THE CONTENTS OF THIS DOCUMENT ARE THE HIGHEST QUALITY AVAILABLE.

INITIAL B46 DATE 04/05/94
I. SUMMARY - PHYSICAL DESCRIPTION OF THE SITE:

Unit 54 is the location of the blowdown discharge pit for the original heating boiler installation at S1W. This area was located between the S1W main building (building 601) and Butler Building (BB) 7, north of the northwest corner of S1W. Two boilers in the northwest room of S1W (currently utilized as the radiax range) were used beginning in approximately 1950 to supply steam heat to S1W and possibly to the Plant Services building (602) and the Administration building (603). A boiler facility was installed in building 602 at some time in the mid 1950's, and these two locations supplied site steam heat until the activation of the site heating boiler facility (building 620) in 1958. The boilers and piping were subsequently removed from the room at S1W.

The pit was approximately 10' x 10' x 10'. It had reinforced concrete walls, a dirt floor, and was accessed through a hatch in the cover plate. It is not known what piping connections existed. The current condition of the pit is not known. The area has been covered with grass for many years.
DECISION RECOMMENDATION

II. SUMMARY - QUALITATIVE ASSESSMENT OF RISK:

The overall qualitative risk assessment for unit 54 is low. This is based on historical process data, interviews, aerial photographs, and area inspection. No further action is required in this area.

III. SUMMARY - CONSEQUENCES OF ERROR:

There is no indication that hazardous material was ever present in this area. If an incorrect decision is made to perform no action, and the site actually contained undetected constituents, they could possibly migrate vertically to the aquifer. Wrongly making the decision to remediate this area would result in the unnecessary expenditure of resources that could be used for other higher priority areas at NRF.

IV. SUMMARY - OTHER DECISION DRIVERS:

No other decision drivers are apparent.

RECOMMENDED ACTION:

Based on the results of the above assessment, Unit 54 should be classified as requiring "no action". The information gathered is reliable, and the level of risk is low. Remediation at this site would divert funding from areas which present a higher risk.
NO FURTHER ACTION DETERMINATION

The U.S. Department of Energy, the U.S. Environmental Protection Agency-Region 10, and the State of Idaho have completed a review of the referenced information for Waste Area Group 8-02 Unit 54 hazardous site, as it pertains to the INEL Federal Facility Agreement. Based on this review, the Parties have determined that no further action for purposes of investigation or study is justified. This decision is subject to review at the time of issuance of the Record of Decision.

References:

DOE Project Manager  

EPA Project Manager  

Idaho Project Manager  

Date

Date

Date
<table>
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<tr>
<th>Date recd:</th>
<th>9/24/93</th>
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<tbody>
<tr>
<td>Disposition:</td>
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<tr>
<td>In the Old Boilehouse Blowdown Pit, there is no evidence that hazardous substances are present. No further action is recommended.</td>
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<td>9/24/93</td>
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<td>Name:</td>
<td>R. Dary E. Newby</td>
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<td>Signature:</td>
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</table>
Date recd: 9/24/93  

Disposition:

Old boiler blow down pit 10 x 10 x 10. The boiler used domestic water. Although quantity is unknown, no hazardous substances or rust preventives were used in water. No further action is recommended.
**DECISION STATEMENT**

by STATE RPM

| Date rec'd: 9/24/93 | OU 8-02 NRF-54 |

**Disposition:**

This site is a boiler blow down pit. There is no evidence based on the process that hazardous substances are present.

DOH recommends no further action.

<p>| DATE: 9/23/93 | # PAGES (DECISION STATEMENT): |
| NAME: Dean Nygaard | SIGNATURE: Dean Nygaard |</p>
<table>
<thead>
<tr>
<th>Col 1</th>
<th>Col 2</th>
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<tr>
<td>Processes Associated with this Site</td>
<td>Waste Description &amp; Handling Process</td>
<td>Description and Location of any Artifacts/Structure/Disposal Areas Associated with the Waste or Process</td>
</tr>
</tbody>
</table>
| Blowdown of steam heating boilers | Domestic water | Artifact: A 10' x 10' area south of 887 with sparse grass  
Location: North of northwest corner of S1W  
Description: Fill dirt and thin grass |
| Artifact Location | Artifact Description | Artifact Location | Artifact Description | Artifact Location | Artifact Description | Artifact Location | Artifact Description | Artifact Location | Artifact Description | Artifact Location | Artifact Description | Artifact Location | Artifact Description | Artifact Location | Artifact Description | Artifact Location | Artifact Description | Artifact Location | Artifact Description | Artifact Location | Artifact Description |


