HSA ID# 78

79 DECOM

ATTACHMENT B

ATLAS DOCUMENT INPUT FORM

1. TITLE	UOR 90-124 SCAT Tank Leak in Line To LT 3201
2. DOCUMENT TYPE	Report
3. DOCUMENT FORM	M
4. DOCUMENT LOCATION	
5. RETENTION PERIOD	
6. TECHNICAL FILE NUMBER	11.14.6 1.8.4.2
7. DOCUMENT NUMBER	
8. REVISION NUMBER	
9. DATE	9/19/90
10. CLASSIFICATION TYPE	D
11. TOPICAL INDUSTRY ISSUE	
12. KEYWORDS	
13. SUBJECT	
14. REFERENCE DOCUMENT	
15. SYSTEM CODE	
16. COMPONENT CODE	
17. CYCLE NUMBER	
18. ORIGINATOR	OPS
19. RECEIVER	
20. VENDOR CODE	
21. ACCESSION NUMBER	
ACTION: ADD/REPLACE/DELETE (CIRCLE ONE)	

AJC

CREW REVIEW

OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT (UOR)

1. GENERAL

A. TITLE OF UOR: SCAT TANK LEAK IN LINE TO LT 3201

B. DATE/TIME OF EVENT: 9/19/90 1700

C. DATE/TIME UOR COMPLETED: 9/ /90 2000

2. PLANT CONDITIONS AT TIME OF OCCURRENCE:

A. OPERATING CONDITION (1-7): 7 B. REACTOR POWER (%) : 99

C. TAVE (F): 574 D. PZR. PRESSURE (PSIG): 2237 E. PZR LEVEL (%) 58

PLANT TRIP? NO

3. NOTIFICATION

A. IS NRC NOTIFICATION REQUIRED? YES
(Justify "NO" answer in Discussion Section.)

B. HAS PROCEDURE 2.50.0 BEEN CONSULTED? YES

B.1 EMERG CONDITION DECLARED : N/A
B.2 DATE/TIME OF DECLARATION : N/A

C. NRC NOTIFIED BY : J M TAYLOR USING : ENS

C.1 DATE/TIME : 9/19/90 1903

D. NRC RESIDENT NOTIFIED BY : J M TAYLOR

D.1 DATE/TIME : 9/19/90 2020

E. DUTY CALL OFFICER (DCO) NOTIFIED BY : UOR

E.1 DATE/TIME :

F. If event requires state notification; for example, release of hazardous liquid, unscheduled radioactive release, phone call to state police, plant trip, etc., notify state inspector by phone.
STATE INSPECTOR NOTIFIED BY :J M TAYLOR

F.1 DATE/TIME : 9/19/90 1904

G. If industrial safety concern, notify Industrial Safety Coordinator
ISC NOTIFIED BY : J M TAYLOR

G.1 DATE/TIME : 9/19/90 1720

OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT (UOR)

4. DESCRIPTION OF OCCURRENCE/SEQUENCE OF EVENTS

1700 - The Control Room is notified that there is a leak in the vicinity of the RWST dog house and the SCAT tank.
1705 - The PSS and other operato s investigate and find the SCAT tank is leaking from a box housing LT 3201. A barrel is positioned to collect leakage.
1710 - Samples the leakage are taken. The box is opened showing the leak to be from the outboard flange connection of a ball valve in the line to LT 3201.
1720 - The Industrial Safety Director is contacted.
1725 - The ball valve is closed slowing the leak to 100 drops per min. An estimated 20 gal of NaOH solution spilled onto the asphalt.
1730 - The Hazardous Waste Coordinator is called to the Control Room. He was on site.

The spill was NOT contaminated.

None of the spill went into the storm drain.

1800 - The PSS called Mason Station (Ralph Campbell)
1804 - The PSS informed the Plant Manager of the spill
1808 - The PSS called the Coast Guard (J Grimes).
1815 - The PSS called the State Police and the DEP (Richard Mckenna) ; at night the 800 number gets both.
1853 - The NRC is notified by the NSE.
1900 - Glenn Wall of DEP called for information.
1910 - Discussions with the Hazardous Waste Coordinator conclude that the Maine Emergency Management Agency (MEMA) should not be called because the 40CFR302 level of 1000 pounds of NaOH had not been reached and Sodium Hydroxide was not on the 40CFR355 list of extremely hazardous substances.

Procedure 1-26-1 OPERATIONAL EVENT REPORTING (SHORT TERM) page 19 notes: "Any amount of hazardous material not contained in a system and which is outside of any Maine Yankee structure constitutes a spill." Because a spill had occurred the Coast Guard, Maine State Police and the DEP were notified. Because other governmental agencies were notified this occurrence is reportable to the NRC under 10CFR50.72 (b)(2)(vi).

Control Room logs indicate the last two SCAT tank readings were 16.6 Kgal. Technical Specifications 3.7 A requires 15400 gal of 8 to 11% NaOH solution to be maintained in the SCAT but there is no specified interval for checking level. Operators consider the 15.4 kgal requirement is being met because: an estimated 50 gal was lost and the current leak rate is less than 40 gal per 24 hrs. Valve lineups to the SCAT have been checked and RWST level has not changed.

OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT (UOR)

5. THE FOLLOWING SIMILAR OCCURRENCES WERE FOUND IN THE OEDB:
(LIST SEARCH CRITERIA)
HAZARDOUS WASTE SPILL: UOR 90-007 20 gal of SCC water overboard and UOR 90-051 1 gal of SCC water to a storm drain

6. IMMEDIATE CORRECTIVE ACTIONS

Locate and contain the spill.
Determine if the solution is contaminated.
Clean up the spill.

7. PRELIMINARY RECOMMENDATIONS FOR LONG TERM CORRECTIVE ACTION

AI-90-124-1 MAINT Repair the leak.

AI-90-124-2 Licensing Request Licensing evaluate feasibility of removing NaOH from the SCAT Tank

AI-90-124-3 OPS Evaluate SCAT system for ~~the~~ similar valves that could be subject to same failure.

AI-90-124-4 MAINT Perform failure analysis on ball valve

AI-90-1245 MAINT Evaluate establishing PM to rebuild valves/flanges

Submitted by: James M. Taylor
James M Taylor

Approved by:

Noted by:

Distribution:

*PM (RWB)	*State Inspector (PJD)
*APM/MMD (RFP)	*NRC RESIDENT (CSM/RJF)
*MOD (AJC)	*MGR QPD (JCF)
*MTSD (RHN)	*AUGUSTA TELEX
*AMOD (JVW)	*NSS Section Head (2)
*ATMOD	*RE Section Head (HFJ)
*PSS	Operator Training Section Head (MDE)
*SOS	Specialty Training Section Head (RLB)
*RO (2)	*PED Section Head
*VP,OPS (ETB)	Required Reading System (before shift)
*QPD Section Head (STL)	VP Public Affairs (JDF)

* Distribute promptly by on-shift personnel, remainder of list distributed by Operations Department Admin Specialist

HSA ID# 79

79 DECOM

ATTACHMENT B

ATLAS DOCUMENT INPUT FORM

1. TITLE	UOR 90-093 Oil Leak From X-1B
2. DOCUMENT TYPE	Report
3. DOCUMENT FORM	M
4. DOCUMENT LOCATION	
5. RETENTION PERIOD	
6. TECHNICAL FILE NUMBER	11.14.6 1.8.4.2
7. DOCUMENT NUMBER	
8. REVISION NUMBER	
9. DATE	7/5/90
10. CLASSIFICATION TYPE	D
11. TOPICAL INDUSTRY ISSUE	
12. KEYWORDS	
13. SUBJECT	
14. REFERENCE DOCUMENT	
15. SYSTEM CODE	
16. COMPONENT CODE	
17. CYCLE NUMBER	
18. ORIGINATOR	OPS
19. RECEIVER	
20. VENDOR CODE	
21. ACCESSION NUMBER	
ACTION: ADD/REPLACE/DELETE (CIRCLE ONE)	

CREW REVIEW / FILE

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OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT (UOR)

1. GENERAL

A. TITLE OF UOR: OIL LEAK FROM X-1B

B. DATE/TIME OF EVENT: 7/5/9 1259

C. DATE/TIME UOR COMPLETED: 7/5/90 1500

2. PLANT CONDITIONS AT TIME OF OCCURRENCE:

A. OPERATING CONDITION (1-7): 7 B. REACTOR POWER (%) : 81

C. TAVE (F): 568 D. PZR. PRESSURE (PSIG): 2230 E. PZR LEVEL (%) 54

PLANT TRIP? NO

3. NOTIFICATION

A. IS NRC NOTIFICATION REQUIRED? N
(Justify "NO" answer in Discussion Section.)

B. HAS PROCEDURE 2.50.0 BEEN CONSULTED? N/A

B.1 EMERG CONDITION DECLARED : N/A
B.2 DATE/TIME OF DECLARATION : N/A

C. NRC NOTIFIED BY : N/A USING : N/A

C.1 DATE/TIME : N/A

D. NRC RESIDENT NOTIFIED BY : Copy of UOR

D.1 DATE/TIME : N/A

E. DUTY CALL OFFICER (DCO) NOTIFIED BY : Copy of UOR

E.1 DATE/TIME : N/A

F. If event requires state notification; for example, release of hazardous liquid, unscheduled radioactive release, phone call to state police, plant trip, etc., notify state inspector by phone.
STATE INSPECTOR NOTIFIED BY :Copy of UOR

F.1 DATE/TIME : N/A

G. If industrial safety concern, notify Industrial Safety Coordinator
ISC NOTIFIED BY : N/A

G.1 DATE/TIME : N/A

OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT (UOR)

4. DESCRIPTION OF OCCURRENCE/SEQUENCE OF EVENTS

1259 The AO noted an oil leak from the "sudden overpressure" pressure switch on X-1B. Oil was leaking from a flanged connection on the pressure switch. The PSS checked with PED and maintenance to ensure that the pressure switch could be isolated without causing a turbine trip. The pressure switch was isolated and tagged out.

The oil in the transformer is "Univolt 60" (MSDS #1300). The Hazardous Waste Coordinator determined that the material was not a potential problem. The oil that was collected will be stored for disposal.

Some oil spilled into the bermed area surrounding the transformers. Approximately 5 gal. spilled from the transformer to the bermed area. No noticeable level change was noted in the transformer oil level gage.

The transformer bermed area is designed to contain any leakage from the transformers. The sump access was checked and no detectable oil was found. PED reviewed the prints to ensure the berm was totally enclosed.

The oil that leaked will eventuallly be washed to the sump. This oil has the potential to be released to the storm sewer if the bermed area and sump are filled to overflowing.

This event is not considered reportable under the guidance of Procedure 1-26-1. The oil was not discharged to the environment and was contained in a structure designed for that purpose.

OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT (UOR)

5. THE FOLLOWING SIMILAR OCCURRENCES WERE FOUND IN THE OEDB:

UOR #124-88, 11/17/88, Content from sump pumped into river. Oil in pit.

6. IMMEDIATE CORRECTIVE ACTIONS

Isolate the pressure switch to stop the oil leak.

Evaluate the leak for reportability.

7. PRELIMINARY RECOMMENDATIONS FOR LONG TERM CORRECTIVE ACTION

Repair the leak in the pressure switch flange. Done.

PED request that the gasket material in the pressure switch be evaluated for proper application. PED Evaluated gasket, - OK

AE-90-0121 ORS Establish periodic inspections of the transformer bermed area sump for indications of oil. Take action to clean up any oil detected.

AI-90-093-2 MAINT Develop crash protection for the transformer pressure switches

Submitted by : for D. Rivard

David A. Rivard

Approved by: D. Rivard

Noted by:

Distribution:

*PM (RWB)	*State Inspector (PJD)
*APM/MMD (RFP)	*NRC RESIDENT (CFH/RCF)
*MOD (AJC)	*MGR QPD (JCF)
*MTSD (RHN)	*AUGUSTA TELEX
*AMOD (JVW)	*NSS Section Head (3)
*ATMOD	*RE Section Head (HFJ)
*PSS	Operator Training Section Head (MDE)
*SOS	Specialty Training Section Head (RLB)
*RO (2)	*PED Section Head
*VP,OPS (ETB)	Required Reading System (before shift)
	VP Public Affairs (JDF)

* Distribute promptly by on-shift personnel, remainder of list distributed by Operations Department Admin Specialist

HSA ID# 80

40 Decom

ATTACHMENT B

ATLAS DOCUMENT INPUT FORM

1. TITLE UOR 90-051 Small SCC Hazardous Waste Spill	
2. DOCUMENT TYPE Report	3. DOCUMENT FORM M
4. DOCUMENT LOCATION	5. RETENTION PERIOD
6. TECHNICAL FILE NUMBER 11.14.6	1.8.4.2
7. DOCUMENT NUMBER	
8. REVISION NUMBER 9. DATE 4/18/90	10. CLASSIFICATION TYPE D
11. TOPICAL INDUSTRY ISSUE	
12. KEYWORDS	
13. SUBJECT	
14. REFERENCE DOCUMENT	
15. SYSTEM CODE	16. COMPONENT CODE
17. CYCLE NUMBER	
18. ORIGINATOR OPS	
19. RECEIVER	
20. VENDOR CODE	
21. ACCESSION NUMBER	
ACTION: ADD/REPLACE/DELETE (CIRCLE ONE)	

OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT (UOR)

1. GENERAL

A. TITLE OF UOR: SMALL SCC HAZARDOUS WASTE SPILL

B. DATE/TIME OF EVENT: 4/18/90 0230

C. DATE/TIME UOR COMPLETED: 4/18/90 1300

2. PLANT CONDITIONS AT TIME OF OCCURRENCE:

A. OPERATING CONDITION (1-7): 2 B. REACTOR POWER (%) : 0

C. TAVE (F): 105 D. PZR. PRESSURE (PSIG): 0 E. PZR LEVEL (%) 45

PLANT TRIP? N

3. NOTIFICATION

A. IS NRC NOTIFICATION REQUIRED? Y
(Justify "NO" answer in Discussion Section.)

B. HAS PROCEDURE 2.50.0 BEEN CONSULTED? N/A

B.1 EMERG CONDITION DECLARED : N/A
B.2 DATE/TIME OF DECLARATION : N?A

C. NRC NOTIFIED BY : P.T. EBERT USING : ENS

C.1 DATE/TIME : 0945

D. NRC RESIDENT NOTIFIED BY : P.T. EBERT

D.1 DATE/TIME : 1000

E. DUTY CALL OFFICER (DCO) NOTIFIED BY : P.T. EBERT

E.1 DATE/TIME : 0700

F. If event requires state notification; for example, release of hazardous liquid, unscheduled radioactive release, phone call to state police, plant trip, etc., notify state inspector by phone.
STATE INSPECTOR NOTIFIED BY :E. HEATH

F.1 DATE/TIME : 0730

G. If industrial safety concern, notify Industrial Safety Coordinator
ISC NOTIFIED BY : N/A

G.1 DATE/TIME : N/A

OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT (UOR)

4. DESCRIPTION OF OCCURRENCE/SEQUENCE OF EVENTS

4/18/90 Plant shut down and SCC system taken out of service for maintenance.

0230 Draining of the SCC system to tank trucks through temporary hoses was initiated. As the first truck started to fill the operator noticed that one of the truck's drain manifold valves was leaking through its drain cap and that a storm drain was located under the manifold. Immediate action was taken to isolate the leak and it was estimated that less than 1 Gallon of fluid leaked from the connection. SCC water contains 1000 PPM chromates and is therefore considered to be hazardous waste.

0730 Spill determined to be reportable.

0745 Spill reported to State Department of Environmental Protection and the National Response Center.

0955 Event reported to NRC via ENS and to NRC Resident Inspector IAW 1-26-1, OPERATIONAL EVENT REPORTING (SHORT TERM)

OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT (UOR)

5. THE FOLLOWING SIMILAR OCCURRENCES WERE FOUND IN THE OEDB:

None

6. IMMEDIATE CORRECTIVE ACTIONS

-Leaking valve isolated.
-Storm drain covered with plastic and absorbant material.

7. PRELIMINARY RECOMMENDATIONS FOR LONG TERM CORRECTIVE ACTION

AI-90-057-1 OPS -Place portable drip pans under tanker manifolds.

AI-90-057-2 OPS Develop procedure changes to limit/minimize chances of spilling SDC during fuel system drains.

