ issued a draft PTC to BNFL. On March 12, 1999, DEQ received a letter from BNFL describing preliminary site activities. On March 18, 1999, DEQ issued a letter to BNFL regarding the preliminary activities. On March 19, 1999, DEQ received comments to the draft PTC from BNFL.

On April 7, 1999, DEQ issued a proposed PTC for public review in accordance with IDAPA 16.01.01.209.01.c. On April 15, 1999, a 30-day public comment period began for the proposed PTC. On May 3, 1999, DEQ extended the comment period an additional two weeks to end on May 28, 1999. On May 25, 1999, DEQ conducted a public hearing in Idaho Falls. On May 26, 1999, DEQ conducted a public hearing in Idaho Falls. On May 27, 1999, DEQ conducted a public hearing in Boise. On June 2, 1999, DEQ extended the comment period an additional 30 days to end on June 28, 1999. On June 28, 1999, the public comment period for the proposed air quality PTC ended.

On August 11, 1999, DEQ received new certification statements and signatures for the PTC application. On October 12, 1999, DEQ issued a letter to BNFL stating that DEQ was continuing to process their application. On April 7, 2000, DEQ received a letter from the U.S. DOE stating the removal of the incinerator and evaporator units.

## DISCUSSION

### 1. PROCESS DESCRIPTIONS

This section provides narrative descriptions of each process as presented in the PTC application.

#### Waste Retrieval and Characterization at the TSA

Of the 65,000 m<sup>3</sup> of MW to be treated at the AMWTF, approximately 11,700 m<sup>3</sup> is currently stored in existing Type II Modules at the TSA. An existing structure has been constructed over the remaining 53,300 m<sup>3</sup> of MW currently stored under an earthen berm. The structure, the Transuranic Storage Area Retrieval Enclosure (TSARE), is used to provide confinement and weather protection for retrieval operations.

There is approximately 40,000 m<sup>3</sup> of soil cover that is used as the earthen berm in the TSARE. Soil cover removed from the bermed MW is characterized for alpha, gamma, neutron radiation, and organic contaminants. Soil that is determined radiologically clean and does not contain hazardous constituents is moved to another location at the INEEL. Emissions are not expected during normal operations inside the TSARE; therefore, there are no PTC requirements for this process.

Following retrieval, waste will be characterized in the existing Type I Module facility. Waste boxes and drums will be unloaded from trucks into the Type I Modules and placed in interim staging areas to await real-time radiography and radio assay examinations. Boxes and drums will then be transported to the Type II Modules for storage pending treatment.

#### AMWTF General Description

The AMWTF will be a two-story structure with a rooftop mechanical penthouse and attached utility building. The facility will have approximately 60,000 ft<sup>2</sup> of floor space per floor. The process portions of the AMWTF will be divided into clean areas and three (3) ventilation confinement zones. Outside air will be drawn into the facility through the clean areas into Zone 1, then into Zone 2, and finally into Zone 3 (some clean areas may not vent into Zone 1). Exhaust from Zone 3 areas will be drawn via exhaust fans, through air pollution control equipment, then discharged via the facility main stack. Under normal operating conditions, uncontained waste will be located in Zone 3 areas only, while Zone 1 and Zone 2 areas will remain clean and accessible to workers.

The waste streams to be treated at the AMWTF have been grouped into seven (7) debris waste categories (WCs) and three (3) non-debris WCs. The WCs to be treated at the AMWTF have been grouped according to their primary matrix constituents. Table 1-1 below summarizes the description of the waste categories as well as the proposed treatment. A copy of the simplified process flow diagram showing the treatment lines for the AMWTF is presented in Appendix A of this technical memorandum.

**Table 1-1 AMWTF Waste Stream Identification and Treatment Summary**

Waste Category (WC)	Waste Stream General Descriptions	AMWTF Input as Volume (m <sup>3</sup> )	AMWTF Input as Mass (kg)	AMWTF Proposed Treatment for the WC
Debris	Metal Debris (MD)	25,602	10,520,966	Supercompaction/ Macroencapsulation
Debris	Inorganic Debris (ID)	7,958	2,252,918	Supercompaction/ Macroencapsulation
Debris	Graphite (G)	813	419,848	Supercompaction/ Macroencapsulation
Debris	Ceramic/Brick Debris (CBD)	521	331,285	Supercompaction/ Macroencapsulation
Debris	Organic Debris (OD)	6,202	1,655,997	Supercompaction/ Macroencapsulation
Debris	Paper/Rags/Plastic/ Rubber (PRPR)	19,277	5,763,520	Supercompaction/ Macroencapsulation
Debris	Heterogeneous Debris (HD)	5,823	2,690,128	Supercompaction/ Macroencapsulation
Non-Debris	Inorganic Homogeneous Solids (IHS)	14,879	14,452,350	To be determined
Non-Debris	Organic Homogeneous Solids (OHS)	2,992	3,055,295	To be determined
Non-Debris	Soil (S)	403	380,897	To be determined
Debris/ Non-Debris	Prohibited Material (PM)	28	151,815	Repackaged and sent back to Type II Storage
Debris/ Non-Debris	<b>Total Input to AMWTF</b>	<b>84,808</b>	<b>41,873,630</b>	---

AMWTF Staging Area Process Description

All waste containers within the AMWTF will be temporarily staged while in transit from receiving to pretreatment/treatment processes, during treatment processes, and en route from treatment process areas to the building exit as final waste forms. There are several designated staging areas in the facility.

Clean Container Import/LLW Export Area

Located on the first floor of the AMWTF, this area will receive clean containers used in the facility processes. In addition, boxes or drums containing low-level waste (LLW) will be staged in this area. According to the PTC application, the LLW will be in lidded containers; therefore, this area will not have a potential to emit (PTE) of any regulated air pollutant.

#### Waste Receiving and Staging Area

Located on the first floor, drummed and boxed waste is transported from the Type II Modules to the receiving and staging area within the AMWTF. The waste is off-loaded from flatbed trailers by a forklift truck. The waste is transported to the AMWTF through steel doors and placed in a staging area. From the staging area, the waste is forwarded within the facility to the treatment areas.

Drummed waste is transferred from the staging area to the central conveyor system where the drums are eventually lifted by drum lifts to the drum pretreatment area. Boxed waste is transferred from the staging area to the box conveyor and fed directly to a vertical box elevator. The elevator transports the boxes to the second floor of the facility directly to the box pretreatment area. According to the PTC application, because all drummed and boxed waste will be unopened under normal operations, the staging area will not have a PTE of any regulated pollutant.

#### Drum Cure and Export Staging Areas

The drum cure areas for macroencapsulation and microencapsulation will be located on the first floor. Once cured, the final waste from containers will be fed out via conveyors to the clean drum export staging areas. From there they will be conveyed for export from the facility. According to the PTC application, because the waste forms will be in lidded containers under normal operations, these areas will not have a PTE of any regulated air pollutant.

#### Drum Staging Areas

Containers primarily awaiting incineration will be staged in the box line conveyor/drum staging areas. Drums in these areas will not be lidded and have the PTE regulated air pollutants. Refer to the Emission Estimates section of this memo for information regarding emissions from the drum staging areas.

#### Central Conveyor System

The material transfer system is a system of conveyors and elevators, primarily based around the central conveyor system (CCS), that will accommodate container movement throughout the facility. The CCS system has the PTE regulated air pollutants. Refer to the Emission Estimates section of this memo for information regarding emissions from the CCS.

#### Analytical Lab Glovebox Process Description

Located on the second floor, the analytical lab and specific case waste (SCW) treatment area will contain various test equipment for inspection of selected wastes. The analytical lab glovebox will be located in this area and has PTE regulated air pollutants. Refer to the Emission Estimates section of this memo for information regarding emissions from the glovebox.

#### Pretreatment Areas Process Description

Containerized wastes will be transferred from the waste receiving and staging area to the pretreatment areas, primarily the box and drum lines. Waste containers will pass from Zone 1, to Zone 2, to the Zone 3 pretreatment areas through a series of variable geometry doors for boxes, and airlock doors for drums.

Waste containers will be handled remotely with concrete cells lined with stainless steel. Operators will oversee the drum and box lines through observation windows and closed-circuit television. Following sorting in the drum or box lines, the waste material (in transfer containers) will be transferred to an assay cell, where it will be characterized by radio assay. Refer to Appendix A of this technical memorandum for the simplified process flow diagram showing the pretreatment and treatment processes.

#### Drum Line

The pretreatment drum line area will be used to open drums, identify waste contents, sort the waste, and condition/size reduce the contents for feed to the downstream treatment processes. Drums not suitable for direct supercompaction and macroencapsulation will proceed through the drum line for pretreatment. Some drums suitable for direct feed will bypass the drum pretreatment line, proceeding directly to the supercompactor and macroencapsulation area. The remaining debris drums will be opened and sorted for treatment. The drum line has the PTE regulated air pollutants. Refer to the Emission Estimates section of this memo for information regarding emissions from the drum line.

#### Box Lines

The pretreatment box line area will be used to break down the outer box container, remove box contents, sort the waste, and size reduce for feed to downstream treatment processes. Boxed waste is set on a box conveyor, which feeds directly into a vertical box elevator and transported to the second floor of the AMWTF. The boxes are transferred to a second elevator to the pretreatment box line. Waste from the boxes are removed by manipulators into transfer containers. Transfer containers are filled to desired weights and levels and transported downstream to the appropriate treatment areas. The two (2) box lines have the PTE regulated air pollutants. Refer to the Emission Estimates section of this memo for information regarding emissions from the box lines.

### Treatment Areas Process Description

The treatment areas include supercompaction, macroencapsulation, and SCW treatment. The incineration, brine evaporator, and microencapsulation systems are no longer proposed to be constructed.

#### Supercompaction

The supercompaction process will receive drums of sorted debris waste from the pretreatment lines or direct feed drums from the waste receiving and staging areas. The drums of waste will be punctured, then compacted by a hydraulic press, using a mold to control the shape of the supercompacted puck. The average volume reduction for each drum is approximately eighty percent (80%), depending on the contents of the drum. The supercompaction process has the PTE regulated air pollutants. Refer to the Emission Estimates section of this memo for information regarding emissions from the supercompaction process.

#### Macroencapsulation

Pucks from the supercompaction process will be placed into a puck drum. Grout will then be poured in the puck drum which will encapsulate the pucks into the final waste form. Select noncompactable debris waste may be macroencapsulated without first being supercompacted. The grout used in the macroencapsulation process will be prepared in the adjacent grout preparation area and piped into the postcompaction glovebox. Grouted drums will be lidded and allowed to cure in the macroencapsulation drum cure area. The macroencapsulation grout preparation system and associated macroencapsulation gloveboxes has the PTE regulated air pollutants. Refer to the Emission Estimates section of this memo for information regarding emissions from these processes.

#### SCW Glovebox

Located on the second floor, the SCW glovebox will be used for case-by-case treatment of wastes (i.e., PCB suspect liquids; mercury; hydraulic fluids; and small, intact containers of non-debris waste) that are not suitable for direct treatment by primary processes. Wastes will be staged in this area until analytical results are obtained and then prepared for treatment or transfer out of the facility as appropriate. Normal operations in the SCW glovebox have the PTE regulated air pollutants. Refer to the Emission Estimates section of this memo for information regarding emissions from the SCW glovebox.

#### Natural Gas-Fired Boilers and Water Heater Process Description

The utility building will house three (3) natural gas-fired process steam and humidification boilers, rated at 10.5 MMBtu/hr each, that will provide steam to the brine evaporator and humidification to the main HVAC system. Of the three (3) boilers, two (2) are designed to operate continuously and one (1) as a standby unit. The building will also contain three (3) natural gas-fired HVAC hot water boilers, rated at 6.0 MMBtu/hr each, and one (1) natural gas-fired potable hot water heater rated at 1.25 MMBtu/hr. Of the three (3) HVAC hot-water boilers, two (2) are designed to operate continuously and one (1) as a standby unit. All natural gas-fired heating units have the PTE regulated air pollutants. Refer to the Emission Estimates section of this memo for information regarding the emissions from these heating units.

## 2. AMWTF STACK DESCRIPTIONS

The main facility stack is comprised of seven (7) individual flues, two (2) boiler stacks comprised of three (3) flues each, and a potable hot-water heater stack. This gives a total of fourteen (14) exhaust stacks at this facility.

#### Main Facility Stack

The main facility stack will extend above the roof of the utility building. Exhaust from the AMWTF treatment processes and ventilation zones will be separately conveyed to the atmosphere in three (3) individual flues that are surrounded by a wind screen. The windscreen enclosure itself will extend approximately eighty-two (82) feet above grade and will be approximately fifteen (15) feet in diameter. Table 2-1 below describes each flue within the main stack and the respective design specifications.

**Table 2-1 AMWTF Main Stack Descriptions and Specifications**

Stack No.	Stack ID	Stack Gas Volume (acfm)	Stack Height (ft)	Stack Diameter (ft)	Stack Temp. (°F)	Emission Sources Served
1	Zones 1 & 2	34,000	88.0	3.29	72	No Emission Sources
2	Zone 3	30,000	88.0	3.1	72	Drum Staging Areas Central Conveyor System Drum Line Box Line Supercompaction/Macro-encapsulation Glovebox
3	Glovebox	2,000	90.0	0.8	72	Special Case Waste Glovebox Analytical Laboratory Glovebox Sample Extraction Glovebox

Other Stacks at the AMWTF

Other stacks at the AMWTF include exhausts from seven (7) natural gas-fired heating units and two (2) baghouse exhaust vents from grout preparation systems. Table 2-2 below provides the stack specifications for the rest of the point sources located at the AMWTF.