## CONTAMINANT WORKSHEET

### SITE ID Unit 54

**PROCESS (Col 1):** Steam heating boiler blowdown  
**WASTE (Col 2):** None

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- **Col 4:** What known/potential hazardous substances/constituents are associated with this waste or process?
- **Col 5:** Potential source associated with the hazardous material
- **Col 6:** Known/estimated concentration of hazardous substances/constituents
- **Col 7:** Risk based concentration (mg/l)
- **Col 8:** Qualitative risk assessment
- **Col 9:** Overall reliability
  - Hi/Med/Low
### QUALITATIVE RISK AND RELIABILITY EVALUATION TABLE

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<tr>
<td>High</td>
<td>Concentration resulting in risk &gt; $10^5$</td>
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</table>

If sufficient data exist to identify an appropriate remedy.
Question 1. What are the waste generation process locations and dates of operation associated with this site?

Block 1 Answer:

Unit 54 was the site of a steam heating boiler blowdown pit north of the northwest corner of S1W. Two boilers in the northwest room of S1W (currently utilized as the radiac range) were used beginning in approximately 1950 to supply steam heat to S1W and possibly to the Plant Services building (602) and the Administration building (603). Raw water from the two original deep wells was processed at the water treatment facility at building 602, and was transferred to S1W as domestic water. A boiler facility was installed in building 602 at some time in the mid 1950's, and these two locations supplied site steam heat until the activation of the site heating boiler facility (building 620) in 1958. The boilers and piping were subsequently removed from the room at S1W.

The pit was approximately 10' x 10' x 10'. It was lined with reinforced concrete, and accessed through a hatch in the cover plate. It is not known what piping connections existed. The current condition of the pit is not known. The area has been covered with grass for many years.

Block 2 How reliable is/are the information source/s? _x_ High _Med _Low (check one)
Explain the reasoning behind this evaluation.

This information is based on historical process knowledge and interviews with past and current employees.

Block 3 Has this INFORMATION been confirmed? _x_ Yes _No (check one)
If so, describe the confirmation.

This information is confirmed by drawings.

Block 4 Sources of Information:

(check appropriate box/es & number source/s)

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<th>D&amp;D report</th>
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Question 2. What are the disposal process locations and dates of operation associated with this site?

Block 1 Answer:

The blowdown pit received water from the two S1W heating boilers, which were located in the northwest corner of S1W, from about 1950 until about 1958. These boilers used domestic water supplied by the water treatment facility in building 602. Blowdowns were performed as preventive maintenance to minimize scale buildup in the heating system. The volume and frequency of these events is not known.

Block 2 How reliable is/are the information source/s? _High _Med _Low (check one)

Explain the reasoning behind this evaluation.

This information is historical process data.

Block 3 Has this INFORMATION been confirmed? _Yes _No (check one)

If so, describe the confirmation.

Drawings and interviews with employees confirm this data.

Block 4 Sources of Information: (check appropriate box/es & number source/s)

- No available information
- Anecdotal
- Historical process data
- Current process data
- Artic photographs
- Engineering/site drawings
- Unusual Occurrence Report
- Summary documents
- Facility SOPs
- Other

- Analytical data
- Documentation about data
- Disposal data
- Q. A. data
- Safety analysis report
- D&B report
- Initial assessment
- Well data
- Construction data
Question 3. Is there evidence that a source exists at this site? If so, list the sources and describe the evidence.

Block 1 Answer:

There is no evidence that a source exists at this site. The water discharged to the pit was water from the steam heating system. The S1W boilers utilized domestic water supplied by the water treatment facility in building 602. No hazardous constituents were present in the water.

Block 2 How reliable is/are the information source/s?  x High  _ Med  __ Low  (check one)
Explain the reasoning behind this evaluation.

This information is from historical process data and visual inspection.

Block 3 Has this INFORMATION been confirmed?  x Yes  _ No  (check one)
If so, describe the confirmation.

