PIT 9 INTERIM ACTION

Record of Written Comments Received
During the Public Comment Period on the
Revised Pit 9 Proposed

October 22, 1992 to December 21, 1992

NAME	ADDRESS	DATE	PAGES
		OCTOBER'92	
Jill Barnes	781 Hansen Avenue, Idaho Falls, ID 83402	-27	1
Dennis Forsberg	1804 Camrose Street, Idaho Falls, ID 83402	-27	1
Jacque Forsberg	1804 Camrose Street, Idaho Falls, ID 83402	-27	1
John David Scholes	705 Sharp Place, Idaho Falls, ID 83401	-30	1
		NOVEMBER'92	
Jo Ann Scholes	705 Sharp Place, Idaho Falls, ID 83401	-02	1
Betty Siler	2420 South Ammon Road, Idaho Falls, ID 83406	-02	1
Josie Siler	2420 South Ammon Road, Idaho Falls, ID 83406	-02	1
Benji Siler	2420 South Ammon Road, Idaho Falls, ID 83406	-02	1
J. E. Siler	2420 South Ammon Road, Idaho Falls, ID 83406	-02	1
Anonyuous		-04	1
Philip H. Kohn	3961 Nathan Drive, Idaho Falls, ID 83404	-04	1
C. E. White, Jr.	P.O. Box 50616, Idaho Falls, ID 83405-0616	-06	1
Vincent J. Machen	460 Hummingbird Lane, Shelley, ID 83274	-06	1
John D. Naylor	2165 Meppen Drive, Idaho Falls, ID 83401		
Chuck Broscious	Environmental Defense Institute, P.O. Box 220, Troy, ID 83871	-10	9
Jack L. Taylor	105 Twin Willow Road, Boise, ID 83706	-10	1
Beatrice Brailsford	Eastern Idaho Coordinator, Snake River Alliance, 310 East Center, Pocatello, ID 83201	-10	3
Dr. Peter Rickards	P.O. Box 1411, Twin Falls, ID 83303-1411	-12	1
Joesph F. Brean	810 North Lakewood Avenue, Idaho Falls, ID 83401	-16	1
Lyle Aulner	561 Alexander Blvd., Blackfoot, ID 83221	-16	1
Manuel S. Calimlim	509 E Street, Idaho Falls, ID 83402	-16	1
Fred A. Cook	1180 North 1350 East, Shelley, ID 83274	-16	1
Joseph G. McCord	456 K Street 830 Cleveland, Idaho Falls, ID 83402	-16	1

NAME	ADDRESS	DATE	PAGES
		NOVEMBER '92	
Charlas M. Legatt	3410 Rich Lane, Idaho Falls, ID 83406	-16	1
Chuck Broscious	Environmental Defense Institute, P.O. Box 8812, Moscow, ID 83843	-16	10
Charlas A. Lenkner	3023C East 3400 North, Twin Falls, ID 83301	-16	1
James Malburg	355 East 1st Street, Idaho Falls, ID 83401	-17	1
Joseph C. Gordon	1231 Jefferson, Idaho Falls, ID 83402	-17	1
Walter L. Perkins	2090 Steven, Pocatello, ID 83201	-17	1
Gary A. Shank	1345 Paul Street #1, Idaho Falls, ID 83401	-17	1
Brian E. Barrett	450 5th Street, Idaho Falls, ID 83401	-17	1
Mitchell A. Brown	407 Mary Drive, Arco, ID 83213	-17	1
James L. McKensie	P.O. Box 123, Arco, ID 83213	-17	1
William D. Baker	340 Utley Road, Idaho Falls, ID 83401	-17	1
Mark A. Timm	625 Decoria Avenue, Rt #1 Box 80, Arco, ID 83213	-17	1
John E. George	203 Blattner Lane, Arco, ID 83213	-17	1
Steve E. Cannon	238 Temple Street, Arco, ID 83213	-17	1
Randall E. Giese	2397 Pinewood Drive, Idaho Falls, ID 83401	-17	1
Daniel J. Smith	1100 Bower Drive, Idaho Falls, ID 83404	-17	1
Randall W. Bailey	635 West Shelley, Idaho Falls, ID 83402	-17	1
Carolyn Hondo	FOCUS on Peace and Justice, 412 hillcrest Road, Burley, ID 83318	-17	1
Carey K. Boyd	343 N. Water Ave., Idaho Falls, ID 83402	-19	1
Roger Turner	307 North Buchanan, Pocatello, ID 83402	-23	8
Ken Nagy	508 West First Street, Moscow, ID 83843	-23	1
G. D. Wood	1680 North Mink Creek Road, Pocatello, ID 83204	-25	1
Diane M. Kohn	7320 Nightingale Drive #8, Holland, OH 43528	-30	1
Margaret R. Kohn	16821 Levan, Livonia, MI 84154	-30	1
William A. Kohn	16821 Levan, Livonia, MI 84154	-30	1

Comments received after end of the comment period

:REPOPL.PT9

October 26, 1992

Mr. Jerry Lyle
Dept. of Energy, Idaho Field Office
P.O. Box 2047
Idaho Falls, ID 83403-2047

Dear Mr. Lyle,

I support Alternative 4, the preferred alternative, in the *Revised Proposed Plan for a Cleanup of Pit 9 at the Radioactive Waste Management Complex, Idaho National Engineering Laboratory.*

I believe the 10 nCi/g limit on transuranics in soil placed back into the pit is protective of human health and the environment.

Sincerely,

Jill Barnes
781 Hanson Ave.
Idaho Falls, Idaho 83402

October 26, 1992

Mr. Jerry Lyle
Dept. of Energy, Idaho Field Office
P.O. Box 2047
Idaho Falls, ID 83403-2047

Dear Mr. Lyle,

I support Alternative 4, the preferred alternative, in the *Revised Proposed Plan for a Cleanup of Pit 9 at the Radioactive Waste Management Complex, Idaho National Engineering Laboratory.*

I believe the 10 nCi/g limit on transuranics in soil placed back into the pit is protective of human health and the environment.

Sincerely,

Dennis Forsberg

Dennis Forsberg
1804 Camrose St.
Idaho Falls, Idaho 83402

October 26, 1992

Mr. Jerry Lyle
Dept. of Energy, Idaho Field Office
P.O. Box 2047
Idaho Falls, ID 83403-2047

Dear Mr. Lyle,

I support Alternative 4, the preferred alternative, in the *Revised Proposed Plan for a Cleanup of Pit 9 at the Radioactive Waste Management Complex, Idaho National Engineering Laboratory.*

I believe the 10 nCi/g limit on transuranics in soil placed back into the pit is protective of human health and the environment.

Sincerely,

Jacque Forsberg

Jacque Forsberg
1804 Camrose St.
Idaho Falls, Idaho 83402

Oct. 28, 1992

Mr. Jerry Lyle
DOE Idaho Falls Office
POP 2047
Idaho Falls, Idaho 83403-2047

Dear Mr. Lyle,

I support the clean up of Pit 9 at the RWMC. I think the preferred alternative number 4, is best for clean up at pit 9. If the material left in the pit after the remedial action is 10 nanocuries per gram which is protective of human health and the environment.

Sincerely,
John David Scholes
705 Sharp St.
Idaho Falls, Ida.
83401

Oct 28, 1992

Mr. Jerry Lyle
DOE, Idaho Falls Office
Box 2047
Idaho Falls, Idaho 83 [illegible]

Dear Mr. Lyle,

I support the clean up of Pit 9 at the RWMC. I believe alternative 4, the preferred alternative, is best for the cleanup of Pit 9. Ten nanocuries per gram of transuranics in soils left in the pit after the action, is protective of the environment and human health.

Sincerely,
Jo Ann Scholes
705 Sharp Pl.
Idaho Falls, Ida.
83401

October 30, 1992

Betty Siler
2420 S. Ammon Road
Idaho Falls, ID 83406

Mr. Jerry Lyle
Deputy Assistant Manager
Environmental Restoration Manager
DOE Idaho Field Office
Idaho Falls, ID 83403-2047

Dear Mr. Lyle,

I support the proposed cleanup of Pit 9 at the Radioactive Waste Management Complex. I believe Alternative 4, the preferred alternative, is the best for the cleanup of Pit 9. I believe that 10 nanocuries per gram transuranics in soils and materials returned/left in the pit at the conclusion of the remedial action is protective of human health and the environment.

Sincerely,

Betty Siler

Betty Siler

October 30, 1992

Josie Siler
2420 S. Ammon Road
Idaho Falls, ID 83406

Mr. Jerry Lyle
Deputy Assistant Manager
Environmental Restoration Manager
DOE Idaho Field Office
Idaho Falls, ID 83403-2047

Dear Mr. Lyle,

I support the proposed cleanup of Pit 9 at the Radioactive Waste Management Complex. I believe Alternative 4, the preferred alternative, is the best for the cleanup of Pit 9. I believe that 10 nanocuries per gram transuranics in soils and materials returned/left in the pit at the conclusion of the remedial action is protective of human health and the environment.

Sincerely,

Josie Siler

October 30, 1992

Benji Siler
2420 S. Ammon Road
Idaho Falls, ID 83406

Mr. Jerry Lyle
Deputy Assistant Manager
Environmental Restoration Manager
DOE Idaho Field Office
Idaho Falls, ID 83403-2047

Dear Mr. Lyle,

I support the proposed cleanup of Pit 9 at the Radioactive Waste Management Complex. I believe Alternative 4, the preferred alternative, is the best for the cleanup of Pit 9. I believe that 10 nanocuries per gram transuranics in soils and materials returned/left in the pit at the conclusion of the remedial action is protective of human health and the environment.

Sincerely,

Benji Siler

Benji Siler

October 30, 1992

J. E. Siler
2420 S. Ammon Road
Idaho Falls, ID 83406

Mr. Jerry Lyle
Deputy Assistant Manager
Environmental Restoration Manager
DOE Idaho Field Office
Idaho Falls, ID 83403-2047

Dear Mr. Lyle,

I support the proposed cleanup of Pit 9 at the Radioactive Waste Management Complex. I believe Alternative 4, the preferred alternative, is the best for the cleanup of Pit 9. I believe that 10 nanocuries per gram transuranics in soils and materials returned/left in the pit at the conclusion of the remedial action is protective of human health and the environment.

Sincerely,

J. E. Siler

Pit 9 Interim Action

Written Comment Sheet

The comment period on the revised proposed plan for a cleanup of Pit 9 at the Radioactive Waste Management Complex will run until November 21, 1992. You may wish to use this form to submit written comments tonight, or mail it later to: Jerry Lyle, Deputy Assistant Manager, Environmental Restoration and Waste Management, DOE Idaho Field Office, P.O. Box 2047, Idaho Falls, ID 83403-2047.

Comment(s):

I support alternative 4 to remediate Pit 9 & believe the 10 nanocurie limit for return to pit is protective of human health & the environment

Name: Philip H. Kohn

Mailing Address: 3961 Nathan Dr., Idaho Falls ID 83404

Pit 9 Interim Action

Written Comment Sheet

The comment period on the revised proposed plan for a cleanup of Pit 9 at the Radioactive Waste Management Complex will run until November 21, 1992. You may wish to use this form to submit written comments tonight, or mail it later to: Jerry Lyle, Deputy Assistant Manager, Environmental Restoration and Waste Management, DOE Idaho Field Office, P.O. Box 2047, Idaho Falls, ID 83403-2047.

Comment(s):

I hereby request that the public comment period be ~~extended~~ a minimum of 30 days beyond the availability of the "white paper" on the proposed technologies in the admin record.