**Table 2-2 Descriptions of Other Stacks at the AMWTF**

Stack ID	Stack Gas Volume (acfm)	Stack Height (ft)	Stack Diameter (ft)	Stack Temperature (°F)
Steam Boiler #1	4,189	50.0	1.67	450
Steam Boiler #2	4,189	50.0	1.67	450
Steam Boiler #3	4,189	50.0	1.67	450
HVAC Boiler #1	2,404	50.0	1.30	450
HVAC Boiler #2	2,404	50.0	1.30	450
HVAC Boiler #3	2,404	50.0	1.30	450
Potable Hot-Water Heater	457	36.0	1.00	400
Macroencapsulation Grout Baghouse	N/A	N/A	N/A	N/A

### 3. EMISSION ESTIMATES

Air pollutant emissions have been estimated based on normal year-round operations of the AMWTF. For purposes of air quality permitting, emissions have been calculated on a Potential to Emit (PTE) basis for radionuclides, toxic air pollutants, and criteria air pollutants. The PTE for all of these pollutants are based on the bounding limitations imposed by the PTC which include throughput limits, control device requirements, and facility operations of twenty-four (24) hours per day (hr/day) and 8,760 hours per year (hr/yr). This section is a summary of all calculations, assumptions, and control device efficiencies used in determining the PTE.

#### Emission Estimates General Assumptions

Particulate matter (PM) emissions, in general, is assumed to be emitted from processes that disturb the waste, such as drilling, dumping, sorting, sizing, grinding, shredding, and handling. All calculations for PM emissions are also assumed to be equal to PM-10 (particulate matter with an aerodynamic diameter less than or equal to ten [10] microns or less) emissions for conservatism.

Volatile organic compound (VOC) emissions are estimated in process areas where waste containers will not be tightly lidded, or where containers will be opened for sizing, drilling, or any other disruptive activity where lids will not be secure. Of all WCs to be treated at the facility, the non-debris, sludge-type wastes (especially OHS) are expected to have the potential to emit the majority of the VOCs.

Toxic air pollutants (TAPs), defined in IDAPA Sections 585 and 586, emitted at the AMWTF are primarily constituents present in the waste streams. The estimated concentrations of pollutants in each waste stream were found in the *Waste Description for Transuranically-Contaminated Wastes Stored at the Idaho National Engineering Laboratory* (published December 1995). For each waste category, the highest estimated concentration of a particular pollutant in any of the waste streams in that waste category was assigned for that pollutant. A table summarizing the worst-case pollutant concentrations per a given waste stream was taken from the PTC application and is attached in Appendix B of this memo for reference. TAP emission estimates are subdivided into volatiles and particulates, depending on the physical nature of the pollutant. Individual TAP emission estimates were then calculated by multiplying the VOC or PM pounds per hour (lb/hr) controlled emission estimate by the maximum weight percent concentration expected in the waste category. The TAP analysis given by the applicant was checked and verified by a separate DEQ analysis.

The applicant has received approval for construction in accordance with 40 CFR 61.08 from EPA Region 10 for the radionuclide-emitting activities at the AMWTF. In summary, the applicant has calculated the effective dose equivalent for the nearest off-site residence, business, office, or school to be 9.7E-04 millirem per year (0.00097 mrem/yr). In addition, the applicant also calculated the maximum individual dose from radioactive emissions at the most conservative location to which the public can be exposed to at 6.7E-03 millirem per year (0.0067mrem/yr). The calculated, unabated (assuming no air pollution control equipment) dose was 3.9 mrem/yr, which exceeded the 0.1 mrem/yr for the stack that would contribute the least to radioactive emissions from the facility; therefore, monitoring of the two (2) stacks that could contribute to radioactive emissions is required in accordance with 40 CFR 61.93. For additional information, refer to the National Emission Standards for Hazardous Air Pollution (NESHAP) application located in the DEQ source file.

#### Zone 3 Ventilation System

The zone 3 ventilation system within the AMWTF is composed of several HEPA filters (three [3] stages in series, each stage has a minimum of two [2] filters in parallel) and two (2) carbon adsorption stages (minimum 2 in parallel) in series which control several process areas described below. The zone 3 ventilation system exhausts to the zone 3 stack referenced in Table 2-1 of the main facility stack. Appendix A of this memo contains a copy of the east zone 3 ventilation system simplified schematic obtained from the PTC application.

#### Drum Line

The drum line will have emissions of PM, VOCs, TAPs, and radionuclides. The drum line will process primarily non-debris waste; therefore, emission estimates will be based on this waste category. The small amounts of debris waste in the drum line will not be handled in such a manner to add significantly to the emissions which are already conservatively accounted for from the non-debris waste. In addition, emissions from the drum line conveyor are encompassed in the emission estimates for the drum line process. Drum line emissions will be ventilated and controlled within the zone 3 ventilation system and exhausted out the zone 3 stack.

#### Drum Line PM Emissions

PM emissions generated from drum line operations are controlled by a local reverse jet-type baghouse and three (3) HEPA filters in series. The PM control efficiencies used in the calculations for the baghouse and each HEPA filter were eighty-five percent (85%) and 99.9%, respectively. Therefore, the total fraction of PM which passes through the baghouse and HEPA filters is:

$$\text{PM Control Factor} = 0.15 \times 0.001 \times 0.001 \times 0.001 = 1.5\text{E-}10$$

PM calculations assume a daily throughput of up to 48 drums per day (dm/day), with each drum having a mass density of 469 lbs/drum (based upon a maximum average non-debris density for OHS), giving a total mass throughput to the drum line of 938.0 lb/hr and 22,512 lb/day. Using a conservative PM emission factor of five percent (5%), which is used to represent the amount of PM generated from waste disturbances in the drum line activities (e.g., core sampling, dumping, sorting, etc.), the hourly and annual PTE for PM emissions from the drum line is:

$$\text{PM lb/hr} = 938.0 \times 0.05 \times 1.5\text{E-}10 = \underline{7.04\text{E-}9 \text{ lb/hr}}$$

$$\text{PM T/yr} = 7.04\text{E-}9 \times 8,760/2000 = \underline{3.08\text{E-}8 \text{ T/yr}}$$

#### Drum Line VOC Emissions

VOC emissions generated from drum line operations are controlled by two (2) carbon adsorption units (for which only one [1] of the units control efficiency is used in the calculations). The carbon adsorber VOC control efficiency is ninety-five percent (95%).

VOC calculations assume a daily throughput of up to 48 dm/day, a drum density of 469 lbs/drum, giving a total mass throughput of 938.0 lb/hr (0.47 T/hr) and 22,512 lb/day. The VOC content in each drum of forty percent (40%) by weight (based on a sum of the individual worst-case VOC concentrations of the total waste processed). Also used was a VOC emission factor of 0.72 lb VOC emitted per ton processed. VOC emission factor for solvent loading was obtained from AP-42, Table 4.7-1. Using all of the above-stated assumptions, the hourly and annual PTE for VOC emissions from the drum line is:

$$\text{VOC lb/hr} = 0.47 \times 0.40 \times 0.72 \times 0.05 = \underline{6.77\text{E-}3 \text{ lb/hr}}$$

$$\text{VOC T/yr} = 6.77\text{E-}3 \times 8,760/2000 = \underline{0.03 \text{ T/yr}}$$

#### Drum Line TAP Emissions

TAP emissions from the drum line are based on the maximum weight percent for a given pollutant from non-debris waste and multiplied by either the controlled VOC or PM lb/hr emission rate (from above calculations), depending on whether the TAP is volatile or a particulate. A spreadsheet summarizing the TAP emission estimates from the drum line is presented in Appendix B of this memo.

#### Box Line

The box lines, composed of the north and south lines, will have emissions of PM, TAPs, and radionuclides. The box lines will process primarily debris waste; therefore, emission estimates will be based on this waste category. VOC emissions are not expected from this source because of processing primarily debris-only waste. The box line emissions will be ventilated and controlled within the zone 3 ventilation system and exhausted out the zone 3 stack.

#### Box Line PM Emissions

PM emissions generated from the two (2) box line operations are controlled by a local reverse jet-type baghouse and three (3) HEPA filters in series. The PM control efficiencies used in the calculations for the baghouse and each HEPA filter were eighty-five percent (85%) and 99.9%, respectively. Therefore, the total fraction of PM which passes through the baghouse and HEPA filters is:

$$\text{PM Control Factor} = 0.15 \times 0.001 \times 0.001 \times 0.001 = 1.5\text{E-}10$$

PM calculations assume a daily throughput of up to 4 boxes per day (equivalent to sixty-one 55-gallon dm/day). Each drum equivalent has a mass density of 292 lbs/drum (based upon a maximum average debris density for CBD) giving a total mass throughput of both box lines in total of 1113.25 lb/hr or 26,718 lb/day. Using a conservative PM emission factor of five percent (5%), which is used to represent the amount of PM generated from waste disturbances in the box line activities (e.g., core sampling, dumping, sorting, etc.), the hourly and annual PTE for PM emissions from both box lines is:

$$\text{PM lb/hr} = 1113.25 \times 0.05 \times 1.5\text{E-}10 = \underline{8.35\text{E-}9 \text{ lb/hr}}$$

$$\text{PM T/yr} = 8.35\text{E-}9 \times 8,760/2000 = \underline{3.66\text{E-}8 \text{ T/yr}}$$

Box Line TAP Emissions

PM TAP emissions from the box lines are calculated based on the maximum weight percent for a given pollutant from debris waste and multiplied by the controlled PM emission rate from above. The box lines are not expected to have VOC emissions; therefore, no VOC TAP emissions were calculated. A spreadsheet summarizing the PTE for TAP emissions from the box lines is presented in Appendix B of this memo.

Drum Staging Areas

The drum staging areas will have emissions of VOCs and TAPs. The drum staging area will process primarily non-debris waste; therefore, emission estimates will be based on this waste category. PM emissions are not expected from this area because the drums will not be disturbed in such a manner to create PM. In addition, the box line conveyors are located in each of the drum staging areas and emissions from the box line conveyors are considered negligible since the boxes are lidded and undisturbed. Drum staging area emissions will be ventilated and controlled within the zone 3 ventilation system and exhausted out the zone 3 stack.

Drum Staging Areas VOC Emissions

VOC emissions generated from the drum staging areas are controlled two (2) carbon adsorption units (for which only one of the units control efficiency is used in the calculations). The carbon adsorber VOC control efficiency is ninety-five percent (95%).

VOC calculations assume a throughput rate of 800 lb/hr (0.4 T/hr) of non-debris waste. The VOC concentration in the waste is assumed to be forty percent (40%) by weight (based on a sum of the individual worst-case VOC concentrations of the total waste processed). Also used was a VOC emission factor of 0.02 lb VOC emitted per ton processed (factor for solvent storage tank) obtained from AP-42, Table 4.7-1. Using all of the above-stated assumptions, the hourly and annual PTE for VOC emissions from the drum staging area is:

$$\text{VOC lb/hr} = 0.40 \times 0.40 \times 0.02 \times 0.05 = 1.6\text{E-4 lb/hr}$$

$$\text{VOC T/yr} = 1.6\text{E-4} \times 8,760/2000 = 7.01\text{E-4 T/yr}$$

Drum Staging Areas TAP Emissions

VOC TAP emissions from the drum staging areas are calculated based on the maximum weight percent for a given pollutant from non-debris waste and multiplied by the controlled VOC emission rate from above. The drum staging areas are not expected to have PM emissions; therefore, no PM TAP emissions were calculated. A spreadsheet summarizing the PTE for TAP emissions from the drum staging areas is presented in Appendix B of this memo.

Central Conveyor System

The Central Conveyor System (CCS) will have emissions of VOCs and TAPs. CCS worst-case emissions are based on non-debris waste and VOCs from unlidded containers. Open drums in the CCS are not disturbed during transport; therefore, no PM emissions are expected. CSS emissions will be ventilated and controlled within the zone 3 ventilation system and exhausted out the zone 3 stack.

Central Conveyor System VOC Emissions

VOC emissions generated from the CCS are controlled by two (2) carbon adsorption units (for which only one [1] of the units control efficiency is used in the calculations). The carbon adsorber VOC control efficiency is ninety-five percent (95%).

VOC calculations assume a throughput rate of 800 lb/hr (0.71 T/hr) of non-debris waste. The VOC concentration in the waste is assumed to be forty percent (40%) by weight (based on a sum of the individual worst-case VOC concentrations of the total waste processed). Also used was a VOC emission factor of 0.02 lb VOC emitted per ton processed (factor for solvent storage tank) obtained from AP-42, Table 4.7-1. Using all of the above-stated assumptions, the hourly and annual PTE for VOC emissions from the drum staging area is:

$$\text{VOC lb/hr} = 0.71 \times 0.40 \times 0.02 \times 0.05 = 2.84\text{E-4 lb/hr}$$

$$\text{VOC T/yr} = 2.84\text{E-4} \times 8,760/2000 = 1.24\text{E-3 T/yr}$$

Central Conveyor System TAP Emissions

VOC TAP emissions from the CCS are calculated based on the maximum weight percent for a given pollutant from non-debris waste and multiplied by the controlled VOC emission rate from above. The CCS is not expected to have PM emissions; therefore, no PM TAP emissions were calculated. A spreadsheet summarizing the PTE for TAP emissions from the CCS is presented in Appendix B of this memo.

Supercompaction/Macroencapsulation Glovebox

The supercompaction/macroencapsulation (SC/ME) glovebox will have emissions of PM, TAPs, and radionuclides. The SC/ME glovebox will receive only debris waste; therefore, emissions are based on this waste category. VOC emissions are not expected from this source. The SC/ME glovebox emissions will be ventilated and controlled within the zone 3 ventilation system and exhausted out the zone 3 stack.

