# HSA

## Historical Site Assessment

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# MYAPC

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| ID# | DATE | IDENTIFIER | LOCATION | DESCRIPTION | TYPE |
|---|---|---|---|---|---|
| 1 | 23-Mar-90 | UOR 90-030 | I&C Hotshop | Mercury spill. 2 teaspoons of mercury from transmitters. | HAZ |
| 2 | 29-Nov-94 | UOR 94-105 | Turbine Hall roof, and outside adjacent to P-2C | Oil spill from P-2C blew onto Turbine Hall roof. Approx. 3 tp 5 gals. recovered. 1 qt. of oil droplets blew to ground. | HAZ |
| 3 | 17-Nov-88 | UOR 124-88 | Main Transformer Sump Trash boom/Screen wash trough | Pumped down transformer sump pit. Oil sheen of approx. 500 sq ft. seen in river. | HAZ |
| 4 | 29-Oct-89 | UOR 89-106 | Spray Bld. 6' from outside. RWST Greenhouse | Fuel oil from leak in line to RWST furnace entered Spray Bld. during heavy rain. | HAZ |
| 5 | 21-Feb-92 | UOR 92-028 | Circ Water Pump House | Oil spill of approx. 1 pint from crane operations. | HAZ |
| 6 | 31-Mar-95 | UOR 95-039 | Back River/Circ Water Pump House | Oil spill. Approx. 1 quart to Back River from outfall of storm drain from C/W pump house. | HAZ |
| 7 | 04-Apr-95 | UOR 95-040 | Circ Water P/H South side outside | Oil at Plant intake due to heavy rains carrying oil from previous spills and oil under crane. | HAZ |
| 8 | 07-Dec-95 | UOR 95-096 | CTMT -2' Head L/D | BD-56 left open while filling sec. side of s/g. Water to the floor of Head L/D area. | HAZ |
| 9 | 01-Jan-96 | UOR 96-01 | CTMT Loop 1 by RCM-11 | Asbestos spill from broken pipe insulation. | HAZ |
| 10 | 02-May-90 | UOR 90-62 | CTMT -2' | Water spill from sec. side s/g.Hydrazine level 230 ppm. | HAZ |
| 11 | 02-Feb-97 | from employee | Outside by Vehicle Barrier | Gasoline spill. Approx. 10 gal. in front of vehicle barrier. | HAZ |
| 12 | | employee closeout interview | Under transmission lines | Sludge with some activity disposed of on site. Sludge was from Circ. Water Pumphouse intake screen. | RA D |
| 13 | 05-May-86 | Rad Inf. 86-268 | Sewerage Treatment Plant | Radioactive water from Hot side sinks and decon shower go directly to the Sewerage Treatment Plant. | RA D |
| 14 | 25-Apr-86 | Rad Inf. 86-246 | Bailey Point outside protected area fence | Contaminated dirt and asphalt from CTMT alleyway dumped on ground on point. | RA D |
| 15 | 29-Aug-86 | R.I.R. 86-01 | Bailey Point outside protected area fence | Contaminated dirt and asphalt from CTMT alleyway dumped on Bailey point. 300 ccpm to 50 mr/hr found upon removal | RA D |
| 16 | 24-Apr-86 | R.C.I. 86-228 | ? | Unsurveyed item released. Grove released from RCA without a proper survey. | RA D |
| 17 | 10-Apr-86 | R.C.I. 86-191 | HV-9 area pit | Contaminated area.HV-9 pit area is contaminated even though there are no contam. system components in area. | RA D |
| 18 | 03-Apr-86 | R.C.I. 86-135 | Backyard | Contamination and Particles.Crane laying in backyard is contaminated with particles from Core Barrel & not wrapped | RA D |
| 19 | 02-Apr-86 | R.C.I. 86-132 | CTMT Alleyway | Contaminated sand. Sand swept up from alleyway has spot reading 35mr/hr. | RA D |
| 20 | 27-Mar-86 | R.C.I. 86-111 | RCA, TK-85 Cubicle | Contaminated water from leaking P-120/123 leked onto clean floor. | RA D |
| 21 | 13-Sep-84 | R.I.R. 84-04 | RCA / RCA roof | Airborne Contamination. High airborne in RCA with roof hatch opened. Fuel Rack work. | RA D |