This information is confirmed by drawings and interviews with past and current employees.

Block 4 Sources of Information:

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Question 4. Is there empirical, circumstantial, or other evidence of migration? If so, what is it?

Block 1 Answer:

There is no evidence of migration or a source at this location. The water discharged to the pit was water from the steam heating system. The S1W boilers utilized domestic water supplied by the water treatment facility in building 602. No hazardous constituents were present in the water.

Block 2 How reliable is/are the information source/s?  x High  _ Med  _ Low (check one)

Explain the reasoning behind this evaluation.

This information is from historical process data and visual inspection.

Block 3 Has this INFORMATION been confirmed?  x Yes  _ No (check one)

If so, describe the confirmation.

Drawings and interviews with past and present employees confirms this information.

Block 4 Sources of Information:

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Question 5. Does site operating or disposal historical information allow estimation of the pattern of potential contamination? If the pattern is expected to be a scattering of hot spots, what is the expected minimum size of a significant hot spot?

Block 1 Answer:

There is no evidence that any hazardous material or waste was disposed of in this area. Consequently, there is no pattern of potential contamination. Historical information indicates that boiler water was discharged to the blowdown pit. The S1W boilers used domestic water supplied by the water treatment facility in building 602. No hazardous constituents were present in the water.

Block 2 How reliable is/are the information source/s? _x High _Med _Low (check one)
Explain the reasoning behind this evaluation.

This information was obtained from system design, drawings, and interviews with current and previous employees.

Block 3 Has this INFORMATION been confirmed? _x Yes _No (check one)
If so, describe the confirmation.
Physical inspection confirms this evaluation.

Block 4 Sources of Information:
(check appropriate boxes & number source/s)

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Question 6. Estimate the length, width, and depth of the contaminated region. What is the known or estimated volume of the source? If this is an estimated volume, explain carefully how the estimate was derived.

Block 1 Answer:

The volume of the contaminated region is zero because there is no source. The water discharged to the pit was water from the steam heating system. The S1W boilers utilized domestic water supplied by the water treatment facility in building 602. No hazardous constituents were present in the water.

Block 2 How reliable is/are the information source/s?  x High _ Med _ Low  (check one)

Explain the reasoning behind this evaluation.

This information was obtained from system design, drawings, and interviews with current and previous employees.

Block 3 Has this INFORMATION been confirmed?  x Yes _ No  (check one)

If so, describe the confirmation.

Physical inspection confirms this evaluation.

Block 4 Sources of Information:

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Question 7. What is the known or estimated quantity of hazardous substance/constituent at this source? If the quantity is an estimate, explain carefully how the estimate was derived.

Block 1 Answer:

There is no evidence that any hazardous material or waste was disposed of in this area. Consequently, there is no pattern of potential contamination. Historical information indicates that boiler water was discharged to the blowdown pit. The S1W boilers used domestic water supplied by the water treatment facility in building 602. No hazardous constituents were present in the water.

Block 2 How reliable is/are the information source/s?  x High  _Med  _Low  (check one)

Explain the reasoning behind this evaluation.

This information was obtained from system design, drawings, and interviews with current and previous employees.

Block 3 Has this INFORMATION been confirmed?  x Yes  _No  (check one)

If so, describe the confirmation.

Physical inspection confirms this evaluation.

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Question 8. Is there evidence that this hazardous substance/constituent is present at the source as it exists today? If so, describe the evidence.

Block 1 Answer:

There is no evidence that any hazardous material or waste was disposed of in this area. Consequently, there is no pattern of potential contamination. Historical information indicates that boiler water was discharged to the blowdown pit. The S1W boilers used domestic water supplied by the water treatment facility in building 602. No hazardous constituents were present in the water.

Block 2 How reliable is/are the information source/s?  _x_High  _Med  _Low  (check one)  
Explain the reasoning behind this evaluation.

This information was obtained from system design, drawings, and interviews with current and previous employees.

Block 3 Has this INFORMATION been confirmed?  _x_Yes  _No  (check one)  
If so, describe the confirmation.

Physical inspection confirms this evaluation.