SC/ME Glovebox PM Emissions

PM emissions generated from the SC/ME glovebox are controlled by three (3) HEPA filters in series. The PM control efficiencies used in the calculations for each HEPA filter is 99.9%. Therefore, the total fraction of PM which passes through the HEPA filters is:

$$\text{PM Control Factor} = 0.001 \times 0.001 \times 0.001 = 1.0\text{E-}9$$

PM calculations assume a daily throughput of up to 96 drums per day. Each drum has a mass density of 292 lbs/drum (based upon a maximum average debris density for CBD) giving a total mass throughput of 1,168 lb/hr (0.58 T/hr). Using a PM emission factor of one percent (1%), which is used to represent the amount of PM generated from the supercompaction process, the hourly and annual PTE for PM emissions from the SC/ME glovebox is:

$$\text{PM lb/hr} = 1,168.0 \times 0.01 \times 1.0\text{E-}9 = \underline{1.17\text{E-}8 \text{ lb/hr}}$$

$$\text{PM T/yr} = 1.17\text{E-}8 \times 8,760/2000 = \underline{5.12\text{E-}8 \text{ T/yr}}$$

SC/ME Glovebox TAP Emissions

PM TAP emissions from the SC/ME glovebox are calculated based on the maximum weight percent for a given pollutant from debris waste and multiplied by the controlled PM emission rate from above. The glovebox is not expected to have VOC emissions; therefore, no VOC TAP emissions were calculated. A spreadsheet summarizing the PTE for TAP emissions from the SC/ME glovebox is presented in Appendix B of this memo.

Glovebox Ventilation System

The glovebox ventilation system within the AMWTF is composed of three (3) stages of HEPA filters (each stage is composed of a minimum of two [2] HEPA filters in parallel) and two (2) carbon adsorption stages (minimum two [2] in parallel) which control three (3) process areas described below. The glovebox ventilation system exhausts to the glovebox stack referenced in Table 2-1 of the main facility stack. Refer to Appendix A of this memo for the east glovebox ventilation system simplified schematic for further details.

Special Case Waste Glovebox

The special case waste (SCW) glovebox system will have emissions of PM, VOCs, TAPs, and radionuclides. Emissions from the SCW glovebox are based on the worst-case waste handled, which is non-debris waste. SCW glovebox emissions will be ventilated and controlled within the glovebox ventilation system and exhausted out the glovebox stack.

SCW Glovebox PM Emissions

PM emissions generated from the SCW glovebox operations are controlled by three (3) HEPA filters in series. The PM control efficiencies used in the calculations for each HEPA filter is 99.9%. Therefore, the total fraction of PM which passes through HEPA filters is:

$$\text{PM Control Factor} = 0.001 \times 0.001 \times 0.001 = 1.0\text{E-}9$$

PM calculations assume a daily throughput of 6.0 lb/hr (0.003 T/hr). Using a conservative PM emission factor of five percent (5%), which is used to represent the amount of PM generated from waste disturbances in preparing core samples for the analytical laboratory, the hourly and annual controlled PM emissions from the SCW glovebox is:

$$\text{PM lb/hr} = 6.0 \times 0.05 \times 1.0\text{E-}9 = \underline{3.0\text{E-}10 \text{ lb/hr}}$$

$$\text{PM T/yr} = 3.0\text{E-}10 \times 8,760/2000 = \underline{1.31\text{E-}9 \text{ T/yr}}$$

#### SCW Glovebox VOC Emissions

VOC emissions generated from the SCW glovebox operations are controlled by two (2) carbon adsorption units (for which only one [1] of the units control efficiency is used in the calculations). The carbon adsorber VOC control efficiency is ninety-five percent (95%).

VOC calculations assume a daily throughput of 0.003 T/hr and a maximum VOC content in each drum of forty percent (40%) by weight (based on a sum of the individual worst-case VOC concentrations of the total waste processed). Also used was a VOC emission factor of 0.72 lb VOC emitted per ton processed (factor for solvent loading) obtained from AP-42, Table 4.7-1. Using all of the above-stated assumptions, the hourly and annual PTE for VOC emissions from the SCW glovebox is:

$$\text{VOC lb/hr} = 0.003 \times 0.40 \times 0.72 \times 0.05 = \underline{4.32\text{E-}5 \text{ lb/hr}}$$

$$\text{VOC T/yr} = 4.32\text{E-}5 \times 8,760/2000 = \underline{1.89\text{E-}4 \text{ T/yr}}$$

#### SCW Glovebox TAP Emissions

TAP emissions from the SCW glovebox are based on the maximum weight percent for a given pollutant from non-debris waste and multiplied by either the controlled VOC or PM lb/hr emission rate (from above calculations) depending on whether the TAP is volatile or a particulate. A spreadsheet summarizing the PTE for TAP emissions from the SCW glovebox is presented in Appendix B of this memo.

#### Analytical Laboratory Glovebox

The analytical lab glovebox system will have emissions of VOCs, TAPs, and radionuclides. Emission estimates will be based on the worst-case handled waste which is non-debris core samples. The small amount of debris waste will not be handled in a manner to add to emissions. PM emissions are not expected from this source. The glovebox emissions will be ventilated and controlled within the glovebox ventilation system and exhausted out the glovebox stack.

#### Analytical Lab Glovebox VOC Emissions

VOC emissions generated from the analytical lab glovebox operations are controlled by two (2) carbon adsorption units (for which only one of the units control efficiency is used in the calculations). The carbon adsorber VOC control efficiency is ninety-five percent (95%).

VOC calculations assume a daily throughput of 0.003 T/hr and a maximum VOC content in each drum of forty percent (40%) by weight (based on a sum of the individual worst-case VOC concentrations of the total waste processed). Also used was a VOC emission factor of 0.72 lb VOC emitted per ton processed (factor for solvent loading) obtained from AP-42, Table 4.7-1. Using all of the above-stated assumptions, the hourly and annual PTE for VOC emissions from the analytical lab glovebox is:

$$\text{VOC lb/hr} = 0.003 \times 0.40 \times 0.72 \times 0.05 = \underline{4.32\text{E-}5 \text{ lb/hr}}$$

$$\text{VOC T/yr} = 4.32\text{E-}5 \times 8,760/2000 = \underline{1.89\text{E-}4 \text{ T/yr}}$$

#### Analytical Lab Glovebox TAP Emissions

VOC TAP emissions from the analytical lab glovebox are calculated based on the maximum weight percent for a given pollutant from non-debris waste and multiplied by the controlled VOC emission rate from above. The glovebox is not expected to have PM emissions; therefore, no PM TAP emissions were calculated. A spreadsheet summarizing the PTE for TAP emissions from the analytical lab glovebox is presented in Appendix B of this memo.

Sample Extraction Glovebox

The sample extraction glovebox will have emissions of VOCs, TAPs, and radionuclides. The sample extraction glovebox process involves core sampling drums of non-debris waste; non-debris wastes are sampled in this area. PM emissions are not expected from this source. The glovebox emissions will be ventilated and controlled within the east glovebox ventilation system and exhausted out the glovebox stack.

Sample Extraction Glovebox VOC Emissions

VOC emissions generated from the sample extraction glovebox are controlled by two carbon adsorption units (for which only one of the units control efficiency is used in the calculations). The carbon adsorber VOC control efficiency is ninety-five percent (95%).

VOC calculations assume a daily throughput of 0.003 T/hr and a maximum VOC content in each drum of forty percent (40%) by weight (based on a sum of the individual worst-case VOC concentrations of the total waste processed). Also used was a VOC emission factor of 0.72 lb VOC emitted per ton processed (factor for solvent loading) obtained from AP-42, Table 4.7-1. Using all of the above-stated assumptions, the hourly and annual PTE for VOC emissions from the sample extraction glovebox is:

$$\text{VOC lb/hr} = 0.003 \times 0.40 \times 0.72 \times 0.05 = \underline{4.32\text{E-5 lb/hr}}$$

$$\text{VOC T/yr} = 4.32\text{E-5} \times 8,760/2000 = \underline{1.89\text{E-4 T/yr}}$$

Sample Extraction Glovebox TAP Emissions

VOC TAP emissions from the sample extraction glovebox are calculated based on the maximum weight percent for a given pollutant from non-debris waste and multiplied by the controlled VOC emission rate from above. The glovebox is not expected to have PM emissions; therefore, no PM TAP emissions were calculated.

Natural Gas-Fired Combustion Sources

Emissions from process steam and humidification boilers, HVAC hot water boilers, and the potable hot water heater were calculated by the applicant using emission factors obtained from AP-42, Table 1.5-1. A spreadsheet summarizing the emission estimates from these units is attached in Appendix B of this memo.

AMWTF PTE Summary

Table 3.1 below summarizes the PTE for all criteria air pollutants and hazardous air pollutants at the AMWTF. The PTE listed for each pollutant is based on federally and state enforceable permit limitations (throughput limits, control device requirements, etc.) and where no limits are specified, emissions are based on continuous operations.

**Table 3-1 AMWTF PTE**

Pollutant	T/yr
PM/PM-10	0.17
NO <sub>x</sub>	5.90
SO <sub>2</sub>	0.63
CO	0.80
VOC	0.24
HAPs	<0.24

4. MODELING

Modeling of AMWTF emissions was performed by the applicant and reviewed by DEQ meteorological staff. A modeling assessment memorandum for the AMWTF, by Jay Witt and Mary Walsh of DEQ, summarizes the modeling analysis and is presented in Appendix C of this memo. In summary, potential controlled emissions from the AMWTF, based on 8,760 hours per year operations, will not cause any violation of the National Ambient Air Quality Standards for the criteria air pollutants, nor will potential controlled emissions of Toxic Air Pollutants exceed any applicable allowable increment.

5. FACILITY CLASSIFICATION

The proposed AMWTF is considered a support facility to the INEEL. INEEL is an existing major facility as defined in IDAPA 58.01.01.006.55 and 16.01.01.008.14. The AMWTF does not constitute a major modification to the INEEL, as defined in IDAPA 58.01.01.55, because there is not a significant net emissions increase of any regulated air pollutant.

The AIRS classification for the INEEL is A1, which is defined as a facility having actual or potential emissions greater than 100 T/yr. The standard industrial classification (SIC) for the INEEL is 9999, which is defined as "unclassifiable" primarily because of the technical diversity at the facility. The SIC specific to the AMWTF is 4953, which is defined as an establishment primarily engaged in hazardous waste material treatment.

6. AREA CLASSIFICATION

The INEEL is located in Air Quality Control Region 61, which is designated as attainment or unclassifiable for all criteria air pollutants as defined in 40 CFR 81.313. The AMWTF is located within the boundaries of the INEEL.

7. REGULATORY REVIEW

The proposed AMWTF requires an air quality Permit to Construct in accordance with the *Rules for the Control of Air Pollution in Idaho* because the facility will emit regulated air pollutants.

Summary of Air Quality Rules and Regulations

The following Idaho air quality rules were reviewed for this AMWTF project:

IDAPA 58.01.01.157	Test Methods and Procedures;
IDAPA 58.01.01.164	Polychlorinated Biphenyls;
IDAPA 58.01.01.201	Permit to Construct Required;
IDAPA 58.01.01.202	Application Procedures;
IDAPA 58.01.01.203	Permit Requirements for New and Modified Stationary Sources;
IDAPA 58.01.01.209	Procedures for Issuing Permits;
IDAPA 58.01.01.210	Demonstration of Preconstruction Compliance with Toxic Standards;
IDAPA 58.01.01.211	Conditions for Permits to Construct;
IDAPA 58.01.01.212	Obligation to Comply;
IDAPA 58.01.01.525	Registration and Registration Fees;
IDAPA 58.01.01.577	Ambient Air Quality Standards for Specific Pollutants;
IDAPA 58.01.01.585	Toxic Air Pollutants Non-Carcinogenic Increments;
IDAPA 58.01.01.586	Toxic Air Pollutants Carcinogenic Increments;
IDAPA 58.01.01.591	National Emission Standards for Hazardous Air Pollutants;
IDAPA 58.01.01.625	Visible Emissions; and
IDAPA 58.01.01.785	Rules for the Control of Incinerators.

The following federal air quality rules were reviewed for the AMWTF project:

40 CFR 61, Subpart H	National Emission Standards for Emissions of Radionuclides Other Than Radon from Department of Energy Facilities;
40 CFR 60, Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units;
40 CFR 60, Appendix A	Test Methods;
40 CFR 60, Appendix B	Performance Specifications; and
40 CFR 63, Subpart EEE	National Emission Standards for Hazardous Air Pollutants from Hazardous Waste Combustors (PROPOSED) - incinerator withdrawn.

8. PERMIT REQUIREMENTS SUMMARY

On April 7, 2000, DEQ received a letter from the U.S. DOE requesting that the incinerator and evaporator units be removed from the permits. The incinerator and evaporator systems have been removed, and as a result of the removing the incinerator system, the microencapsulation system has also been removed from this air quality PTC. These units are not authorized as part of this PTC and cannot be constructed.

### Emission Limits

Section 1.1 of the permit limits radionuclide emissions from the proposed AMWTF to below 0.1 mrem/yr. This limitation was used solely to limit the facility PTE to below the prevention of significant deterioration (PSD) increment for radionuclides.

Section 1.2 lists the opacity rule which applies to all stacks, vents, or other openings where air emissions exhaust to the atmosphere.