| ID# | DATE | IDENTIFIER | LOCATION | DESCRIPTION | TYPE |
|---|---|---|---|---|---|
| 22 | | Tech. file 19-11-4 | Restricted Area | Radioactive particles. Machining on Core Barrel generated particles that got throughout the Plant. Many percons resulted. | RA D |
| 23 | 02-Nov-83 | R.I.R. 83-02 | RCA building | Contaminated water and crud sprayed onto RCA floor. | RA D |
| 24 | 10-Oct-85 | UOR 79-85 & employee interview | CTMT Alleyway | PCC leak. CTMT Alleway. | HAZ |
| 25 | 25-Feb-87 | R.I.R 87-01 | RWST Area outside | Contaminated water leaking from the RWST onto the ground running down the storm drain. | RA D |
| 26 | 26-Apr-88 | R.I.R. 88-04 | RWST outside area | Contaminated water leaking onto ground from hole in plastic sleeving. 80 mrad/hr on ground. smears up to 135k dpm. | RA D |
| 27 | 26-Nov-88 | R.I.R 88-23 | CONDO inside Wiscasst Wall | Contaminated liquid leaking from CONDO due to being less than weather tight.Contaminated liquid samples outside bld. | RA D |
| 28 | 17-Nov-89 | | Restricted Area | Hot Particles. Numerous hot particles found throughout the plant | RA D |
| 29 | 06-Feb-90 | R.I.R 90-03 | Cold Side Trailer | Contaminated wood found in Burns and Roe trailers. Other yellow painted wood found on the cold side. Contaminated snow found on clean side. Wood from planing operation. | RA D |
| 30 | 07-Feb-90 | R.I.R. 90-04 | BWST Diked Area | Contaminated liquid in BWST diked area due to siphon heater leak and overflow. | RA D |
| 31 | 19-Nov-92 | R.I.R. 92-13 | Cold side Tool Crib | Contaminated tools found in Cold side Tool Crib. | RA D |
| 32 | 13-Jan-87 | | Baseball Field | Snow was removed from the restricted area and disposed of on the baseball field. | RA D |
| 33 | 24-Jul-89 | | Wiscasset Wall | Contaminated liquids and items.Leaking barrels and unwrapped contam. items inside Wiscasset Wall. | RA D |
| 34 | 20-Oct-89 | | Backyard by RCA bld. | Contaminated liquid spilled into backyard due to overflow of Tk-109. | RA D |
| 35 | 18-Oct-90 | | RCA Roof, Roof Drains, Storm Drains | Contaminated equipment. A contaminated crane was stored on the RCA roof for several years. | RA D |
| 36 | | | Outside behind Gas House | Contaminated equipment. CEA extension shafts in degraded boxes were stored in a shed behind the Gas House. Shed and contents removed. Gravel from this area spread in "trailer park. | RA D |
| 37 | | | Outside in front of LSA building | Contaminated equipment. It has been rumored that minor contaminated spills have ocurred in front of LSA building. | RA D |
| 38 | 23-Feb-88 | RIR 88-02 | Outside at RWST | Contaminated liquid. Flange leak on RWST leaked water onto ground | RA D |
| 39 | 22-May-87 | | Donut Trailer in CTMT Alleyway | Discrete Radioactive Particle found in the Donut Trailer. | RA D |
| 40 | 04-May-87 | | Outside Backyard | Contamination Discrete Radioactive Particles found in backyard due to water dripping from CSB Shield being moved from CTMT. | RA D |
| 41 | 30-Sep-85 | | CTMT Alleyway by Test Tanks | Discrete Radioactive Particles found in CTMT Alleyway. | RA D |