Block 4 Sources of Information:

(check appropriate box/es & number source/s)

- No available information  [ ]
- Anecdotal  [ ]
- Historical process data  [x] 2
- Current process data  [ ]
- Areal photographs  [x] 3, 4
- Engineering/drawings  [x] 3, 4
- Unusual Occurrence Report  [ ]
- Summary documents  [ ]
- Facility SOPs  [ ]
- Other  [x] 1
- Analytical data  [ ]
- Documentation about data  [ ]
- Disposal data  [ ]
- Q. A. data  [ ]
- Safety analysis report  [ ]
- D&A report  [ ]
- Initial assessment  [ ]
- Wall data  [ ]
- Construction data  [ ]
REFERENCES


2. Environmental Remediation field log book number 07 (ER FLB 07) low priority areas, pp. 14 - 16.

3. Rust Drawings 6062-O-A1, Yard and Outside Plot Plan 6062-1-P14, Main Building Boiler Room 6062-2-P4, Service Building Water Condition System

4. Westinghouse Electric Corporation Drawings 907E022, Blowdown Tank Pit Details 908E424, NRF Disposal Sites
On Thursday June 27, 1991 a meeting was held at the Little Tree Inn in Idaho Falls. The purpose of the meeting was to collect information about waste disposal sites listed in the Interagency Agreement (IAG) as Track 1 and Track 2 units. The types of information needed for the IAG includes: types of waste deposited, quantity of wastes deposited, date deposited, and location deposited.

Twenty retired employees were selected by R. R. Shelton, L. R. Howe, and L. W. Rossiter from a list of retired personnel supplied by the Naval Reactors Facility (NRF) Human Resource department. These retired employees were chosen because they once held positions at NRF that provided them with information relative to waste disposal practices. Of the twenty retirees who were asked to attend the meeting, twelve attended. The retired employees who attended were B. K. Bradshaw, J. L. Braswell, D. J. Burgener, L. J. Cooper, Doe Hendricks, A. L. Jorgensen, G. I. Maxie, D. D. Randall, Verl Randall, Leo Romer, Paul Swarin, and Dean Wilkie.

The meeting was conducted by four current NRF employees and one Idaho Branch Office (IBO) employee. The NRF employees are R. W. Nieslanik, manager of Environmental Remediation (ER); S. D. Lee, Engineer ER; K. D. Willie, Scientist ER; and R. R. Shelton, Engineer Refueling. Mr. Shelton was present because he has been at NRF since 1965 and has known and or interviewed most of the retirees while working for Environmental Controls. Mr. Cullison the Environmental Controls officer of the Idaho Branch Office, also attended. Mr. Cullison was asked to attend so the retired employees would feel more comfortable about talking about waste disposal practices in the past (ie if IBO is present it must be O.K. to talk).

Mr. Nieslanik started the meeting by welcoming the retired employees and introduced Mr. Cullison, Mr. Lee, Mr. Willie, and Mr. Shelton. Mr. Nieslanik then explained that the purpose of the meeting is to gather information on sites that are identified as Track 1 and Track 2 sites under the IAG. Mr. Nieslanik then explained that the information needed about the sites includes; type of wastes dumped, origin, quantity, and date deposited. Mr. Nieslanik explained that this meeting is not a "witch hunt" to find the responsible party who actually dumped the waste but an informal fact finding mission to find the
Mr. Nieslanik then explained that because the cleanup of old dump sites at NRF is such an important topic the NRF boundary lines have been extended to encompass the Industrial Waste Ditch (IWD) formerly known as the ten mile ditch, and various other sites located close to the old NRF boundaries. Mr. Nieslanik and Mr. Cullison also discussed the four classifications of a hazardous waste and gave examples of each that could be found in the Track 1 and Track 2 sites. The hazardous wastes classifications are: reactive, corrosive, ignitable, and toxic. A large site map with NRF's 68 identified IAG sites was displayed while Mr. Nieslanik explained that the colors represented different Operable Units.

The format for the meeting was to review slides of each site and then correlate the location of the slide to the NRF site map. Then the known information on the site was explained and the retirees were encouraged to recall what wastes were dumped, quantity dumped, origin of waste, and when the wastes were dumped to the best of their recollection. The names of the employees who answered the questions about a particular site was not recorded, but the retirees consensus answer was scribed for future reference. This was done to make the retirees feel more at ease in discussing the waste disposal practices of the past.