Section 2.1 through 2.3 of the permit requires the installation, calibration, maintenance, and operation of air pollution control equipment. The equipment list was supplied in the application and control efficiencies were used in the air pollutant emission calculations. The parameters in which the control equipment will be operated within (i.e., pressure drop, etc.) will be described in the Operations & Maintenance (O&M) Manual, which is required to be submitted for DEQ approval per Section 3.6 of the permit.

Section 2.4 and 2.5 establish drum and box line throughputs at the facility. These limits establish the upper bounds in limitation of Potential to Emit. Limits are expressed as both daily and annual limits for protection of daily and annual ambient standards.

Section 2.7 of the permit states that the radioactive waste that is processed at the facility must be consistent with the waste inventory used in the PTC and NESHAP applications.

Section 2.8 identifies the maximum volumetric throughput of 85,000m<sup>3</sup> that the facility can process. Additional waste above this quantity will require a permit modification.

Section 3.1 requires the installation of a hydrocarbon monitor after each first stage carbon adsorption unit. The hydrocarbon breakthrough limits will be established in the O&M Manual required by Section 3.6 of the permit.

Section 3.2 requires the permittee to monitor and record all of the parameters which have limits in the permit.

Section 3.3, 3.4, and 3.5 of the permit are requirements taken from the NESHAP regulations.

Section 3.6 requires an O&M Manual be developed for all air pollution control devices and associated monitoring equipment. The manual will describe the parameters that will be monitored and the limits of the parameters which represent equipment operating as efficiently as practicable.

Section 4 of the permit outlines all reporting requirements.

## 9. AIRS INFORMATION

Information necessary to the AIRS database is included as Attachment D of this memo.

## FEES

The INEEL is a major facility as defined in IDAPA 58.01.01.008.14 and is therefore subject to registration and registration fees in accordance with IDAPA 58.01.01.526. INEEL has registered and paid all required fees in accordance with IDAPA 58.01.01.527.

## RECOMMENDATIONS

Based on review of application materials, applicable state and federal rules and regulations, and public comments received; DEQ staff recommend that BNFL Inc. be issued PTC No. 023-00001 for the construction of the Advanced Mixed Waste Treatment Facility to be located at the INEEL. A public comment period was held from April 14 to June 28, 1999 in accordance with IDAPA 58.01.01.209.c. This project does not involve PSD requirements.

MS/ms

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## Attachments

cc: Idaho Falls Regional Office  
EPA IOO  
DEQ State Office



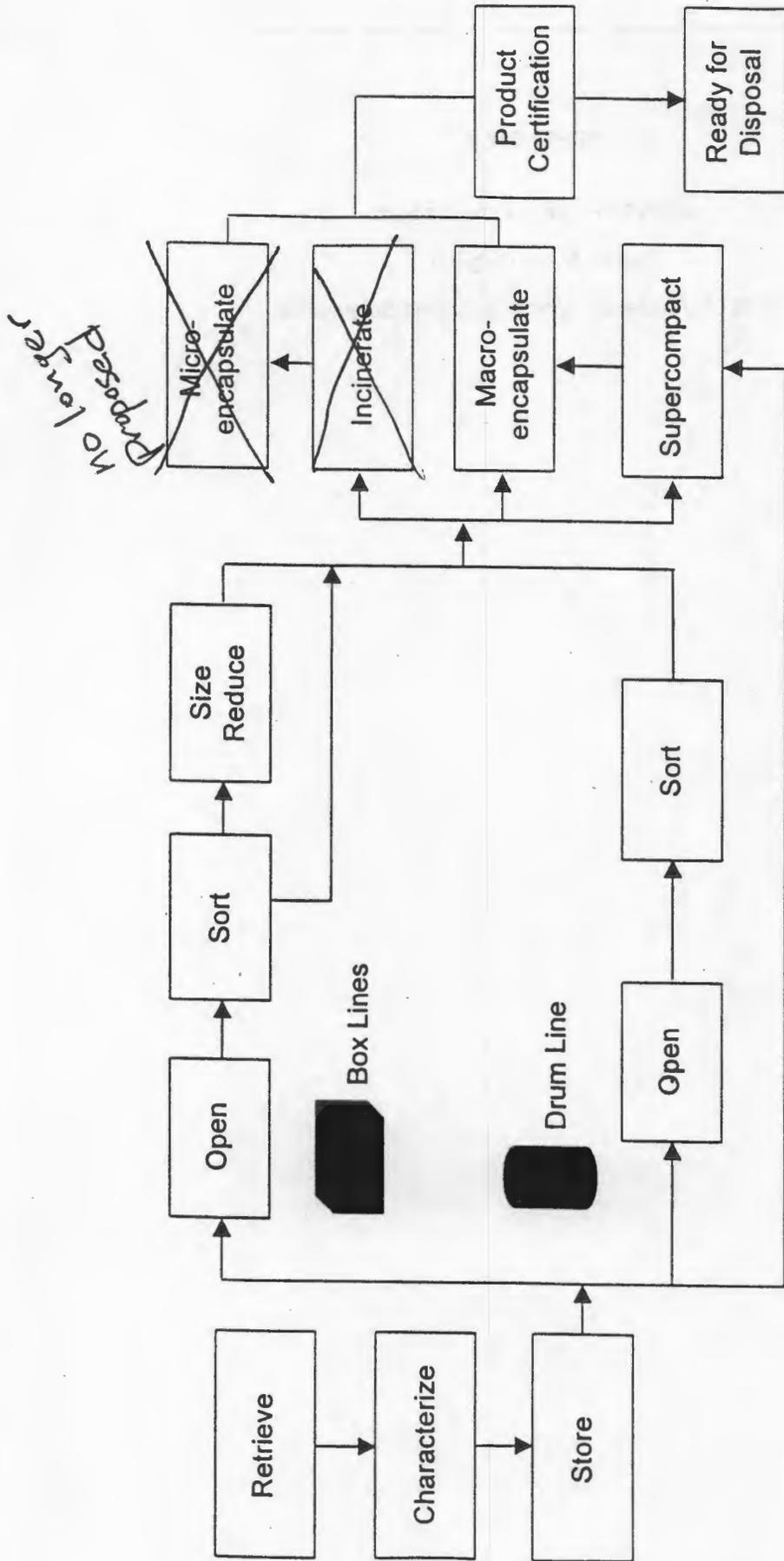
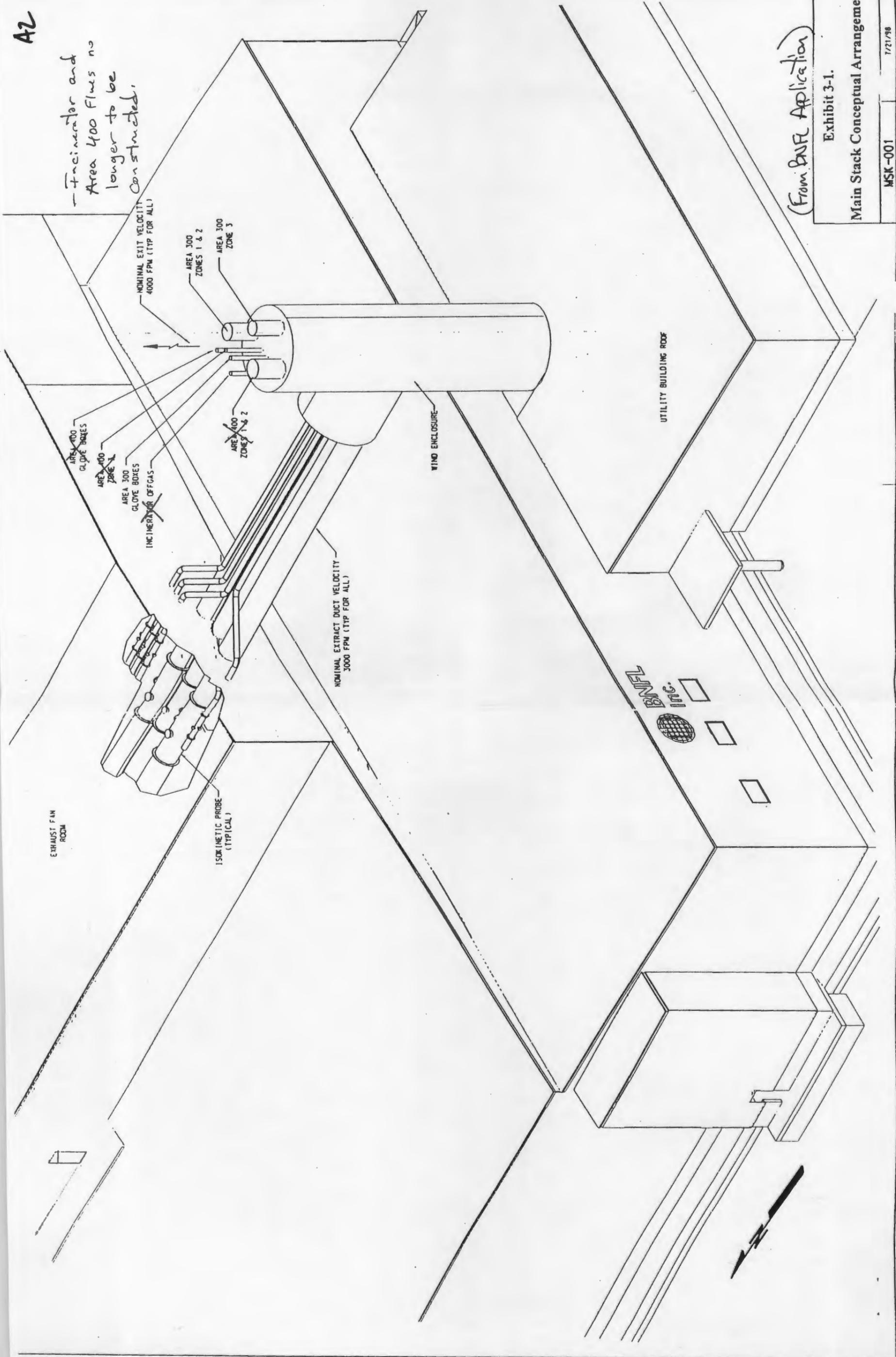


Exhibit 1-1. Simplified AMWTF Process Flow Diagram

(From BNFL Application)

A2

Incrinerator and Area 400 Flues no longer to be constructed.



(From BURE Application)

Exhibit 3-1.

Main Stack Conceptual Arrangement

MSK-001

7/21/98

BY: [Signature]

**DEQ Response**

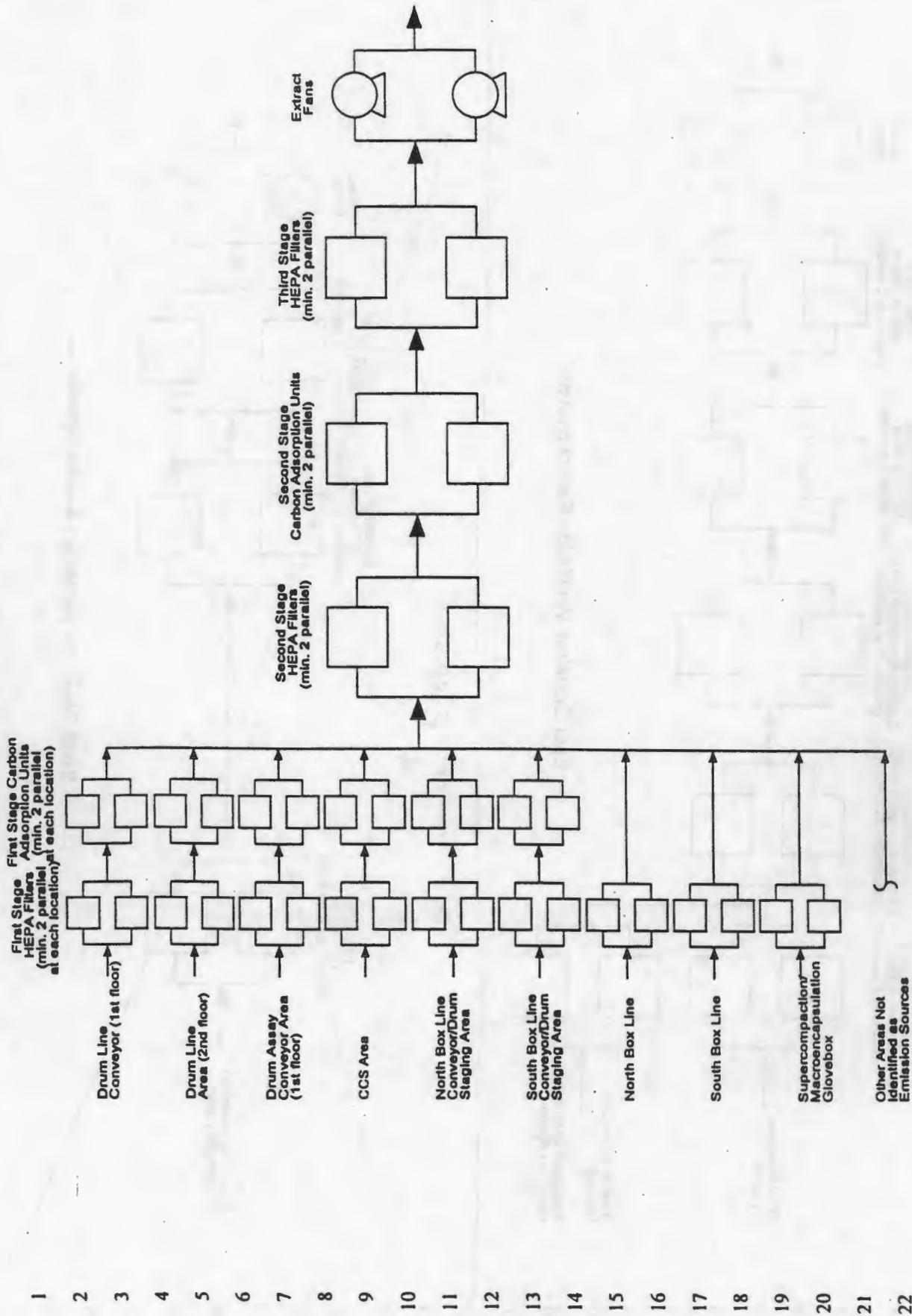
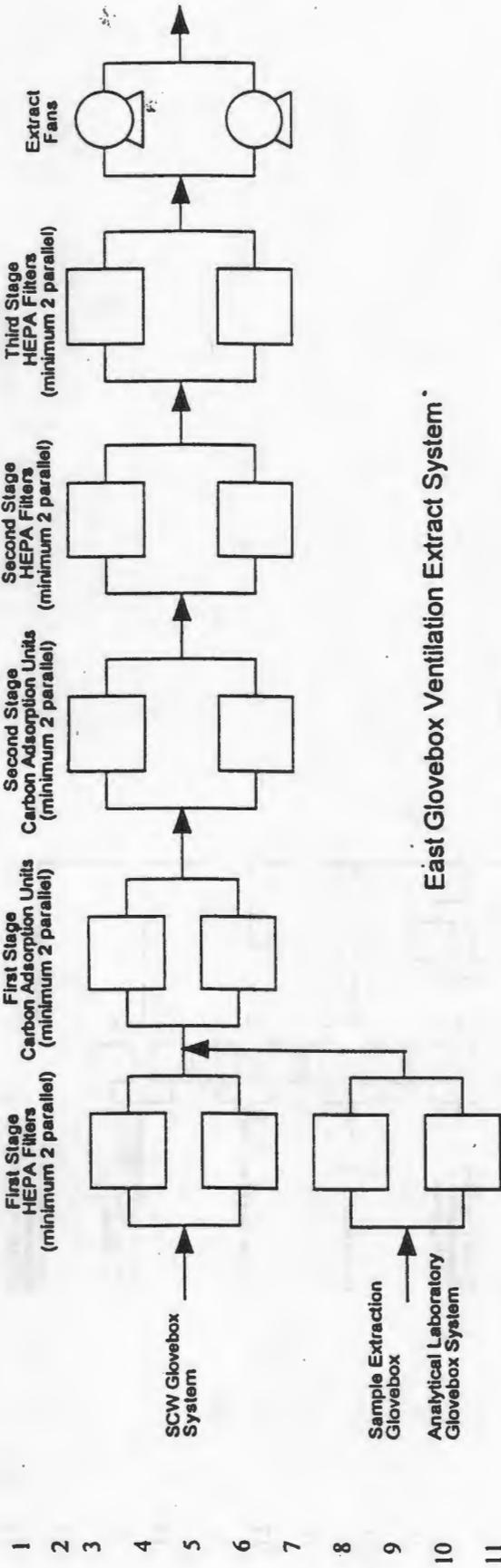