Submitted by : P.T. Ebert
P.T. Ebert

Approved by:

Noted by:

Distribution:

*PM (RWB)	*State Inspector (PJD)
*APM/MMD (RFP)	*NRC RESIDENT (CFH/RCF)
*MOD (AJC)	*MGR QPD (JCF)
*MTSD (RHN)	*AUGUSTA TELEX
*AMOD (JVW)	*NSS Section Head (3)]
*ATMOD	*RE Section Head (HFJ)
*PSS	Operator Training Section Head (MDE)
*SOS	Specialty Training Section Head (RLB)
*[redacted] (2)	*PED Section Head
[redacted], OPS (ETB)	Required Reading System (before shift)
	VP Public Affairs (JDF)

* Distribute promptly by on-shift personnel, remainder of list distributed by Operations Department Admin Specialist

HSA ID# 81

81

DECOM

2547.121

ATTACHMENT B

ATLAS DOCUMENT INPUT FORM

1. TITLE UOR 90-007 Hazardous Waste Spill	
2. DOCUMENT TYPE Report	3. DOCUMENT FORM M
4. DOCUMENT LOCATION	5. RETENTION PERIOD
6. TECHNICAL FILE NUMBER 11.14.6 1.8.4.2	
7. DOCUMENT NUMBER	
8. REVISION NUMBER 9. DATE 1/15/90	10. CLASSIFICATION TYPE D
11. TOPICAL INDUSTRY ISSUE	
12. KEYWORDS	
13. SUBJECT	
14. REFERENCE DOCUMENT	
15. SYSTEM CODE	16. COMPONENT CODE
17. CYCLE NUMBER	
18. ORIGINATOR OPS	
19. RECEIVER	
20. VENDOR CODE	
21. ACCESSION NUMBER	
ACTION: ADD/REPLACE/DELETE (CIRCLE ONE)	

Cvew Review & File

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OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT (UOR)

1. GENERAL

A. TITLE OF UOR: HAZARDOUS WASTE SPILL

B. DATE/TIME OF EVENT: 1/15/90 2239

C. DATE/TIME UOR COMPLETED: 1/16/90 1500

2. PLANT CONDITIONS AT TIME OF OCCURRENCE:

A. OPERATING CONDITION (1-7): 6 B. REACTOR POWER (%) : <2

C. TAVE (F): 532 D. PZR. PRESSURE (PSIG): 2235 E. PZR LEVEL (%) 34

PLANT TRIP? N

3. NOTIFICATION

A. IS NRC NOTIFICATION REQUIRED? Y
(Justify "NO" answer in Discussion Section.)

B. HAS PROCEDURE 2.50.0 BEEN CONSULTED? y

B.1 EMERG CONDITION DECLARED : n/a
B.2 DATE/TIME OF DECLARATION :

C. NRC NOTIFIED BY : L. Oesterling USING : ENS

C.1 DATE/TIME : 1/16/90 1550

D. NRC RESIDENT NOTIFIED BY : E. Brand

D.1 DATE/TIME : 1/16/90 1550

E. DUTY CALL OFFICER (DCO) NOTIFIED BY : UOR

E.1 DATE/TIME : n/a

F. If event requires state notification; for example, release of hazardous liquid, unscheduled radioactive release, phone call to state police, etc., notify state inspector by phone.
STATE INSPECTOR NOTIFIED BY :E.Brand

F.1 DATE/TIME : 1/16/90 1540

G. If industrial safety concern, notify Industrial Safety Coordinator
ISC NOTIFIED BY : n/a

G.1 DATE/TIME : n/a

OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT (UOR)

4. DESCRIPTION OF OCCURRENCE/SEQUENCE OF EVENTS

- 1/15/90 1915 Plant shutdown to 0% power initiated to perform stroke time testing on SCC-A-460. See UOR 90-006.

- 2239 Service air compressors C-1A,B,C cooling water changed from SCC (chromated component cooling water) to alternate source (raw water). IAW Ops Primary Procedure 1-15-2 "SECONDARY COMPONENT COOLING", Section 6.9.1.a. This was necessary in order to stroke test SCC-A-460.

- The raw water is dumped continuously to the turbine hall sump, then to the "white elephant" (turbine hall sump collection/oil separation tank), and then to the service water drain header. Approximately 20 gal of SCC water, containing about 1000 ppm chromates, that remained in the compressors was flushed out when raw water was first valved in. Procedure 1-15-2 does contain cautions to collect chromated water when a system is drained or vented, but does not specifically address the situation where an alternate water supply is valved in (the same situation would occur when the emergency diesels are switched to fire water as an alternate source).

- Based on the following conservative calculations, approximately 30 ppb chromates left the diffuser (service water and circ water combined) for 1 min.

Assume 20 gal of chromated water released in 1 min to the service water header, this results in 700 ppb entering the weir where service water and circ water are mixed before being released into the bay via the diffuser system. Circ water flow is approximately 400,000 gpm and further dilutes the service water by 20,000 (service water flow)/400,000 = 0.04. 0.04 x 700 pbb = approx 30 ppb introduced into the bay.

- This incident was reported to the Hazardous Waste Coordinator, who determined that the spill was reportable. The spill was reported to the US Coast Guard, State Inspector, Maine DEP, NRC (via ENS) and NRC Resident inspector IAW 1-26-1 OPERATIONAL EVENT REPORTING (SHORT TERM).
-

OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT (UOR)

5. IMMEDIATE CORRECTIVE ACTIONS

- Determined that a spill had occurred
- Reported the spill IAW 1-26-1

6. PRELIMINARY RECOMMENDATIONS FOR LONG TERM CORRECTIVE ACTION

~~- Revise Procedures 1-15-1 (PCC) and 2 (SCC) to direct collection of chromate contaminated water when swapping to alternate supplies.~~
- Determine if any other procedures need to be revised to preclude inadvertant release of chromated water.

~~- Revise procedures~~
AI 007-1 Review options for preventing release of Chromates through either procedure changes or piping changes to allow collection of chromated water.
- For Diesels
- Air Compressors
- SFP Heat Exchanger

Submitted by : [signature]
Ethan B. Brand

Approved by: [signature]

Noted by: [signature]

Distribution:

*PM (RWB)
*APM/MMD (RFP)
*MOD (AJC)
*MTSD (RHN)
*AMOD (JVW)
*ATMOD
*PSS
*SOS
*RO (2)
*VP,OPS (ETB)
*State Inspector (PJD)
*NRC RESIDENT (CFH/RCF)
*MGR QPD (JCF)
*AUGUSTA TELEX
*NSS Section Head (3)
Operator Training Section Head (MDE)
Specialty Training Section Head (RLB)
*PED Section Head
Required Reading System (before shift)
VP Public Affairs (JDF)

* Distribute promptly by on-shift personnel, remainder of list distributed by Operations Department Admin Specialist

HSA ID# 82

82 DECOM

ATTACHMENT B

ATLAS DOCUMENT INPUT FORM

1. TITLE	UOR 89-102 Fuel oil Spill From Storage Tank For RWST Enclosure Furnace
2. DOCUMENT TYPE	Report
3. DOCUMENT FORM	M
4. DOCUMENT LOCATION	
5. RETENTION PERIOD	
6. TECHNICAL FILE NUMBER	11.14.6 1.8.4.2
7. DOCUMENT NUMBER	
8. REVISION NUMBER	
9. DATE	10/20/89
10. CLASSIFICATION TYPE	D
11. TOPICAL INDUSTRY ISSUE	
12. KEYWORDS	
13. SUBJECT	
14. REFERENCE DOCUMENT	
15. SYSTEM CODE	
16. COMPONENT CODE	
17. CYCLE NUMBER	
18. ORIGINATOR	OPS
19. RECEIVER	
20. VENDOR CODE	
21. ACCESSION NUMBER	
ACTION: ADD/REPLACE/DELETE (CIRCLE ONE)	

2.6.4752

File

OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT (UOR)

1. GENERAL

A. TITLE OF UOR: **Fuel Oil Spill from Storage Tank for RWST Enclosure F. nace**

B. DATE/TIME OF EVENT: **10/20/8 0900**

C. DATE/TIME UOR COMPLETED: **10/20/89 1430**

2. PLANT CONDITIONS AT TIME OF OCCURRENCE:

A. OPERATING CONDITION (1-7): **7** B. REACTOR POWER (%) : **98**

C. TAVE (F): **575** D. PZR. PRESSURE (PSIG): **2231** E. PZR LEVEL (%) **57**

PLANT TRIP? **NO**

3. NOTIFICATION

A. IS NRC NOTIFICATION REQUIRED? **N**
(Justify "NO" answer in Discussion Section.)

B. HAS PROCEDURE 2.50.0 BEEN CONSULTED? **No**

B.1 EMERG CONDITION DECLARED : **N/A**
B.2 DATE/TIME OF DECLARATION : **N/A**

C. NRC NOTIFIED BY : **N/A** USING : **N/A**

C.1 DATE/TIME : **N/A**

D. NRC RESIDENT NOTIFIED BY : **Copy of UOR**

D.1 DATE/TIME : **N/A**

E. DUTY CALL OFFICER (DCO) NOTIFIED BY : **Copy of UOR**

E.1 DATE/TIME : **N/A**

F. AMOD NOTIFIED BY : **Present in CR**

F.1 DATE/TIME : **N/A**

NOTE : AMOD NOTIFY MOD
PSS notify MOD if AMOD not available

G. If industrial safety concern, notify Industrial Safety Coordinator
ISC NOTIFIED BY : **N/A**

G.1 DATE/TIME : **N/A**

OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT (UOR)

4. DESCRIPTION OF OCCURRENCE/SEQUENCE OF EVENTS

0900 An Auxiliary Operator noted oil around the vicinity of the oil storage tank for the furnace for the RWST enclosure. He was able to identify a crack in the fuel oil supply line from the storage tank to the furnace. The oil storage tank was isolated to stop the leak. This oil tank also supplies the furnace in the "tanker barn"

Earlier in the week, security had reported the smell of diesel oil in the spray building. Investigation at that time did not determine the source of the smell. The oil leak was noted to be in the area of the suction of HV-7 and probably was the source of the odor.

The tank contains approximately 275 gal. of oil. When isolated, the tank level was 1/4. Some additional history was discovered on this leak. The leak had been identified sometime in August. The leak was isolated at that time. Operations personnel verbaly informed maintenance of the leak. Workers performing the decontamination of the "tanker barn" are assumed to have unisolated the leak approximately three weeks ago. The furnace in the "tanker barn" was used during the decontamination efforts. The tank level at that time was approximately 1/2. The amount of oil that leaked out of the tank could not be determined.

The asphault in the vicinity of the leak was found impregnated with oil and was noteably soft. An oil sheen was noted in the area of the spill. The nearest storm drain was approximately 40 ft from the leak area. No oil is assumed to have entered the storm drain.

A clean up of the area was commenced. Absorbant pads were used to contain any oil that was in the rain water. Additional personnel were assigned to dig up the asphault and soil that was oil contaminated.

This event was evaluated by licensing for reportability. Because it was determined that no oil was released and the tank involved was not an underground tank, this event is not considered reportable.

4.9.4152

OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT (UOR)

5. IMMEDIATE CORRECTIVE ACTIONS

The leak was isolated, white tagg'd, and DR'd.
Actions were taken to contain the oil.
Clean up efforts were organized.

6. PRELIMINARY RECOMMENDATIONS FOR LONG TERM CORRECTIVE ACTION

AI OPS Determine if adequate controls are in place for monitoring and containing temporary fuel oil tanks.

Submitted by: David A. Rivard

Approved by: J-Ndes

Noted by: [signature]

Distribution:

*PM/VPO (ETB)	*State Inspector
*APM/MOM (RFP)	*NRC RESIDENT (CFH)
*MOD (RWB)	*MGR QPD (JCF)
*AMOD (AJC)	*AUGUSTA TELEX
*ATMOD	*NSS Section Head (2)
*ATVPO (JMC)	Operator Training Section Head (MDE)
*MGR Tech Support (JEB)	Specialty Training Section Head (RLB)
*PSS	PED Section Head
*SOS	Required Reading System (before shift)
*RO (2)	VP Public Affairs (JDF)

* Distribute promptly by on-shift personnel, remainder of list distributed by Operations Department Admin Specialist

HSA ID# 83

Dec. 3, 1987

An informal interview with a MY employee has indicated that a large number of items, both from the cold side and released items from the hotside, have been stored on Bailey Point over the years. Two or more temporary storage sheds were constructed in this area for the purpose of storing wood and dunnage from the equipment hatch. Other items stored on the Point include scrap materials and traveling water screens from the Circ. Water Pump House.

SJW

HSA ID# 84

84 DECOM

ATTACHMENT B

ATLAS DOCUMENT INPUT FORM

1. TITLE UOR 135-88 Government/NRC Notification of SCC Spill	
2. DOCUMENT TYPE Report	3. DOCUMENT FORM M
4. DOCUMENT LOCATION	5. RETENTION PERIOD
6. TECHNICAL FILE NUMBER 11.14.6	1.8.4.2
7. DOCUMENT NUMBER	
8. REVISION NUMBER 9. DATE 12/5/88	10. CLASSIFICATION TYPE D
11. TOPICAL INDUSTRY ISSUE	
12. KEYWORDS	
13. SUBJECT	
14. REFERENCE DOCUMENT	
15. SYSTEM CODE	16. COMPONENT CODE
17. CYCLE NUMBER	
18. ORIGINATOR OPS	
19. RECEIVER	
20. VENDOR CODE	
21. ACCESSION NUMBER	
ACTION: ADD/REPLACE/DELETE (CIRCLE ONE)	

8547-1452

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RWB

2.7.4552

OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT (UOR)

1. GENERAL

A. TITLE OF UOR: Government/NRC Notification of SCC Spill

B. DATE/TIME OF EVENT: 12/5/88

C. DATE/TIME UOR COMPLETED: _____

2. PLANT CONDITIONS AT TIME OF OCCURRENCE

A. OPERATING CONDITION (1-7) 1 B. REACTOR POWER (%) S/D

C. TAVE N/A D. PZR. PRESSURE N/A E. PZR. LEVEL 20%

PLANT TRIP YES / (NO) (Circle one)

3. NOTIFICATION

A. IS NRC NOTIFICATION REQUIRED? (YES) / NO (Circle one)
(Justify "NO" answer in Discussion Section.)

B. HAS PROCEDURE 2.50.0 BEEN CONSULTED? (YES) / NO (Circle one)

B.1. EMERG CONDITION DECLARED _____
B.2. DATE/TIME OF DECLARATION _____

C. NRC NOTIFIED BY J. M. Taylor (Individual) USING ENS (Method)

C.1. DATE/TIME 1730 12/5/88

D. NRC RESIDENT NOTIFIED BY J. M Taylor (Individual)

D.1. DATE/TIME 2015 12/5/88

E. DUTY CALL OFFICER (DCO) NOTIFIED BY By UOR (Individual)

E.1. DATE/TIME _____

(DCO WILL NOTIFY PM AND VPO if occurrence requires NRC notification)

F. AMOD NOTIFIED BY By UOR (Individual)

F.1. DATE/TIME _____

NOTE: AMOD notify MOD
PSS notify MOD if AMOD not available

0084f

2547.3

OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT (UOR)

4. DESCRIPTION OF OCCURRENCE/SEQUENCE OF EVENTS
(Use bulletized short statements in preference to narrative. Use additional pages as necessary including applicable drawings/attachments to assist explanation at Morning Management Meeting.)

- 1520 The Hazardous Waste Coordinator made phone calls to the Maine State DEP and the National Response Center to report SCC leakage.
- Since 12/2/88 Operations, PED and Maintenance have been searching for the SCC leak which is now considered to be from an outside pipe.
- SCC liquid contains sodium chromate in solution. Sodium chromate is a carcinogen.
- The leakage is confined to the plant site.
- This occurrence is reportable to the NRC under 10CFR 50.72(B)(2)(vi) because another governmental agency was notified.
- The amount of sodium chromate released to dirt surrounding SCC piping is not a reportable quantity.
- No radioactive contamination is involved and the dirt soaked with sodium chromate solution will be treated as hazardous waste.