The slides were grouped by IAG units and shown in numerical order (SWMU number) for each unit. The first unit discussed was Operable Unit D1 - Construction Rubble Areas. Information gathered during the discussion is documented below.

**SWMU 6 Southeast Landfill**

None of the retirees at the meeting were involved in any disposal of wastes associated with this area. But the retirees did say that during the construction of SIW, construction rubble was dumped by the contractors at a convenient location. This means the wastes (concrete, pipe, wire, rebar, and wood) would be dumped to the north, south, and east of SIM. SWMU 6 is located southeast of SIW and does contain various types of construction of rubble that would have been used during SIW construction.

**SWMU 8 North Landfill**

SWMU 8 is located north of NRF and west of the expanded sewage lagoons. SWMU 8 contains construction debris that are buried and or partially buried. Part of SWMU 8 exists above the natural ground elevation and this can be explained by the disturbance of the soil during the sewage lagoon expansion of 1972. The retirees did not remember any wastes being disposed at this location. But, they did say that during the construction of SIW, the concrete that did not meet the 28 day compression strength would be removed. This concrete would be hauled away from the site either to the north, south, or east of SIW and disposed in a convenient location in the desert. The common construction wastes include; rebar, concrete, pipe, wire, and wood.

If these wastes were disposed north of the current NRF fence location they would have been deposited in either SWMU 3, SWMU 8, SWMU 35, or SWMU 36. If the wastes were deposited east of the fence the wastes would be in SWMU 7 or SWMU 41. So far only SWMU 3 and 7 Summary Assessment Reports have been completed and approved by regulators under the COCA.

The retirees also mentioned that they thought that during the construction of the enlarged sewage lagoons the debris was pushed out of the way by a bulldozer. After comparing photos of the shape of the north landfill and location of the lagoons it appears that the construction rubble wastes
could have been relocated by a dozer during the sewage lagoon expansion. Further investigations will be conducted in reviewing old photographs of the site before and after the sewage lagoon expansion.

SWMU 33 South Landfill
Of those retirees who attended the meeting no one could remember ever disposing of wastes at this location. The consensus was that the area was used as a staging area for contractors during the construction of SSG and the SSG cooling tower. It is suspected that the contractors working on SSG deposited the construction rubble from operations like cleaning out pickups, lumber trucks, concrete trucks, and disposal of concrete that did not meet the specifications. It is suspected that the wastes were dumped between 1960 and 1965. During this time it was a common practice to dispose of construction debris at a convenient location.

SWMU 40 Lagoon Construction Rubble
None of the retirees could remember any wastes being disposed of at this location. SWMU 40 is located just west of the north sewage lagoon and contains no visible debris other than disturbed soil. The soil is suspected of being removed during the 1972 sewage lagoon expansion.

SWMU 41 East Rubble Area
The retirees did remember that in 1951 concrete from SIW was hauled into the desert east of SIW. The retirees also remembered that AIW construction wastes were disposed of west of NRF and around SIW during 1956-1958. The construction rubble included; concrete, pipe, rebar, and wood scraps that would be hauled to the north, south, and east of SIW and disposed of in the desert by the contractors.

SWMU 63 AIW Construction Debris Area
This area is located southwest of AIW and contains construction rubble from both AIW and SSG. The retirees stated that during the construction of these plants (1956-1964) the construction debris would be deposited in the desert by the contractors. The types of waste found on the surface include; broken concrete pieces, pink concrete, concrete, lava rock, pipes, and wood.

The retirees did not remember any hazardous wastes that were disposed of at this location. The retirees stated that the pink concrete would be poured around power lines for easy identification while digging. The lava rock was hauled to the desert by the truck load primarily from the SSG excavation. The broken concrete pieces and pipe are from poured concrete at AIW that did not meet specifications.

The second unit discussed was Operable Unit D2 - Low Priority SWMUs. Information gathered during the discussion is documented below.

SWMU 9 Parking Lot Run-off Trenches
Most of the retirees had retired prior to the parking lot expansion and improvement project in 1984. Prior to 1984 the parking lot consisted of only the west-half of the current parking lot. This parking lot had one run-off ditch that flowed to the south along the fence from the southwest corner of the parking lot. None of the retirees could remember any wastes disposed of at this site.