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|---|---|---|---|---|---|
| 42 | 03-Oct-85 | | CTMT Alleyway | Discrete Radioactive Particles. Numerous DRP's found in CTMT Alleyway. Water being drained form valve in Steam and Valve House running to storm drain through area with particles. | RA D |
| 43 | 12-Apr-84 | | Outside by RWST | Contaminated Insulation and from flange leak on RWST. | RA D |
| 44 | 01-Apr-87 | | Equipment Hatch "Pit" | Contamination. Low levels of contamination (up to 925 dpm) was found in the Equipment Hatch Pit area. | RA D |
| 45 | 22-Feb-87 | | Outside in front of LSA Bldg. | Hot Particles (up to 190 mr/hr) found outside in front of the LSA Bldg. | RA D |
| 46 | 02-Feb-95 | R.I.R. 95-16 | Guardhouse/ I&C Training Lab | Radioactive Material. Reed switches (100k fixed) were improperly released from the R.A. and found by portal alarm at the Gatehouse. Additional survys discovered equipment with smearable contamination in the I&C Training Lab. | RA D |
| 47 | 01-Oct-95 | R.I.R. 95-30 | Gatehouse | Contaminated clothing. A worker with contaminated modesty garments was identified by alarm at Gatehouse portal monitor. | RA D |
| 48 | 27-Jul-97 | R.I.R. 96-11 | Backyard in SFP Rerack bathtub | Contaminated spill. Approximately 100 gallons of water spilled out of old SFP rack when downended in bathtub in backyard. | RA D |
| 49 | 16-Oct-97 | R.I.R. 96-15 | Cold side Tool Crib | Radioactive tools. Tools with fixed contamination found in the Coldside Tool Crib. | RA D |
| 50 | 26-Apr-88 | UOR 88-33 | Outside RWST Siphon Heater piping | Contaminated Spill. Crack in the RWST siphon heater return line. | RA D |
| 51 | 24-Feb-88 | UOR 88-21 | Outside at RWST siphon heater piping | Contaminated leak. Siphon heater return line isolation valve leak. | RA D |
| 52 | 23-Feb-88 | UOR 88-20 | Outside at RWST siphon heater piping | Contaminated liquid leak.RWST siphon heater flange leak. 200 ml/min. | RA D |
| 53 | 24-Oct-87 | UOR 87-159 | Outside at RWST siphon heater piping | Contaminated liquid leak. RWST siphon heater return line has a crack and leaks. | RA D |
| 54 | 11-Oct-87 | UOR-87-153 | Outside at RWST siphon heater piping | Contaminated liquid leak into the RWST siphon heater sump well. | RA D |
| 55 | 29-Mar-83 | UOR 1983 | Back River | Oil spill into the Back River. Approx.40 gallons of oil from Tk-75 overfilled and spilled out of vent pipe onto roof. Oil to river via storm drain system. | HAZ |
| 56 | 11-May-87 | UOR-87-59 | Backyard | Chromated water spill in backyard. | HAZ |
| 57 | 14-Aug-85 | UOR 85-55 | Boiler Room | Mercury spill.14 lbs of mercury spilled in aux. Boiler Room. | HAZ |
| 58 | 06-Aug-85 | UOR 85-42 | X-1A and surrounding area | Oil spill form X-1A due to safety valve lifting. Oil on transformer and on gravel around transformer. | HAZ |
| 59 | 30-Mar-84 | UOR 1984 | RWST down the Storm Drain | Contaminated liquid spill. Approx. 5000 gallons of water leaked from the RWST and went down the storm drain. | RA D |
| 60 | 27-Feb-84 | UOR ? | Aux. Feedpump Room outside to storm drain | Contaminated liquid spill. Wet vac barrel of contaminated water spilled in Aux F.P. Room and ran outside and down the stormdrain. | RA D |