CONTINUATION SHEETS ATTACHED YES (NO) (Circle one)

0084f

HSA ID# 85

85

DECOM

2547.3-1

ATTACHMENT B

ATLAS DOCUMENT INPUT FORM

1. TITLE UOR 124-88 Main Transformer Drain Sump Pumpdown - Milky Liquid	
2. DOCUMENT TYPE Report	3. DOCUMENT FORM M
4. DOCUMENT LOCATION	5. RETENTION PERIOD
6. TECHNICAL FILE NUMBER 11.14.6 1.8.4.2	
7. DOCUMENT NUMBER	
8. REVISION NUMBER 9. DATE 11/17/88	10. CLASSIFICATION TYPE D
11. TOPICAL INDUSTRY ISSUE	
12. KEYWORDS	
13. SUBJECT	
14. REFERENCE DOCUMENT	
15. SYSTEM CODE	16. COMPONENT CODE
17. CYCLE NUMBER	
18. ORIGINATOR OPS	
19. RECEIVER	
20. VENDOR CODE	
21. ACCESSION NUMBER	
ACTION: ADD/REPLACE/DELETE (CIRCLE ONE)	

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File

OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT (UOR)

1. GENERAL

A. TITLE OF UOR: Main Transformer Drain Sump Sumpdown - Milky liquid

B. DATE/TIME OF EVENT: 2100 11/17/88

C. DATE/TIME UOR COMPLETED: 2300 11/17/88

2. PLANT CONDITIONS AT TIME OF OCCURRENCE

A. OPERATING CONDITION (1-7) 1 B. REACTOR POWER (%)_____

C. TAVE_____ D. PZR. PRESSURE_____ E. PZR. LEVEL_____

PLANT TRIP YES (NO) (Circle one)

3. NOTIFICATION

A. IS NRC NOTIFICATION REQUIRED? YES / (NO) (Circle one)
(Justify "NO" answer in Discussion Section.)

B. HAS PROCEDURE 2.50.0 BEEN CONSULTED? (YES) NO (Circle one)

B.1. EMERG CONDITION DECLARED_____
B.2. DATE/TIME OF DECLARATION_____

C. NRC NOTIFIED BY _____ (Individual) USING _____ (Method)

C.1. DATE/TIME_____

D. NRC RESIDENT NOTIFIED BY Copy of UOR (Individual)

D.1. DATE/TIME_____

E. DUTY CALL OFFICER (DCO) NOTIFIED BY Copy of UOR (Individual)

E.1. DATE/TIME_____

(DCO WILL NOTIFY PM AND MOO if occurrence requires NRC notification)

F. AMOD NOTIFIED BY Copy of UOR (Individual)

F.1. DATE/TIME_____

NOTE: AMOD notify MOD
PSS notify MOD if AMOD not available

0084f

124-88

OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT (UOR)

4. DESCRIPTION OF OCCURRENCE/SEQUENCE OF EVENTS
(Use bulletized short statements in preference to narrative. Use additional pages as necessary including applicable drawings/attachments to assist explanation at Morning Management Meeting.)

- ~2100 The secondary AO reported a milky liquid was being pumped from the main transformer drain collection sumps. He stopped the pumpdown.
- An evaluation of sump contents had been made by the Hazardous Waste Coordinator prior to the pumpdown.
- Where the liquid entered the river a discolored area (estimated 30ft²) was observed.
- The PSS called the Hazardous Waste Coordinator who had approved the pumpdown, and (WHO) did not consider the release reportable.
- Samples of the liquid were evaluated by Chemistry personnel who thought the liquid was an emulsion of oil in water possibly caused by particles of dirt. Small quantities of yellow oil could be seen on the surface of the water remaining in the sumps.
- ~2200 with the tide going out the discolored area at the river banks was no longer observable.

CONTINUATION SHEETS ATTACHED (YES) / NO (Circle one)

0084f

124-88

OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT (UOR)

4. DESCRIPTION OF OCCURRENCE/SEQUENCE OF EVENTS
(Use bulletized short statements in preference to narrative. Use additional pages as necessary including applicable drawings/attachments to assist explanation at Morning Management Meeting.)

Since this release received prior approval as a nonreportable release it is not considered to be reportable by the requirements of procedure 1-26-1.

CONTINUATION SHEETS ATTACHED YES / NO (Circle one)

124-88

OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT (UOR)

5. IMMEDIATE CORRECTIVE ACTIONS

STOPPED PUMPDOWN

NOTIFIED HAZARDOUS WASTE COORDINATOR

6. PRELIMINARY RECOMMENDATIONS FOR LONG TERM CORRECTIVE ACTION
(Procedure changes, PED evalute, repairs, plant changes, training, PIR, LER, etc.) (PSS Complete)

① HAZARDOUS WASTE COORDINATOR AND CHEMISTRY EVALUATE IF FURTHER PUMPDOWN OVERBOARD IS ADVISABLE OR IF OIL SEPERATION REQUIRED.

② HAZARDOUS WASTE COORDINATOR PROVIDE SPECIFIC GUIDANCE AS TO QUANTITY OF OIL DISCHARGE THRESHOLD OF REPORTABILITY

Submitted by James M. Taylor (NSE)

Approved by [signature] (PSS)

Noted by [signature] (MOD)

Distribution:

* MOD (JCF)
* AMOD (RWB)
* PM (JHG)
* APM (ETB)
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Required Reading System (before shift)

* Distributed promptly by on-shift personnel, remainder of list distributed by Operations Department Admin Specialist

0084f

HSA ID# 86

DECOM

2547.5.1

ATTACHMENT B

ATLAS DOCUMENT INPUT FORM

1. TITLE UOR 43-88
Boron Waste Storage Tank Diked Area Sump Drain Valves To Yard Storm Drain Found Open

2. DOCUMENT TYPE Report
3. DOCUMENT FORM M

4. DOCUMENT LOCATION
5. RETENTION PERIOD

6. TECHNICAL FILE NUMBER 11.14.6 1.8.4.2

7. DOCUMENT NUMBER

8. REVISION NUMBER
9. DATE 6/2/88
10. CLASSIFICATION TYPE D

11. TOPICAL INDUSTRY ISSUE

12. KEYWORDS

13. SUBJECT

14. REFERENCE DOCUMENT

15. SYSTEM CODE
16. COMPONENT CODE

17. CYCLE NUMBER

18. ORIGINATOR OPS

19. RECEIVER

20. VENDOR CODE

21. ACCESSION NUMBER

ACTION: ADD/REPLACE/DELETE (CIRCLE ONE)

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OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT (UOR)

1. GENERAL

A. TITLE OF UOR: BORON WASTE STORAGE TANK DIKED AREA SUMP DRAIN VALVES TO YARD STORM DRAIN FOUND OPEN.

B. DATE/TIME OF EVENT: 2 JUNE 1988 2045

C. DATE/TIME UOR COMPLETED 2 JUNE 1988 2310

2. PLANT CONDITIONS AT TIME OF OCCURRENCE

A. OPERATING CONDITION (1-7) 7 B. REACTOR POWER (%) 100%

C. TAVE 576 D. PZR. PRESSURE 2235 E. PZR. LEVEL 58

PLANT TRIP YES / (NO) (Circle one)

3. NOTIFICATION

A. IS NRC NOTIFICATION REQUIRED? YES / (NO) (Circle one)
(Justify "NO" answer in Discussion Section.)

B. HAS PROCEDURE 2.50.0 BEEN CONSULTED? YES / (NO) (Circle one)

B.1. EMERG CONDITION DECLARED N/A
B.2. DATE/TIME OF DECLARATION N/A

C. NRC NOTIFIED BY N/A (Individual) USING _____ (Method)

C.1. DATE/TIME _____

D. NRC RESIDENT NOTIFIED BY Copy of UOR (Individual)

D.1. DATE/TIME _____

E. DUTY CALL OFFICER (DCO) NOTIFIED BY _____ (Individual)

E.1. DATE/TIME 2305 / 6/2/88

(DCO WILL NOTIFY PM AND MOO if occurrence requires NRC notification)

F. AMOD NOTIFIED BY UOR (Individual)

F.1. DATE/TIME _____

NOTE: AMOD notify MOD
PSS notify MOD if AMOD not available

0084f

OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT (UOR)

DESCRIPTION OF OCCURRENCE/SEQUENCE OF EVENTS
(Use bulletized short statements in preference to narrative. Use additional pages as necessary including applicable drawings/attachments to assist explanation at Morning Management Meeting.)

2 June ~2045 An AO noted that WD-333 (TK-13B diked area drain to yard storm sewer) was open. The local operator in the spent fuel building was locked in the shut position WD-331 (TK-13A diked area drain to yard storm sewer) was found approximately 1/8th open and its local operator also indicated locked shut.

~2150 The operator placed the WD-331 valve in the fully shut position. He was unable to obtain any movement on WD-333.

~2215 H.P. Tech informed the SOS that smears taken in the diked area sump were less than 100 DPM/100 cm^2 (NOTE: This is a factor of 10 less than the criteria for contaminated areas)

There has been no history of BWST leakage. With the absence of activity on the smears taken in the sump, it's no inadvertent release is believed to have taken place.
This event is not reportable under guidance from procedure 1-26-1

CONTINUATION SHEETS ATTACHED YES / (NO) (Circle one)

OB:f

2547.5.4

OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT (UOR)

5. IMMEDIATE CORRECTIVE ACTIONS

WD-331 was fully shut. Atten led to shut WD-333.
Verified that no activity was present in the BWST diked area sump.

6. PRELIMINARY RECOMMENDATIONS FOR LONG TERM CORRECTIVE ACTION
(Procedure changes, PED evalute, repairs, plant changes, training, PIR, LER, etc.) (PSS Complete)

Determine failure mode for WD-333 operator and correct.
FIX VALVE & LOCK IT SHUT LOCALLY RATHER THAN AT THE 21' ELEVATION. (BOTH WD-331 & WD-333)

- Investigate why the reach rod is connected if local operation is required anyway.

Submitted by [signature] (NSE)
Approved by [signature] (PSS)
Noted by [signature] (MOD)

Distribution:

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Required Reading System (before shift)

* Distributed promptly by on-shift personnel, remainder of list distributed by Operations Department Admin Specialist

0084f

HSA ID# 87

47 DECOM

ATTACHMENT B

ATLAS DOCUMENT INPUT FORM

1. TITLE	UOR 42-88 RWST Siphon Heater Return Line Isolation Valve Leak
2. DOCUMENT TYPE	Report
3. DOCUMENT FORM	M
4. DOCUMENT LOCATION	
5. RETENTION PERIOD	
6. TECHNICAL FILE NUMBER	11.14.6 1.8.4.2
7. DOCUMENT NUMBER	
8. REVISION NUMBER	
9. DATE	5/27/88
10. CLASSIFICATION TYPE	D
11. TOPICAL INDUSTRY ISSUE	
12. KEYWORDS	
13. SUBJECT	
14. REFERENCE DOCUMENT	
15. SYSTEM CODE	
16. COMPONENT CODE	
17. CYCLE NUMBER	
18. ORIGINATOR	OPS
19. RECEIVER	
20. VENDOR CODE	
21. ACCESSION NUMBER	
ACTION: ADD/REPLACE/DELETE (CIRCLE ONE)	

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OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT (UOR)

1. GENERAL

A. TITLE OF UOR: RWST Siphon Ll after Return Line Isolation Valve Leak.

B. DATE/TIME OF EVENT: 5-27-88 / 1135 hrs

C. DATE/TIME UOR COMPLETED: 5-27-88 / 1300 hrs.

2. PLANT CONDITIONS AT TIME OF OCCURRENCE

A. OPERATING CONDITION (1-7) 7 B. REACTOR POWER (%) 100%

C. TAVE 576°F D. PZR. PRESSURE 2230 psig E. PZR. LEVEL 58%

PLANT TRIP YES / (NO) (Circle one)

3. NOTIFICATION

A. IS NRC NOTIFICATION REQUIRED? YES / (NO) (Circle one)
(Justify "NO" answer in Discussion Section.)

B. HAS PROCEDURE 2.50.0 BEEN CONSULTED? YES / (NO) (Circle one)

B.1. EMERG CONDITION DECLARED NA
B.2. DATE/TIME OF DECLARATION

C. NRC NOTIFIED BY ~~Copy of UOR~~ NA. (Individual) USING (Method)

C.1. DATE/TIME

D. NRC RESIDENT NOTIFIED BY Copy of UOR (Individual)

D.1. DATE/TIME

E. DUTY CALL OFFICER (DCO) NOTIFIED BY Copy of UOR (Individual)

E.1. DATE/TIME

(DCO WILL NOTIFY PM AND MOO if occurrence requires NRC notification)

F. AMOD NOTIFIED BY R. Meixell (Individual)

F.1. DATE/TIME 5/27/88 1200

NOTE: AMOD notify MOD
PSS notify MOD if AMOD not available

0084f

OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT (UOR)

DESCRIPTION OF OCCURRENCE/SEQUENCE OF EVENTS
(Use bulletized short statements in preference to narrative. Use additional pages as necessary including applicable drawings/attachments to assist explanation at Morning Management Meeting.)

1135 hrs. The RWST siphon heater return line isolation valve (CS-81) was found leaking at approximately one drip per fifteen seconds.

- The RWST siphon heater outlet flange and return line isolation valve have leaked in the past and appropriate corrective measures were taken. See UORs 21-85, 20-88 and 159-87.
- Radiological Controls technicians had recently removed the asphalt beneath CS-81 in an effort to remove contamination from ealier leaks. The leak was noticed after the asphalt was removed.
- A drip pan was placed under CS-81 to contain the leak.
- The leak has been contained and no leakage reached any storm drains. This condition is not considered reportable per OP 1-26-1.
- Maintenance attempted to stop the leak by tightening flange connections. This attempt was unsuccessful therefore leak collection will need to continue indefinitely.

CONTINUATION SHEETS ATTACHED YES / (NO) (Circle one)

084f

OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT (UOR)

5. IMMEDIATE CORRECTIVE ACTIONS

• Collect leakage until Maintenance can complete repair.

• PED to evaluate whether a freeze seal might be possible to change out valve.

6. PRELIMINARY RECOMMENDATIONS FOR LONG TERM CORRECTIVE ACTION (Procedure changes, PED evalute, repairs, plant changes, training, PIR, LER, etc.) (PSS Complete)

See UOR 21-88

Submitted by SE Nichols (NSE)

Approved by _____ (PSS)

Noted by _____ (MOD)

Distribution:

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PED Section Head
Required Reading System (before shift)

* Distributed promptly by on-shift personnel, remainder of list distributed by Operations Department Admin Specialist

0081f

HSA ID# 88

DECOM

ATTACHMENT B

ATLAS DOCUMENT INPUT FORM

1. TITLE	UOR 39-88 Overfilling of RWST Collection Barrel
2. DOCUMENT TYPE	Report
3. DOCUMENT FORM	M
4. DOCUMENT LOCATION	
5. RETENTION PERIOD	
6. TECHNICAL FILE NUMBER	11.14.6 1.8.4.2
7. DOCUMENT NUMBER	
8. REVISION NUMBER	
9. DATE	5/22/88
10. CLASSIFICATION TYPE	D
11. TOPICAL INDUSTRY ISSUE	
12. KEYWORDS	
13. SUBJECT	
14. REFERENCE DOCUMENT	
15. SYSTEM CODE	
16. COMPONENT CODE	
17. CYCLE NUMBER	
18. ORIGINATOR	OPS
19. RECEIVER	
20. VENDOR CODE	
21. ACCESSION NUMBER	
ACTION: ADD/REPLACE/DELETE (CIRCLE ONE)	

RWB

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OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT (UOR)

1. GENERAL

A. TITLE OF UOR: overfilling of RWST collection barrel

B. DATE/TIME OF EVENT: 5-22-88 0930

C. DATE/TIME UOR COMPLETED: 5-22-88 1430

2. PLANT CONDITIONS AT TIME OF OCCURRENCE

A. OPERATING CONDITION (1-7) 7 B. REACTOR POWER (%) 100

C. TAVE 526 D. PZR. PRESSURE 2235 E. PZR. LEVEL 58

PLANT TRIP YES / (NO) (Circle one)

3. NOTIFICATION

A. IS NRC NOTIFICATION REQUIRED? YES / (NO) (Circle one)
(Justify "NO" answer in Discussion Section.)

B. HAS PROCEDURE 2.50.0 BEEN CONSULTED? YES / (NO) (Circle one)

B.1. EMERG CONDITION DECLARED N/A
B.2. DATE/TIME OF DECLARATION —

C. NRC NOTIFIED BY N/A (Individual) USING — (Method)

C.1. DATE/TIME —

D. NRC RESIDENT NOTIFIED BY UOR Copy (Individual)

D.1. DATE/TIME —

E. DUTY CALL OFFICER (DCO) NOTIFIED UOR (Individual)

E.1 DATE/TIME —

(DCO WILL NOTIFY PM AND MOO if occurrence requires NRC notification)

F. AMOD NOTIFIED BY UOR (Individual)

F.1. DATE/TIME —

NOTE: AMOD notify MOD
PSS notify MOD if AMOD not available

0084f

OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT (UOR)

DESCRIPTION OF OCCURRENCE/SEQUENCE OF EVENTS
(Use bulletized short statements in preference to narrative. Use additional pages as necessary including applicable drawings/attachments to assist explanation at Morning Management Meeting.)