The retirees mentioned that the parking lot was only used for personal
vehicle storage and evacuation bus storage. The contractors had their own non-paved storage area south of the west half of the parking lot. Here the contractors would stage their construction equipment needed to complete their contract.

SWMU 37 Old Painting Booth
The old painting booth was located north of the plant services building 602 and operated between 1958 to 1968. Inside the building the retirees said there was a barrel used for collection of paint thinners and other solvents. When this barrel was filled the NRF fire department would haul it to a remote practice area then ignite the flammables and practice their fire fighting techniques.

The retirees mentioned that the building did not have running water but, there was a drain inside the building that would flow to the MWD. The retirees suspected that even though there was a drain the wastes (paint and solvents) were not dumped because, the building did not have running water to flush these products down the drain. If the paint was dumped down the drain it would eventually clog the drain, and if the solvents were dumped the odor given off would make working condition in the building unbearable. The retirees said that they suspected that the paint would be left in the cans and the solvents would have been disposed of in the barrel and the brushes would have been sent to the Central Facilities Area landfill. The building has since been moved from this location.

SWMU 38 ECF French Drain
The ECF french drain (manhole) is located between butler buildings (BB) 10 and 11. The manhole contains two, 1-1/2 inch pipes that empty into the manhole. The retirees said that the manhole in question only disposed of heating condensate from the BB 10 and 11.

This information was later confirmed by Dan Troester-Solbrig of Site Facility Engineering, who said he has investigated the manhole in question and that said it is a drip steam trap disposal site. The condensate would just collect at the site and percolate into the soil.

Dan Troester-Solbrig calculated (assuming worst case scenario) that there could be 20 pounds/hour of water disposed of in the condensate trap. The information collected at the retirees meeting along with physical examination of the manhole Site Facility and Environmental Remediation confirms this was used to dispose of steam condensate and not hazardous materials.

SWMU 42 Old Sewage Effluent Ponds
The first sewage disposal facility used at NRF was an Imhoff tank with a drain field located just southeast of the NRF site. In 1953 the sewage disposal facility was radiologically contaminated. The old sewage effluent ponds which were located east of the Imhoff tanks were used between 1953 and 1960. Then in 1960 two sewage lagoons that were built north of NRF were completed and on line.

The retirees did not remember or hear of wastes being dumped in the sewage effluent ponds. One of the retirees remembered that ducks using the pond became contaminated but this was not confirmed. Another retiree did remember that the barn swallows were gathering mud from an Imhoff tank near the rosebowl (sewage pumping station) and would bring this mud inside NRF to build nests. The retiree
said that the radioactive particles in the mud were setting off the meters on site. It is suspected that these two retirees were thinking about the old sewage treatment plant which was contaminated in 1953 (unit 21).

**SWMU 47 Site Lead Shack (NRF Building #614)**
Building 614 has had three locations at NRF. The building was first located on the southeast side of SIW. The second location for building 614 was located on the east side of ECF. Currently building 614 is located west of General Warehouse building 24. The retirees did not remember any wastes that were or would have been associated with this building other than the lead. Building 614 has not been used to melt lead since 1958.

**SWMU 52 Old Lead Shacks (2)**
SWMU 52 includes the two locations that Building 614 originally occupied at NRF. The first location was on the southeast side of SIW which was used from 1951-1958. This building housed the lead smelters used to make the shielding for SIW.

The second location for building 614 was located on the east side of ECF from 1958-7. The retirees did not remember any lead being melted while the building was located here.

**SWMU 54 Old Boilerhouse Blowdown Pit**
The retirees did not remember any wastes that were or could have been deposited in the old boilerhouse blowdown pit. The pit is located between SIW and BB 7. This pit was used to dispose of mineral wastes (calcium and magnesium) that were concentrated inside the SIW boiler. The hard well water entered the boilers prior to being heated. The pure steam (H₂O) would then be used to heat buildings, while the minerals would be left inside the boiler. After a period of time the water inside the boiler would accumulate the minerals and when the concentrations would get to high, the efficiency of the boiler would decrease. To decrease the mineral concentration a percentage of the boiler water would be flushed to the blowdown pit. These mineral wastes are not hazardous and no other wastes are expected during the blowdown operations.