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|---|---|---|---|---|---|
| 61 | 01-Jul-89 | | Backyard | Discrete radioactive particles found in outside areas while attempting to free release the area. | RA D |
| 62 | 16-Nov-89 | | LSA bld./ Storm Drain | Contaminated liquid spilled in the LSA bld. some of which went down the storm drain. | RA D |
| 63 | 01-May-88 | | RWST outside areas of previous spills | Contaminated soil. Surveys of excavated area around base of RWST. | RA D |
| 64 | 08-Mar-95 | UOR 95-25 | Water Treatment & Outside Underground | Waste neutralization tank sump has crack and leaks. Discharge piping at Service Water connection eroded away. | HAZ |
| 65 | 27-Nov-94 | UOR 94-93 | Outside by old underground Fuel oil tanks | Oil sheen seen on water puddle at area near the location of the old underground fuel oil storage tanks. | HAZ |
| 66 | 30-Jun-94 | UOR 94-47 | Circ. Water Pump House Intake Structure | Oil sheen seen at Circ. Water Intake Structure., inside the boom. | HAZ |
| 67 | 23-Jun-94 | UOR 94-43 | Spare Generator Storage Building | Kerosene spill. Kerosene spill in spare generator storage building. | HAZ |
| 68 | 15-Apr-92 | UOR 92-51 | Outside near Water Treatment loadng dock | Sodium Hydroxide spill. Approx. one half gallon NaOH spill. | HAZ |
| 69 | 15-Mar-92 | UOR-92-37 | Outside by SCAT Tank | Sodium Hydroxide spill from leaking flange on tanker truck.4 gallons. | HAZ |
| 70 | 06-Mar-92 | UOR 92-34 | Outside by C/W Pump House | Oil spill. Oil leakage from fuel truck onto ground. Approx. 1 quart. | HAZ |
| 71 | 23-Jan-92 | UOR 92-11 | Outside at Baseball Field | Sewer line rupture at area near baseball field. Approx. 200 gallon leak. | HAZ |
| 72 | 06-Dec-91 | UOR 91-98 | Uderground Gasoline Storage Tank area | Gasoline levels in soil in area around underground storage tank are over DEP levels. | HAZ |
| 73 | 01-Nov-91 | UOR 91-92 | Outside by DG-2 | Oil Spill. Small oil spill approx.1 gallons. | HAZ |
| 74 | 14-Aug-91 | UOR 91-61 | Outside by DG-2 | Oil spill. Small oil spill outside by DG-2. Approx. 1 quart. | HAZ |
| 75 | 09-May-91 | UOR 91-39 | Outside by X-1B | Oil leak from oil processing trailer. | HAZ |
| 76 | 18-Feb-91 | UOR 91-19 | BWST diked area | Contaminated water. Leak from BWST siphon heater.Approx.12" of water in diked area. | RAD |
| 77 | 09-Jan-91 | UOR 91-05 | BWST diked area | Contaminated water. Leak from BWST siphon heater.Approx.12" of water in diked area. Approx 2400 gallons. | RAD |
| 78 | 19-Sep-90 | UOR 90-124 | RWST Greenhouse | Sodium Hydroxide leak. Approx.20 gallons of NAOH onto paved area. | HAZ |
| 79 | 05-Jul-90 | UOR 90-93 | X-1B bermed area | Oil leak. Approx. 5 gallons. | HAZ |
| 80 | 18-Apr-90 | UOR 90-51 | Outside | SCC leak while filling tank truck. Approx. 1 gallon of SCC (1000 ppm sodium chromate) went down the storm drain. | HAZ |
| 81 | 15-Jan-90 | UOR 90-07 | Weir/diffusers/Backriver | Scc was pumped to the service water header and ultimately to the river. Approx. 20 gallons. | HAZ |
| 82 | 20-Oct-89 | UOR 89-102 | Outside by RWST Greenhouse | Fuel oil spill. Leak in supply line to RWST Greenhouse furnace. | HAZ |