- At 0930 on Sunday 5-22-88 the Primary AO detected water dripping from the rim of the collection barrel for the RWST siphon heater flange leak.

- At 1030 some water was removed from the barrel for transfer to the Fuel bldg sump.

- Except for the area under the barrel the ground was dry and no water was running out from that area. (No release or reporting IAW of 1-26-1 applies)

- Samples from the barrel do not indicate rain water dilution of the RWST water in the barrel.

CONTINUATION SHEETS ATTACHED YES / NO (Circle one)

084f

OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT (UOR)

5. IMMEDIATE CORRECTIVE ACTIONS

Drained collection barrel to prevent further spillage due to overfilling. Sampled water to determine if rain was leaking into barrel (apparently it is not).

6. PRELIMINARY RECOMMENDATIONS FOR LONG TERM CORRECTIVE ACTION
(Procedure changes, PED evalute, repairs, plant changes, training, PIR, LER, etc.) (PSS Complete)

- Move barrel to the edge of the roped off area to make it easier to check the level in the barrel

Submitted by R McA (NSE)

Approved by T Wes (PSS)

Noted by RBS (MOD)

Distribution:

- * MOD (JCF)
- * AMOD (RWB)
- * PM (JHG)
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  Manager, Maintenance (RFP)
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  PED Section Head
  Required Reading System (before shift)

* Distributed promptly by on-shift personnel, remainder of list distributed by Operations Department Admin Specialist

0084f

HSA ID# 89

89

From: Aldo Capristo
To: hickeyd, corp.dahlgren
Date: 10/8/97 10:08am
Subject: Site Characterization Info

I was told today on exit that the Aux Boiler room cabinets will probably have residual mercury, and that the base of these cabinets may have some mercury also. This is from storage of transmitters that were used in the 80's that had quarts of mercury. Please keep or forward as needed.

a.c. 4530

HSA ID# 90

AI-89-49-1 ACTIVITY IN TURBINE HALL SUMP SLUDGE

Sumps, floor trenches and various work areas were sampled to determine the source of radioactivity in the Turbine Hall sump sludge. Low levels of activity were found in every sump except the service water heat exchanger sump. Turbine Hall work areas were found to be clean except for the sand along the railroad tracks in the crane bay.

Based on the nuclides present and the relative concentrations, it appears that most of the sump activity originated from the aux condensate system and dispersed throughout the Turbine Hall floor drains and trenches. The activity is hypothesized to enter the aux condensate system via small siphon heater leaks and entries to the S/G's during refueling for inspections and sludge lancing. Some additional activity is likely deposited by the storage and maintenance on contaminated components (such as the spare RCP motor) in the crane bay. Activity levels were all less than the MPC_w values listed in 10CFR20 so they don't represent a major hazard if released.

The following recommendations are being made to deal with the current situation and to reduce the extent of the problem in the future.

1. Rad Controls will have to survey all secondary plant sumps prior to any work beginning in order to establish appropriate radiological controls.

2. Chemistry will have to add secondary plant trenches and sumps to their routine surveillance schedule.

3. All waste materials coming out of the sumps may be mixed waste which will be difficult to dispose of. The use of a "reporting level" similar to that used for monitoring sewage sludge should be evaluated as a release criterion.

4. Rad Controls should consider tightening up on contamination control measuresfor S/G work to reduce internal contamination.

5. More attention and followup should be paid to "possible" leaks into the aux condenstate system as determined by Chemistry sampling.

6. Rad Controls should consider reducing to 100 dpm/100cm^2 the limit for gross contamination in the Turbine Hall. Work activities should be controlled to maintain contamination below 100 dpm/100cm^2.

7. The dirt in the railroad tracks of the Turbine Hall and the floor trench of the Aux Boiler Room should be removed and disposed of to prevent tracking to other parts of the plant.

8. The Hazardous Waste Coordinator should evaluate methods to separate the hazardous from the radioactive waste in the sumps to avoid the mixed waste problem.

3102F

TURBINE HALL SUMP ACTIVITY

Rev. _____

6/9/89

ISSUE	SIGNIFICANCE	PLANS	RESP/DATE	COMMENTS/STATUS
1. Sump residue found to have gross activity of 5E-6 μci/cc	1. Potential leakage into secondary plant & possible release to environment	1. Determine the source of the activity a. Check Aux Cond. records for activity.	PBR 6/9/89	Co-60, Cs-137 seen periodically in the Aux. Cond.
		b. Sample other secondary drains/sumps.	GDC 6/9/89	water treatment sump shows gross activity of 5E-6 μci/cc in sludge. (Co-60, Cs-134,137) Also Lube oil sump & Cond. Pump sump.
		c. Smear RCP motor internals for nuclide comparison.	GDC 6/9/89	Cs-137, Cs-134, Co-60 present in descending order of activity.
		d. Check sewage plant samples for similar nuclide activity.	PBR 6/9/89	Low level activity at sewage plant following low levels of activity in Aux Cond. Syst.
		e. Check with Maint. man who asked for sump sample (D. Erikson) and see why he asked.	GDP 6/12/89	Survey requested because discharge pipe is labelled to require a survey prior to pumping sump.
		f. Check dirt in rail tracks for activity	GDC 6/12/89	Cs-137, Cs-134 Co-60 present in dirt samples.
		g. Check secondary plant mop buckets for activity.	GDC 6/12/89	No activity found.

ISSUE	SIGNIFICANCE	PLANS	RESP/DATE	COMMENTS/STATUS
		h. Repeat samples of areas which showed possible activity.	GDP 6/16/89	Lube oil sump & Cond pump pit sump both have activity.
		i. Sample the white elephant.	GDP 6/16/89	Sample showed same nuclides and activities as Turb. Hall Sump.
		j. Sample Aux Boiler Room Floor Trench	GDP 6/16/89	Sample showed highest nuclide activity of any samples.
	Conclusions: 1. Most of the Turbine Hall sumps and floor drains are contaminated to low levels of activity due to buildup over time from the residual activity in the condensate system. The activity is most likely due to S/G inspections and sludge lancing which open the secondary side of the S/Gs during refuelings. Also any in-leakage into the aux condensate system. 2. Activity levels in the Turbine Hall sump, railroad tracks and adjacent areas are probably exacerbated by the RCP pump work.			

Results of Analyses of Various Turbine Building Sumps

1. Turbine Hall Sump (northwest corner):	* Co-60	4E-6 μCi/cc		0.13 M
	* Cs-137	1.7E-6 " "		0.08 "
	* Sb-125	3E-7 " "		0.003 "
2. Turbine Sump Liquid (1/84-5/84):	Cs-137	1E-8 to 1E-7	" "	
3. White Elephant:	** Co-60	3E-6 " "		0.10 "
	** Cs-137	1E-6 " "		0.05 "
	** Sb-125	3E-7 " "		0.003 "
4. Water Treatment Sump (By Clarifier):	* Co-60	4E-6 " "		0.13 "
	* Cs-137	3E-7 " "		0.02 "
	* Cs-134	2E-7 " "		0.02 "
Lube Oil Sump (6/10/84):	* Co-60	4E-7 " "		0.013 "
Lube Oil Sump (6/17/84):	** Cs-137	1E-7 " "		0.005 "
6. Condensate Pump Pit Sump (6/10/84):	* Cs-137	1E-7 " "		0.005 "
Cond. Pump Pit Sump (6/17/84):	** Co-60	1.4E-6 " "		0.05 "
	** Cs-137	4E-7 " "		0.02 "
	** Sb-125	1.6E-7 " "		0.002 "
7. Service Water Hx Sump:	* No Detectable Activity			
7a. Aux Boiler Room Floor Trench:	** Cs-137	1.6E-5		0.80 "
	** Sb-125	1.2E-6		0.01 "

LLDs at 75% C.I. For:

* 1000 sec. Count		** 3000 sec Count	
Co-60	1.2E-7	Co-60	1E-8
Cs-134	1.1E-7	Cs-134	1E-8
Cs-137	1E-7	Cs-137	1E-8
Sb-125	2.2E-7	Sb-125	2E-8

Other Turb. Bldg & Misc. Samples

8. RCP Contamination Analysis — 1-3 k dpm/100cm²
   Nuclides Present: Cs-137 4E-1 μci/cm²
   Cs-134 5E-2 " "
   Co-60 8E-3 " "
   Mn-54 4E-4 " "
9. Aux Condensate: Trace amounts of Cs-137
   Co-60
   (Co-58 following three
10. Steam Generators: S/G #1 Co-60 4E-7 μci/ml
    Cs-137 4E-7 " "
    S/G #2 Cs-137 1E-7 " "
    S/G #3 Cs-137 1E-7 " "
11. STP Sludge: Co-60, Cs-137 identified
12. Dirt in railroad tracks by RCP motor: Co-60 5E-7 μci/gm
    Cs-134 3E-7 " "
    Cs-137 2E-6 " "
13. Floor under canvas at RCP motor: Max activity 155dpm/100c
14. Cold Side Mop Buckets: <100 cpm above bkg.
15. Floor around sump to Cond. Water Boxes: No activity found

HSA ID# 91

SAND GRAVEL AND SLUDGE SAMPLE DATA SHEET

Sample Obtained From: BACKYARD CRANE (BIRD DROPPINGS)

Tech Name: R. SPALDING Sample Time: 1320 Date: 8-15-89

Dose Rate or CCPM: ≠ BKG

Meter Used and Serial No. RM-14

Container Description/Geometry: 280 g IN MARINELLI

Dispostion of Item Sampled:

TAKEN TO DETERMINE CLEANING PROCESS AND CONTROLS FOR CRAN

Supervisor Approval: Date:

3049F

```
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*                                                                       *
*          G A M M A   S P E C T R U M   A N A L Y S I S                *
*                                                                       *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
```

CANBERRA SPECTRAN-F V4.1

MAINE YANKEE 15-AUG-89 13:36:39

A N A L Y S I S   P A R A M E T E R S

```
MCA Unit Number:     1     /     ADC Unit Number:  1.0
Detector Number:     1     /     Geometry Number:    5
Spectrum Size:   4096 channels from MCA Region FULL
First channel for Search:      0
Order of Smoothing Function:  5
Number of Background Channels:  4 on each side of peak.
Peak Confidence Factor: 85.0%
Multiplet Sensitivity:  3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

Environmental Background Subtracted.
Measured Energy Differences Listed.
Multiplet Analysis Performed.

Regular Output.
 pectral data read directly from Multichannel Analyzer ANO
 nalyzed by:          RS

Sample Description: BIRD DROPPINGS GUANO
Geometry Description:  SAND MARINELLI
Sample Size:   2.8000E+02 GM        / Conversion Factor: 1.0000E+00
Standard Size: 1.0000E+00 EA
Analysis Library file: ANL000

COLLECT started on 15-AUG-89 at 13:19:58

COLLECT Live Time:     1000. seconds
        Real Time:     1000. seconds
        Dead Time:     00.00 %

 Decayed to       0. days,  0.0167 hours BEFORE the start of COLLECT

Energy Calibration performed 15-AUG-89
Efficiency Calibration performed 10-JUL-89
```

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1$	1210.29	604.76	1.2	12.	16.	42.4	CS-134
2	1324.10	661.62	1.3	7.	256.	6.5	CS-137
3	2348.22	1173.09	2.7	4.	91.	11.1	CO-60
4	2667.38	1332.40	2.0	2.	101.	10.3	CO-60
4B		1332.59			1.	52.2	
5	2925.06	1461.00	1.5	2.	63.	13.0	K-40

Error Quotation at 1.00 sigma
Peak Confidence Level at 85.0%

$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
B - Environmental Background peak

Background Subtraction performed using file BK0001
Background Description: 10000 SEC BKG DET 1
Background COLLECT started on 10-JUN-89 at 16:30:00
Background Live Time = 10000. seconds

MAINE YANKEE 15-AUG-89 13:36:39

Sample: BIRD DROPPINGS GUANO
Data collected on 15-AUG-89 at 13:19:53
Decayed to 0. days, 0.0167 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in uCi/GM				Energy Comparison (keV)	
	Measured	Error	Decay corrected	Error	Expect	Diff
CO-60	2.41E-06	+- 2.57E-07	2.41E-06	+- 2.57E-07	1332.46	-0.06
					1173.21	-0.12
CS-137	4.03E-06	+- 2.85E-07	4.03E-06	+- 2.85E-07	661.64	-0.01
K-40	1.52E-05	+- 2.01E-06	1.52E-05	+- 2.01E-06	1460.73	0.27
Total	2.16E-05	+- 2.05E-06	2.16E-05	+- 2.05E-06		

Standard Deviation = 0.17

EBAR = 1.48 MeV/Disintegration
Max Permissable Activity = 0.00E-01 uCi/GM
Total Measured Activity = 6.44E-06 (+-3.83E-07) uCi/GM

Error Quotation at 1.00 Sigma

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
1210.29	604.76	16.	42.4	2.06E+00

HSA ID# 92

ATTACHMENT B

ATLAS DOCUMENT INPUT FORM

1. TITLE	Request For In Place Disposal Of Slightly Contaminated Soil In Accordance With 10CFR 20.302 A
2. DOCUMENT TYPE	CORRESPONDENCES
3. DOCUMENT FORM	NT
4. DOCUMENT LOCATION	
5. RETENTION PERIOD	
6. TECHNICAL FILE NUMBER	01.01.04.02
7. DOCUMENT NUMBER	
8. REVISION NUMBER	
9. DATE	11/02/1988
10. CLASSIFICATION TYPE	D
11. TOPICAL INDUSTRY ISSUE	
12. KEYWORDS	
13. SUBJECT	
14. REFERENCE DOCUMENT	
15. SYSTEM CODE	
16. COMPONENT CODE	
17. CYCLE NUMBER	
18. ORIGINATOR	Admin
19. RECEIVER	
20. VENDOR CODE	
21. ACCESSION NUMBER	
ACTION: ADD/REPLACE/DELETE (CIRCLE ONE)	

Maine Yankee

RELIABLE ELECTRICITY FOR MAINE SINCE 1972

EDISON DRIVE • AUGUSTA, MAINE 04330 • (207) 622-4868

1 MY-NRC
2 MY 22.1
3 MY 1.0.7.
4) 1.8.42

November 2, 1988
MN-88-107

GDW-88-297

RESPONSIBILITY Lwhittier
N/A
N/A

United States Nuclear Regulatory Commission
Washington, DC 20555

Attention: Document Control Desk

Reference: License No. DPR-36 (Docket No. 50-309)

Subject: Request for In-Place Disposal of Slightly Contaminated Soil in Accordance with 10CFR20.302(a)

Dear Sir:

Maine Yankee Atomic Power Company (Maine Yankee) requests NRC approval pursuant to 10CFR20.302(a) for in-place disposal of residual contaminated soils located on-site at the Maine Yankee Atomic Power Station in Wiscassett, Maine, as detailed in the attached application. The application specifically requests approval to leave approximately 7,600 cubic feet of slightly contaminated soil, resulting from a Reactor Water Storage Tank (RWST) siphon heater leak, in the ground within the protected area at Maine Yankee. Approximately 600 cubic feet of soil from the immediate area of the leak has been removed for off-site disposal as radioactive waste. It is not believed practical to remove the remaining residual contamination due to the volume of soil required to be excavated and its proximity to the foundation of the RWST. All significant concentrations of radioactive materials which might present an unnecessary risk to the public have been removed. The hole created by the excavation has been backfilled with clean materials, with the major portion of the surface area paved over with asphalt to minimize the potential of translocating the residual activity by surface water run off or by winds.