**SWMU 55 Miscellaneous NRF Sumps and French Drains**
The retirees stated that there were a number of sumps and french drains on site but their exact locations or purposes were not mentioned. Since the time of the meeting an inventory of known discharge locations have been made. Currently there are seven discharge locations of which six are steam condensate drain pits and one is a storm water drain pit. NRF is actively investigating newly discovered areas found during construction activities.

**SWMU 61 Old Radioactive Materials Storage and Laydown Area**
This site is located north of the current NRF fence location just south of the sewage lagoons. This area was used as a radioactive material storage and laydown area. The retirees said the area was only used as storage area and they did not know of any wastes that were dumped or deposited there.

The radioactive storage area was disturbed in 1972 when the sewage lagoons were expanded to the current size. The expansion covered the northwest side of the storage and laydown area.
SUMU 64 South Gravel Pit

The retirees remembered that this site was used as a surface disposal site for construction wastes. The retirees remembered that DOE said that the pit could be used for disposal of wastes then later changed their policy and said that NRF should not use the pit to dispose of their wastes. Some retirees mentioned that the DOE did clean the pit in the mid to late 1970's, and after that time the retirees did not remember any wastes from NRF being dumped at this site.

The retirees also stated that a NRF contractor stipulates that the subcontractors are responsible to remove wastes from their construction projects. Thus, it is suspected that the contractors could haul the rubble out of NRF and dispose of it in the South Landfill on their way back to town especially, if it was after 4:30 P.M. the time the CFA landfill closes.

The retirees noted that of the photos that were taken in 1989 that showed a pile of wooden slats, looked like the ones that were removed by a contractor during the AIW cooling tower repair six or eight years ago (1983-1985). The photos also show steel I-beams in concrete footings around the site. Some retirees suspected that these were the anchors for buildings used as targets in the mid-forties for the military. Other retirees suspected that the I-beams and footing were the remains of military ammunition storage buildings. All of the retirees agreed that the I-beams in concrete did not come from activities associated with NRF.

SWMU 68 Corrosive Area Behind BB II

This area is located north of BB II and the some retirees remembered that there used to be three wooden tanks that use to store chemicals for cleaning the pipes at ECF. It is suspected that one or all of these chemicals could have spilled causing the corrosive area behind BB 10 & II. The retirees said that new piping was cleaned using a three step process consisting of tri-sodium phosphate, Cosmoline, and Okite. Further investigations will be conducted with employees who actually cleaned the pipes and knew the processes involved.

The third unit discussed was Operable Unit D4 - Spill Areas. Information gathered during the discussion is documented below.

SWMU 28 AIW Transformer Yard

None of the retirees could remember any spill occurring in this area.

SWMU 29 S5G Oily Waste Spill

This area is located on the south side of S5G near a roof drain splash pad. The retirees did not remember any spill that happened in this location.

Since the time of the meeting this area was sampled prior to building a laydown area for work at S5G. The soil around the splash down pad was slightly discolored so a decision was made to analyze the soil for TCLP metals and Total Petroleum Hydrocarbons (TPH). The results of the TCLP metals showed no hazardous metals present, but one sample had 400 ppm of TPH in the soil. The State of Idaho regulations for gasoline and diesel are 100 and 800 ppm respectively. It is suspected that the soil would have contained a heavier oil product due to the lack of mobility and slightly discolored soil only on the surface. Thus, the data does not
exceed the State of Idaho regulations of 800 ppm for oily soil.

SWMU 31 AIW Oily Waste Spill
After reviewing the pictures of this area, the retirees did not remember any specific incidence when oil had been spilled. But, the retirees did mention that the air compressors did leak oil regularly when they were being used.

The employees also remembered that near the railroad tracks, 3/4 inch plywood was buried beneath the surface. It was suspected that this plywood was used to prevent the spread of radioactive contamination. This area has since been fenced to limit access to the area. Others thought that the plywood was used to distribute the weight of a forklift as materials were being delivered to AIW. Further investigations will be conducted to determine why the plywood was placed at this location.

SWMU 44 SIW Industrial Wastewater Spill Area
This area is located between the inside fence and Argonaut street just north of BB 9. The retirees did not remember any Industrial Wastewater Spill that occurred here but they did mention that there was an area drain line at this location. Storm runoff water from the asphalt roadway and steam condensate from SIW would enter catch basins located north and west of SIW, and west of BB 7. The water entering the catch basins would then flow toward the east under Argonaut street. The water would then flow by an open channel along the east fence to the north and then along the north fence to the west until it reached the Industrial Waste Ditch.