Name: Anonymous

Mailing Address: _____

Pit 9 Interim Action

Written Comment Sheet

The comment period on the revised proposed plan for a cleanup of Pit 9 at the Radioactive Waste Management Complex will run until November 21, 1992. You may wish to use this form to submit written comments tonight, or mail it later to: Jerry Lyle, Deputy Assistant Manager, Environmental Restoration and Waste Management, DOE Idaho Field Office, P.O. Box 2047, Idaho Falls, ID 83403-2047.

Comment(s):

Had some discussion with contractors on system. I believe that what I hear is that one has a somewhat higher compaction rate while the other seems to end up with a higher stabilization factor. My understanding of the ground rules is that PRICE alone cannot govern unless both systems are totally equal.

I believe that we SHOULD take a system which gives the most stability in the final product. If we need a bit more space to store, this is easily available. The stability over the years in that case is MORE important.

I would appreciate a copy of the final documents which go in for the RECORD OF DECISION process. Thank you

Name: C. E. White, Jr.

Mailing Address: P.O. Box 50616, Idaho Falls, Id., 83405

November 4, 1992

Mr. Jerry Lyle
Deputy Assistant Manager
Environmental Restoration Manager
DOE Idaho Field Office
P.O. Box 2047
Idaho Falls, Idaho 83403-2047

Dear Mr. Lyle,

I support the proposed cleanup of Pit 9 at the Radioactive Waste Management Complex. I believe Alternative 4, the preferred alternative, is best for the cleanup of Pit 9. I believe that 10 nanocuries per gram transuranics in soils and materials returned/left in the pit at the conclusion of the remedial action is protective of human health and the environment.

Sincerely,

Vincent J. Machen
460 Hummingbird Lane
Shelley, Idaho 83274

November 4, 1992

Mr. Jerry Lyle
Deputy Assistant Manager
Environmental Restoration Manager
DOE Idaho Field Office
P.O. Box 2047
Idaho Falls, Idaho 83403-2047

Dear Mr. Lyle,

I support the proposed cleanup of Pit 9 at the Radioactive Waste Management Complex. I believe Alternative 4, the preferred alternative, is best for the cleanup of Pit 9. I believe that 10 nanocuries per gram transuranics in soils and materials returned/left in the pit at the conclusion of the remedial action is protective of human health and the environment.

Sincerely,

John D. Naylor

John D. Naylor
2165 Meppen Drive
Idaho Falls, Idaho 83401

Environmental Defense Institute

P.O.Box 8812
Moscow, Idaho 83843
208-882-5071

EID

P.O. Box 220
Troy, Idaho 83871
208-835-6152

COMMENTS
on
DEPARTMENT OF ENERGY
Remedial Action
for
IDAHO NATIONAL ENGINEERING LABORATORY
RADIOACTIVE WASTE MANAGEMENT COMPLEX
Pit 9

Submitted by
Chuck Broscious
on behalf of the
Environmental Defense Institute
November 10, 1992

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Summary

The preferred alternative remedial action presented in the "Revised Proposed Plan for a Cleanup of Pit 9 at the Radioactive Waste Management Complex" (RWMC) represents a flawed decision making process. A review of the available literature suggests that implementation of the preferred alternative 4 would not be protective of human health and the environment. Moreover, aspects of alternative 4 may be illegal under National Environmental Policy Act (NEPA) and Resource Conservation Recovery Act (RCRA).

The Environmental Defense Institute (EDI) supports exhuming the buried waste from INEL's Radioactive Waste Management Complex Pit 9 and the development and testing of waste treatment technologies at INEL. Specifically, EDI endorses the Hanford approach, mandated by the state of Washington. Hanford puts its excavated waste into temporary storage for future treatment and disposal. Alternative 5 of DOE's Proposed Pit 9 remedial actions is therefore supported. Waste treatment technologies are still in the developmental stage. As an interim action to mitigate additional contaminate migration from the buried waste, excavation is immediately necessary.

Under no circumstances, however, would EDI support re-interrnment of processed waste back into Pit 9 until a full Programmatic Environmental Impact Statement (PEIS) is completed. Pit 9 simply must not be considered independent of the collective impacts of the site-wide environmental restoration and waste management activities. The alternatives 2,3, and 4 in the Pit 9 proposal would be a violation of NEPA if they were initiated prior to a PEIS. The final disposal of all processed wastes must be in a fully permitted and compliant RCRA Sub-Title C site.

Governor Andrus, because of his long history of concerns for the mismanagement of INEL's radioactive wastes, justifiably insisted that the State be the lead enforcement agency on the cleanup of the RWMC. Unfortunately, the ID Division of Environmental Quality and the INEL Oversight Program have not provided a credible enforcement and oversight role in the process. EDI encourages Governor Andrus to reevaluate the positions his agencies have taken on INEL cleanup.

Continued public pressure for the enforcement of environmental laws will be essential in coming years. Reauthorization of the Resource Conservation Recovery Act with stricter compliance standards which must also include radionuclides as a regulated hazardous material will also be key to environmental protection. Hopefully, with the new Clinton Administration, changes will be made on national environmental priorities. A new Environmental Protection Agency (EPA) Director and Secretary of Energy could have significant impacts on how the INEL cleanup process is handled in the future. These new political mandates will help to compensate for the currently ineffectual State and EPA enforcement participation.

Comments

The Environmental Defense Institute (EDI) is a non-profit public interest organization dedicated to research and public policy on environmental issues. EDI is the sponsor and coordinator of a coalition of ten organizations called the INEL Research Bureau (IRB) which has a collective membership of 1.6 million Americans. The IRB coalition has for several years focused on accessing documents through the Freedom of Information Act on the operating history of the Idaho National Engineering Laboratory (INEL). These INEL documents are used by IRB member organizations as part of their on-going analysis of the health and safety impact of INEL operations.

The Department of Energy's (DOE) "Revised Proposed Plan for a Cleanup of Pit 9", hereinafter refereed to as the Plan, is deficient. Moreover, the public mailing describing the Plan does not include pertinent information upon which the public could reasonably evaluate the merits of the Plan. The tenor of the publication is to trivialize the risks by excluding relevant information which would accurately characterize the problem.

As full participants in this CERCLA process, both the State and EPA have an obligation to the public that accurate information is distributed before and at the hearings. The information booklets currently generated by DOE are not only inaccurate but they further lack quantitative figures. The public has a right to know what the specific hazardous concentrations levels are, and what the applicable standards are. Inaccurate information was also provided at the November 2nd briefing to the League of Women Voters of Moscow which further undermines the State and EPA's credibility.

Specifically, there are no quantities (mass and activity) for the radionuclides in Pit 9 offered in the mailing. Simply offering partial (Rocky Flats) volume quantities without activity levels is grossly misleading; because it is this radioactivity which creates and quantifies the risk.

A review of the DOE documents for Pit 9 reveals extremely disturbing assumptions made by J.J. King[EG&G-ERP-BWP-64] to determine the radiological inventory subsequently used in the risk evaluation. King acknowledges Rocky Flats radionuclide information on shipments to INEL in 1968 contained the following:

Radionuclide	Quantity	
U-238	33,373,000.00	grams
U-235	1,210.00	"
Pu-238	4.18	"
Pu-239	43,543.44	"
Pu-240	2,720.83	"
Pu-241	210.11	"
Pu-242	7.44	"
Am-241	1,778.00	"

The above listed nuclide were contained in 345,377 cubic feet of waste shipped from Rocky Flats to INEL in 1968. This represents an activity concentration of possibly 31,216 Curies. J.J. King cites Rhodes' determination that of the total 345,377 cubic feet shipped in 1986, 67,352 cubic feet (containing 203 g of Pu-239) went to Pit 10 and 102,103 cubic feet went to Pit 9.[Ibid.] No accounting by King is offered as to what happened to the remaining 157,922 cubic feet of Rocky Flats waste shipped to INEL during 1968. Generally, only one trench was open and received waste at any given time. In those early years, no attempt was made to segregate categories of waste.[EG&G-WTD-9438@23] It simply all was dumped in what ever trench or pit happened to be open at the time.

Another assumption King made in determining the radiological inventory was to assume that the Pu-239 was "distributed uniformly throughout the waste volume not associated with Pu-239 identified in Pit 10"[Ibid] There is no credible basis for these assumptions. The numbers King ends up with are many orders of magnitude below the possible inventories available for deposition in Pit 9. Moreover, the use of Kings numbers in the risk evaluation are not conservative and greatly understates the probable hazard.

These issues of radionuclide inventory are extremely germane to determining the appropriate remediation for Pit 9. If the DOE's presentation of inventories is extremely understated, and the Alternative 4 chemical separation design target of 90% radionuclide removal is not met, a lot of radioactive waste could be returned to Pit 9. Even if the 90% extraction efficiency is met, the returned 10% could potentially have 3,121 curies in the processed waste. This scenario does not take into account the activity of on-site INEL waste interned in Pit 9.

Another area of uncertainty is the radionuclide inventory of on-site waste in Pit 9. DOE acknowledges in the mailing that some Aircraft Nuclear Propulsion (ANP) wastes are in Pit 9. When asked at the Nov. 2 briefing if this may include ANP reactors, DOE emphatically denied that any ANP reactors were buried at INEL yet the literature specifically acknowledges that jet engines are buried at the RWMC Subsurface Disposal Area (SDA).[EG&G-WM-10090@12]

At that same Nov. 2 briefing, Idaho Division of Environmental Quality representative Dean Nygard also emphatically denied that radionuclides had migrated lower than the 150 foot level below the SDA. Again, this position by the State is not supported by the literature. Cesium-137, Plutonium-238,-239.-240 were all found at the 240 foot interbeds. [IDO-22056@74] Forty-one % of the samples from the 240 foot interbeds contained radionuclides. [Ibid.@87] Additionally, water samples at the 500-600 levels contained concentrations of Cesium-137 at 9 X 10E-8 uCi/ml; Americium-241 at 7.3 X 10E-10 uCi/ml; Strontium-90 at 2.8 X 10E-8 uCi/ml. [Ibid.@64] 10E-9 uCi/ml = pCi/l. 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/ID-10183@134] Radionuclides are also confirmed in groundwater under the RWMC. [EG&G-WTD-9438@25] Water sampling data at the 600 foot levels, expressed in pico curies per liter (pCi/l) show:

Nuclide	Sample Activity	Drinking Water Standard	
Tritium	10,000 pCi/l	20,000 pCi/l	
Cobalt-57	48	?	
Cobalt-60	100	100	
Cesium-137	400	200	
Pu-238	9	*	
Pu-239,-240	0.14	*	
Pu-241	15	*	
Strontium-90	10	8	[ID0-22056@66]

* The drinking water standard for gross alpha emitters is 15 pCi/l.

One can only conclude that the State Division of Environmental Quality is either grossly ill-informed or that the Agency is deliberately attempting to mislead the public.

DOE's mailing only offers one waste volume number (110,000) cubic feet from Rocky Flats in Pit 9. [Plan@3] Why is the total volume to be exhumed not stated? DOE's Pit 9 estimated volumes are: [EG&G-WTD-9438@5]

Waste containers	150,690	cubic feet
Contaminated Soil	191,726	"
Total Volume	342,416	"

DOE's risk evaluation not stated in the public mailing states that the air pathway (respirable) exceeds the risk specific concentration for Am-241 and Pu-239 for both residential and occupational exposure. External pathway also exceeds risk specific concentrations for Am-241, Pu-239 and Cs-137 for both residential and occupational exposure. Soil ingestion exceeds residential exposure.[EG&G-WM-10090@10-11] This risk evaluation is based on understated (non-conservative) radionuclide inventories previously discussed. The risk evaluation also assumes 100 year institutional control over the site which is exceedingly presumptions. Even if this control could be insured, the unlucky resident who tries to build a house with a basement over top of Pit 9, would be digging right into the buried wastes which will be toxic for 24,000 years. A future rancher who sinks a well through the burial ground would also be at extreme risk.