A radiological assessment based on an estimate of the residual soil activity from the RWST siphon heater leak is detailed in Attachment 1. Based on this analysis, Maine Yankee has determined that the potential radiological impact of any residual activity reaching the tidal waters adjacent to the plant will result in off-site doses to a maximally exposed member of the general public of less than one mrem/year to the whole body or any organ. This dose which is about 100 times less than natural background radiation and would be indistinguishable from the normal variations in background radiation levels. It is below all limits currently under consideration by the NRC for application to materials which could be classified as Below Regulatory Concern (BRC).

0595L-DS

United States Nuclear Regulatory Commission
Document Control Desk

Maine Yankee has determined that pursuant to 10CFR170.21, a fee of $150.00 is required for this approval. Please find a check for that amount enclosed.

Very truly yours,

MAINE YANKEE

G. D. Whittier, Manager
Nuclear Engineering and Licensing

DS:BJP

Attachment

c: Mr. Richard H. Wessman
Mr. William T. Russell
Mr. Patrick M. Sears
Mr. Cornelius F. Holden

0595L-DS

MaineYankee

ATTACHMENT 1

MAINE YANKEE ATOMIC POWER COMPANY

APPLICATION FOR APPROVAL TO LEAVE IN-PLACE SLIGHTLY CONTAMINATED SOIL NEXT TO THE REACTOR WATER STORAGE TANK

0595L-DS

Maine Yankee

ATTACHMENT 1

Maine Yankee Atomic Power Company

Application for Approval to Leave In-Place
Slightly Contaminated Soil Next to
the Reactor Water Storage Tank

1.0 INTRODUCTION

Maine Yankee Atomic Power Company (Maine Yankee) requests approval, pursuant to 10CFR20.302(a) to leave in-place residual radioactive materials in soil in the area of the excavation of contaminated soil associated with leakage from the Reactor Water storage Tank (RWST).

2.0 DESCRIPTION OF EVENT CONTAMINATION

On February 23, 1988, a small outdoor leak at the inlet flange connection between the RWST siphon heater return line and Isolation Valve CS-81 was discovered and subsequently contained. It could not be directly determined exactly when the leak had started, nor the actual water volume which had been lost. The leakage gave rise to a concern over possible ground contamination since part of the area below the leak was gravel which could allow radioactivity to seep into the soil below the asphalt pavement. Surveys of the area adjacent to the RWST indicated ground contamination with concentrations as high as 6.6E-03 uCi/gm Cesium-137.

As a result, contaminated soil was removed from the area of the RWST and placed into drums for future disposal off-site as radioactive waste. During the contaminated soil removal, a second small leak at the base of the RWST siphon heater return line Isolation Valve CS-81 was also discovered. The second leak was observed to be only a few drops per minute and was subsequently repaired. Sample analysis of the soil removed from the contaminated area also indicated the presence of

Cesium-134, Antimony-125, and Cobalt-60 in addition to the principal radionuclide detected, Cesium-137. The Cesium-134, Antimony-125, and Cobalt-60 were observed in some samples taken from the excavation to be present in concentrations approximately equal to 1.E-05 uCi/gm for Cesium-134, 2.E-05 uCi/gm for Cobalt-60, and 8.E-05 uCi/gm for Antimony-125. These levels are about two orders of magnitude below the highest Cesium-137 concentrations as noted above.

Soil in the area of the RWST was excavated between two and five feet deep until the average Cesium-137 concentration had fallen to an equivalent MPC value in water of about 2.0E-05 uCi/ml. Approximately 600 cubic feet of earth and asphalt that covered the area were removed for off-site radioactive waste disposal.

The hole was backfilled with clean fill and repaved, except for a small gravel area below the siphon heater. This limits the amount of rainfall and snow melt waters which could percolate down through the residual soil column to the ground water table. It also limits the potential for airborne transport of residual soil activity off-site, as well as eliminate any significant dose contribution to the plant's employees. Table 1 lists the estimate of residual activity left in-place within the plant's protected area.

The following sections assess the potential impact associated with the assumption that the residual activity might be released to the off-site environment. The release pathway postulated consist of the migration downward of the residual soil activity to the ground water, with the subsequent transport through the water table to the tidal estuary.

3.0 GEOLOGY AND HYDROLOGY CONSIDERATIONS

The soil at the Maine Yankee site consists of medium soft to medium stiff silty clays with occasional sandy lenses and pebbly stones. The soil is characterized as glacial till, with an average depth to bedrock of 15 to 20 feet. The ground water pathway from the RWST location to the

adjacent tidal waters is through this till, and possible in some places through compacted controlled backfill. The depth to groundwater has been conservatively estimated to be about 10 feet below grade. This is about 10 feet above the adjacent tidal waters.

The flow of groundwater in the vicinity of the RWST is towards the surrounding adjacent tidal waters. There are no potable groundwater wells in the vicinity of the RWST which could be contaminated as a result of the RWST related leaks.

The shortest distance between the soil contamination area and open waters associated with the estuary is estimated to be about 117 feet. Figure 1 shows the location of the RWST and adjacent open waters.

4.0 RADIOLOGICAL CONSIDERATIONS

Residual Radioactivity: The remaining contamination in the soil was conservatively estimated by determining the average lateral radioactivity reduction factors between soil samples taken approximately 12 and 18 inches apart on the outer edge of the excavated area in all directions moving away from the RWST. Based on the Cesium-137 activity reduction factors, which averaged from about 4 per foot to as high as 106 per foot depending on which lateral direction outward from the trench wall one moved, the average concentration of residual activity is assumed to continue to decrease until an equivalent concentration equal to the Lower Limit of Detection (LLD) for Cesium-137 in sediments for environmental samples, as required by plant Technical Specifications, is reached (i.e., 1.8E-07 uCi/gm). No credit for reduction of residual activity with depth is assumed, even though the activity levels for Cesium-137 had generally fallen off at the bottom of the excavation to concentrations equivalent to the MPC value in water of 2E-05 uCi/ml. The column of residual activity was therefore assumed to extend down 10 feet from the surface to ground water. The resulting volume of soil containing residual activity down to the concentration required as minimum detectable capabilities is

conservatively estimated to be about 7,600 cubic feet. Residual activity concentrations were estimated based on a weighted average of the observed activities for Cesium-137, along the outer edge of the excavated trench. For Cesium-137, the total activity remaining in the soil is estimated to be about 6.1 mCi, which is contained within the plant's protected area. Table 1 lists the results of the estimates of residual contamination in soil.

Potential Exposure: In order to bound the maximum possible dose to an individual, it is postulated that the residual activity in the soil near the RWST will migrate off-site via groundwater.

A conservative groundwater/radionuclide travel time analysis was performed for a minimum travel distance of about 117 feet from the RWST to the adjacent tidal waters. A groundwater travel time of 255 days was estimated from Darcey's Law for this location. This estimate is based on a soil permeability of 10 gpd/ft^2, a hydraulic gradient of 0.09 ft/ft, and a soil porosity of 0.25. The analysis also conservatively assumed that the RWST activity in soil was immediately available to the groundwater. However, due to ionic absorption of the radionuclides on soil particles in the groundwater flow regime, most radionuclides travel at only a small fraction of the groundwater velocity. For the radionuclides present in the RWST release, retardation coefficients were estimated from data presented in NUREG/CR-3130, NUREG-0440, and NUREG/CR-1596, where the retardation coefficient is defined as the ratio of groundwater velocity to radionuclide velocity. The estimated retardation coefficients and radionuclide travel times from the RWST to the tidal waters are summarized in Table 2. The travel time is the product of the groundwater travel time (i.e., 0.7 years) and the appropriate retardation coefficient.

Due to the relatively long travel times for the nuclides listed in Table 2 in comparison to their respective half lives, the only nuclide which could be expected not to decay away before it could reach the estuary is Cesium-137. As a consequence, only Cesium-137 needs to be considered in the off-site exposure analysis.

At the time when Cesium-137 is assumed to reach the estuary, it is postulated that all the residual activity noted in Table 1 is released either to the shoreline sediment, or the tidal waters and aquatic food media. No credit for dispersion of activity through the soil media is taken.

Once the activity is available to the estuary system, the exposure pathways of concern are direct radiation from the ground plane to anyone assumed to be working on the mud flats at low tide, and the ingestion of fish and shellfish taken from the waters adjacent to the plant.

The dose models used in estimating the radiological impacts are taken from Regulatory Guide 1.109. For the ingestion pathway, the activity released into the tidal waters is assumed to be diluted in the 25-acre surface mixing zone of the Maine Yankee discharge (FSAR Section 2.3.2) and a mean tidal range of about 8 feet (FSAR Table 2.3.2). The volume of tidal waters available for dilution at high tide is therefore about 8.7×10^6 ft^3 or about 6.5×10^7 gallons. This dilution volume is conservative in that it accounts for only a fraction of the available tidal waters surrounding the plant.

Table 3 indicates the liquid release pathway usage factors used in the dose analysis which were taken from the Maine Yankee Off-Site Dose Calculation Manual (ODCM). Doses were calculated for the whole body and seven organs to each of three age groups: adults, teens, and children.

The resulting maximum potential individual doses are listed on Table 4. Combining all three pathways, the maximum dose over the course of a year's exposure is calculated to be 0.41 mrem to the whole body, and 0.55 mrem to the liver of an adult, which is about 30 times less than the internal exposure one receives from the natural Potassium-40 within our bodies. These doses are well below the "As Low As Reasonably Achievable" (ALARA) objectives of 10CFR50, Appendix I, and all limits currently under consideration by the NRC for application to materials which could be classified as Below Regulatory Concern (BRC).

5.0 CONCLUSION

Contaminated soil was located and removed to the extent practical with the residual radioactivity considered to be below any level of regulatory concern since it presents no significant hazard to either the plant employees, general public, or the environment.

It is not expected that any significant transport of the residual radioactivity to any point off-site will occur. However, if transport were assumed, the dose consequences would be well below the naturally occurring background levels in the environment.

It is concluded that no further action is warranted with respect to the removal of any additional residual soil contamination. Maine Yankee, therefore, requests approval from the Commission to leave in-place the residual soil activity associated with the RWST leak.

TABLE 1

Residual RWST Soil Activities

Nuclide	Weighted Average Concentration uCi/gm	Total Residual Activity (Curies)
Cesium-137	1.2E-05	6.1E-03
Cesium-134	1.5E-07	7.4E-05
Antominy-125	3.2E-07	1.6E-04
Cobalt-60	1.1E-06	5.4E-04

TABLE 2

Nuclide Groundwater Travel Times

Nuclide	Retardation Coefficients	Travel Time (year) to Tidal Waters
Cobalt-60	421	295
Antimony-125	85	60
Cesium-134, 137	113	79

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Maine Yankee

TABLE 3

Maine Yankee Liquid Release Pathway Usage Factors

Age	Fish (kg/yr)	Invertebrates (kg/yr)	Shoreline (hr/yr)
Adult	21	5	334
Teen	16	3.8	67
Child	6.9	1.7	14
Infant	0	0	0

Maine Yankee

2505.140.1446
2505.91.14

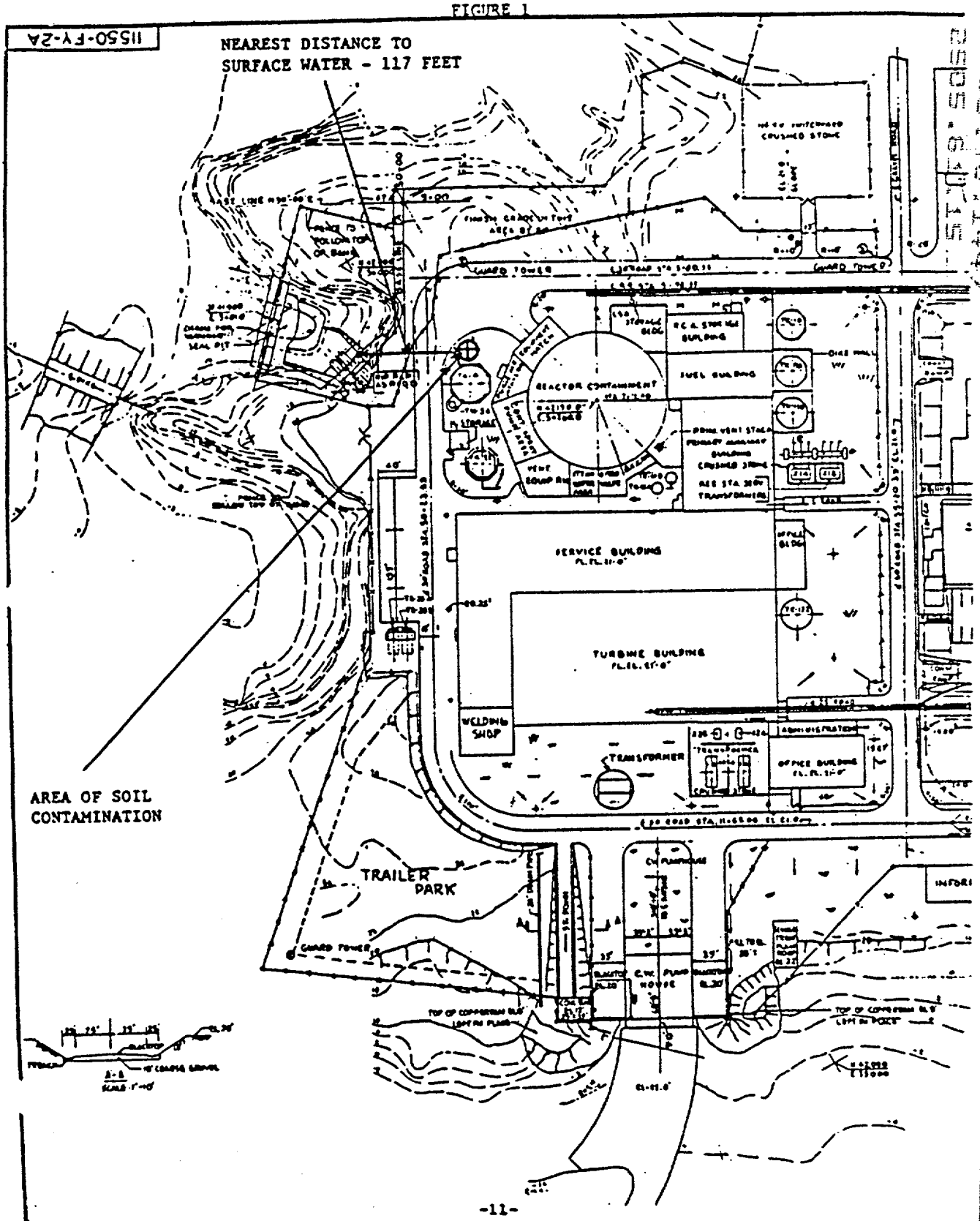
TABLE 4

Summary of Maximum Potential Doses

Pathway	Maximum Whole Body Dose in Any Age Group (mrem)	Maximum Organ Dose in Any Age Group (mrem)
Fish	2.4E-01	3.7E-01
Shellfish	3.6E-02	5.5E-02
Ground Plane	1.3E-01	1.3E-01
Total	4.1E-01	5.5E-01
Age Group	Adult	Adult
Organ		Liver

0595L-DS

FIGURE 1


NEAREST DISTANCE TO
SURFACE WATER - 117 FEET
AREA OF SOIL
CONTAMINATION
TRAILER
PARK
SERVICE BUILDING
TURBINE BUILDING
WELDING
SHOP
TRANSFORMER
REACTOR CONTAINMENT
FUEL BUILDING
OFFICE BUILDING

HSA ID# 93

ATTACHMENT 8

ATLAS DOCUMENT INPUT FORM

1. TITLE Approval Under 10 CFR 20.302A for In Place Disposal of Residual Contaminated Soils at Maine Yankee Tag # 71167

2. DOCUMENT TYPE

3. DOCUMENT FORM mF

4. DOCUMENT LOCATION

5. RETENTION PERIOD

6. TECHNICAL FILE NUMBER 01.08.04.02

7. DOCUMENT NUMBER

8. REVISION NUMBER

9. DATE 08/31/1989

10. CLASSIFICATION TYPE D

11. TOPICAL INDUSTRY ISSUE

12. KEYWORDS

13. SUBJECT

14. REFERENCE DOCUMENT

15. SYSTEM CODE

16. COMPONENT CODE

17. CYCLE NUMBER

18. ORIGINATOR Admin

19. RECEIVER

20. VENDOR CODE

21. ACCESSION NUMBER

ACTION: ADD/REPLACE/DELETE (CIRCLE ONE)

1989

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

August 31, 1989

1) A-47
2) 72.1
3) 1.4.7.5.1
4) 1.8.4.2 ✓

8909140052 890831 PDR ADOCK 05000309 P PDC

Docket No. 50-309

RESPONSIBILITY Brinkley
RESPOND BY NA
NRC DUE DATE NA
XC:DS

Mr. C. D. Frizzle, President
Maine Yankee Atomic Power Company
83 Edison Drive
Augusta, Maine 04336

Dear Mr. Frizzle:

SUBJECT: APPROVAL UNDER 10 CFR 20.302(a) FOR IN-PLACE DISPOSAL OF RESIDUAL CONTAMINATED SOILS AT MAINE YANKEE (TAC NO. 71167)

REFERENCES: (a) Letter, dated November 2, 1988, from G. D. Whittier to U.S. NRC Document Control Desk.