This drainage system was changed during the roadway reconstruction project in 1987. The surface drainage system was upgraded to eliminate the use of the interior open channel. A culvert was installed under Argonaut street northwest of BB 7 to route the water toward the west, the problem with this is that the old drain lines drained to the east and in order to force the water to the west, and then to the north, the outlet of the pipe had to be plugged. Today this area is marked with a mound of soil and a steel post that cover the outlet. It is suspected that this plug leaks forming a small puddle at this location.

SWMU 58 SIW Old Fuel Oil Tank Spill
The retirees reported that there was a small fuel oil spill around the tank but the exact date was not known. They also said that there were underground pipes running between SIW and the fuel tanks to supply fuel for the boilers.

In 1958 after the new boilerhouse was built the old fuel tanks were not needed to supply SIW with fuel oil. So the tanks were cleaned and the retirees mentioned that this oil was dumped into a pit where BB 7 is currently located. The oil sat in the pit approximately seven days until the tanks were completely cleaned. The oil in the pit was then ignited by the NRF fire department to practice putting out oil fires. The cleaned tanks could then be used for storage of other products.

SWMU 62 ECF Acid Spill Area
The retirees remembered that approximately in 1960 forty eight barrels of concentrated nitric acid leaked into the ground west of the ECF original building. The acid was going to be used to clean pipes in ECF. Before being used, one barrel leaked and this started a reaction with the other
barrels causing the other barrels to leak. The retirees remembered that a basic material was added to the soil to balance the Ph of the soil.

SWMU 65 Southeast Corner Oil Spill
The retirees did not remember any oil spills in this location.
4/23/92

SWMU #54 - Old Boilerhouse Blowdown Pit

Activity has been occurring in this area, which
was between BB7 and the original boiler house heating
facility in the northwest corner of SW1W. Two
boilers supplied heat to the NEF building.

Drawing 0042-1-P14, Main Building Boil-
Room shows the system detail, including a 2
blow off line in a trench. Other piping in the
trench includes steam, fuel oil, diesel, water
and plant air. An inspection of the area
(currently the radicel range) showed one
the trench and some of the piping were
probably steam and fuel oil lines. The
boilers were oriented on a N-S axis and
trenched ran E-W, from the west
wall to a point proximal to boiler #2.

Drawing 0042-O-A1 shows the Yard A
Outside Plot Plan. The Boiler Blowdown
Pit shows up just north of the original in
line and due east of the boiler house south
BB7.

I talked to some current on players who might
have information about excavations in the
area between BB7 and SW1W. JF Robins
The Stephson plant. I will look at the
the blowdown and get from the friend to
someone working out of the building, and you
our old Sunday line working at a ... Dear
(10) (1.0) show an ounce line from or
an old line had come into the plant as
The greenhouse wing at the point or location.

3

"The museum..." I said as we sat down. I
replied, "If you are still trying to
I announced all being in the stream drains in
a stream line in the approach with creosote.
A stream line in the approach with creosote.
so not the old line that separated it. It was not
accurate as far as the grain from the other
and I had seen come from the stream drains, and read
Supervision. When the old line had come from. He said
that once, and asked what could. Paul said
I announced all being in the stream drains in
a stream line in the approach with creosote.
A stream line in the approach with creosote.
side steam distribution and fuel oil lines from the tanks E of Spray Pond #1.

I did rule out the possibility of concentrated water treatment chemicals (acid & base) being discharged to the pit. But 6002-2-P4 Service Building Arrangement and Water Condition System show that in 1951 water was pumped from the two deep wells to a facility in the north end of building 6002 for treatment. The drawing shows acid and base tanks, a degasser, chlorine system, and distribution pumps. No one I have talked to remembers this system, but note 1 on the drawing says "revised as installed in field."

4/23/92 6002-0-P3 Yard and Outside Oil Storage System/ Main Building, shows that fuel oil lines from the storage tanks run N/S on the west side of the road west of 516, and need of a valve pit before turning west, and enter the main building at the trench.
(Disposal Sites)