Another problem which the risk evaluation assumes is an underlying layer of soil to assist in filtering contaminates that may migrate. The underlying basalt at Pit 9 comes within 7.7 feet of the surface. [EG&G-ERP-BWP-67@6] "Some trenches and pits were excavated down to the basalt while others only have a thin layer of soil over the basalt. Therefore some older (pre 1970) buried waste has no soil between it and underlying basalt." [IDO-22056@8]

DOE's risk evaluation assumes non-conservative precipitation rates when calculating the leachate factors through the reinterred waste into Pit 9. "Heavy rainfall and melting snow within burial ground have also introduced water into the trenches and pits, especially where the soil cover has slumped or cracked." [Ibid.@8] "Between 1950 to 1963 the yearly precipitation at INEL varied from 5.25 to 14.4 inches." "Between 1950 and 1965 the greatest daily precipitation rate was 1.73 inches in June 1954." "The greatest monthly precipitation rate was 4.4 inches in May 1957." [Ibid.@45] This means that considerably more water can, and has, aided the migration of contaminates than DOE is acknowledging in the risk evaluation.

Barraclough estimates that 100 acre-feet (32,492,910 gal.) 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 alone which inundated the SDA allowed 30 acre feet (10,000,000 gal) into the SDA [Ibid.@46] It is no wander 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)." [Ibid.@70] According to DOE sponsored studies, the presence of gamma radiation increases the permeability/leachability of contaminates in basalt by ten-fold. [EG&G-J-02083]

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). A flood-control diversion dam was been built to mitigate flooding. "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." [UC-70@11] The 1982 flooding of the SDA was in fact caused by plugging of the culverts. [EG&G-WM-10090]

Waste buried in the Subsurface Disposal Area between 1952 through 1973 contains about 6 million curies of activity (USAEC-,1974 a). "Because of their long half-lives and the potential biological harm, the isotopes of greatest concern in this study are strontium-90, cesium-137, plutonium-238,-239,-240,-241, and americium-241. About 4% of the waste (around 250,000 curies is believed

to be composed of these isotopes." [IDO-22056@11]

"A total of about 15,000 g (33 pounds) of americium-241 (half-life of 433 years) has been disposed at the burial ground from 1954 through 1970. this is equivalent to about 51,000 curies." "The total plutonium disposed is about 366,000 g (808 pounds or 204,000 curies)." [Ibid.] Total amount of Cobalt-60 disposed from 1952 through 1973 is estimated to be more than 600,000 curies. [Ibid.] "Strontium-90 (half-life, 28.9 yr) has been disposed in unknown quantities through 1970. The AEC (1973a, 1973b, and 1974b) reports that 16.8 Ci of Sr-90 was disposed in 1971, 21 Ci in 1972, and 187 Ci in 1973." [Ibid] "Little information is available about the disposal of cesium-137 (half-life 30.2 years) in the early years of the burial ground. the above cited waste management reports show 400.5 Ci of Cs-137 disposed in 1971, 269.7 Ci in 1972, and 895 Ci in 1973." [Ibid]

Summary of Waste at INEL

[IDO-10054(81)@13-15][DOE/ID-10087-87]

Waste Type	Volume	Curies
Discharged 1952-1981 Solid*	179,300	8,670,000
1952-1987 Liquid*	63,870,000	64,092
1952-1989 Airborne#	112,000	13,552,880
Total 52-81 Discharged		22,286,972
Stored 1952-1981 solid*	47,000	74,220,000
High-Level Liquid Generated*	23,030	371,200,000
High-Level Calcined Stored*	1850	64,120,000
Total Curies Generated		509,840,000

* Cubic Meters # Millions of Cubic Meters

Idaho INEL Oversight Program estimates the following volumes of waste at the RWMC as of 12/31/91: [IDHW,"Wastes at the INEL"]

"Low-Level" Wastes		
Buried	207,550	cubic meters
Transuranic Wastes		
Buried	56,630	"
Stored	64,827	"
Mixed Hazardous/Radioactive	224,694,168	pounds

Summary Buried Waste at Sub-Surface Disposal Area

Waste Type	Volume Cubic Meters	Volume Cubic Feet	Radioactivity Curies
Low-Level Intermixed with TRU	33,400	1,180,000	580,000
Low-Level	94,600	3,339,380	8,200,000
Transuranic (TRU)	62,000	2,200,000	253,000
Totals as of 1981	180,000	6,719,380	9,033,000

[EG&G-M-2488404]

The Environmental Defense Institute (EDI) supports exhuming the buried waste from Pit 9 and the development and testing of waste treatment technologies. Specifically, EDI endorses the Hanford approach, mandated by the state of Washington. This approach puts the excavated waste into temporary storage for future treatment and disposal. Under no circumstances would EDI support re-internment of processed waste back into Pit 9 until a full Programmatic Environmental Impact Statement (PEIS) is completed. Pit 9 simply must not be considered independent of the collective impacts of the site-wide environmental restoration and waste management activities. The alternatives 2,3, and 4 in the Pit 9 proposal would be a violation of NEPA if they were initiated prior to a PEIS.

References

EG&G-M-24884; Investigation of the subsurface Environment at the INEL, Radioactive Waste Management Complex, B. Russell et al., 1985

EGG-J-02083; Leach Testing of INEL Waste Forms in a Gamma Field, R. Schuman, EG&G

ERP-BWP-64; Methodology for determination of a Radiological Inventory for Pit 9 and Corresponding results, J.J. King, 7/24/91

ID-10054-81&87; Radioactive Waste Management Information, 1981&1987 Summary and Record to Date, DOE ID Operations Office

IDO-22054; Digital Modeling of radioactive and Chemical Waste Transport in the Snake River Plain Aquifer at the National Reactor Testing Station, Idaho, J.Robertson 1974

IDO-22056; Hydrology of the Solid Waste Burial Ground, as Related to the Potential Migration of Radionuclides, INEL, J. Barraclough et al.,USGS, 1976

IDO-22062; Evaluation of a Predictive Ground-Water Solute-Transport Model at the INEL,ID, B. Lewis et al., USGS, 1982

INEL Oversight Program, Hazardous and Mixed Waste, Alan Merrit, Idaho Department of Health and Welfare (IDHW), 1991

IH&W, INEL Oversight Program, "Wastes at the INEL", R. Owen, A. Merrit, 1991

Review of Radioactive Waste Management Complex - Core Drilling Program, Thomas Aley, et al., Associated Resource Consultants, Inc., 1980

UC-70; Probability of Exceeding Capacity of Flood-Control System at the National Reactor Testing Station, Idaho, P. Carrigan, Jr., USGS, 1972

Pit 9 Interim Action

Written Comment Sheet

The comment period on the ***Revised Proposed Plan for a Cleanup of Pit 9 at the Radioactive Waste Management Complex*** will run until November 21, 1992. You may wish to use this form to submit written comments tonight, or fold, tape and place in the mail and it will be returned via Business Reply Mail to: Jerry Lyle, Deputy Assistant Manager, Environmental Restoration and Waste Management, DOE Idaho Field Office in Idaho Falls.

Comment(s):

I am concerned as a public participant, but can't agree with the Snake River Alliance representatives who are opposed to all plans discussed. I do not want Kerry Cooke (?) deciding high tech questions unless she is technically qualified — same for Djorgensen.

They should rein themselves in to a tone of moderation. Nothing will ever happen by way of clean-up until talking it to death stops

Name: Jack L. Taylor

Mailing Address: 105 Twin Wood Dr. Boise ID 83706

Pit 5 comments

Snake River Alliance

☐ Box 1731 · Boise ID 83701 · 208/344-9161
☐ Box 4090 · Ketchum ID 83340 · 208/726-7271
☐ 310 E. Center · Pocatello ID 83201 · 208/234-4782

October 5, 1992

INEL Site-Specific Plan
DOE, Idaho Field Office
Box 2047
Idaho Falls, ID 83403-2047

Gentlemen:

The following comments on the draft INEL Environmental Restoration and Waste Management 5-Year Plan (June 1992) are submitted on behalf of the 1,200 individual, family, and business members of the Snake River Alliance.

1. For the first time this year, the Department of Energy-Idaho Field Office issued a draft of its 5-Year Plan. We commend the people at INEL who decided to issue the document in draft form. It is our understanding that this decision was made in response to public comment and that other field offices continue to issue only a final Plan. We appreciate both the opportunity to participate slightly earlier in the process and this evidence that INEL values public participation.

2. No budget figures are included in INEL's draft 5-Year Plan. This violates any kind of good planning procedure. There is no point in commenting on specific initiatives, since, according to the discussion at the Pocatello public meeting on this plan, the projects included in the 5-Year Plan may or may not be among those funded. It is particularly ludicrous to claim some sort of confidentiality for FY 1992 budget figures, since most of that money is already spent, and FY 1993 budget figures, since that request has been made public and is in Congress right now. All budget figures must be included for cleanup to proceed on any logical footing.

3. DOE-ID continues to hold out the prospect of INEL's high-level waste, including spent fuel, going to a monitored retrievable storage site and/or a national repository. The bulk of INEL's high-level waste, including spent fuel, is not commercial waste and is therefore not eligible for storage at an MRS, none of which exist anyway. According to recent reports, very little of INEL's high-level waste, including spent fuel, will see its way into "Yucca Mountain I." Instead, it must wait here in Idaho for the second national repository for high-level waste. It is going to be a long wait. DOE-ID must plan accordingly and not hold out illusory "fixes" either to other

Idahoans or to its own planners. Decades and decades of sound waste management are required and should be outlined in detail in the 5-Year Plan. In this and in other respects, the 5-Year Plan is not forward-looking.

4. The 5-Year Plan seems to have little relationship to the Spent Fuel and Waste Management Technology Development Plan. Since the two plans address many of the same issues, they must be integrated.

5. The Snake River Alliance is very pleased to see the question of an advisory board broached in the 5-Year Plan. The public involvement efforts now available at first appeared to be a banquet of opportunities. It has turned out to be a confusing, redundant series of meetings that take place long after core decisions are made. This balkanized, trivialized approach has exhausted and frustrated the public, thereby dissipating its participation. It has also served to deny INEL's cleanup efforts the consensus and political and community support that will be needed to carry forward the longterm cleanup at INEL.

However, the advisory board described in this 5-Year Plan is inadequate and will only serve to further undermine the credibility of the INEL cleanup effort. We suggest instead:

A Site Advisory Board be formed to oversee and advise the DOE, its contractors, and all other government entities involved with environmental restoration, waste management, and related public health decisionmaking at INEL.

The Site Advisory Board consist of no more than 15 citizen members, at least one each from a nearby community, the Shoshone-Bannock Tribes, a nationally recognized environmental group, all local environmental groups with a history of involvement at the Site, local city government, county government, and the non-salaried INEL workforce. There should be at least one person with technical expertise in environmental restoration and waste management and a local public health officer. Two members should be appointed by the governor. With the exception of the representative of the Site work force, no active employee of the DOE, federal or state regulating agencies, or their contractors or members of their immediate families should be included.