| ID# | DATE | IDENTIFIER | LOCATION | DESCRIPTION | TYPE |
|---|---|---|---|---|---|
| 83 | | employee interview | Bailey Point | Storage area for large amount of items on tip of Bailey Point. Items included wood, scrap, trveling screens, dunnage from equip hatch. | RAD |
| 84 | 05-Dec-88 | UOR 135-88 | Underground piping | SCC leak from underground pipe. | HAZ |
| 85 | 17-Nov-88 | UOR 124-88 | Main Transformer Sump | Milky liquid found in the Main Transformer sump. | HAZ |
| 86 | 02-Jun-88 | UOR 43-88 | BWST Drain lines and Storm Sewer | Drain lines from BWSt sump to the storm drain system found open. | RAD |
| 87 | 27-May-88 | UOR 42-88 | RWST Siphon Heater return line | RWST siphon heater return line valve leaking to pavement. | RAD |
| 88 | 22-May-88 | UOR 39-88 | RWST | Contaminated water from leak collection barrel on ground. | RAD |
| 89 | 08-Nov-97 | employee interview | Boiler Room Storage Cabinets | Mercury contamination.Expect to find residual mercury contamination in storage cabinets. | HAZ |
| 90 | 09-Jun-89 | AI-89-49-1 | Turbine Hall Sumps | Low levels of activity found in all Turbine Hall sumps except for the service water heat exchanger. Also along railroad track rails. | RAD |
| 91 | 15-Aug-89 | isotopic analysis | CR-3 | Activity found in bird droppings from CR-3. | RAD |
| 92 | 02-Nov-88 | tech file 01-08-04-02 | Outside by RWST | Request for in place disposal of slightly contaminated soil around the RWST | RAD |
| 93 | 31-Aug-89 | tech file 01-08-04-02 | Outside by RWST | Approval for in place disposl of residual contaminated soils at Maine Yankee | RAD |
| 94 | 11-Mar-91 | tech file 01-08-04-02 | Outside by Circ. Water Pumphouse | Ferrous sulfate tank underground by the Circ. Water Pumphouse. Tank left in place until decommisioning. | HAZ |
| 95 | | | N/A | Various indexes and sorts. RIRs, UORs etc. | |
| 96 | 15-Nov-96 | | Outside by CST | Flood relief drainage project soil sample analysis. | RAD |
| 97 | 17-Nov-97 | | Information Center | NORM activity discovered by GTS Duratek on carpet at Information Center. | RAD |
| 98 | 18-Nov-97 | | Outside by PWST | Cs-137 & Co-60 activity found in dirt next to the PWST. | RAD |
| 99 | 02-Dec-97 | | Blowdown Heat Exchang. | 30kdp m loose surface contam. found in E-100. | RAD |
| 100 | 10-Dec-97 | | N-P-43 PAB 21' | 1.2k dpm found inside piping at N-P-43 | RAD |
| 101 | 12-Dec-95 | | Outside by Warehouse | 30k dpm cobalt 60 particle found in crack in pavement by warehouse. | RAD |
| 102 | 20-Jan-98 | | Turbine Hall | 5k to 50k dpm/100cm2 found inside valve SW-42, Test Tank overboard to Service Water system. | RAD |
| 103 | 21-Jan-98 | | Turbine Hall | 100 to 200 ccpm fixed contamination found inside SCC Pumps | RAD |
| 104 | 21-Jan-98 | | Yard Area | Hydraulic oil spill from T&R trash truck <1 gallon | HAZ |
| 105 | 22-Jan-98 | | Turbine Hall | List provided by GTS Duratek listing components having detectable activity, by direct frisk, which is >background. | RAD |
| 106 | 01-Jan-73 | | Outside Areas | "Soil and sediment history in the vicinity of Maine Yankee" | RAD |
| 107 | 01-Jan-75 | | Outside | "Measurements of radionuclides as a function of position in the estuary of the Maine Yankee Atomic Power Plant" | RAD |