(b) Final Environmental Statement related to the operation of Maine Yankee Atomic Power Station (Maine Yankee), dated July 1972.

Accompanying reference (a), you submitted an application for disposal of the subject licensed material not previously considered by the staff in the Maine Yankee Final Environmental Statement (FES), reference (b). This application, prepared in accordance with 10 CFR 20.302(a), contains a detailed description of the licensed material, thoroughly analyzes and evaluates the information pertinent to the effects on the environment of the disposal of the licensed material, and commits you to follow specific procedures to minimize the risk of unexpected or hazardous exposure. In the FES for the operation of Maine Yankee, the staff considered the potential effects on the environment of licensed material from operation of the plant and, in the evaluation of radiological impact, concluded that: "Operation of the plant will contribute only an extremely small increment of the radiation dose that persons living in the area normally receive from background radiation. Fluctuations of the natural background dose may be expected to exceed the small dose increment contributed by the station."

Since the disposal proposed in reference (a) involves licensed materials containing less than 2 percent of the radioactivity, primarily cesium-137 already considered acceptable in the FES, and involves exposure pathways much less significant and radiochemical forms much less mobile than those considered

in the FES, we consider this site-specific application for Maine Yankee to have insignificant radiological impact. We accept your evaluations documented in Attachment 1 of reference (a) as further assurance that the proposed disposal procedures will have a negligible effect on the environment and on the general population in comparison to normal background radiation.

In conclusion, we find your proposal with evaluations and commitments as documented in reference (a) to be acceptable.

Since no license amendment is necessary and in accordance with the provisions of 10 CFR 51.22(c)(9), no environmental assessment is required.

Sincerely,

Eric J. Leeds, Project Manager
Project Directorate I-3
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

cc: See next page

HSA ID# 94

10

ATTACHMENT 8

ATLAS DOCUMENT INPUT FORM

1. TITLE	Review and Abandoning underground Storage Tank
2. DOCUMENT TYPE	Correspondence
3. DOCUMENT FORM	
4. DOCUMENT LOCATION	
5. RETENTION PERIOD	
6. TECHNICAL FILE NUMBER	01.08.04.02
7. DOCUMENT NUMBER	
8. REVISION NUMBER	
9. DATE	03/11/1991 05/31/1991
10. CLASSIFICATION TYPE	D
11. TOPICAL INDUSTRY ISSUE	
12. KEYWORDS	
13. SUBJECT	
14. REFERENCE DOCUMENT	
15. SYSTEM CODE	
16. COMPONENT CODE	
17. CYCLE NUMBER	
18. ORIGINATOR	Admin
19. RECEIVER	
20. VENDOR CODE	
21. ACCESSION NUMBER	
ACTION: ADD/REPLACE/DELETE (CIRCLE ONE)	

SNE/JHA

MEMORANDUM

MAINE YANKEE ATOMIC POWER COMPANY

TO: S. E. Nichols DATE: March 11, 1991

FROM: J. H. Arnold FILE: JHA-91-23

SUBJECT: Abandoning Ferrous Sulfate Tank

****

Robert G. Gerber, Inc. (RGGI), in the attached memo, has changed their original recommendation of ferrous sulfate tank removal to abandoning in place based on the following issues:

1. Removal is very complex because of the proximity to the tank of the electrical power supply duct to the seawater pumps for the service water system and the service water piping itself.

2. The tank is adjacent to the circulating water pump house and its removal may raise foundation support concerns for this structure.

3. Shoring will be needed on at least two sides and may be difficult to install on the side away from the pump house.

4. Working in the security zone presents substantial logistical problems.

Based on the above, I recommend that we request permission to fill the tank in place and leave it there until decommissioning when it would be removed.

This will involve cleaning and filling the tank with inert fill material such as sand. RGGI suggests that monitoring wells may be required by MEDEP to prove that no product loss has occurred.

Please contact me should you have further questions or comments.

JHA/sjj

Attachment

Concur.

SENichols 3/18/91

c: G. D. Whittier
J. R. Hebert
S. D. Evans
P. J. Cereste
D. Lycette
E. Robinson, RGGI

JHA9123.MEM

ROBERT G. GERBER, INC.

MEMORANDUM

MEMO TO: Mr. John Arnold, Maine Yankee Atomic Power Company
COPY TO: Mr. Paule Cereste, Maine Yankee Atomic Power Company
Mr. Steve Evans, Maine Yankee Atomic Power Company

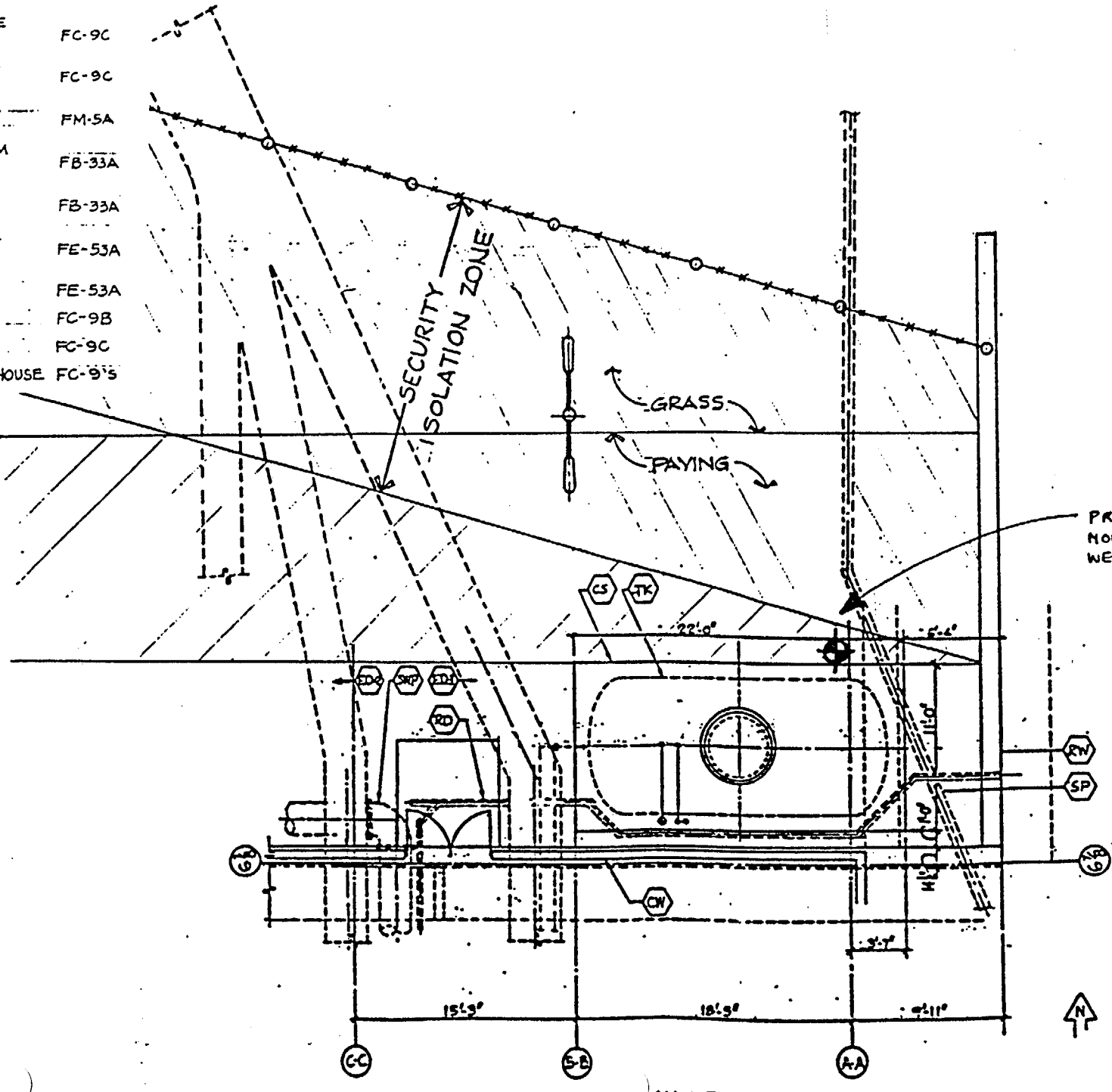
FROM: Lissa Robinson, Robert G. Gerber, Inc.
DATE: March 1, 1991
SUBJECT: Ferrous Sulfate Tank

Thank you for the tour last Tuesday. This site reconnaissance has brought to our attention potential complications involved with removal of the Ferrous Sulfate Tank. We strongly advise Maine Yankee to consider abandoning the tank in place due to the dangers associated with removal. Specifically, harm to the electrical conduit and difficulties with bank stabilization are the two most significant obstacles related to tank removal.

We recommend that you add a section to the bid specification for abandoning the tank in place. This section would be an alternative to removing the tank which should remain in the specification. We anticipate some complications involved with abandoning the tank in place, although dangers to plant operations and facility structures should be comparatively reduced.

ARRANGEMENT PL
DWG NO. SK-J-33, SH.

FERROUS SULFATE TANK TK-33	FP-74A
24" THK CONCRETE HOLD DOWN SLAB	FC-9C
8" THK CONCRETE COVER SLAB	FC-9C
24" C.I. PIPE SERVICE WATER	FM-5A
8" C.I. PIPE FROM SEWAGE PLANT	FB-33A
4" C.I. PIPE ROOF DRAIN	FB-33A
2'-0" x 3'-5½" WIDE ELECTRIC DUCT	FE-53A
12½" x 2'-0" WIDE ELECTRIC DUCT	FE-53A
RETAINING WALL	FC-9B
BLACKTOP PAVING	FC-9C
CIRC. WATER PUMP HOUSE	FC-9'S



PLAN @ EL+21.00'

Figu
Monitoring
Maine Yankee Fe
Robert G.
Freepor
Date: Ap
Base map compiled
Maine Yankee date

PARTIAL S
FERROUS SULF
YARD ARRA
S
B"=1'-0"
11-5-80

JUN 5 1991

1) ME-MY

2) 1.5.1

STATE OF MAINE

Department of Environmental Protection

MAIN OFFICE: RAY BUILDING HOSPITAL STREET AUGUSTA
MAIL ADDRESS: State House Station 17 Augusta 04333
207-289-7688

JOHN R. McKERNAN, JR.
GOVERNOR

DEAN C. MARRIOTT
COMMISSIONER

May 31, 1991

RESPONSIBILITY Nichols
RESPOND BY N/A
NRC DUE DATE N/A

S.E. Nichols
Maine Yankee
Edison Drive
Augusta, Maine 04330

Dear Mr. Nichols:

After review of the information pertaining to your underground oil tank located at Ferry Road, Wiscasset, Maine, the following determination has been reached:

The tank being located beneath a building or other permanent structure which cannot be practically replaced may be abandoned in place in accordance with Chapter 691 Section 8 Paragraph D and Appendix K of the Department Rules. Please find enclosed copies of the pertinent regulations.

If you have any questions or if I can be of further assistance I can be reached at 289-2651.

Sincerely,

William V. Walentine

WILLIAM V. WALENTINE
Division of Licensing & Enforcement
Bureau of Oil & Hazardous Materials Control

		Routing	Add'l:
	CDF	- Plant Managers	JHA
	ETB	- Plant Section	SDE
	RWB	- Staff Building	Lic. Li 3 (underground Storage Tank)
	COW	- Court Street	
E	MAL	Ops Manager	
S		Licensing (5)	

WVW:

wwformabbrev

Enclosure

c. All stored underground oil storage tanks shall be labelled with the information noted in Section 8(B(6)(C).

d. Any scale or sludge released by the tank prior to and during storage shall be disposed of in accordance with Chapter 851 of Maine Hazardous Waste Management Rules.

4. If underground oil storage tanks which have been removed are sold or reused, the following provisions shall apply:

a. Bare steel and asphalt coated steel tanks shall not be re-installed for use as an underground oil storage facility;

b. Fiberglass and cathodically protected tanks or piping may be re-installed, provided that the tank owner has supplied the Department with satisfactory documentation that the manufacturer will warranty the facility for a period of at least ten (10) years for internal and external corrosion and structural failure, after which the tanks or piping shall be properly abandoned pursuant to this Section. A written statement attesting to the validity of the warranty, signed by the tank manufacturer, and provided to the Department constitutes the only proof of warranty coverage.

c. All transactions shall be accompanied by a bill of sale indicating the former use of the tank. The bill of sale shall contain the following warning:

Tank Has Contained Leaded Gasoline or Flammable Liquid
(use applicable designation)
Not Gas-Free
Not Suitable for Food or Drinking Water

d. The tank shall be clearly marked with the notice stated in subparagraph c above, in legible letters not less than one (1) inch high, regardless of the condition of the tank.

C. ABANDONMENT BY FILLING IN PLACE[1]

1. Abandoned facilities and tanks shall be removed, except where the owner can demonstrate to the Department that removal is not physically possible or practicable because the tank or other component of the facility to be removed is either:

a. Located beneath a building or other permanent structure which cannot be practically replaced;

b. Of a size and type of construction that it cannot be removed;

c. Inaccessible to heavy equipment necessary for removal; or

d. Positioned in such a manner that removal would endanger the structural integrity of nearby tanks.

2. A facility or tank owner may apply to the Board for a variance to abandon a facility or tank in place rather than abandon the tank or facility by removal. The Board may grant such a variance request if it finds that:

   a. Abandonment by removal is not possible or practicable due to circumstances other than those listed in paragraph 1 above;

   b. The procedures outlined in Appendix K for abandonment in place will be followed in sequence; and

   c. The granting of a variance shall not pose a threat to a private or public drinking water supply or the quality of ground water, and is consistent with the intent of this rule.

D. NOTIFICATION REQUIREMENTS

1. The owner or operator of a facility or tank which is to be abandoned shall notify the Department and the local fire department having jurisdiction. This notice shall be in writing and received by the Department at least ten (10) days prior to abandonment, except that when ownership of the facility or tank is unknown, the current property owner shall be responsible for compliance with the requirements of this section. This notice shall include:

   a. The name, mailing address, and telephone number of the owner;

   b. The mailing address and location of the facility;

   c. The size(s) of tank(s) to be abandoned or taken out-of-service;

   d. The type(s) of product(s) most recently stored in each tank;

   e. The registration number of the facility and tank(s) if registered under this rule;

   f. If the tank has contained a Class I liquid, the inerting procedure and, if applicable, the cleaning location;

   g. If abandonment in place is planned, the criterion (ia) used for justifying abandonment in place, as listed in Section 8 (C)(1), above;

   h. The approximate age of the tank, if known; and

   i. The date upon which the facility or tank is to be removed or when a variance has been granted pursuant to section 8(C) of this rule, the date on which the tank or facility will be properly abandoned on site.

2. The tank owner shall keep a permanent record of the tank location, the date of abandonment, and the method of conditioning the tank for abandonment.

The tank owner shall be responsible for attaching to the deed of the property on which the tank is located a notice that an underground oil storage tank which has been abandoned in place pursuant to Section 8 (C) exists on the property. The deed notation shall be executed within 30 days of completion of the abandonment.

9. SEVERABILITY

Should any provision of this rule be declared invalid or ineffective by a court decision, the decision shall not invalidate any other provision of this rule.