Nominations for representatives and alternates should be sought from interested organizations and individuals. The regulating entities should review all nominations and prepare a proposed slate of members for the DOE. The DOE could then either accept or reject the proposed slate of board members. Decisions to accept or reject proposed slates must be made openly.

All relevant federal and state environmental regulatory and public health agencies should be invited to serve in a consultative capacity for the Site Advisory Board.

The Site Advisory Board's duties would be:

1) Review and evaluate the performance by the DOE of environmental restoration and waste management activities, including the adherence of the DOE with any milestones or deadlines with respect to such activities that were agreed to by the DOE in the Federal Facility Agreement.

2) Review and evaluate the adequacy, effectiveness, and reasonableness of any regulatory activities carried out with respect to INEL by the Environmental Protection Agency, the Division of Environmental Quality of the State of Idaho, and other appropriate state and federal agencies, including the adequacy of

A) any actions taken by such agencies to ensure the adherence of the DOE with any milestones or deadlines that were agreed to by the DOE in the Federal Facility Agreement;

B) any actions taken by appropriate federal and state agencies to ensure compliance by the DOE with federal or state laws requiring the performance of relevant health-related activities at INEL;

C) any existing or ongoing health-related activities undertaken by the DOE and other federal and state agencies with respect to INEL;

D) the substance and timeliness of information provided to members of the public by INEL with regard to environmental restoration and waste management activities at the Site, including responsiveness to requests for information;

E) the design and coordination of public comment and involvement efforts including those required under NEPA, RCRA, CERCLA, and other federal and state laws requiring public review and comment on environmental restoration and waste management decisions at INEL.

3) Assist the DOE, EPA, and pertinent state agencies in defining the scope of future land use issues at the Site to better enable cleanup decisions to be made in a way that is cognizant of the natural resource, ecological, recreational, cultural, and historic features of the Site and how these features may affect future land uses at the Site.

4) Assist the DOE, EPA, and pertinent state agencies in setting environmental restoration priorities at the Site and in reconciling substantive or jurisdictional issues, including but not limited to:

A) the appropriateness and consistency of standards with regard to the disposal and cleanup of hazardous material, mixed radioactive and hazardous materials, and radioactive materials, as these standards relate to waste management and environmental restoration;

B) the advisability of renegotiating cleanup milestones under the FFA in light of new information regarding public health, ecological, and technical or fiscal concerns.

5) Provide, at least once annually, to the Secretary of Energy, the Administrator of the EPA, and the heads of other appropriate federal and state agencies:

A) an evaluation of the policy and technical considerations of any significant decisions made by such agencies with respect to environmental restoration, waste management, and health-related activities at INEL, including decisions of the selection of waste management treatment technology, the selection of cleanup remedies for environmental restoration, and the design and conduct of health assessments;

B) recommendations of policy and technical matters based upon this evaluation.

7) Provide to the Secretary of Energy, the administrator of the EPA, and the Governor of Idaho the views of persons in communities and regions located near, or affected by, the INEL on the environmental restoration, waste management, and health activities conducted at INEL.

8) Submit annually to the Governor of Idaho and to Congress a report on the activities of the Site Advisory Board during the preceding year, including its findings, assessments, and conclusions and any recommendation on policy or technical matters based upon such findings, assessments, and conclusions it might have.

9) Perform any other activity the Site Advisory Board considers necessary to carry out its duties.

The DOE should provide funding to the Site Advisory Board to permit the group to hire the technical, advisory, and support staff that the Board determines necessary to carry out its duties. The amount of such funding in any year may not exceed .1% of the annualized budget for environmental restoration, waste management, and health activities at the Site.

All Site Advisory Board meetings should be open to the public, and meetings should be recorded and the minutes made available to the public.

The DOE and regulating agencies should respond to recommendations from the Site Advisory Board by providing information on what recommendations can be implemented, which need to be modified in order to be implemented, and which cannot be implemented. The Site Advisory Board and agencies should maintain a public log of recommendations by the Board and the status and substance of all responses.

The Site Advisory Board must have full access to all information necessary for its considerations and must be a full participant in the front-end of the decisionmaking process.

In closing, let me say that we realize how difficult setting up a creditable Site Advisory Board will be. But a credible Site Advisory Board is possible and will help make INEL cleanup more effective and bring to that effective cleanup the longterm support it must have to continue. We would be very happy to discuss any of this with the DOE and regulating agencies.

Sincerely,

Beatrice Brailsford

Beatrice Brailsford
Eastern Idaho Coordinator

Pit 9 Interim Action

Written Comment Sheet

The comment period on the ***Revised Proposed Plan for a Cleanup of Pit 9 at the Radioactive Waste Management Complex*** will run until November 21, 1992. You may wish to use this form to submit written comments tonight, or fold, tape and place in the mail and it will be returned via Business Reply Mail to: Jerry Lyle, Deputy Assistant Manager, Environmental Restoration and Waste Management, DOE Idaho Field Office in Idaho Falls.

Comment(s):

① What nanocurie / gram level are the 2 different "stabilization" methods going to produce?

② (A) Will you be able to legally bury the product in barrels as low level waste? (B) Please document why or why not?

③ What are the answers to my original Pit 9 questions?

④ What are the mrem/hour dose rates for human contact of each type and size of the different radionuclides that will be returned to the Pit?

⑤ Will returning radionuclides to Pit 9 prevent the alternative of retrieval of radionuclides from the vadose zone?

⑥ What are the doses from returned radionuclides to aquifer users 200 years from now?

Name: Dr Peter Ruckards DPM

Mailing Address: Box 1411 IF, Id 83301

12 November 1992

Joesph F. Brean
810 N. Lakewood Ave.
Idaho Falls ID. 83401

Mr. Jerry Lyle
Deputy Assistant Manger
Environmental Restoration Manager
DOE Idaho Field Office
P.O. Box 2047
Idaho Falls, Idaho 83403-2047

Dear Mr. Lyle,

I support the proposed clean up of Pit 9 at the Radioactive Waste Management Complex. Alternative 4, the preferred alternative, appears to be the best method for the clean up of Pit 9. Furthermore, I believe that 10 nanocuries per gram transuranics in soils and materials returned or left in the pit at the conclusion of the remedial action is protective of human health and the environment.

Sincerely,

J. F. Brean

12 November 1992

Lyle Aulner
561 Alexander Blvd.
Blackfoot, ID. 83221

Mr. Jerry Lyle
Deputy Assistant Manger
Environmental Restoration Manager
DOE Idaho Field Office
P.O. Box 2047
Idaho Falls, Idaho 83403-2047

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Sincerely,

Lyle Aulner

12 November 1992

Manuel S. Calimlim
509 E Street
Idaho Falls, ID. 83402

Mr. Jerry Lyle
Deputy Assistant Manger
Environmental Restoration Manager
DOE Idaho Field Office
P.O. Box 2047
Idaho Falls, Idaho 83403-2047

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Sincerely,

Manuel S. Calimlim

M. S. Calimlim

13 November 1992

Fred A. Cook
1180 N. 1350 E.
Shelley, ID. 83274

Mr. Jerry Lyle
Deputy Assistant Manger
Environmental Restoration Manager
DOE Idaho Field Office
P.O. Box 2047
Idaho Falls, Idaho 83403-2047

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Sincerely,

F. A. Cook

13 November 1992

Joseph G. McCord
456 K ST.830 Cleveland
Idaho Falls, ID. 83402

Mr. Jerry Lyle
Deputy Assistant Manger
Environmental Restoration Manager
DOE Idaho Field Office
P.O. Box 2047
Idaho Falls, Idaho 83403-2047

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Sincerely,

J. G. McCord

13 November 1992

Charles M. Legatt
3410 Rich Ln
Idaho Falls, ID. 83406

Mr. Jerry Lyle
Deputy Assistant Manger
Environmental Restoration Manager
DOE Idaho Field Office
P.O. Box 2047
Idaho Falls, Idaho 83403-2047

Dear Mr. Lyle,

I support the proposed clean up of Pit 9 at the Radioactive Waste Management Complex. I consider Alternative 4, the preferred alternative, to be the best method for the clean up of Pit 9. Furthermore, I believe that 10 nanocuries per gram transuranics in soils and materials returned or left in the pit at the conclusion of the remedial action is protective of human health and the environment.

Sincerely,

C. M. Legatt

Environmental Defense Institute

P.O.Box 8812
Moscow, Idaho 83843
208-882-5071

EID

P.O. Box 220
Troy, Idaho 83871
208-835-6152

Comments
on
Department of Energy
Remedial Action
for
Idaho National Engineering Laboratory
Radioactive Waste Management Complex
Pit 9

Submitted by
Chuck Broscious
on behalf of the
Environmental Defense Institute
November 11, 1992

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Summary

The preferred alternative remedial action presented in the "Revised Proposed Plan for a Cleanup of Pit 9 at the Radioactive Waste Management Complex" (RWMC) represents a flawed decision making process. A review of the available literature suggests that implementation of the preferred alternative 4 would not be protective of human health and the environment. Moreover, aspects of alternative 4 may be illegal under National Environmental Policy Act (NEPA) and Resource Conservation Recovery Act (RCRA).

The Environmental Defense Institute (EDI) supports exhuming the buried waste from INEL's Radioactive Waste Management Complex Pit 9 and the development and testing of waste treatment technologies at INEL. Specifically, EDI endorses the Hanford approach, mandated by the state of Washington. Hanford puts its excavated waste into temporary storage for future treatment and disposal. Alternative 5 of DOE's Proposed Pit 9 remedial actions is therefore supported. Waste treatment technologies are still in the developmental stage. As an interim action to mitigate additional contaminate migration from the buried waste, excavation is immediately necessary.

Under no circumstances, however, would EDI support re-internment of processed waste back into Pit 9 until a full Programmatic Environmental Impact Statement (PEIS) is completed. Pit 9 simply must not be considered independent of the collective impacts of the site-wide environmental restoration and waste management activities. The alternatives 2,3, and 4 in the Pit 9 proposal would be a violation of NEPA if they were initiated prior to a PEIS. The final disposal of all processed wastes must be in a fully permitted and compliant RCRA Sub-Title C hazardous waste site.

Governor Andrus, because of his long history of justified concerns over the mismanagement of INEL's radioactive wastes, insisted that the State be the lead enforcement agency on the cleanup of the RWMC. Unfortunately, the ID Division of Environmental Quality and the INEL Oversight Program have not provided a credible enforcement and oversight role in the process. EDI encourages Governor Andrus to reevaluate the positions his agencies have taken on INEL cleanup.

Continued public pressure for the enforcement of environmental laws will be essential in coming years. Reauthorization of the Resource Conservation Recovery Act with stricter compliance standards which must also include radionuclides as a regulated hazardous material will also be key to environmental protection. Hopefully, with the new Clinton Administration, changes will be made on national environmental priorities. A new Environmental Protection Agency (EPA) Director and Secretary of Energy could have significant impacts on how the INEL cleanup process is handled in the future. These new political mandates will help to compensate for the currently ineffectual State and EPA enforcement participation.

Comments

The Environmental Defense Institute (EDI) is a non-profit public interest organization dedicated to research and public policy on environmental issues. EDI is the sponsor and coordinator of a coalition of ten organizations called the INEL Research Bureau (IRB) which has a collective membership of 1.6 million Americans. The IRB coalition has for several years focused on accessing documents through the Freedom of Information Act on the operating history of the Idaho National Engineering Laboratory (INEL). These INEL documents are used by IRB member organizations as part of their on-going analysis of the health and safety impact of INEL operations.