Exhibit 3-2. East Zone 3 Ventilation Extract System Simplified Schematic  
 (From BNFL Application)



No longer proposed

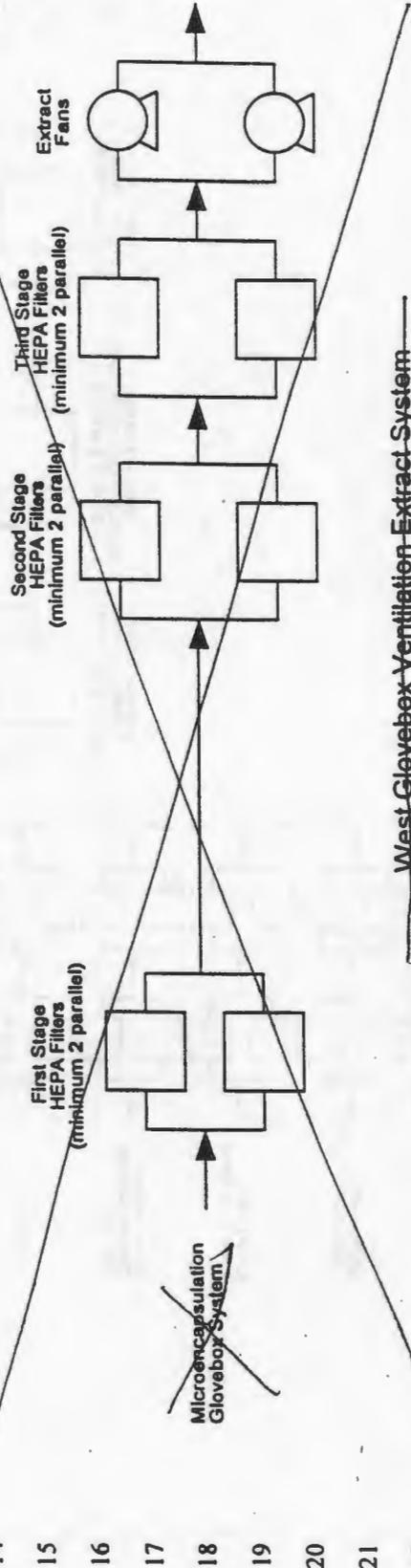


Exhibit 3-4. Simplified Schematics of the Glovebox Ventilation Extract Systems (From BNFL Application)

A4

APPENDIX B

Natural Gas-Fired Units Emission Estimates

TAP Calculation Spreadsheets

*(The following table contains extremely faint and illegible text, likely representing a large spreadsheet of emission estimates. The content is too light to transcribe accurately.)*

Review Engineer: Mike Simon  
 Facility Name: AMVCTF  
 Project Number: 360040  
 Spreadsheet Date: 06/02/00  
 Filename: TAP1.WK4

THIS SPREADSHEET CALCULATES THE MAXIMUM CONTROLLED TAP EMISSIONS FROM THE DRUM LINE

Pollutant Name	Worst-Case (wt %)	PM (lb/hr)	VOC (lb/hr)	TAP (lb/hr)	TAP (T/yr)
<b>VOC TAPs</b>					
Acetone	1	--	6.77E-03	6.77E-05	3.0E-04
Benzene	1	--	6.77E-03	6.77E-05	3.0E-04
Butyl alcohol	0.001	--	6.77E-03	6.77E-08	3.0E-07
Carbon tetrachloride	5	--	6.77E-03	3.39E-04	1.5E-03
Chlorobenzene	1	--	6.77E-03	6.77E-05	3.0E-04
Chloroform	1	--	6.77E-03	6.77E-05	3.0E-04
Cyclohexane	1	--	6.77E-03	6.77E-05	3.0E-04
1,2-Dichloroethane	1	--	6.77E-03	6.77E-05	3.0E-04
Dichloroethane	0	--	6.77E-03	0.00E+00	0.0E+00
cis-1,2-Dichloroethane	0	--	6.77E-03	0.00E+00	0.0E+00
1,1-Dichloroethane	1	--	6.77E-03	6.77E-05	3.0E-04
2-Ethoxyethanol	1	--	6.77E-03	6.77E-05	3.0E-04
Ethylbenzene	1	--	6.77E-03	6.77E-05	3.0E-04
Ethyl ether	0	--	6.77E-03	0.00E+00	0.0E+00
Isopropanol	0	--	6.77E-03	0.00E+00	0.0E+00
Methane	0	--	6.77E-03	0.00E+00	0.0E+00
Methanol	0.003	--	6.77E-03	2.03E-07	8.9E-07
Methyl ethyl ketone	1	--	6.77E-03	6.77E-05	3.0E-04
Methylene chloride	0.07	--	6.77E-03	4.74E-06	2.1E-05
Nitrobenzene	1	--	6.77E-03	6.77E-05	3.0E-04
1,1,2,2-Tetrachloroethane	0	--	6.77E-03	0.00E+00	0.0E+00
Tetrachloroethane	1	--	6.77E-03	6.77E-05	3.0E-04
Toluene	1	--	6.77E-03	6.77E-05	3.0E-04
1,1,1-Trichloroethane	15	--	6.77E-03	1.02E-03	4.4E-03
1,1,2-Trichloroethane	1	--	6.77E-03	6.77E-05	3.0E-04
Trichloroethane	1	--	6.77E-03	6.77E-05	3.0E-04
1,1,2-Trichloro-1,2,2-trifluoroethane	5	--	6.77E-03	3.39E-04	1.5E-03
1,2,4-Trimethylbenzene	0	--	6.77E-03	0.00E+00	0.0E+00
1,3,6-Trimethylbenzene	0	--	6.77E-03	0.00E+00	0.0E+00
Xylene	0.005	--	6.77E-03	3.39E-07	1.5E-06
<b>PM TAPs</b>					
Arsenic	1	7.04E-09	--	7.04E-11	3.1E-10
Barium	1	7.04E-09	--	7.04E-11	3.1E-10
Beryllium	1	7.04E-09	--	7.04E-11	3.1E-10
Cadmium	1	7.04E-09	--	7.04E-11	3.1E-10
Chromium	1	7.04E-09	--	7.04E-11	3.1E-10
Lead	1	7.04E-09	--	7.04E-11	3.1E-10
Mercury	2.5	7.04E-09	--	1.76E-10	7.7E-10
Nickel	1	7.04E-09	--	7.04E-11	3.1E-10
Selenium	1	7.04E-09	--	7.04E-11	3.1E-10
Silver	1	7.04E-09	--	7.04E-11	3.1E-10
Asbestos	0	7.04E-09	--	0.00E+00	0.0E+00
Cyanide	1	7.04E-09	--	7.04E-11	3.1E-10
PCBs	15	7.04E-09	--	1.06E-09	4.6E-09

Spreadsheet Notes:

Drum line TAP emissions estimates are based on the worst case pollutant weight percent (wt %) from non-debris waste. Data reviewed from Table 4-1 of PTC application.  
 Drum Line PM emissions were estimated to be 7.04E-9 lb/hr. PM TAPs are calculated by multiplying the PM lb/hr by the PM TAP wtk.  
 Drum Line VOC emissions were estimated to be 6.77E-3 lb/hr. VOC TAPs are calculated by multiplying the VOC lb/hr by the VOC TAP wtk.

Review Engineer: Mike Simon  
 Facility Name: A1607TF  
 Project Number: 9900040  
 Spreadsheet Date: 09/02/00  
 Filename: TAP2.wk4

THIS SPREADSHEET CALCULATES THE MAXIMUM CONTROLLED TAP EMISSIONS FROM THE BOX LINES

Pollutant Name	Worst-Case (wt %)	PM (lb/hr)	VOC (lb/hr)	TAP (lb/hr)	TAP (T/yr)
<b>VOC TAPS</b>					
Acetone	0	--	--	0.00E+00	0.0E+00
Benzene	0	--	--	0.00E+00	0.0E+00
Butyl alcohol	0	--	--	0.00E+00	0.0E+00
Carbon tetrachloride	0	--	--	0.00E+00	0.0E+00
Chlorobenzene	0	--	--	0.00E+00	0.0E+00
Chloroform	0	--	--	0.00E+00	0.0E+00
Cyclohexane	0	--	--	0.00E+00	0.0E+00
1,2-Dichloroethane	0	--	--	0.00E+00	0.0E+00
Dichloroethane	0	--	--	0.00E+00	0.0E+00
cis-1,2-Dichloroethane	0	--	--	0.00E+00	0.0E+00
1,1-Dichloroethane	0	--	--	0.00E+00	0.0E+00
2-Ethoxyethanol	0	--	--	0.00E+00	0.0E+00
Ethylbenzene	0	--	--	0.00E+00	0.0E+00
Ethyl ether	0	--	--	0.00E+00	0.0E+00
Isopropanol	0	--	--	0.00E+00	0.0E+00
Methane	0	--	--	0.00E+00	0.0E+00
Methanol	0	--	--	0.00E+00	0.0E+00
Methyl ethyl ketone	0	--	--	0.00E+00	0.0E+00
Methylene chloride	0	--	--	0.00E+00	0.0E+00
Nitrobenzene	0	--	--	0.00E+00	0.0E+00
1,1,2,2-Tetrachloroethane	0	--	--	0.00E+00	0.0E+00
Tetrachloroethane	0	--	--	0.00E+00	0.0E+00
Toluene	0	--	--	0.00E+00	0.0E+00
1,1,1-Trichloroethane	0	--	--	0.00E+00	0.0E+00
1,1,2-Trichloroethane	0	--	--	0.00E+00	0.0E+00
Trichloroethane	0	--	--	0.00E+00	0.0E+00
1,1,2-Trichloro-1,2-trifluoroethane	0	--	--	0.00E+00	0.0E+00
1,2,4-Trimethylbenzene	0	--	--	0.00E+00	0.0E+00
1,3,6-Trimethylbenzene	0	--	--	0.00E+00	0.0E+00
Xylene	0	--	--	0.00E+00	0.0E+00
<b>PM TAPS</b>					
Arsenic	1	8.35E-09	--	8.35E-11	3.7E-10
Barium	1	8.35E-09	--	8.35E-11	3.7E-10
Beryllium	1	8.35E-09	--	8.35E-11	3.7E-10
Cadmium	1	8.35E-09	--	8.35E-11	3.7E-10
Chromium	1	8.35E-09	--	8.35E-11	3.7E-10
Lead	25	8.35E-09	--	2.09E-09	9.1E-09
Mercury	1	8.35E-09	--	8.35E-11	3.7E-10
Nickel	0	8.35E-09	--	0.00E+00	0.0E+00
Selenium	1	8.35E-09	--	8.35E-11	3.7E-10
Silver	1	8.35E-09	--	8.35E-11	3.7E-10
Asbestos	45	8.35E-09	--	3.76E-09	1.6E-08
Cyanide	0	8.35E-09	--	0.00E+00	0.0E+00
PCBs	1	8.35E-09	--	8.35E-11	3.7E-10

Spreadsheet Notes:

Box line TAP emissions estimates are based on the worst case pollutant weight percent (wt %) from debris waste. Data reviewed from Table 4-1 of PTC application.  
 Box Line PM emissions were estimated to be 8.35E-9 lb/hr. PM TAPs are calculated by multiplying the PM lb/hr by the PM TAP wtk.  
 There are no VOC emissions from the Box Line.