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ATTACHMENT B

ATLAS DOCUMENT INPUT FORM

1. TITLE	Closure of Underground Storage Tank
2. DOCUMENT TYPE	Correspondence
3. DOCUMENT FORM	
4. DOCUMENT LOCATION	
5. RETENTION PERIOD	
6. TECHNICAL FILE NUMBER	01.08.04.02
7. DOCUMENT NUMBER	
8. REVISION NUMBER	
9. DATE	02/14/1992 06/04/1992
10. CLASSIFICATION TYPE	D
11. TOPICAL INDUSTRY ISSUE	
12. KEYWORDS	
13. SUBJECT	
14. REFERENCE DOCUMENT	
15. SYSTEM CODE	
16. COMPONENT CODE	
17. CYCLE NUMBER	
18. ORIGINATOR	Admin.
19. RECEIVER	
20. VENDOR CODE	
21. ACCESSION NUMBER	
ACTION: ADD/REPLACE/DELETE (CIRCLE ONE)	

1) MY-ME w/Enc
2) 1.5.1 w/Enc.

Maine Yankee

RELIABLE ELECTRICITY FOR MAINE SINCE 1972

EDISON DRIVE • AUGUSTA, MAINE 04330 • (207) 622-4868

February 14, 1992
SEN-92-52

RESPONSIBLE Nichols

RESPOND BY N/A

NRC DUE DATE N/A

KEYWORDS Underground TANK

UST Program Administrator
Bureau of Oil & Hazardous Material Control
Department of Environmental Protection
State House Station #17
Augusta, ME 04333

References: (a) Site Number 12580, Tank Number 1, January 6, 1992
(b) MDEP Letter to Maine Yankee of May 31, 1991
(c) Closure Notice of December 3, 1991

Subject: Site Assessment for Ferrous Sulfate Tank

Gentlemen:

I am attaching R. G. Gerber, Inc.'s site assessment for a 9,400 gallon fiberglass tank registered in Reference (a) that was abandoned in place in accordance with Reference (b) on November 19, 1991 as noticed to you in Reference (c).

Below I have outlined the remaining items for closure of this tank.

Disposal of Residual Liquid

The liquid remaining in the tank at the time of closure and tank rinse water, was disposed as indicated on the enclosed manifest.

Deed Notice

A copy of the registered deed notice, in accordance with the provisions of Section 13(C)(2) of Chapter 695 of DEP regulations for tanks that have been closed by filling in place pursuant to Section 13(F), is enclosed.

We very much appreciate Mr. Frank Gehrling's professionalism and helpfulness in dealing with this issue.

Please contact John Arnold should you have questions or comments.

General Dist WO Enc.

Very truly yours,

		Routing	Addt
C	CDF	- Plant Managers	
	EFB	- Plant Section Heads	JHA-WENC
	RWB	- Staff Building	
I	GDW	- Court Street	
E	MAL	Ops Manager	
S	JDF	[illegible] (N)	

S. E. Nichols, Manager
Licensing & Engineering Support Department

Enclosures (3)

c: Mr. Frank Gehrling (w/enclosures)
Mr. Brian Phinney, Jetline Services (w/enclosures)
Ms. Lissa Robinson (w/o enclosures)

L:\sen\ltrs\sen9252.ltr

Facility Closure Site Assessment

Underground Ferrous Sulfate Storage Tank

Maine Yankee
Wiscasset, Maine

Prepared by

Robert G. Gerber, Inc.
Freeport, Maine

February 7, 1992

ROBERT G.
GERBER, INC.

Facility Closure Site Assessment
Maine Yankee Underground Ferrous Sulfate Storage Tank

Table of Contents

ROBERT G. GERBER, INC.

Facility Closure Site Assessment
Maine Yankee Underground Ferrous Sulfate

Site Information

owner and operator: Maine Yankee

facility name and address: Maine Yankee Power Plant, Old Ferry Road, Wiscasset,Maine

licensing contact: S.E. Nichols, Manager, Licensing and Engineering Support

mailing address: Maine Yankee, Edison Drive, Augusta, Maine 04336

tax map and lot number: R8 Lot 5

facility registration number: #12580

certified tank installer: Mr. Paul D. Thompson, Jet-Line Services, Inc., 106 Maine Street, South Portland, ME 04106

date of tank closure: November 18-19, 1991

date of tank cleaning water laboratory results: December 6, 1991

date of ground water water laboratory results: January 28, 1992

date of Site Assessment: February 5, 1992

Summary: Maine Yankee abandoned a underground storage tank previously used to store ferrous sulfate (a hazardous substance) by filling in place at the Maine Yankee facility in Wiscasset, Maine. Jet-Line Services, Inc., (Jetline) performed tank closure procedures in compliance with Maine Department of Environmental Protection (DEP) "Regulations for Registration, Installation, Operation, and Closure of Underground Hazardous Substance Storage Facilities", Chapter 695 (dated January 1990). Jet-Line cleaned and rinsed the interior of the tank, disconnected all piping inside the Circulating Water Pump House and closed-off all tank fittings. RGGI collected samples of rinse water and source cleaning water. Jet-Line filled the tank with sand. Mr. Frank Gherling (DEP) observed and approved final closure. Maine Test Borings, Inc., installed a monitoring well under the direction of RGGI. RGGI developed, purged and sampled the well.

ROBERT G. GERBER, INC.

Introduction

On November 18, 1991, Maine Yankee closed a 9400 gallon fiberglas storage tank in place by filling with sand at the Maine Yankee facility in Wiscasset, Maine (Figure 1). The tank is located adjacent to and northeast of the Circulating Water Pump House (Figure 2). Maine Yankee indicated the tank was installed in 1970 and taken out of service in the mid-1980's. The tank was used to store a 20% ferrous sulfate solution. Up until the mid-1980's ferrous sulfate was introduced into plant circulating water as an inhibitor. This site assessment serves to document tank closure.

This site assessment was supervised by both a Maine Certified Geologist and a Maine Registered Professional Engineer. Elizabeth Robinson, Maine Professional Engineer #6839, coordinated the project, supervised site work and assisted with the preparation of this site assessment. Robert G. Gerber, Maine Certified Geologist #110, provided geologic interpretation described in this report. Andrews L. Tolman, Maine Certified Geologist #168, reviewed this site assessment as part of RGGI quality assurance/quality control (QA/QC). Thomas Brennan observed the abandonment and prepared this report.

Purpose

The purpose of this site assessment is to describe procedures used during the abandonment in place of an underground hazardous substance storage facility at the Maine Yankee site, report conditions observed during closure, report laboratory analysis conducted as part of tank closure, and present corrective action options.

Facility and Site Location

The Maine Yankee facility is located off U.S. Route 1, three miles south of Wiscasset village on Route 144 (Figure 1). The underground storage tank site is located adjacent to the northeast corner of the Circulating Water Pump House (Figure 2).

Site Background

Maine Yankee, with offices in Augusta, Maine, owns and operates a power plant in Wiscasset, Maine (Figure 1). The facility is the single largest source of electricity for the state, providing about 25 percent of Maine's total electricity needs. The plant was granted a construction permit by the Nuclear Regulatory Commission (NRC) in October 1968. Following a four year construction period, the plant began commercial operation on December 28, 1972. Before Maine Yankee purchased the property in Wiscasset, the land was used for rural residential and farming purposes.

Site Assessment Methods

Maine Yankee retained an environmental consultant and tank contractor to assist with tank closure procedures and the tank closure site assessment. Robert G. Gerber, Inc., provided technical assistance on closure procedures and compliance with DEP regulations. RGGI observed tank closure procedures in the field, performed field tests on water samples and collected water samples for laboratory analysis. RGGI prepared this site assessment. Maine Yankee retained Jet-Line of South Portland, to perform the tank closure. Mr. Paul Thompson, certified tank installer for Jet-Line, coordinated closure procedures.

Maine Yankee prepared a "Routine Work Order" that described site procedures, precautions, prerequisites, and identified safety and environmental hold points. The "Routine Work Order" provided quality control and assurance for the field work. Maine Yankee coordinated general site safety although each consultant/contractor was responsible for their employees' site safety. RGGI and Jet-Line site workers observed individual Site Safety Plans.

RGGI Geologist Thomas Brennan was on site during tank closure. RGGI observed closure methods and noted compliance with DEP regulations. RGGI noted the condition of the tank, joints and piping. We also checked for evidence of product discharge. RGGI observations were limited due to the nature of the tank closure (abandonment in place). A description of closure methods follows.

Maine Yankee disconnected and tagged-out the electrical power supply to the ferrous sulfate tank pump. Jet-Line exposed the tank manway and disconnected all lines to the tank inside the Circulation Water Pump House. Fittings into the tank were plugged with blanks. RGGI monitored air quality in the work area and in the tank (using an MSA model 361 explosimeter). Maine Yankee and Jet-Line per-

sonnel also monitored air quality. The work area and the interior of the tank represented atmospheres with 20.8% Oxygen, 0% LEL, and 0 ppm Toxicity (H2S). However, Maine Yankee requested that the interior of the tank be treated as an IDLH (Immediate Danger to Life and Health) environment. Based on this classification, Jetline staff donned an SCBA (Self Contained Breathing Apparatus) equipped with a Cascade System for use inside the tank.

Jet-Line washed and rinsed the interior of the tank three times, collecting the rinse water by suction in 55 gallon drums. RGGI collected a sample of the last rinse for laboratory analysis (Table 1). Thomas Brennan, RGGI Geologist, observed the condition of the tank from outside the tank. Jetline also provided observations on the tank condition from an inside examination. Jetline indicated that the tank appeared in good condition. RGGI observed jointing and piping in the Circulation Water Pump House. They also appeared to be in good condition. Jet-Line flushed and rinsed piping, collecting the rinse water for disposal.

Upon completion of tank cleaning procedures, Jetline filled the tank with clean, dry, uniform, sand by pouring into the manway. This was done until the tank was approximately 3/4 full. Jetline then used water from a hose and tap in the C.W. Pump House to enable the sand to flow to the outer ends of the tank. The manway was filled to within approximately one foot from the top. Jetline plugged the tank manway with concrete. Jetline collected all rinse water and tank sludge which they turned over to Maine Yankee for proper disposal.

Maine Yankee retained Maine Test Borings, Inc., to install a monitoring well down-gradient from the closed tank (Figures 2 and 4). Maine Yankee was responsible for approving the boring location to avoid damage to underground utilities and structures. RGGI coordinated the drilling and well installation. The well extends through 21.5 feet of fill and 5 feet of extensively fractured bedrock. RGGI developed and purged the well prior to collecting water samples for field testing and laboratory analysis. RGGI prepared one sample and a duplicate sample for submission to ABB Environmental Laboratory (presently known as Coast to Coast). We collected the duplicate sample and filled the duplicate sample bottle immediately after and in the same manner that we collected the first sample.

Findings and Discussion

The following findings are based on our observations, measurements and the laboratory analysis.

The laboratory results for the source cleaning water indicate that the water used to clean the ferrous sulfate tank contained some iron and sulfate. These background data serve as a basis for interpreting the rinse water data. The rinse water data indicate that there may be traces of iron and sulfate remaining on the inside walls of the tank, although the levels are well below the concentrations of iron and sulfate detected in the ground water beneath the tank. Based on our field observations and given the setting of the abandoned tank setting (no down gradient public or private water supplies), Jetline did an acceptable job of removing tank bottom sludge, and cleaning and rinsing the tank.

Soil sampled from the boring of MW-100 represents fill consisting of fine to coarse sand with traces of fine to coarse gravel and silt. Soil density and moisture content increased with depth. Rock core recovered from the boring was extensively fractured. Strong iron staining was evident within the fractures (Figure 3). Maine Test Boring lost circulation and as a result used a large amount of water in coring. The coring process took place near the end of the ebbing tide on January 9, 1992. RGGI measured the water level in the Back River at the sea wall adjacent to and east of the ferrous sulfate tank. The Back River water level was approximately 24 feet below MW-100 ground elevation (Figure 2). The close proximity of the well to the Back River and character of the core suggest that the water in the well may be influenced by salt water intrusion from the Back River.

RGGI collected water samples from MW-100 on January 9, 1992. We prepared a duplicate as part of quality assurance and control for this project. The duplicate sample (MW-200, Table 1) showed levels of iron that exceeded the MW-100 sample results by 133%. The duplicate indicates that either field collection methods or laboratory testing were inconsistent, or that total iron concentrations in ground vary significantly in the vicinity of the ferrous sulfate tank. We provide additional interpretation regarding the disparity between the total iron sample and duplicate test results in the conclusions section of this report. The duplicate sulfate sample showed a decrease in concentration of approximately 11.8%. While not ideal, we consider the disparity between the duplicate and sulfate sample to be acceptable.

Before monitoring well development on January 9, 1992, RGGI took measurements of the water level in MW-100 and of the Back River at the sea wall to evaluate a potential tidal relationship. We took measurements approximately 17 minutes after peak high tide and continued for about 50 minutes. Figure 5 shows the relationship between the water level in the Back River and the water level in

well MW-100. There appears to be a lag in the response of ground water to the ebbing tide. The water level at MW-100 continued to rise, though sea water had begun to fall for the period noted.

RGGI performed field measurements for pH and specific conductivity on ground water samples. Conductivity recorded three times during well development ranged from 7074 to 7336 uMHOS/cm (adjusted to 25^{o}C). Consistently high specific conductivity values provide additional evidence that MW-100 well water may contain some salt water. Due to the proximity of the ferrous sulfate tank to the Back River, it is necessary to describe potential hydraulic and chemical influences that the River may have.

Conclusions and Recommendations

Laboratory results (Table 1) indicate total iron is present in significant concentrations in MW-100. At 60 mg/l (MW-100) and 140 mg/l (duplicate) total iron concentrations greatly exceed the EPA secondary drinking water standard of 0.3 mg/l. Sulfate levels at 510 mg/l and 450 mg/l are also well in excess of the Maine Maximum Exposure Guideline of of 250 mg/l. Several factors must be taken into account before addressing the source of elevated concentrations.

It is probable that MW-100 is affected by salt water based on the well location and conductivity readings. Sulfate levels in sea water typical to this locality can range from 2700 mg/l (HEM, 1986) to concentrations in the hundreds of thousands (Environmental Measurements and Data Interpretation Laboratory Manual, EPA Training Course, 1975). Total iron levels found in the MW-100 samples are much higher than typical sea water and ground water for this area (Mr. Larry Mears, University of Maine Darling Center, telephone communication, 2/5/92). Iron concentrations in sea water are normally on the order of 0.003 mg/l (HEM, 1986).

Although salt water can leach iron from iron-bearing rocks, the levels detected in MW-100 are generally higher than levels we would expect in iron-rich coastal wells. Stoichiometrically, levels of iron and sulfate detected by laboratory analysis support ferrous sulfate as being a source of contamination here. The laboratory tested for total iron as commonly required for regulatory submissions. Results from this analysis may be affected by the presence of particulate iron present in the sample. Based upon the extent of iron staining observed in core samples recovered from the boring, it is likely that iron particles were present in suspension in ground water samples. The disparity in total iron between the duplicate and sample further support a potential for particulate iron.

Concentrations of sulfate are proportional to both salinity and specific conductance (Hem, 1986). Field testing of conductivity at MW-100 and observed tidal influence suggest sea water intrusion. Given the likelihood of salt water intrusion, we would expect levels of sulfate in sea water to be at least as high, if not considerably higher than those detected at MW-100. Without additional Back River analytical data it is not possible to further assess sulfate concentrations.

In determining the extent of corrective action, we must first consider the potential for human exposure and adverse effects on public safety, health, and the environment. There is no apparent threat to public or private water supply. The proximity of the sea and the flushing effect of the tides promote immediate dilution of any migrating material. Maine Yankee is currently planning to initiate a baseline ground water sampling event to occur sometime in the spring of 1992. RGGI recommends sampling MW-100 again for total iron, dissolved iron, and sulfate during the baseline sampling event. We also recommend collecting a sample of water from the Back River near the well location and testing the water for total and dissolved iron, and sulfate. We advise that specific conductance and salinity also be measured at both locations during the baseline sampling event.

Closure

This site assessment was prepared in accordance with (DEP Chapter 695). This report does not include an assessment of operations or regulations pertaining to sewage disposal, fire prevention and fire codes, employee safety, OSHA regulations, air emissions, hazardous waste, site location permits, or local zoning, building or plumbing codes.