The Department of Energy's (DOE) "Revised Proposed Plan for a Cleanup of Pit 9", hereinafter refereed to as the Plan, is deficient. Moreover, the public mailing describing the Plan does not include pertinent information upon which the public could reasonably evaluate the merits of the Plan. The tenor of the publication is to trivialize the risks by excluding relevant information which would accurately characterize the problem.

As full participants in this CERCLA process, both the State and EPA have an obligation to the public that accurate information is distributed before and at the hearings. The information booklets currently generated by DOE are not only inaccurate but they further lack quantitative figures. The public has a right to know what the specific hazardous concentrations levels are, and what the applicable standards are. Inaccurate information was also provided at the November 2nd briefing to the League of Women Voters of Moscow which further undermines the State and EPA's credibility.

Specifically, there are no quantities (mass and activity) for the radionuclides in Pit 9 offered in the mailing. Simply offering partial (Rocky Flats) volume quantities without activity levels is grossly misleading; because it is this radioactivity which creates and quantifies the risk.

A review of the DOE documents for Pit 9 reveals extremely disturbing assumptions made by J.J. King[EG&G-ERP-BVP-64] to determine the radiological inventory subsequently used in the risk evaluation. King acknowledges Rocky Flats radionuclide information on shipments to INEL in 1968 contained the following:

Radionuclide		Quantity
U-238	33,373,000.00	grams
U-235	1,210.00	"
Pu-238	4.18	"
Pu-239	43,543.44	"
Pu-240	2,720.83	"
Pu-241	210.11	"
Pu-242	7.44	"
Am-241	1,778.00	"

The above listed nuclides were contained in 345,377 cubic feet of waste shipped from Rocky Flats to INEL in 1968. This represents an activity concentration of possibly 31,216 Curies. J.J. King cites Rhodes' determination that of the total 345,377 cubic feet shipped in 1986, 67,352 cubic feet (containing 203 g of Pu-239) went to Pit 10 and 102,103 cubic feet went to Pit 9. [Ibid.] No accounting by King is offered as to what happened to the remaining 157,922 cubic feet of Rocky Flats waste shipped to INEL during 1968. Generally, only one trench was open and received waste at any given time. In those early years, no attempt was made to segregate categories of waste.[EG&G-WTD-9438@23] It simply all was dumped in what ever trench or pit happened to be open at the time.

Another assumption King made in determining the radiological inventory was to assume that the Pu-239 was "distributed uniformly throughout the waste volume not associated with Pu-239 identified in Pit 10"[Ibid] There is no credible basis for these assumptions. The numbers King ends up with are many orders of magnitude below the possible inventories available for deposition in Pit 9. Moreover, the use of Kings numbers in the risk evaluation are not conservative and greatly understates the probable hazard.

These issues of radionuclide inventory are extremely germane to determining the appropriate remediation for Pit 9. If DOE's presentation of inventories is extremely understated, and the Alternative 4 chemical separation design target for radionuclide removal is not met, a lot of radioactive waste could be returned to Pit 9. DOE's design treatment standards for "wastes and/or materials in Pit 9 containing [greater than] >10 nanocuries per gram transuranics would be treated to reduce the volume by >90% prior to returning to the Pit." [Plan@11] The returned 10% could still potentially have considerable radioactivity in the processed waste since no upper bounds are stated for this "stabilized" material.

The Plan also calls for exhumed waste or soils which contain 10 nanocuries of less will be returned directly to Pit 9. This 10 nanocurie criteria is a DOE internally generated directive which has not been legally established as protective of the environment. No quality assurance mechanisms are offered to ensure that non-contaminated material are not mixed with contaminated waste to reach the 10 nanocurie criteria. There are 1,000 nanocuries in a picocurie. Drinking water standards are expressed in picocuries. The Plan's criteria for residuals returned to Pit 9 uses industrial (1 in 10,000) carcinogenic risk performance criteria. Due to the long half-life of the radioactive contaminates and the probable inability to maintain institutional control over the sight, the residential performance criteria (1 in 1,000,000) should be used.

Another area of uncertainty is the radionuclide inventory of on-site waste in Pit 9. DOE acknowledges in the mailing that some Aircraft Nuclear Propulsion (ANP) wastes are in Pit 9. When asked at the Nov. 2 briefing if this may include ANP reactors, DOE

emphatically denied that any ANP reactors were buried at INEL yet the literature specifically acknowledges that jet engines are buried at the RWMC Subsurface Disposal Area (SDA).[EG&G-WM-10090@12] Three reactor assemblies were constructed at INEL for the ANP program. "These three assemblies were designated HTRE No.1, HTRE No.2, and HTRE No. 3." [DOE/ID-12119@A-87] Though two ANP nuclear jet engine shells are on display at the ERB, the disposition of the third engine plus the more than five reactor cores for these engines is uncertain.

At that same Nov. 2 briefing, Idaho Division of Environmental Quality representative Dean Nygard also emphatically denied that radionuclides had migrated lower than the 150 foot level below the SDA. Again, this position by the State is not supported by the literature. Cesium-137, Plutonium-238,-239.-240 were all found at the 240 foot interbeds. [IDO-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 D02."[DOE/ID-10183@134] Radionuclides are also confirmed in groundwater under the RWMC. [EG&G-WTD-9438@25] Water sampling data at the 600 foot levels, expressed in pico curies per liter (pCi/l) show:

Nuclide	Sample Activity	Drinking Water Standard	
Tritium	10,000 pCi/l	20,000 pCi/l	
Cobalt-57	48	?	
Cobalt-60	100	100	
Cesium-137	400	200	
Pu-238	9	*	
Pu-239,-240	0.14	*	
Pu-241	15	*	
Strontium-90	10	8	[IDO-22056@66]

* The drinking water standard for gross alpha is 15 pCi/l.

At the Pit 9 hearing in Moscow, Nov. 10 the State representative maintained his position that there was no radioactive contamination below the 150 foot level below the RWMC. One can only conclude that the State Division of Environmental Quality is grossly ill-informed. DOE's mailing only offers one waste volume number (110,000) cubic feet from Rocky Flats in Pit 9. [Plan@3] Why is the total volume to be exhumed not stated? DOE's Pit 9 estimated volumes are: [EG&G-WTD-9438@5]

Waste containers	150,690	cubic feet
Contaminated Soil	191,726	"
Total Volume	342,416	"

DOE's risk evaluation not stated in the public mailing states that the air pathway (respirable) exceeds the risk specific concentration for Am-241 and Pu-239 for both residential and occupational exposure. External pathway also exceeds risk specific concentrations for Am-241, Pu-239 and Cs-137 for both residential and occupational exposure. Soil ingestion exceeds residential exposure.[EG&G-WM-10090@10-11] This risk evaluation is based on understated (non-conservative) radionuclide inventories previously discussed. The risk evaluation also assumes 100 year institutional control over the site which is exceedingly presumptions. Even if this control could be insured, the unlucky resident who tries to build a house with a basement over top of Pit 9, would be digging right into the buried wastes which will be toxic for 24,000 years. A future rancher who sinks a well through the burial ground would also be at extreme risk.

Another problem which the risk evaluation assumes is an underlying layer of soil to assist in filtering contaminates that may migrate. The underlying basalt at Pit 9 comes within 7.7 feet of the surface. [EG&G-ERP-BWP-67@6] "Some trenches and pits were excavated down to the basalt while others only have a thin layer of soil over the basalt. Therefore some older (pre 1970) buried waste has no soil between it and underlying basalt." [DOO-2205@8]

DOE's risk evaluation assumes non-conservative precipitation rates when calculating the leachate factors through the reinterred waste into Pit 9. "Heavy rainfall and melting snow within burial ground have also introduced water into the trenches and pits, especially where the soil cover has slumped or cracked." [Ibid.@8] "Between 1950 to 1963 the yearly precipitation at INEL varied from 5.25 to 14.4 inches." "Between 1950 and 1965 the greatest daily precipitation rate was 1.73 inches in June 1954." "The greatest monthly precipitation rate was 4.4 inches in May 1957." [Ibid.@45] This means that considerably more water can, and has, aided the migration of contaminates than DOE is acknowledging.

Barraclough estimates that 100 acre-feet (32,492,910 gal.) 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 alone which inundated the SDA allowed 30 acre feet (10,000,000 gal) into the SDA [Ibid.@46] It is no wander 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)." [Ibid.@70] According to DOE sponsored studies, the presence of gamma radiation increases the permeability/leachability of contaminates in basalt by ten-fold. [EG&G-J-02083]

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). A flood-control diversion dam was been built to mitigate flooding. "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." [UC-70@111] The 1982 flooding of the SDA was in fact caused by plugging of the culverts. [EG&G-WM-10090]

Waste buried in the Subsurface Disposal Area between 1952 through 1973 contains about 6 million curies of activity (USAEC-,1974 a). "Because of their long half-lives and the potential biological harm, the isotopes of greatest concern in this study are strontium-90, cesium-137, plutonium-238,-239,-240,-241, and americium-241. About 4% of the waste (around 250,000 curies is believed to be composed of these isotopes." [IDO-220560@11]

"A total of about 15,000 g (33 pounds) of americium-241 (half-life of 433 years) has been disposed at the burial ground from 1954 through 1970. this is equivalent to about 51,000 curies." "The total plutonium disposed is about 366,000 g (808 pounds or 204,000 curies)." [Ibid.] Total amount of Cobalt-60 disposed from 1952 through 1973 is estimated to be more than 600,000 curies. [Ibid.] "Strontium-90 (half-life, 28.9 yr) has been disposed in unknown quantities through 1970. The AEC (1973a, 1973b, and 1974b) reports that 16.8 Ci of Sr-90 was disposed in 1971, 21 Ci in 1972, and 187 Ci in 1973." [Ibid] "Little information is available about the disposal of cesium-137 (half-life 30.2 years) in the early years of the burial ground. the above cited waste management reports show 400.5 Ci of Cs-137 disposed in 1971, 269.7 Ci in 1972, and 895 Ci in 1973." [Ibid]

Understanding the extent of the waste problem at INEL is necessary for putting any remedial cleanup actions into context. Additionally, the nature and radioactive content of these wastes must be understood in order to quantify the risks these wastes pose. Early waste burial practices were particularly egregious. "Burial of high level waste [at INEL] continued until 1957 with no upper limit for the level of radiation. Items of up to 12,000 rems per hour were buried..[at INEL]. [Deadly Defense@50]

The Naval Reactor Facility's (NRF) Expanded Core Facility at INEL received the whole reactor fuel assembly module, then separated the fuel from the reactor core. The fuel went to the ICPP for processing and the reactor core went to Radioactive Waste Management Complex (RWMC) for burial. Summary DOE data between 1952 and 1981 cites the Navy's NRF dumped 3,195,000 Ci. at the RWMC making the Navy the second largest Curie contributor to INEL's dump. [ID-10054-81@15] Flammable zirconium cuttings were packaged in water filled containers and also buried at RWMC. [IDO-14532,p.50]

Summary of Waste at INEL

1952 through 1981, 1987, and 1989

[IDO-10054(81)@13-15][DOE/ID-10087-87]

Waste Type	Volume	Curies
Discharged 1952-1981 Solid*	179,300	8,670,000
1952-1987 Liquid*	63,870,000	64,092
1952-1989 Airborne#	112,000	13,552,880
Total 52-81 Discharged		22,286,972
Stored 1952-1981 solid*	47,000	74,220,000
High-Level Liquid Generated*	23,030	371,200,000
High-Level Calcined Stored*	1850	64,120,000
Total Curies Generated		509,840,000

* Cubic Meters # Millions of Cubic Meters

Idaho INEL Oversight Program estimates the following volumes of waste at the RWMC as of 12/31/91: [IDHW,"Wastes at the INEL"]

"Low-Level" Wastes		
Buried	207,550	cubic meters
Transuranic Wastes		
Buried	56,630	"
Stored	64,827	"
Mixed Hazardous/Radioactive	224,694,168	pounds

Summary Buried Waste at Sub-Surface Disposal Area

Waste Type	Volume Cubic Meters	Volume Cubic Feet	Radioactivity Curies
Low-Level Intermixed with TRU	33,400	1,180,000	580,000
Low-Level	94,600	3,339,380	8,200,000
Transuranic (TRU)	62,000	2,200,000	253,000
Totals as of 1981	180,000	6,719,380	9,033,000

[EC&G-M-2488404]

The Environmental Defense Institute (EDI) supports exhuming the buried waste from Pit 9 and the development and testing of waste treatment technologies. Specifically, EDI endorses the Hanford approach, mandated by the state of Washington. This approach puts the excavated waste into temporary storage for future treatment and disposal of the treated waste. Under no circumstances would EDI support re-internment of processed waste back into Pit 9 until a full Programmatic Environmental Impact Statement (PEIS) is completed. Pit 9 simply must not be considered independent of the collective impacts of the site-wide environmental restoration and waste management activities. The alternatives 2,3, and 4 in the Pit 9 proposal would be a violation of NEPA if they were initiated prior to a PEIS.