Review Engineer:  
 Facility Name:  
 Project Number:  
 Spreadsheet Date:  
 Filename:

Mike Simon  
 AMM/TF  
 980040  
 05/02/00  
 TAP3.WK4

THIS SPREADSHEET CALCULATES THE MAXIMUM CONTROLLED TAP EMISSIONS FROM THE DRUM STAGING AREAS

Pollutant Name	Worst-Case (wt %)	PM (lb/hr)	VOC (lb/hr)	TAP (lb/hr)	TAP (T/yr)
<b>VOC TAPs</b>					
Acetone	1	--	1.60E-04	1.60E-06	7.0E-06
Benzene	1	--	1.60E-04	1.60E-06	7.0E-06
Butyl alcohol	0.001	--	1.60E-04	1.60E-09	7.0E-09
Carbon tetrachloride	5	--	1.60E-04	8.00E-06	3.5E-05
Chlorobenzene	1	--	1.60E-04	1.60E-06	7.0E-06
Chloroform	1	--	1.60E-04	1.60E-06	7.0E-06
Cyclohexane	1	--	1.60E-04	1.60E-06	7.0E-06
1,2-Dichloroethane	1	--	1.60E-04	1.60E-06	7.0E-06
Dichloroethane	0	--	1.60E-04	0.00E+00	0.0E+00
cis-1,2-Dichloroethane	0	--	1.60E-04	0.00E+00	0.0E+00
1,1-Dichloroethane	1	--	1.60E-04	1.60E-06	7.0E-06
2-Ethoxyethanol	1	--	1.60E-04	1.60E-06	7.0E-06
Ethylbenzene	1	--	1.60E-04	1.60E-06	7.0E-06
Ethyl ether	0	--	1.60E-04	0.00E+00	0.0E+00
Isopropanol	0	--	1.60E-04	0.00E+00	0.0E+00
Methane	0	--	1.60E-04	0.00E+00	0.0E+00
Methanol	0.003	--	1.60E-04	4.80E-09	2.1E-08
Methyl ethyl ketone	1	--	1.60E-04	1.60E-06	7.0E-06
Methylene chloride	0.07	--	1.60E-04	1.12E-07	4.9E-07
Nitrobenzene	1	--	1.60E-04	1.60E-06	7.0E-06
1,1,2,2-Tetrachloroethane	0	--	1.60E-04	0.00E+00	0.0E+00
Tetrachloroethane	1	--	1.60E-04	1.60E-06	7.0E-06
Toluene	1	--	1.60E-04	1.60E-06	7.0E-06
1,1,1-Trichloroethane	15	--	1.60E-04	2.40E-05	1.1E-04
1,1,2-Trichloroethane	1	--	1.60E-04	1.60E-06	7.0E-06
Trichloroethane	1	--	1.60E-04	1.60E-06	7.0E-06
1,1,2-Trichloro-1,2-trifluoroethane	5	--	1.60E-04	8.00E-06	3.5E-05
1,2,4-Trimethylbenzene	0	--	1.60E-04	0.00E+00	0.0E+00
1,3,6-Trimethylbenzene	0	--	1.60E-04	0.00E+00	0.0E+00
Xylene	0.005	--	1.60E-04	8.00E-09	3.5E-08
<b>PM TAPs</b>					
Arsenic	0	--	--	0.00E+00	0.0E+00
Barium	0	--	--	0.00E+00	0.0E+00
Beryllium	0	--	--	0.00E+00	0.0E+00
Cadmium	0	--	--	0.00E+00	0.0E+00
Chromium	0	--	--	0.00E+00	0.0E+00
Lead	0	--	--	0.00E+00	0.0E+00
Mercury	0	--	--	0.00E+00	0.0E+00
Nickel	0	--	--	0.00E+00	0.0E+00
Selenium	0	--	--	0.00E+00	0.0E+00
Silver	0	--	--	0.00E+00	0.0E+00
Asbestos	0	--	--	0.00E+00	0.0E+00
Cyanide	0	--	--	0.00E+00	0.0E+00
PCBs	0	--	--	0.00E+00	0.0E+00

Spreadsheet Notes:

Drum Staging Areas TAP emissions estimates are based on the worst case pollutant weight percent (wt %) from non-debris waste. Data reviewed from Table 4-1 of PTC application. There are no PM emissions from the Drum Staging Areas. Drum Staging Area VOC emissions were estimated to be 1.6E-4 lb/hr. VOC TAPs are calculated by multiplying the VOC lb/hr by the VOC TAP wf%.

Mike Simon  
 Facility Name: AMWTT  
 Project Number: 060040  
 Spreadsheet Date: 05/02/00  
 Filename: TAP4.WK4

THIS SPREADSHEET CALCULATES THE MAXIMUM CONTROLLED TAP EMISSIONS FROM THE CENTRAL CONVEYOR SYSTEM

Pollutant Name	Worst-Case (wt %)	PM (lb/hr)	VOC (lb/hr)	TAP (lb/hr)	TAP (T/yr)
<b>VOC TAPs</b>					
Acetone	1	--	2.84E-04	2.84E-06	1.2E-05
Benzene	1	--	2.84E-04	2.84E-06	1.2E-05
Butyl alcohol	0.001	--	2.84E-04	2.84E-06	1.2E-05
Carbon tetrachloride	5	--	2.84E-04	1.42E-05	6.2E-05
Chlorobenzene	1	--	2.84E-04	2.84E-06	1.2E-05
Chloroform	1	--	2.84E-04	2.84E-06	1.2E-05
Cyclohexane	1	--	2.84E-04	2.84E-06	1.2E-05
1,2-Dichloroethane	1	--	2.84E-04	2.84E-06	1.2E-05
Dichloroethane	0	--	2.84E-04	0.00E+00	0.0E+00
cis-1,2-Dichloroethane	0	--	2.84E-04	0.00E+00	0.0E+00
1,1-Dichloroethane	1	--	2.84E-04	2.84E-06	1.2E-05
2-Ethoxyethanol	1	--	2.84E-04	2.84E-06	1.2E-05
Ethylbenzene	1	--	2.84E-04	2.84E-06	1.2E-05
Ethyl ether	0	--	2.84E-04	0.00E+00	0.0E+00
Isopropanol	0	--	2.84E-04	0.00E+00	0.0E+00
Methane	0	--	2.84E-04	0.00E+00	0.0E+00
Methanol	0.003	--	2.84E-04	8.52E-09	3.7E-08
Methyl ethyl ketone	1	--	2.84E-04	2.84E-06	1.2E-05
Methylene chloride	0.07	--	2.84E-04	1.99E-07	8.7E-07
Nitrobenzene	1	--	2.84E-04	2.84E-06	1.2E-05
1,1,2,2-Tetrachloroethane	0	--	2.84E-04	0.00E+00	0.0E+00
Tetrachloroethane	1	--	2.84E-04	2.84E-06	1.2E-05
Toluene	1	--	2.84E-04	2.84E-06	1.2E-05
1,1,1-Trichloroethane	15	--	2.84E-04	4.26E-05	1.9E-04
1,1,2-Trichloroethane	1	--	2.84E-04	2.84E-06	1.2E-05
Trichloroethane	1	--	2.84E-04	2.84E-06	1.2E-05
1,1,2-Trichloro-1,2,2-trifluoroethane	5	--	2.84E-04	1.42E-05	6.2E-05
1,2,4-Trimethylbenzene	0	--	2.84E-04	0.00E+00	0.0E+00
1,3,6-Trimethylbenzene	0	--	2.84E-04	0.00E+00	0.0E+00
Xylene	0.005	--	2.84E-04	1.42E-08	6.2E-08
<b>PM TAPs</b>					
Arsenic	0	--	--	0.00E+00	0.0E+00
Barium	0	--	--	0.00E+00	0.0E+00
Beryllium	0	--	--	0.00E+00	0.0E+00
Cadmium	0	--	--	0.00E+00	0.0E+00
Chromium	0	--	--	0.00E+00	0.0E+00
Lead	0	--	--	0.00E+00	0.0E+00
Mercury	0	--	--	0.00E+00	0.0E+00
Nickel	0	--	--	0.00E+00	0.0E+00
Selenium	0	--	--	0.00E+00	0.0E+00
Silver	0	--	--	0.00E+00	0.0E+00
Asbestos	0	--	--	0.00E+00	0.0E+00
Cyanide	0	--	--	0.00E+00	0.0E+00
PCBs	0	--	--	0.00E+00	0.0E+00

Spreadsheet Notes:  
 CCS TAP emissions estimates are based on the worst case pollutant weight percent (wt %) from non-debris waste. Data reviewed from Table 4-1 of PTC application.  
 There are no PM emissions from the CCS.  
 CCS VOC emissions were estimated to be 2.84E-4 lb/hr. VOC TAPs are calculated by multiplying the VOC lb/hr by the VOC TAP wt%.

Review Engineer:  
 Facility Name:  
 Project Number:  
 Spreadsheet Date:  
 Filename:

Mike Simon  
 ALM/ATF  
 580040  
 06/02/00  
 TAPs.xls

THIS SPREADSHEET CALCULATES THE MAXIMUM CONTROLLED TAP EMISSIONS FROM THE ANALYTICAL LAB GLOVEBOX

Pollutant Name	Worst-Case (wt %)	PM (lb/hr)	VOC (lb/hr)	TAP (lb/hr)	TAP (T/yr)
<b>VOC TAPs</b>					
Acetone	1	--	4.32E-05	4.32E-07	1.9E-06
Benzene	1	--	4.32E-05	4.32E-07	1.9E-06
Butyl alcohol	0.001	--	4.32E-05	4.32E-10	1.9E-09
Carbon tetrachloride	5	--	4.32E-05	2.16E-06	9.5E-06
Chlorobenzene	1	--	4.32E-05	4.32E-07	1.9E-06
Chloroform	1	--	4.32E-05	4.32E-07	1.9E-06
Cyclohexane	1	--	4.32E-05	4.32E-07	1.9E-06
1,2-Dichloroethane	1	--	4.32E-05	4.32E-07	1.9E-06
Dichloroethane	0	--	4.32E-05	0.00E+00	0.0E+00
cis-1,2-Dichloroethane	0	--	4.32E-05	0.00E+00	0.0E+00
1,1-Dichloroethane	1	--	4.32E-05	4.32E-07	1.9E-06
2-Ethoxyethanol	1	--	4.32E-05	4.32E-07	1.9E-06
Ethylbenzene	1	--	4.32E-05	4.32E-07	1.9E-06
Ethyl ether	0	--	4.32E-05	0.00E+00	0.0E+00
Isopropanol	0	--	4.32E-05	0.00E+00	0.0E+00
Methane	0	--	4.32E-05	0.00E+00	0.0E+00
Methanol	0.003	--	4.32E-05	1.30E-09	5.7E-09
Methyl ethyl ketone	1	--	4.32E-05	4.32E-07	1.9E-06
Methylene chloride	0.07	--	4.32E-05	3.02E-08	1.3E-07
Nitrobenzene	1	--	4.32E-05	4.32E-07	1.9E-06
1,1,2,2-Tetrachloroethane	0	--	4.32E-05	0.00E+00	0.0E+00
Tetrachloroethane	1	--	4.32E-05	4.32E-07	1.9E-06
Toluene	1	--	4.32E-05	4.32E-07	1.9E-06
1,1,1-Trichloroethane	15	--	4.32E-05	6.48E-06	2.8E-05
1,1,2-Trichloroethane	1	--	4.32E-05	4.32E-07	1.9E-06
Trichloroethane	1	--	4.32E-05	4.32E-07	1.9E-06
1,1,2-Trichloro-1,2-trifluoroethane	5	--	4.32E-05	2.16E-06	9.5E-06
1,2,4-Trimethylbenzene	0	--	4.32E-05	0.00E+00	0.0E+00
1,3,6-Trimethylbenzene	0	--	4.32E-05	0.00E+00	0.0E+00
Xylene	0.005	--	4.32E-05	2.16E-09	9.5E-09
<b>PM TAPs</b>					
Arsenic	0	--	--	0.00E+00	0.0E+00
Barium	0	--	--	0.00E+00	0.0E+00
Beryllium	0	--	--	0.00E+00	0.0E+00
Cadmium	0	--	--	0.00E+00	0.0E+00
Chromium	0	--	--	0.00E+00	0.0E+00
Lead	0	--	--	0.00E+00	0.0E+00
Mercury	0	--	--	0.00E+00	0.0E+00
Nickel	0	--	--	0.00E+00	0.0E+00
Selenium	0	--	--	0.00E+00	0.0E+00
Silver	0	--	--	0.00E+00	0.0E+00
Asbestos	0	--	--	0.00E+00	0.0E+00
Cyanide	0	--	--	0.00E+00	0.0E+00
PCBs	0	--	--	0.00E+00	0.0E+00

Spreadsheet Notes:

Analytical Lab Glovebox emissions estimates are based on the worst case pollutant weight percent (wt %) from non-debris waste. Data reviewed from Table 4-1 of FTC applicat

There are no PM emissions from the Analytical Lab Glovebox.