Our work should be understood in the context in which we have performed it. We have estimated likely values for hydrogeologic and geochemical parameters based on limited data. Our work is based on explorations performed by others at discrete points and inferences regarding conditions between those points. Those inferences are based on our geologic judgment. Soil and geologic conditions may change over relatively short distances. These changes could affect this assessment in ways we cannot foresee. We have also relied on data analyzed by others. If their interpretations or measurements are not accurate, it may alter our analyses and conclusions.

This report was prepared for the exclusive use of our client for the specific application of providing a tank closure site assessment under Chapter 695, and no third party is entitled to place any reliance thereon. We have based our work on our understanding of DEP regulations and the requests made by our client. No other warranty, expressed or implied, is made. Assumptions, measurements, and data used for the investigation are stated herein; conditions other than those stated may alter the conclusions.

This assessment is respectfully submitted by:

Robert G. Gerber, Inc.

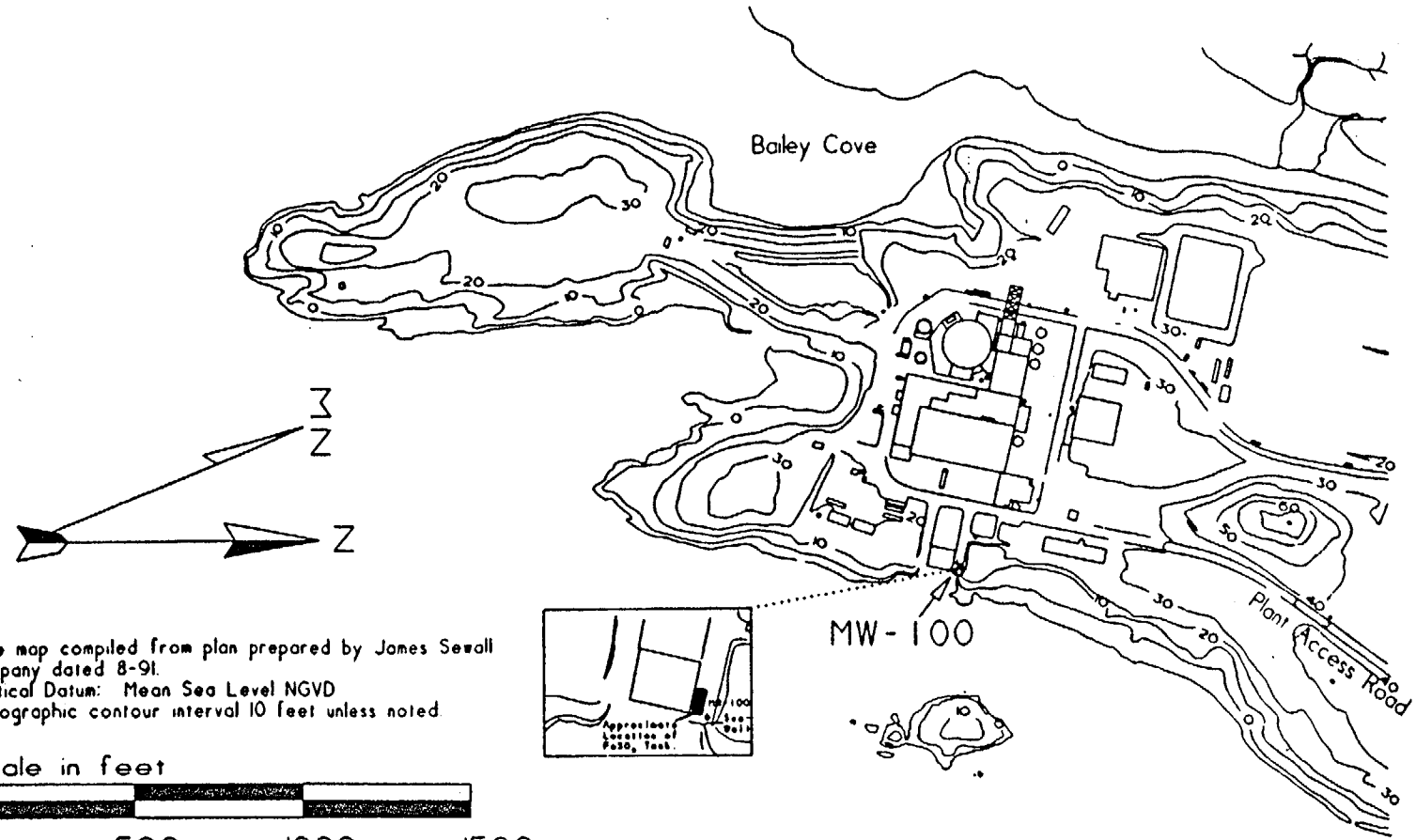
Thomas Brennan
Geologist

Elizabeth C. Robinson
Civil Engineer

Robert G. Gerber, P.E. & C.G.
President

Prepared by
Robert G. Gerber. Inc.
Project #: 892
Date: February 1992

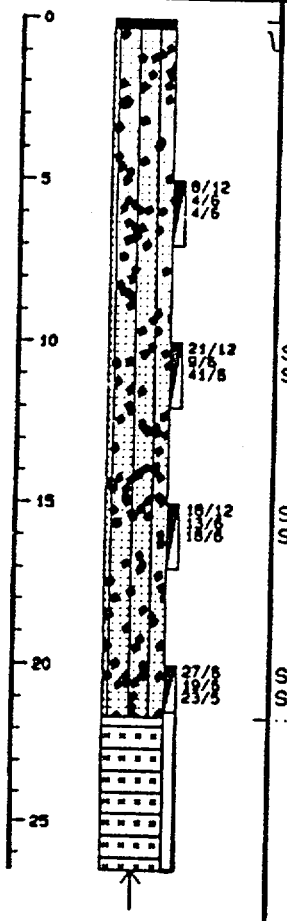
FIGURE 2
MAINE YANKEE HAZARDOUS SUBSTANCE CLOSURE
FERROUS SULFATE TANK AND WELL LOCATION



SOIL TEST BORING RECORD

BORING MW-100

Project: Maine Yankee Project No.: 892 Boring No.: MW-100
Ground Elev.: ~20' Elev. TOC: ~20' ft.
Date Started: 1/2/92 Date Finished: 1/2/92 Logged By: TJB
Contr.: Maine Test Borin Method: Wash/Core Core Size: N
Soil Drilled: 21.5 ft. Rock Drilled: 5.0 ft. Total Depth: 26.5 ft.
Water Depth: NA ft. Date: NA



USCS	Soil or Rock Descrip
	Pavement
SP	Loose, moist brown, widely graded silty fine to coarse sand with some fine to medium gravel. FILL
SP-SW	Firm to dense, moist brown fine to coarse sand with trace silt, trace fine to coarse gravel. < 10% fines estimated. Fill
SP-SW	Wet, firm fine to coarse sand, trace silt, trace to some fine to coarse gravel. FILL
SP-SW	Very firm to dense, brown to gray, fine to coarse silty sand with fine to coarse gravel. FILL
	Extensively fractured feldspathic, quartz rich schist with trace muscovite, trace pyrite veining. Strong iron staining in fractures.
	Core integrity increasing 25.0' - 26.5'.
	Boring terminated at 26.5'. A 2" PVC well was installed. See well installation diagram.

Ground elevation estimated from topographic map from James Sewall Co. 8/91.

USCS classification and descriptions by visual inspection

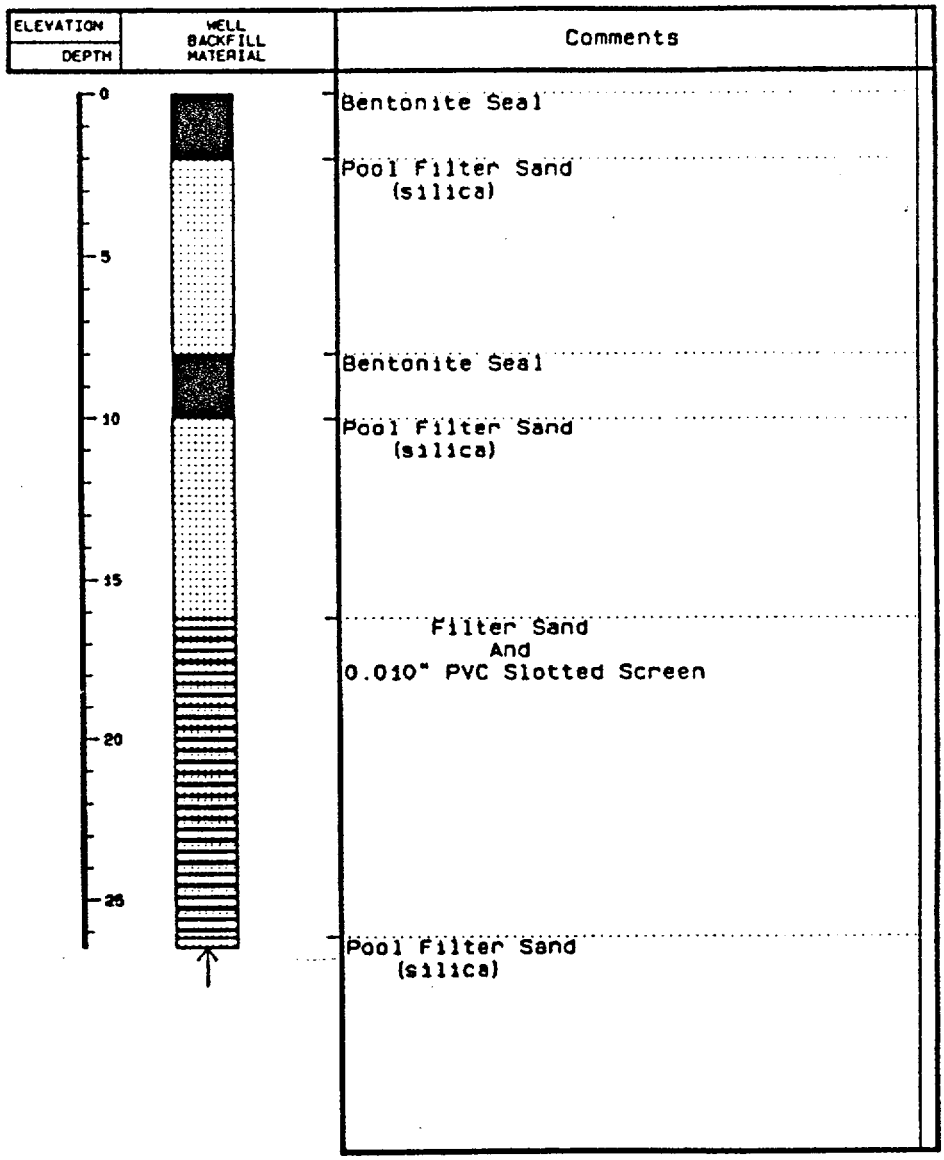
ROBERT G. GERBER, INC.

Figure 3

WELL INSTALLATION DIAGRAM

WELL NO. MW-100

Project: Maine Yankee Project No. 892 Boring No.: MW-100
Ground Elev at T.O.B.: ~20' Elev of T.O.C.: NA
N. Coord.: NA E. Coord.: NA
Date Started: 1/2/92 Date Finished: 1/2/92 Logged By: TJB
Contr.: MTB Method: Wash/Core Core Size: N
Water T.O.B.: ~18 ft. Water Depth: NA ft. Date: NA



A 2" PVC well was installed and a road box utilized as protective casing.

Figure 4

ROBERT G. GERBER, INC.

TABLE 1

Maine Yankee Ferrous Sulfate Tank Closure
Water Chemistry Results
#892

Sampling Point	Iron, Total mg/l	Sulfate mg/l
MW-100	60	510
MW-200 (Dup. MW-100)	140	450
Field Blank	< 0.025	< 1.0

Sampling Point	Iron, Total mg/l	Sulfate mg/l
FS-1 (Source Water)	0.97	4.2
FS-2 (Rinse Water)	42	14

ABB ENVIRONMENTAL, INC.
ANALYTICAL LABORATORY SERVICES
340 COUNTY ROAD NO. 5
P. O. BOX 720
WESTBROOK, ME 04092
(207)874-2400/FAX(207)775-4029

MAINE YANKEE ATOMIC POWER CO
EDISON DRIVE
AUGUSTA ME 04336

REPORT OF ANALYSIS 12/06/91
REFERENCE NUMBER 12292
PAGE 1

	CLIENT SAMPLE ID	FS-1	FS-2	
	ABB SAMPLE ID	91323018	91323019	
	DATE RECEIVED	11/19/91	11/19/91	UNITS
IRON, TOTAL		B 0.97	B 42	MG/L
SULFATE		4.2	14	MG/L

SIGNATURE
RELEASED BY LAURA J O'MEARA
CLIENT AUTHORIZATION

B = Analyte was detected in the laboratory method blank analyzed concurrently with the samples.

For the Iron analysis of sample numbers 91323018-019:
Iron was detected in the method blank at 0.054 mg/L.

000702 FEB 07 1992 BK 1745 PG 085

LEGAL NOTICE

Facility Reg. No.: 12580

Location: Wiscasset, Maine

Facility Name: Maine Yankee

The owner, Maine Yankee Atomic Power Company, of property recorded at Book 651, Page 273, in the Lincoln County Registry of Deeds, hereby provides notice pursuant to Chapter 695 of the Regulations of the Department of Environmental Protection, that an underground hazardous substance storage tank existing on this property has been closed in accordance with the aforementioned rule by filling-in-place, as more fully set out in the attached documents.

MAINE YANKEE ATOMIC POWER COMPANY

Patrick S. Lydon
Vice President Finance and Administration,
and Treasurer

State of Maine
County of Kennebec, ss.

January 21, 1992

Personally appeared the above named Patrick S. Lydon, as Vice President Finance and Administration, and Treasurer of Maine Yankee Atomic Power Company, and acknowledged the foregoing instrument to be his free act and deed in his said capacity, and the free act and deed of Maine Yankee Atomic Power Company.

Notary Public
My Commission Expires January 21, 1994

INDIVIDUAL TANK DATA
FOR
SITE NUMBER:

12580

BK1745PG087

TANK NUMBER	TANK TYPE	PIPING TYPE	TANK SIZE	ADDITIONAL MONITORING	PRODUCT STORED	DATE INSTALLED	TANK STATUS
1	FRP/FIBER-GLASS	FRP/FIBER-GLASS	9,400	NONE	CHEMICAL	NK/70	OUT OF SERVICE

1) M4. MDEP
2) 1.5.1

Maine Yankee

RELIABLE ELECTRICITY FOR MAINE SINCE 1972

EDISON DRIVE • AUGUSTA, MAINE 04330 • (207) 622-4868

RESPONSIBILITY Nichols

June 4, 1992
SEN-92-179

RESPONSE BY N/A

MAILOUT DATE N/A

FILE NUMBER Ground

Sulphate

UST Program Administrator
Bureau of Oil & Hazardous Material Control
Department of Environmental Protection
State House Station #17
Augusta, ME 04333

Subject: Closure of FRP/Fiberglass Tank #1: Site #12580 - Final Water Sampling Results

References:
(a) MY Letter to MDEP (Diana McLaughlin) of September 28, 1990
(b) MDEP "Abandonment of (an) Underground Tank(s) in Place" Form received May 9, 1991
(c) MDEP Letter to MY of May 31, 1991 allowing abandonment in place
(d) MY Letter to MDEP (Frank Gehrling) of July 22, 1991, Notification for filling in place
(e) MY Letter to MDEP (Diana McLaughlin) of September 26, 1991, Status of UST Effort
(f) MY Notice to MDEP of December 3, 1991, Closure by filling in place
(g) MDEP UST Facility Registration Form of December 6, 1991 indicating closure of tank #1
(h) MY Letter to MDEP (UST Program Administrator) of February 14, 1992 - Site Assessment and copy of Deed Notice
(i) R. G. Gerber, Inc. Letter to MY of May 12, 1992 - Final Ground Water Monitoring at Ferrous Sulfate Tank (attached)

Gentlepersons:

The Site Assessment included in Reference (h) suggested additional sampling of the ground water well and sea water in the vicinity of the closed Ferrous Sulfate tank. R. G. Gerber, Inc. (RGGI) has conducted this sampling and the results are included in the attached report (Reference (i)).

On page 3 of Reference (i), RGGI concludes: "It is our professional opinion that the ferrous sulfate tank was abandoned in place in accordance with the regulations and that no additional work for site closure at this location is necessary."

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