The selected waste treatment processes and the criteria for material returned to the burial pits must receive the full PEIS evaluation within the context of existing site-wide contamination and anticipated site-wide "processed" waste returned to the ground. It is conceivable that existing contamination poses sufficient risk which would preclude adding additional risk from reburial of partially treated waste.

References

DOE/ID-12119; INEL Dose Evaluation, DOE ID Operations Office 1991

Deadly Defense; Military Radioactive Landfills, Radioactive Waste Campaign, 1988

EG&G-M-24884; Investigation of the subsurface Environment at the INEL, Radioactive Waste Management Complex, B. Russell et al., 1985

EGG-J-02083; Leach Testing of INEL Waste Forms in a Gamma Field, R. Schuman, EG&G

ERP-BWP-64; Methodology for determination of a Radiological Inventory for Pit 9 and Corresponding results, J.J. King, 7/24/91

ID-10054-81&87; Radioactive Waste Management Information, 1981&1987 Summary and Record to Date, DOE ID Operations Office

IDO-22054; Digital Modeling of radioactive and Chemical Waste Transport in the Snake River Plain Aquifer at the National Reactor Testing Station, Idaho, J.Robertson 1974

IDO-22056; Hydrology of the Solid Waste Burial Ground, as Related to the Potential Migration of Radionuclides, INEL, J. Barraclough et al.,USGS, 1976

IDO-22062; Evaluation of a Predictive Ground-Water Solute-Transport Model at the INEL,ID, B. Lewis et al., USGS, 1982

INEL Oversight Program, Hazardous and Mixed Waste, Alan Merrit, Idaho Department of Health and Welfare (IDHW), 1991

IH&W, INEL Oversight Program, "Wastes at the INEL", R. Owen, A. Merrit, 1991

Review of Radioactive Waste Management Complex - Core Drilling Program, Thomas Aley, et al., Associated Resource Consultants, Inc., 1980

UC-70; Probability of Exceeding Capacity of Flood-Control System at the National Reactor Testing Station, Idaho, P. Carrigan, Jr., USGS, 1972

13 November 1992

James Malburg
355 E. 1st St.
Idaho Falls, ID. 83401

Mr. Jerry Lyle
Deputy Assistant Manger
Environmental Restoration Manager
DOE Idaho Field Office
P.O. Box 2047
Idaho Falls, Idaho 83403-2047

Dear Mr. Lyle,

I support the proposed clean up of Pit 9 at the Radioactive Waste Management Complex. I consider Alternative 4, the preferred alternative, to be the best method for the clean up of Pit 9. Furthermore, I believe that 10 nanocuries per gram transuranics in soils and materials returned or left in the pit at the conclusion of the remedial action is protective of human health and the environment.

Sincerely,

J. Malburg

(I attended the meeting in Twin Falls 11/12/92 re Pit 9)

RECEIVED

NOV 16 1992

ENVIRONMENTAL RESTORATION PROGRAM

Pit 9 Interim Action

Written Comment Sheet

RECEIVED

ENVIRONMENTAL RESTORATION PROGRAM

The comment period on the ***Revised Proposed Plan for a Cleanup of Pit 9 at the Radioactive Waste Management Complex*** will run until November 21, 1992. You may wish to use this form to submit written comments tonight, or fold, tape and place in the mail and it will be returned via Business Reply Mail to: Jerry Lyle, Deputy Assistant Manager, Environmental Restoration and Waste Management, DOE Idaho Field Office in Idaho Falls.

Comment(s):

I feel that Option 4 is an expensive but viable start toward reducing the above aquifer nuclear and solvent waste concealment problem. It is my impression that the individuals in this project, overite and design are honest and sincere and will employ the necessary safeguards to achieve acceptable results. However, the extremely costly and highly technical methods required to attain this end only re-emphasize the severe irresponsibility and mismanagement that permitted this type of "disposal". I am encouraged that after decades of denial and delay the government (AEC/DOE/DOD) has acknowledged a part of the problem and is moving toward partial correction. I remain greatly concerned and angry that INEL continues to be used as a defacto national nuclear waste dump, no viable options being in the offing.

Name: Charles A. Lenhart, DVM

Mailing Address: 3028 - C E 3400N Twin Falls, ID 83301

Please don't put me on the general mailing list again as my real interest is seeing a change in intent and direction and I don't read highly technical & verbose P.R. documents designed to confuse and mislead to buy time & protect the INEL status quo.

13 November 1992

Joseph C. Gordon
1231 Jefferson
Idaho Falls, ID. 83402

Mr. Jerry Lyle
Deputy Assistant Manger
Environmental Restoration Manager
DOE Idaho Field Office
P.O. Box 2047
Idaho Falls, Idaho 83403-2047

Dear Mr. Lyle,

I support the proposed clean up of Pit 9 at the Radioactive Waste Management Complex. I consider Alternative 4, the preferred alternative, to be the best method for the clean up of Pit 9. Furthermore, I believe that 10 nanocuries per gram transuranics in soils and materials returned or left in the pit at the conclusion of the remedial action is protective of human health and the environment.

Sincerely,

J. C. Gordon

12 November 1992

Walter L. Perkins
2090 Steven
Pocatello, ID. 83201

Mr. Jerry Lyle
Deputy Assistant Manger
Environmental Restoration Manager
DOE Idaho Field Office
P.O. Box 2047
Idaho Falls, Idaho 83403-2047

Dear Mr. Lyle,

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Sincerely,

W. L. Perkins

13 November 1992

Gary A. Shank
1345 Paul St. #1
Idaho Falls, ID. 83401

Mr. Jerry Lyle
Deputy Assistant Manger
Environmental Restoration Manager
DOE Idaho Field Office
P.O. Box 2047
Idaho Falls, Idaho 83403-2047

Dear Mr. Lyle,

I support the proposed clean up of Pit 9 at the Radioactive Waste Management Complex. I consider Alternative 4, the preferred alternative, to be the best method for the clean up of Pit 9. Furthermore, I believe that 10 nanocuries per gram transuranics in soils and materials returned or left in the pit at the conclusion of the remedial action is protective of human health and the environment.

Sincerely,

G. A. Shank

12 November 1992

Brian E. Barrett
450 5th St.
Idaho Falls ID. 83401

Mr. Jerry Lyle
Deputy Assistant Manger
Environmental Restoration Manager
DOE Idaho Field Office
P.O. Box 2047
Idaho Falls, Idaho 83403-2047

Dear Mr. Lyle,

I support the proposed clean up of Pit 9 at the Radioactive Waste Management Complex. Alternative 4, the preferred alternative, appears to be the best method for the clean up of Pit 9. Furthermore, I believe that 10 nanocuries per gram transuranics in soils and materials returned or left in the pit at the conclusion of the remedial action is protective of human health and the environment.

Sincerely,

B. E. Barrett

12 November 1992

Mitchell A. Brown
407 Mary Drive
Arco, ID. 83213

Mr. Jerry Lyle
Deputy Assistant Manger
Environmental Restoration Manager
DOE Idaho Field Office
P.O. Box 2047
Idaho Falls, Idaho 83403-2047

Dear Mr. Lyle,

I support the proposed clean up of Pit 9 at the Radioactive Waste Management Complex. Alternative 4, the preferred alternative, appears to be the best method for the clean up of Pit 9. Furthermore, I believe that 10 nanocuries per gram transuranics in soils and materials returned or left in the pit at the conclusion of the remedial action is protective of human health and the environment.

Sincerely,

M.A. Brown 12/12/92

M. A. Brown

12 November 1992

James L. McKensie
P.O. Box 123
Arco, ID. 83213

Mr. Jerry Lyle
Deputy Assistant Manger
Environmental Restoration Manager
DOE Idaho Field Office
P.O. Box 2047
Idaho Falls, Idaho 83403-2047

Dear Mr. Lyle,

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Sincerely,

J. L. McKensie

12 November 1992

William D. Baker
340 Utley Rd.
Idaho Falls ID. 83401

Mr. Jerry Lyle
Deputy Assistant Manger
Environmental Restoration Manager
DOE Idaho Field Office
P.O. Box 2047
Idaho Falls, Idaho 83403-2047

Dear Mr. Lyle,

I support the proposed clean up of Pit 9 at the Radioactive Waste Management Complex. Alternative 4, the preferred alternative, appears to be the best method for the clean up of Pit 9. Furthermore, I believe that 10 nanocuries per gram transuranics in soils and materials returned or left in the pit at the conclusion of the remedial action is protective of human health and the environment.

Sincerely,

W. D. Baker

12 November 1992

Mark A. Timm
625 Decoria Ave.
Rt #1 Box 80
Arco, ID. 83213

Mr. Jerry Lyle
Deputy Assistant Manger
Environmental Restoration Manager
DOE Idaho Field Office
P.O. Box 2047
Idaho Falls, Idaho 83403-2047

Dear Mr. Lyle,

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Sincerely,

M. A. Timm

12 November 1992

John E. George
203 Blattner Ln.
Arco, ID. 83213

Mr. Jerry Lyle
Deputy Assistant Manger
Environmental Restoration Manager
DOE Idaho Field Office
P.O. Box 2047
Idaho Falls, Idaho 83403-2047

Dear Mr. Lyle,

I support the proposed clean up of Pit 9 at the Radioactive Waste Management Complex. I consider Alternative 4, the preferred alternative, to be the best method for the clean up of Pit 9. Furthermore, I believe that 10 nanocuries per gram transuranics in soils and materials returned or left in the pit at the conclusion of the remedial action is protective of human health and the environment.

Sincerely,

J. E. George

12 November 1992

Steve E. Cannon
238 Temple ST.
Arco, ID. 83213

Mr. Jerry Lyle
Deputy Assistant Manger
Environmental Restoration Manager
DOE Idaho Field Office
P.O. Box 2047
Idaho Falls, Idaho 83403-2047

Dear Mr. Lyle,

I support the proposed clean up of Pit 9 at the Radioactive Waste Management Complex. Alternative 4, the preferred alternative, appears to be the best method for the clean up of Pit 9. Furthermore, I believe that 10 nanocuries per gram transuranics in soils and materials returned or left in the pit at the conclusion of the remedial action is protective of human health and the environment.