Analytical Lab Glovebox VOC emissions were estimated to be 4.32E-5 lb/hr. VOC TAPs are calculated by multiplying the VOC lb/hr by the VOC TAP wt%.

Mike Simon  
 Facility Name: AMWJTF  
 Project Number: 980040  
 Spreadsheet Date: 06/02/98  
 Filename: TAPs.wk4

THIS SPREADSHEET CALCULATES THE MAXIMUM CONTROLLED TAP EMISSIONS FROM THE SCME GLOVEBOX

Pollutant Name	Worst-Case (wt %)	PM (lb/hr)	VOC (lb/hr)	TAP (lb/hr)	TAP (T/yr)
VOC TAPs	0	--	--	0.00E+00	0.0E+00
Acetone	0	--	--	0.00E+00	0.0E+00
Benzene	0	--	--	0.00E+00	0.0E+00
Butyl alcohol	0	--	--	0.00E+00	0.0E+00
Carbon tetrachloride	0	--	--	0.00E+00	0.0E+00
Chlorobenzene	0	--	--	0.00E+00	0.0E+00
Chloroform	0	--	--	0.00E+00	0.0E+00
Cyclohexane	0	--	--	0.00E+00	0.0E+00
1,2-Dichloroethane	0	--	--	0.00E+00	0.0E+00
Dichloroethane	0	--	--	0.00E+00	0.0E+00
cis-1,2-Dichloroethane	0	--	--	0.00E+00	0.0E+00
1,1-Dichloroethane	0	--	--	0.00E+00	0.0E+00
2-Ethoxyethanol	0	--	--	0.00E+00	0.0E+00
Ethylbenzene	0	--	--	0.00E+00	0.0E+00
Ethyl ether	0	--	--	0.00E+00	0.0E+00
Isopropanol	0	--	--	0.00E+00	0.0E+00
Methane	0	--	--	0.00E+00	0.0E+00
Methanol	0	--	--	0.00E+00	0.0E+00
Methyl ethyl ketone	0	--	--	0.00E+00	0.0E+00
Methylene chloride	0	--	--	0.00E+00	0.0E+00
Nitrobenzene	0	--	--	0.00E+00	0.0E+00
1,1,2,2-Tetrachloroethane	0	--	--	0.00E+00	0.0E+00
Tetrachloroethane	0	--	--	0.00E+00	0.0E+00
Toluene	0	--	--	0.00E+00	0.0E+00
1,1,1-Trichloroethane	0	--	--	0.00E+00	0.0E+00
1,1,2-Trichloroethane	0	--	--	0.00E+00	0.0E+00
Trichloroethane	0	--	--	0.00E+00	0.0E+00
1,1,2-Trichloro-1,2,2-trifluoroethane	0	--	--	0.00E+00	0.0E+00
1,2,4-Trimethylbenzene	0	--	--	0.00E+00	0.0E+00
1,3,6-Trimethylbenzene	0	--	--	0.00E+00	0.0E+00
Xylene	0	--	--	0.00E+00	0.0E+00
PM TAPs					
Arsenic	1	1.17E-08	--	1.17E-10	5.1E-10
Barium	1	1.17E-08	--	1.17E-10	5.1E-10
Beryllium	1	1.17E-08	--	1.17E-10	5.1E-10
Cadmium	1	1.17E-08	--	1.17E-10	5.1E-10
Chromium	1	1.17E-08	--	2.93E-09	1.3E-08
Lead	25	1.17E-08	--	1.17E-10	5.1E-10
Mercury	1	1.17E-08	--	0.00E+00	0.0E+00
Nickel	0	1.17E-08	--	1.17E-10	5.1E-10
Selenium	1	1.17E-08	--	1.17E-10	5.1E-10
Silver	1	1.17E-08	--	1.17E-10	5.1E-10
Asbestos	45	1.17E-08	--	0.00E+00	0.0E+00
Cyanide	0	1.17E-08	--	1.17E-10	5.1E-10
PCBs	1	1.17E-08	--	1.17E-10	5.1E-10

Spreadsheet Notes:

SCME Glovebox TAP emissions estimates are based on the worst case pollutant weight percent (wt %) from debris waste. Data reviewed from Table 4-1 of PTC application.  
 SCME Glovebox PM emissions were estimated to be 1.17E-8 lb/hr. PM TAPs are calculated by multiplying the PM lb/hr by the PM TAP wt%.  
 There are no VOC emissions from the Box Line.

Review Engineer:  
 Facility Name:  
 Project Number:  
 Spreadsheet Date:  
 Filename:

Mike Simon  
 AMM/TTF  
 980640  
 05/02/00  
 TAP9.wk4

THIS SPREADSHEET CALCULATES THE MAXIMUM CONTROLLED TAP EMISSIONS FROM THE SCW GLOVEBOX

Pollutant Name	Worst-Case (wt %)	PM (lb/hr)	VOC (lb/hr)	TAP (lb/hr)	TAP (T/yr)
<b>VOC TAPs</b>					
Acetone	1	--	4.32E-05	4.32E-07	1.9E-06
Benzene	1	--	4.32E-05	4.32E-07	1.9E-06
Butyl alcohol	0.001	--	4.32E-05	4.32E-10	1.9E-09
Carbon tetrachloride	5	--	4.32E-05	2.16E-06	9.5E-06
Chlorobenzene	0	--	4.32E-05	0.00E+00	0.0E+00
Chloroform	1	--	4.32E-05	4.32E-07	1.9E-06
Cyclohexane	1	--	4.32E-05	4.32E-07	1.9E-06
1,2-Dichloroethane	1	--	4.32E-05	4.32E-07	1.9E-06
Dichloroethane	0	--	4.32E-05	0.00E+00	0.0E+00
cis-1,2-Dichloroethane	0	--	4.32E-05	0.00E+00	0.0E+00
1,1-Dichloroethane	1	--	4.32E-05	4.32E-07	1.9E-06
2-Ethoxyethanol	1	--	4.32E-05	4.32E-07	1.9E-06
Ethylbenzene	1	--	4.32E-05	4.32E-07	1.9E-06
Ethyl ether	0	--	4.32E-05	0.00E+00	0.0E+00
Isopropanol	0	--	4.32E-05	0.00E+00	0.0E+00
Methane	0	--	4.32E-05	0.00E+00	0.0E+00
Methanol	0.003	--	4.32E-05	1.30E-09	5.7E-09
Methyl ethyl ketone	1	--	4.32E-05	4.32E-07	1.9E-06
Methylene chloride	0.07	--	4.32E-05	3.02E-08	1.3E-07
Nitrobenzene	1	--	4.32E-05	4.32E-07	1.9E-06
1,1,2,2-Tetrachloroethane	0	--	4.32E-05	0.00E+00	0.0E+00
Tetrachloroethane	1	--	4.32E-05	4.32E-07	1.9E-06
Toluene	1	--	4.32E-05	4.32E-07	1.9E-06
1,1,1-Trichloroethane	15	--	4.32E-05	6.48E-06	2.8E-05
1,1,2-Trichloroethane	1	--	4.32E-05	4.32E-07	1.9E-06
Trichloroethane	1	--	4.32E-05	4.32E-07	1.9E-06
1,1,2-Trichloro-1,2,2-trifluoroethane	5	--	4.32E-05	2.16E-06	9.5E-06
1,2,4-Trimethylbenzene	0	--	4.32E-05	0.00E+00	0.0E+00
1,3,6-Trimethylbenzene	0	--	4.32E-05	0.00E+00	0.0E+00
Xylene	0.005	--	4.32E-05	2.16E-09	9.5E-09
<b>PM TAPs</b>					
Arsenic	1	3.00E-10	--	3.00E-12	1.3E-11
Barium	1	3.00E-10	--	3.00E-12	1.3E-11
Beryllium	1	3.00E-10	--	3.00E-12	1.3E-11
Cadmium	1	3.00E-10	--	3.00E-12	1.3E-11
Chromium	1	3.00E-10	--	3.00E-12	1.3E-11
Lead	1	3.00E-10	--	3.00E-12	1.3E-11
Mercury	2.5	3.00E-10	--	7.50E-12	3.3E-11
Nickel	1	3.00E-10	--	3.00E-12	1.3E-11
Selenium	1	3.00E-10	--	3.00E-12	1.3E-11
Silver	1	3.00E-10	--	3.00E-12	1.3E-11
Asbestos	0	3.00E-10	--	0.00E+00	0.0E+00
Cyanide	1	3.00E-10	--	3.00E-12	1.3E-11
PCBs	15	3.00E-10	--	4.50E-11	2.0E-10

Spreadsheet Notes:

SCW Glovebox TAP emissions estimates are based on the worst case pollutant weight percent (wt %) from non-debris waste. Data reviewed from Table 4-1 of FTC application.  
 SCW Glovebox PM emissions were estimated to be 3.0E-10 lb/hr. PM TAPs are calculated by multiplying the PM lb/hr by the PM TAP wt%.  
 SCW Glovebox VOC emissions were estimated to be 4.32E-5 lb/hr. VOC TAPs are calculated by multiplying the VOC lb/hr by the VOC TAP wt%.

Review Engineer: **Kiffie Simon**  
 Facility Name: **AMRYTF**  
 Project Number: **980040**  
 Spreadsheet Date: **09/02/00**  
 Filename: **TAP8.wk4**

**THIS SPREADSHEET CALCULATES THE MAXIMUM CONTROLLED TAP EMISSIONS FROM THE SAMPLE EXTRACTION GLOVEBOX**

Pollutant Name	Worst-Case (wt %)	PM (lb/hr)	VOC (lb/hr)	TAP (lb/hr)	TAP (T/yr)
<b>VOC TAPs</b>					
Acetone	1	--	4.32E-05	4.32E-07	1.9E-06
Benzene	1	--	4.32E-05	4.32E-07	1.9E-06
Butyl alcohol	0.001	--	4.32E-05	4.32E-10	1.9E-09
Carbon tetrachloride	5	--	4.32E-05	2.16E-06	9.5E-06
Chlorobenzene	1	--	4.32E-05	4.32E-07	1.9E-06
Chloroform	1	--	4.32E-05	4.32E-07	1.9E-06
Cyclohexane	1	--	4.32E-05	4.32E-07	1.9E-06
1,2-Dichloroethane	1	--	4.32E-05	4.32E-07	1.9E-06
Dichloroethane	0	--	0.00E+00	0.00E+00	0.0E+00
cis-1,2-Dichloroethane	0	--	4.32E-05	0.00E+00	0.0E+00
1,1-Dichloroethane	1	--	4.32E-05	4.32E-07	1.9E-06
2-Ethoxyethanol	1	--	4.32E-05	4.32E-07	1.9E-06
Ethylbenzene	1	--	4.32E-05	4.32E-07	1.9E-06
Ethyl ether	0	--	4.32E-05	0.00E+00	0.0E+00
Isopropanol	0	--	4.32E-05	0.00E+00	0.0E+00
Methane	0	--	4.32E-05	0.00E+00	0.0E+00
Methanol	0.003	--	4.32E-05	1.30E-09	5.7E-09
Methyl ethyl ketone	1	--	4.32E-05	4.32E-07	1.9E-06
Methylene chloride	0.07	--	4.32E-05	3.02E-08	1.3E-07
Nitrobenzene	1	--	4.32E-05	4.32E-07	1.9E-06
1,1,2,2-Tetrachloroethane	0	--	4.32E-05	0.00E+00	0.0E+00
Tetrachloroethane	1	--	4.32E-07	4.32E-07	1.9E-06
Toluene	1	--	4.32E-05	4.32E-07	1.9E-06
1,1,1-Trichloroethane	15	--	4.32E-05	6.48E-06	2.8E-05
1,1,2-Trichloroethane	1	--	4.32E-05	4.32E-07	1.9E-06
Trichloroethane	1	--	4.32E-05	4.32E-07	1.9E-06
1,1,2-Trichloro-1,2,2-trifluoroethane	5	--	4.32E-05	2.16E-06	9.5E-06
1,2,4-Trimethylbenzene	0	--	4.32E-05	0.00E+00	0.0E+00
1,3,6-Trimethylbenzene	0	--	4.32E-05	0.00E+00	0.0E+00
Xylene	0.005	--	4.32E-05	2.16E-09	9.5E-09
<b>PM TAPs</b>					
Arsenic	0	--	--	0.00E+00	0.0E+00
Barium	0	--	--	0.00E+00	0.0E+00
Beryllium	0	--	--	0.00E+00	0.0E+00
Cadmium	0	--	--	0.00E+00	0.0E+00
Chromium	0	--	--	0.00E+00	0.0E+00
Lead	0	--	--	0.00E+00	0.0E+00
Mercury	0	--	--	0.00E+00	0.0E+00
Nickel	0	--	--	0.00E+00	0.0E+00
Selenium	0	--	--	0.00E+00	0.0E+00
Silver	0	--	--	0.00E+00	0.0E+00
Asbestos	0	--	--	0.00E+00	0.0E+00
Cyanide	0	--	--	0.00E+00	0.0E+00
PCBs	0	--	--	0.00E+00	0.0E+00

Spreadsheet Notes:

Sample Extraction Glovebox emissions estimates are based on the worst case pollutant weight percent (wt %) from non-debris waste. Data reviewed from Table 4-1 of FTC application.  
 There are no PM emissions from the Sample Extraction Glovebox.  
 Sample Extraction Glovebox VOC emissions were estimated to be 4.32E-5 lb/hr. VOC TAPs are calculated by multiplying the VOC lb/hr by the VOC TAP wtk.