Sincerely,

S. E. Cannon

13 November 1992

Randall E. Giese
2397 Pinewood Dr.
Idaho Falls, ID. 83401

Mr. Jerry Lyle
Deputy Assistant Manger
Environmental Restoration Manager
DOE Idaho Field Office
P.O. Box 2047
Idaho Falls, Idaho 83403-2047

Dear Mr. Lyle,

I support the proposed clean up of Pit 9 at the Radioactive Waste Management Complex. I consider Alternative 4, the preferred alternative, to be the best method for the clean up of Pit 9. Furthermore, I believe that 10 nanocuries per gram transuranics in soils and materials returned or left in the pit at the conclusion of the remedial action is protective of human health and the environment.

Sincerely,

R. E. Giese

13 November 1992

Daniel J. Smith
1100 Bower Drive
Idaho Falls, ID. 83404

Mr. Jerry Lyle
Deputy Assistant Manger
Environmental Restoration Manager
DOE Idaho Field Office
P.O. Box 2047
Idaho Falls, Idaho 83403-2047

Dear Mr. Lyle,

I support the proposed clean up of Pit 9 at the Radioactive Waste Management Complex. I consider Alternative 4, the preferred alternative, to be the best method for the clean up of Pit 9. Furthermore, I believe that 10 nanocuries per gram transuranics in soils and materials returned or left in the pit at the conclusion of the remedial action is protective of human health and the environment.

Sincerely,

D. J. Smith

12 November 1992

Randall W. Bailey
635 W. Shelley
Idaho Falls ID. 83402

Mr. Jerry Lyle
Deputy Assistant Manger
Environmental Restoration Manager
DOE Idaho Field Office
P.O. Box 2047
Idaho Falls, Idaho 83403-2047

Dear Mr. Lyle,

I support the proposed clean up of Pit 9 at the Radioactive Waste Management Complex. Alternative 4, the preferred alternative, appears to be the best method for the clean up of Pit 9. Furthermore, I believe that 10 nanocuries per gram transuranics in soils and materials returned or left in the pit at the conclusion of the remedial action is protective of human health and the environment.

Sincerely,

R. W. Bailey

November 10, 1992

Comments of FOCUS on Peace and Justice
412 Hillcrest Rd.
Burley, Ida

Pit 9 Comments

As a grass-roots citizens organization, we have several concerns about the proposal for Pit 9. The DOE continues to under-state the geologic risks at the INEL. Recent earthquake activity has shown that. According to geologist Ed Williams, who mans the nearest seismograph at Ricks College in Rexburg, Eastern Idaho is second only to California in the number of earthquakes because of the thousands of underground cracks, or faults, beneath the region. Volcanic cones also exist on the INEL site. Silicic ash-flow sheets represent a sizable portion of the geologic history of the Snake River Plain and are characterized by the most violent eruption histories. INEL is in the middle of the Snake River Plain. It does not take a genius to see that this is not a good place to bury radioactive or hazardous waste.

We feel the plan to return even the remaining 10% of waste retrieved from Pit 9 is unacceptable. Cleanup methods which only refer to disposing of waste in a controlled area with no other explanation of where or what methodology will be used is a bogus assertion. No radioactive or chemical waste should be returned to the ground over a sole source aquifer. This type of proposed inadequacy is the very root of the problem which brings us to this cleanup process in the first place. If this is what you plan to do, then clearly the misguided waste management of previous operations has not changed and any pretense of a "new culture" in DOE is mere window dressing. No longer will the people of this state stand for the out-of-sight-out-of-mind mentality. We want it out where the waste can be monitored. A monument to our greed and reluctance to find real solutions to the nuclear nightmare we have created.

Sincerely,

Carolyn Hondo

Carolyn Hondo
Chairperson,
FOCUS on Peace and Justice

12 November 1992

Carey K. Boyd
343 N. Water Ave.
Idaho Falls ID. 83402

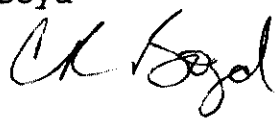
Mr. Jerry Lyle
Deputy Assistant Manger
Environmental Restoration Manager
DOE Idaho Field Office
P.O. Box 2047
Idaho Falls, Idaho 83403-2047

Dear Mr. Lyle,

I support the proposed clean up of Pit 9 at the Radioactive Waste Management Complex. Alternative 4, the preferred alternative, appears to be the best method for the clean up of Pit 9. Furthermore, I believe that 10 nanocuries per gram transuranics in soils and materials returned or left in the pit at the conclusion of the remedial action is protective of human health and the environment.

Sincerely,

C. K. Boyd



November 20, 1992

Roger Turner
307 N. Buchanan
Pocatello, Idaho 83204

Mr. Jerry Lyle
Deputy Assistant Manager
Environmental Restoration
and Waste Management
DOE Idaho Field Office
P.O. Box 2047
Idaho Falls, Idaho 83403-2047

SUBJECT: COMMENTS ON PIT-9

Dear Mr. Lyle:

Thank-you for this opportunity to comment on the revised Pit 9 clean-up.

Issue - Risk of Exposure by Air Pathway, and Interim Action Track

On January 9, 1992 at the public meeting on Pit 9 in Idaho Falls, a strong case for the need to clean up pit 9 was presented by Jim Wade. The presenters, as well as the hand-out, claimed such a high risk that it justified an Interim Action; a short-cut to the RI/FS. The Transcript of the presentation by Jim Wade (p.8-9) indicate that 18 kilograms of uncontained americium and plutonium are present in Pit-9, that it has a long half-life (thousands of years), and that there are forces which could bring these substances to the surface, and through the air pathway lead to an exposure problem. And on page 9 Wade states:

> "Once it gets to the surface, then dust or wind or workers in the area could then cause it to be an inhalation problem, and it could also lead it to be an exposure problem.
>
> And those are two primary risks identified in a Preliminary Risk Evaluation, which has led us into this Interim Action.

What are we trying to accomplish? What are our project objectives? We want to implement an Interim Action, which is also going to be - which is going to be an effective solution, but also lead us toward a final action."

On page 26 of the Preliminary Risk Evaluation For Pit 9 (EGG-WM- 9938), which is the ONLY document on risk evaluation in the repository, the carcinogenic risk was placed at 3.78E-01, whereas the acceptable NCP risk is from 1,000 to 100,000 times LESS than this amount! Thus, for this public hearing the DOE used the risk of 1 in 4 death by cancer as justification for an Interim Action. Then, on November 5, 1992, at a public hearing in Pocatello the DOE said that this risk evaluation was wrong. Yet the above referenced document was not amended, or replaced. Thus, a comprehensive 50 page document of research on risk evaluation; one that included uncertainty analyses, toxicity assessments, etc., was thrown out by DOE in two sentences of a revised pit-9 hand-out. No re-evaluation of the risks were given to the public. Please provide a reason for withholding the revised calculations on risk evaluation from the public, in the Responsiveness Summary, and please describe how distorted the original risk evaluation was, and where the error was in the original one.

Secondarily, since the DOE justified the Interim Action route by the original risk evaluation, and then apparently threw it out because it was too high; they owe the public (and regulators) an explanation as to the reason that an Interim Action is presently justified. Please provide in the Response, a reason for continuing the Interim Action route, when the risk driving it was thrown out. Please provide in the Response how DOE justifies this failure to inform the public the NEW reason for the Interim Action track. I believe a new round of hearings is necessary to allow the public an opportunity to comment on the Interim Action route (but not before the new and revised Risk Evaluation is completed and placed in the administrative Record).

Risk Calculations and SDA Inventories

I am concerned that the risk calculations, particularly source terms, have not been rigorously evaluated to provide a useful baseline upon which to plan an effective permanent remedy. In a recent DOE public relations brochure, DOE indicated that the pit contained only 20.65 kg of transuranic nuclides.[1]

This estimate appears to be based on a preliminary risk estimate prepared in 1991 that

---

[1] 20 kg of plutonium and 0.65 kg of americium. DOE, "INEL Reporter", November 1992, p. 2

estimated that approximately 19 kg of plutonium was in Pit 9.[2] Another DOE estimate of the plutonium inventory in the Subsurface Disposal Area (SDA) as a whole, however, estimated that there were approximately 381.3 kg of "transuranic nuclides", which would include neptunium, plutonium and americium.[3] No breakdown of the inventory in the various pits of the SDA is provided, although Pit 9 was generally considered to contain the largest waste and plutonium inventory in the SDA. Clearly, there is some confusion in DOE about the plutonium inventory in Pit 9.

DOE should invest in more precisely assessing the plutonium inventory in Pit 9 and other SDA areas for two reasons. First, plutonium is the contaminant that primarily drives the risk from the SDA pits. As the "criterion contaminant" the remedy can only be designed properly based on the best possible estimate of the plutonium inventory. Second, even if an iterative cleanup approach is adopted that develops remedial options based upon ongoing investigations, worker health and safety could be jeopardized by beginning investigations or preliminary remedies without an adequate determination of plutonium inventory.

Moreover, the risk evaluation does not refer to the presence of any classified materials being used for determining the source term for the risk calculation. If this lack of a reference to classified material disposal is intended to suggest that no such material was disposed of in Pit 9 or other SDA areas, then DOE is obligated to explicitly state this determination. If classified material was disposed of in Pit 9, then DOE should undertake a rigorous examination of all classified material and its effect on the SDA cleanup, and publish that analysis in a classified appendix. To do otherwise could jeopardize the effectiveness of the remedy and potentially harm remedial action workers at the site.

For example, material buried in the SDA, including Pit 9, included various scrap machinery and other components from the Rocky Flats Plants, which fabricated plutonium parts and chemically processed plutonium scraps and residues. Some of these components, such as reactors vessels (including titanium vessels) were contaminated with plutonium.

---

[2] McLellan, Y., et al., "Preliminary Risk Evaluation for Pit 9", EGG-WM-9938, November 1991, Rev. 0, p.5.

[3] Knight, J.L. and D.A. Arrenholz, "A Brief Analysis and Description of Transuranic Wastes in the Subsurface disposal Area of the Radioactive Waste Management Complex at INEL", EGG-WTD-9438. Rev 1., p 23.

The capabilities and standard practices for assaying plutonium contamination in these vessels and other components has changed over the years, since operations first began in the 1950s. If analytical practices evolved to enable greater plutonium assay sensitivity, then DOE (then AEC) would have not been aware of the amount of plutonium residuals remaining inside reactor vessels and other components when they were disposed of at INEL. Further, it is unlikely that DOE (or AEC) would have retroactively sought to impose the same threshold for disposal of plutonium contaminated components - e.g., the Economic Discard Limits (EDL). Even if the same EDL was used, it might not have been considered practicable, to retrieve already buried plutonium contaminated materials that were later believe to have plutonium residuals in excess of the EDL. DOE has an affirmative obligation to investigate any such scenarios for disposal of materials that might be considered classified, and to use that information for planning the cleanup and protecting workers.

DOE Violates Regulations

The DOE violated the Federal Facility Agreement, Action Plan; under Section 5.0 Data Quality Objectives And Risk Assessment, (p.33). Under the rules of this Section, risk assessment development must be at least as stringent in documentation as those required under CERCLA and the NCP. This is specific for Track 2, where an Interim Action track is under consideration.

These supplemental requirements include:

> Determine the level of acceptable risk for the OU. This is defined in the NCP as in the range of 10^{-4} to 10^{-6} for individual lifetime cancer risk. For non-carcinogens, a hazard index of less than 1 represents acceptable risk.
>
> Evaluate attenuation/dilution effects expected between the source and postulated receptor.
>
> Develop rough estimates on risk drivers by evaluating the concentration and toxicity (C_iT_i) for hazardous substances present (where T_i=slope factor for the inverse dose [1/RfD].

The DOE violated this section of the FFA-CO by throwing out the Risk Evaluation and not replacing it with an accurate one following these guidelines.

The State of Idaho, and EPA should immediately require a work shut-down of Pit-9, until such times as the requirements on Risk Evaluation, and its relationship with it driving the Interim Action status are completed and available to the public. How can the public submit comments on these issues when they are not available?

DOE Violates the National Contingency Plan, Interim Action Track

Under the Federal Register (FR, Vol 55, N0. 46, pages 8705-8706), on the final rule for the National Contingency Plan (NCP) requirement for interim action it lists the conditions which must be met:

- ..to eliminate, reduce or control the hazards posed by a site or to expedite the completion of total site cleanup,

- ..action is necessary to stabilize the site, prevent further degradation, or achieve significant risk reduction quickly,

- ..to prevent exposure or control risks posed by a site.

There is nothing in the administrative record to support the unsubstantiated claim by DOE in the Summary of Site Risks, section of the Oct. '92 public handout, that the risk evaluation in the administrative record were inaccurate. To be in compliance with NCP an accurate risk evaluation MUST be in the administrative record.

Also, an interim action may be used only to expedite total site cleanup. In actuality, risk-based remediation levels have not been established which will ensure that the interim action is the final remedy.

DOE Violation With Respect to NCP, and Lack of Administrative Record

The above referenced final rule of the NCP states that for an interim action to be advanced: "supporting data, including risk focused RI/FS" ... except..."in cases where the relevant data can be summarized briefly and the alternatives are few and straightforward." There is a blaring void in documenting that the preferred alternative is straightforward. The appropriate information is not even available in the administrative record! And the alternatives under review are hardly straightforward... In fact, they include some of the most bizarre, untested scenarios one could ever imagine, including the preferred alternative. Therefore, either a normal track for RI/FS must be taken or a new round of hearings, where the above NCP conditions are met **prior** to continuing the cleanup activities, must be carried out.

It was stated in the Jan. '92 hearing that a new risk assessment is being undertaken that includes transport to the aquifer. This document either was not generated yet, or was not made available to the public. Risks associated with returning waste back to Pit 9, *after* treatment should be included in the available public documents before awarding contracts, yet this was not done.

Public Participation and NEPA Violations

The Pit-9, process, whereby the decision was made to enter the Interim Action track, and whereby soliciting an RFP on a specific alternative, without first taking public comment on an alternative selection violates Section XXIV. Public Participation of the FFA-CO. It violates public requirements under CERCLA, violates the EPA guidance on public participation and administrative records. It violates the draft Community Relations Plan (when will the CRP ever go final?), and it violates NEPA because no NEPA review has been undertaken for PIT-9 activities. Request For Proposals, and contracts should not be solicited or awarded until the NEPA process has been carried out. What good will NEPA review be after-the-fact?? What other process will be used to determine whether there is a *net benefit* from the proposed alternative?? Therefore, the State of Idaho, and EPA should request a work shut down, and stop the contract process and RFP process, until these pubic participation goals have been brought under compliance.

DOE Violation of NCP

As if the above violations were not enough, the administrative record for the Interim Action is incomplete, and is in violation of the National Contingency Plan (NCP): 300.800 (a), the administrative record "contains the documents that form the basis of a responsive action." In this case, the baseline risk assessment which forms the basis for establishing clean-up levels, as well as one which demonstrates the need for the Interim Action, and one to accompany or support the statement made in the recent public hand-out, that the original risk assessment was in error, are all missing in the administrative record. Also, the cost analyses that includes the recent award to the two contractors, is not presented in any comprehensive way in the administrative record.

Activity in Advance of Public Comment

The original practice by DOE to solicit a request for proposal (RFP) for Pit-9, on an alternative 4 track, but before the opportunity for public comment on the alternatives is so contrary to any of the public participation requirements, its absurd.

Nowhere is the real goal of DOE in the public process more clearly obvious, than after this fiasco.... That is, DOE is plainly doing exactly what it wants to do, outside of all appropriate regulations, and then running the public comment process after-the-fact. Please explain in the Response Summary how the lack of opportunity for commenting on the Pit 9 Request For Proposals (RFP) adheres to the NCP, and the Federal Facility Agreement (FFA-CO).

Alternative Category and Contract awards

The two contracts that are being funded for remediation of simulated Pit-9 materials are both considered as Alternative 4, yet these are at least as different from each other, as they are from the other alternatives! Here again, it looks like DOE grouped these two contracts under the category of "Alternative 4", even though they are radically different methods, particularly considering the thermal processes involved. This makes it convenient to DOE to award these two contracts under one alternative, but the act of combining these two processes is technically arbitrary.

To make matters worse, these two contracts do not follow the appropriate regulations under CERCLA, NCP, or the FFA-CO. There is no provision in CERCLA for off-site research and development contracts, which is the correct title for these two funded contracts. Therefore, the DOE should stop the progress of this Interim Action, until such times as they can demonstrate compliance with the rules for clean-up.
(This is not to say that the proposed research and development should not proceed, for in fact it seems like a good project, but it is premature to consider these actions as CERCLA/FFA-CO activities.) These contracts are not appropriate under CERCLA. They are not even using the same radionuclide contaminants, they are not assured of the same soils or the mixture of non-radionuclide compounds. Therefore, the proposed contracts ARE NOT sufficiently related to PIT-9 to justify them as a CERCLA-based activity. This should not be folded into the CERCLA process until real field tests have been completed using the actual material to be remediated.

Please provide in the Response, a specific evaluation of the justification of: (1) grouping the two contracts into one alternative, touching on the difference in their technology; and (2) the justification of allowing these contracts to be categorized as Interim Action/CERCLA activities considering their research orientation, and their distinct use of non-PIT-9 materials.

Summary Comments

The Principal Parties to the INEL cleanup met for a year or two in secret meetings, developing the Federal Facility Agreement and Consent Order (FFA-CO), and then had one (token) public comment period, where scores of excellent comments were submitted, but which resulted in no changes to this Agreement. Now, unbelievably, after ignoring the citizens of Idaho in *developing* the FFA-CO, the DOE still doesn't *follow* the Agreement, nor does it follow the CERCLA regulations or the National Contingency Plan.

The processes followed by DOE, on the Pit-9 cleanup is a trail of errors and mis-starts that has confused the public, and have not followed regulations: Risk Evaluations that vacillate by an order of 4 to 6 zeros, depending on which staff-person presents it, and which DOE document you have; Request For Proposals (RFPs) sent out for award, that are specific to an alternative, before comments have been received by the public on the alternative selection; major documents missing in the administrative record, contrary to the FFA-CO, CERCLA, and the NCP; selecting an Interim Action cleanup track, without following FFA-CO, or NCP guidelines, or allowing public comment on this track; grouping two alternatives into one, for convenience, without any technical justification for doing so; NEPA laws not followed; and more recently, selecting an alternative, awarding two contracts on it, prior to receiving public comment on alternative choices.

Clearly the DOE wants to cleanup PIT 9 as fast as possible, but they are proceeding in such a disjointed fashion, without any conformance to the appropriate regulations, that they are doing an ill-service to Idaho by continuing. Their procedures may result in an inadequate cleanup, that ironically may take longer than if they followed the normal RI/FS track. Therefore, the DOE should immediately stop the contracts they have put in motion, until they can conform to the requirements of an Interim Action, or proceed with the regular RI/FS track. In either case, the public should not simply be informed, after-the-fact, as has happened so far with this PIT 9 work.

Thank-you, and I appreciated the public hearing provided in Pocatello.

Sincerely,

Roger Turner

Roger Turner

Pit 9 Interim Action

Written Comment Sheet

The comment period on the ***Revised Proposed Plan for a Cleanup of Pit 9 at the Radioactive Waste Management Complex*** will run until November 21, 1992. You may wish to use this form to submit written comments tonight, or fold, tape and place in the mail and it will be returned via Business Reply Mail to: Jerry Lyle, Deputy Assistant Manager, Environmental Restoration and Waste Management, DOE Idaho Field Office in Idaho Falls.

Comment(s):

I would really prefer to see you find an alternative to the thermal treatment process of alternative #4, if it is to be used. Could you not acheive an acceptable volume reduction of the materials without it? Also, I am curious of what becomes of the surfactant solution after removal of the organics.

At the Moscow public meeting on 11-10-92, we were informed by the representative from the Dept. of Health and Welfare that to use alternative #5 (complete removal, off-site storage) would be illegal due to the unique combination of contaminants. Why, then, is it even at all being considered? I suspect that he was trying to mislead me and the others present to disregard it as a viable alternative, since he always quickly spoke out against it every time the alternative was mentioned. I would like some clarification on that, please. Alternative #5 is my "preferred alternative," but if #4 is to be the one employed, you must remain completely open to halting operations if its feasibility should suddenly diminish due to unknowns. Should clean-up of pit #9 be completed with alternative #4, the method must nevertheless be completely re-evaluated before further attempted use, to take into account reduced feasibility and new technology or information. Thank you.

Name: Ken Nagy

Mailing Address: 508 West First St. Moscow, ID. 83843

November 25, 1992

Mr. Jerry Lyle
Deputy Assistant Manager
Environmental Restoration Manager
D.O.E. Idaho Field Office
P.O. Box 2047
Idaho Falls, Idaho 83403-2047

Dear Mr. Lyle:

I support Alternative 4 for the Pit 9 clean-up. I believe that 10 nanocuries per gram transuranics in soils and materials being returned to the pit is protective of human health and environment.

Sincerely,

William A. Kohn
16821 Levan Rd.
Livonia, Michigan 48154

DIANE M. KOHN
7320 NIGHTINGALE DR. #8
HOLLAND, OH 43528

November 25, 1992

Mr. Jerry Lyle
Deputy Assistant Manager
Environmental Restoration Manager
D.O.E. Idaho Field Office
P.O. Box 2047
Idaho Falls, Idaho 83403-2047

Dear Mr. Lyle:

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Sincerely,

Diane M. Kohn

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Pit 9 Interim Action

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Comment(s):

My biggest problem with the proposed clean up is the amount of money being spent and the real need for spending it. The threat to the health of the public now or in the future is so small as to be nonexistant. The probabilities of death or injury are so small that it takes a good imagination (which seems available) to picture an injury. Please compare the dangers involved with these of Agriculture - Forests management, Tourism Railroading - etc. Give some actual loss figures.

Name: C. D. Wood

Mailing Address: 1680 N. Mink Creek Road
Pocatello, Idaho
83204

November 25, 1992

Mr. Jerry Lyle
Deputy Assistant Manager
Environmental Restoration Manager
D.O.E. Idaho Field Office
P.O. Box 2047
Idaho Falls, Idaho 83403-2047

Dear Mr. Lyle:

I support Alternative 4 for the Pit 9 clean-up. I believe that 10 nanocuries per gram transuranics in soils and materials being returned to the pit is protective of human health and environment.

Sincerely,

Margaret R. Kohn
16821 Levan
Livonia, MI 48154