Table E-4. Pollutant Emissions from Boilers and Heater

Pollutant	Emission Factor	Steam Boilers		HVAC Hot Water Boilers		Potable Hot Water Heater		Total Maximum Hourly Emissions lb/hr	Steam Boilers ton/yr	HVAC Hot Water Boilers ton/yr	Potable Hot Water Heater ton/yr	Total Annual Emissions ton/yr
		lb/hr	b	lb/hr	c	lb/hr	d					
Maximum Usage (gal/hr for emissions in lb/hr, gal/yr for emissions in ton/yr)	a	Notes		e		f						
Carbon monoxide	1.9	229.6	131.2	13.7	374.5	643,875	185,075	8,446	837,396	8.0E-01	8.0E-01	8.0E-01
Nitrogen oxides	14	4.4E-01	2.5E-01	2.6E-02	7.1E-01	6.1E-01	1.8E-01	8.0E-03	8.0E-01	8.0E-03	8.0E-03	8.0E-01
Sulfur dioxide	1.5	3.2E+00	1.8E+00	1.9E-01	5.2E+00	4.5E+00	1.3E+00	5.9E-02	5.9E+00	5.9E-02	5.9E+00	5.9E+00
PM/PM-10	0.4	3.4E-01	2.0E-01	2.1E-02	5.6E-01	4.8E-01	1.4E-01	6.3E-03	6.3E-01	6.3E-03	6.3E-01	6.3E-01
Ozone (VOCs)	0.5	9.2E-02	5.2E-02	5.5E-03	1.5E-01	1.3E-01	3.7E-02	1.7E-03	1.7E-01	1.7E-03	1.7E-01	1.7E-01
		1.1E-01	6.6E-02	6.9E-03	1.9E-01	1.6E-01	4.6E-02	2.1E-03	2.1E-01	2.1E-03	2.1E-01	2.1E-01

a. Emission factors are from AP-42, Table 1.5-1, Emission Factors for LPG Combustion for commercial boilers (heat input capacities

generally between 0.3 and 10 million Btu/hr).

b. Three steam boilers (2 operating, 1 redundant) each have a rated input capacity of 10,500,000 Btu/hr.

c. Three HVAC hot water boilers (2 operating, 1 redundant) each have a rated input capacity of 6,000,000 Btu/hr.

d. The potable hot water heater has a rated input capacity of 1,250,000 Btu/hr.

e. The maximum hourly usage is calculated by dividing the rated input capacity by 91,500 Btu/gal (heating value of propane). The annual propane usage is based on normal operation for one year.

f. The emission factor for sulfur dioxide is 0.10S (S=15 gr/100 ft<sup>3</sup>).

(From BNFL Application)



June 30, 2000

**MEMORANDUM**

**TO:** Dan Salgado, Process Engineering Lead, Technical Services Office  
Mike Simon, Air Quality Permit Manager, State Air Program Office

**FROM:** Jay Witt, Air Quality Engineer, State Technical Services Office

**SUBJECT:** Reevaluation of the Modeling Assessment for INEEL's Advanced Mixed Waste Treatment Facility (AMWTF).

---

**1. SUMMARY:**

The U.S. Department of Energy (DOE) and BNFL, Inc., have applied to construct an Advanced Mixed Waste Treatment Facility (AMWTF) at the Radioactive Waste Management Complex (RWMC) located near the southwestern corner of their property. The original permit application included supercompaction, incineration, and encapsulation treatments of transuranic-contaminated mixed wastes currently stored on site. DOE and BNFL, Inc., have recently withdrawn the request to construct the incineration, evaporation, and microencapsulation systems of the AMWTF. The predicted ambient impacts of various criteria, toxic and radioactive pollutants upon air quality within the area associated with the previous PTC application were found to be below the applicable air quality standards. As a result of the elimination of the incineration and microencapsulation waste treatments from the application, the predicted ambient impacts will be reduced.

**2. DISCUSSION:**

**2.1 Project Description**

Waste in INEEL's Transuranic Storage Area (TSA) will be removed and characterized to help determine the type of pretreatment and/or treatment that will be required to prepare it for disposal. Pretreatment will consist of opening the boxes and drums containing the waste, sorting through and characterizing the waste, and, when necessary, performing analytical tests on the waste.

After pretreatment, the waste will be treated nonthermally by supercompaction and/or macroencapsulation. Supercompaction will reduce the volume of boxed and drummed debris-type wastes by using a hydraulic press. The shape of the resulting "puck" will be controlled using a mold. "Pucks" and/or debris-type wastes that cannot be supercompacted will be placed in a drum and macroencapsulated. Macro encapsulation consists of filling the drums with grout, which stabilizes the final waste form. After the grout is poured, the drums will then be covered and allowed to harden.

Incineration has been removed from the design of the facility and alternative technologies may be proposed in the future. Treated wastes will temporarily be stored on site and then transported off site to an approved disposal facility.

In support of the main facility, a utility building will house three propane-fueled process steam boilers (two in operation, one as back-up), three propane-fueled water boilers (two in operation, one as back-up), and one propane-fueled potable hot water heater.

## 2.2 Applicable Air Quality Impact Limits

Ambient impacts from all toxic air pollutants (TAPs) must be below each pollutant's respective acceptable ambient concentration (AAC) or AACC. The AACs and AACCs for the TAPs are listed in the *Rules For The Control Of Air Pollution In Idaho* (IDAPA 16.01.01.585-586). AACCs are based on an annual averaging period, while AACs are based on a 24-hour averaging period.

The area in which INEEL is located is considered to be unclassified for all criteria pollutants. The potential impact of any criteria pollutants released by the facility cannot exceed the National Ambient Air Quality Standards (NAAQS) listed in table 2.2.1 of this document.

The emission of radionuclides from a DOE facility cannot cause any member of the public to receive an effective dose equivalent (EDE) of 10 mrem/yr (40 CFR 61 Subpart H). In addition, if the calculated unabated dose exceeds 1% of the standard (or 0.1 mrem/yr), then monitoring of the emission points will be required as per 40 CFR 61.93 (b) (2).

Table 2.2.1: NAAQS

Pollutant	Averaging Period	NAAQS (in $\mu\text{g}/\text{m}^3$ )
PM <sub>10</sub>	Annual	50.0
	24-Hour	150.0
CO	8-Hour	10,000.0
	1-Hour	40,000.0
NO <sub>2</sub>	Annual	100.0
SO <sub>2</sub>	Annual	80.0
	24-Hour	365.0
	3-Hour	1,300.0
Lead	Calendar Quarter	1.5

## 2.3 Background Concentrations

General statewide background concentrations for the criteria pollutants were used in this analysis. These values were obtained from historical data collected as part of Idaho's ambient air monitoring network and have been devised to be conservative in nature. Table 2.3.1 displays the background concentrations used. Background concentrations are not required for a TAPs or NESHAPs analysis.

**Table 2.3.1: General Statewide Background Concentrations**

<b>Pollutant</b>	<b>Averaging Period</b>	<b>Background (in <math>\mu\text{g}/\text{m}^3</math>)</b>
PM <sub>10</sub>	Annual	33.00
	24-Hour	86.00
CO	8-Hour	5,100.00
	1-Hour	11,000.00
NO <sub>2</sub>	Annual	40.00
SO <sub>2</sub>	Annual	24.00
	24-Hour	140.00
	3-Hour	540.00
Lead	Calender Quarter	0.17

#### **2.4 Co-contributing Sources**

Due to the facility's location, co-contributing sources were not considered in this ambient impact analysis.

### **3. MODELING IMPACT ASSESSMENT:**

In order to show compliance with all of the applicable air quality standards, the facility used the EPA-approved ISCST3 and CAP88-PC modeling packages in support of the original PTC application that included waste incineration. Copies of the resulting input and output files were submitted to DEQ as part of the permitting application. The modeled ambient impacts associated with the activities of the original PTC application were conservatively predicted to be below all applicable NAAQS, TAP/HAP AACs and AACCs, and NESHAPS limits.

The most recent PTC application does not include waste incineration or microencapsulation. An updated modeling analysis was conducted using the results from the initial modeling conducted in 1999.

Actual 1992 surface meteorological data from the on-site network established by NOAA was used in the modeling. A conservative EPA upper air meteorological default was used in place of actual INEEL upper air data (i.e., 150 meter mixing height). All of the regulatory modeling defaults were used, as was the rural option. The rural option was used because it best represents land usage around the INEEL site.

Two types of receptor grid networks were used in the analysis. One was a fine grid network centered around the main facility's stacks. It was used to produce second highest high, short-term impacts (1-hr, 3-hr, 8-hr, and 24-hr criteria pollutant). The other receptor network consisted of discrete receptor arrays placed on the INEEL boundaries. It was utilized to establish long-term, first highest high impacts (annual and 24 hr TAP). Both receptor networks adequately represented maximum ambient impacts.

As with the previous IDEQ modeling analysis, staff conducted a modeling analysis using the same information provided in the submitted ISCST3 input files and PTC application. However, because the waste incineration function of the AMWTF has been removed, the updated modeling analysis involved the comparison of dispersion characteristics from three stacks as opposed to the seven stacks originally proposed. Each of these three main facility flues were modeled as individual stacks with unit emissions rates of one pound per hour (1.0 lb/hr). Because no changes were made to the proposed boiler configurations or potable water heater, modeled ambient impacts from these sources would not change.

Again, emissions from two bag houses used to control emissions of grout from the macroencapsulation process were not included in this analysis. But because the overall PM impacts are small and the emissions rates low, staff concluded that omitting emissions from the bag houses would not affect the outcome of the modeling analysis.

Ambient unit impacts produced by the analysis were multiplied by the updated maximum stack emissions rates (based on 8760 hrs/yr, in lb/hr) to produce updated ambient impacts (in  $\mu\text{g}/\text{m}^3$ ) for  $\text{PM}_{10}$ , CO,  $\text{NO}_2$ ,  $\text{SO}_2$ , Pb, and TAPs. Applicable background concentrations were added to the combined water boiler impacts, steam boiler impacts, potable water heater impacts, and updated main facility impacts for each pollutant. These updated total impacts were then compared to the applicable standards.

Based upon the 1999 CAP88-PC modeling analysis of the abated radionuclide releases, an effective dose equivalent (EDE) of  $6.7\text{E}-03$  mrem/yr was calculated for the maximum exposed individual (MEI) located along the southern edge of the INEEL property boundary. The majority of the predicted dose could be attributed to Am-241, Pu-238, and Pu-239. The 1999 analysis of the unabated emissions from the flue having the smallest contribution to the overall radionuclide emissions from the facility was completed in order to determine whether or not monitoring and testing of the pollution control equipment was needed. The calculated unabated dose of 3.9 mrem/yr was found to be well above the cutoff value of 0.1 mrem/yr. As a result, it was determined that monitoring of all five flues releasing radionuclides to the atmosphere will be required as outlined in 40 CFR 61.93.

Potential radionuclide emissions impacts were assumed unchanged in the updated modeling analysis. Therefore, the results of this 1999 CAP88-PC modeling analysis used to assess the potential impacts of radionuclides from the AMWTF should still be considered valid for the AMWTF without waste incineration.

Table 3.1: Predicted Maximum Ambient Impacts

Pollutant	Averaging Period	Background Concentration ( $\mu\text{g}/\text{m}^3$ )	Updated AMWTF Impacts ( $\mu\text{g}/\text{m}^3$ )	Overall Predicted Concentrations ( $\mu\text{g}/\text{m}^3$ )	Standard/NAAQS ( $\mu\text{g}/\text{m}^3$ )
PM <sub>10</sub>	Annual	33	7.2E <sup>-10</sup>	33	50
	24-Hour	86	9.6E <sup>-9</sup>	103.5	150
CO	8-Hour	5,100	NA	5,193	10,000
	1-Hour	11,000	NA	11,431	40,000
NO <sub>2</sub>	Annual	40	NA	40.4	100
SO <sub>2</sub>	Annual	24	NA	24.3	80
	24-Hour	140	NA	178	365
	3-Hour	540	NA	658	1,300
Lead	Calender Quarter	0.17	2.8E <sup>-7</sup>	0.17	1.5
1,1 Dichloroethane	Annual	NA	1.78E <sup>-6</sup>	1.78E <sup>-6</sup>	2.00E <sup>-2</sup>

Pollutant impacts from the AMWTF and its supporting equipment do not exceed the NAAQS or the TAP AACs or AACCs. Staff's modeling analysis is based on conservative assumptions and the information given in the PTC application. None of the TAPs' estimated maximum impacts were considerable enough (i.e., within two orders of magnitude of the AAC or AACC) to include in this document.

Emissions factors in the PTC were given for nitrogen oxides instead of NO<sub>2</sub>. Therefore, actual NO<sub>2</sub> impacts should be lower than what is given in this section.

Electronic copies of the modeling analysis are saved on disk.

JW:ms

C:\DATA\SIMONL\MMSAMWTF6.WPD

cc: Mike Simon, DEQ State Office  
 Idaho Falls RO  
 Source File  
 COF

APPENDIX D

AIRS Information

*[Faint, illegible handwritten notes and bleed-through from the reverse side of the page are visible throughout the lined area.]*

ABBREVIATED AIRS DATA ENTRY SHEET

Advanced Mixed Waste  
Treatment Facility

Name of Facility:

DOE/BNFL, Inc.

AIRS/Permit #:

023-00001

Permit Issue Date:

July 2000

\*Source/Emissions Unit Name (25 spcs)  
(Please use name as indicated in permit)

SCC #  
(8 digit #)

Air Program  
(SIP/NESHAP/  
NSPS/PSD)

\* Mixed Waste Treatment

- Could not find SCC  
for this activity  
under SIC 9999.

SIP + NESHAP