| ID# | DATE | IDENTIFIER | LOCATION | DESCRIPTION | TYPE |
|---|---|---|---|---|---|
| 108 | 07-Feb-74 | | | A Radioactive Isotopic Characterization of the Environment Near Wiscasset, Maine: A Preoperational Survey in the Vicinity of the Maine Yankee Atomic Power Plant. | RAD |
| 109 | 01-May-76 | | Outside | "Radioactive isotopic characterization of the environment near Wiscasset, Maine using pre and post-operational surveys in the vicinity of the Maine Yankee Nuclear Reactor" | RAD |
| 110 | 30-Jan-98 | | Outside by Wier | Soil taken at Duratek sample location R900 01OL1 grid 130 has indication of Co-60 and Cs- 137. | RA D |
| 111 | 22-Jan-98 | | Water Treatment Area | Isotopic analysis of TK-37, alum storage tank, sludge. | RAD |
| 112 | 23-Jan-98 | | Site Characterization | Letter from H.G.Brack to NRC regarding deficiencies in site characterization and MARSSIM | RA D |
| 113 | 01-Mar-81 | | Estuary | "The Environmental Behavior of Transuranic Nuclides Released from Water Cooled Nuclear Power Plants" | RAD |
| 114 | 24-Jun-97 | | Estuary | Results of May 1994 clam and sediment sampling. | RAD |
| 115 | 04-Oct-94 | | Outside | Licensed silt spreading area. | RAD |
| 116 | | | Back Bay | Photos Of water flow from MY prior to construction of weir. | RAD |
| 117 | | | | Residual Radioactive Contamination from Decommissioning NUREG/CR-5512 Tech Basis for translating contam. levels to annual total effective dose equivalent. | RAD |
| 118 | 02-Mar-98 | | Bailey Cove | Forebay, 11.2 pCi/gram at 0"-3", 5pCi/gm at 3"-6". GTS Duratek soil/sediment sample | RAD |
| 119 | 04-Mar-98 | | Outside by PWST | Activity found in soil North West of the PWST. Area now covered with SFP "Island""pagoda". | RAD |
| 120 | 06-Mar-98 | | Contractor Parking Lot | Soil samples taken in the contractor parking lot indicated elevated activity levels. | RAD |
| 121 | 12-Mar-98 | | Outside across from the LLWSB | Cochrane's Corral. An area was established across from the LLWSB for temp. storage of trailers containing radmaterial | RAD |
| 122 | 17-Mar-98 | | Wiscasset Landfill | Results of investigation into barrel filters from MY found at the Wiscasset landfill. | RAD |
| A | | | | Spill Log | |
| B | | | | Search Index | |
| C | | | | No comment employee interview forms | |
| D | | | | Misc. Items e.g., Old Index | |
| | | | | | |

# HSA ID# 1

UOR DATABASE - CONVERTED FROM OPERATIONAL EVENT DATABASE (OEDB)

1. TITLE: Mercury Spill in I&C Shop
   MERCURY SPILL IN I+C SHOP

2. OEDB #: 1273 UOR #: 90-030 LER #: OTHER:
   HPES #: N PRCE #:
3. TIME/DATE OF EVENT: 1130/3/23/90
   ADDENDUM DATE
4. PLANT CONDITIONS:

   OPERATING CONDITION (1-7): 7

5. DESCRIPTION OF OCCURENCE:
   While setting steam flow transmitters in place for storage in the I&C shop, the transmitter tilted and approximately 2 teaspoons of mercury spilled on the floor. In order to avoid spreading the mercury, the area was roped off and a spill kit was obtained. The Industrial Safety and Hazardous Waste Coordinators were notified of the spill.
   Spill cleanup was conducted by I&C personnel using the spill kit. They used protective gloves and goggles while cleaning up the mercury.
   When industrial safety personnel arrived, they evacuated the I&C shop and began to sample the air for airborne mercury. Since none was detected, personnel were allowed back into the shop.
   Cleanup continued with personnel wearing protective suits. The steam flow transmitters were placed in plastic bags to prevent further spills.
   The flow transmitters were being removed from service in the auxiliary steam system because they are obsolete. Upon removal of the first transmitter, the Hazardous Waste Coordinator was notified of the hazard. The transmitter was stored in the I&C shop until it could be disposed. Later it was learned that there is no place for storing such items prior to disposal.
   E-PLAN LEVEL ENS: N (Y/N)

7. REPORTABILITY DETERMINATION: REPORTING CRITERIA; SHORT TERM PROC. 1-26-1; EMERGENCY PLAN PROC. 2.50.0; LER (EXPLAIN)

QOD TREND CODE:

1 DECOM

ATTACHMENT B

ATLAS DOCUMENT INPUT FORM

| | |
|---|---|
| 1. TITLE | UOR 90-030 Mercury Spill in I+C Shop |
| 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 | 3/23/90 |
| 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: Mercury Spill in I&C Shop

B. DATE/TIME OF EVENT: 3/23/90 1130

C. DATE/TIME UOR COMPLETED: 3/23/90 1400

2. PLANT CONDITIONS AT TIME OF OCCURRENCE:

A. OPERATING CONDITION (1-7): 7 B. REACTOR POWER (%) : 96

C. TAVE (F): 565 D. PZR. PRESSURE (PSIG): 2231 E. PZR LEVEL (%) 56

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 : R. Higgins

G.1 DATE/TIME : 1130

OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT (UOR)

4. DESCRIPTION OF OCCURRENCE/SEQUENCE OF EVENTS

While setting steam flow transmitters in place for storage in the I&C shop, the transmitter tilted and approximately 2 teaspoons of mercury spilled on the floor. In order to avoid spreading the mercury, the area was roped off and a spill kit was obtained. The Industrial Safety and Hazardous Waste Coordinators were notified of the spill.

Spill cleanup was conducted by I&C personnel using the spill kit. They used protective gloves and goggles while cleaning up the mercury.

When industrial safety personnel arrived, they evacuated the I&C shop and began to sample the air for airborne mercury. Since none was detected, personnel were allowed back into the shop.

Cleanup continued with personnel wearing protective suits. The steam flow transmitters were placed in plastic bags to prevent further spills.

The flow transmitters were being removed from service in the auxiliary steam system because they are obsolete. Upon removal of the first transmitter, the Hazardous Waste Coordinator was notified of the hazard. The transmitter was stored in the I&C shop until it could be disposed. Later it was learned that there is no place for storing such items prior to disposal.

THIS EVENT IS NOT REPORTABLE PER OP 1-26-1.

OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT (UOR)

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

Two UOR's discussed mercury sp ls. UOR 85-055 & 89-114

6. IMMEDIATE CORRECTIVE ACTIONS

-Clean up mercury spill.
-Place flow transmitters in plastic bags to prevent further spills.

7. PRELIMINARY RECOMMENDATIONS FOR LONG TERM CORRECTIVE ACTION

-Develop a place for storing hazardous waste prior to disposal.

Haz. Waste.

Submitted by : _____

Approved by: Lisa M. Oesterling

Noted by: _____

Distribution:

*PM (RWB)
*APM/MMD (RFP)
*MOD (AJC)
*MTSD (RHN)
*AMOD (JVW)
*ATMOD
*PSS
*SOS
RO (2)
P,OPS (ETB)
*State Inspector (PJD)
*NRC RESIDENT (CFH/RCF)
*MGR QPD (JCF)
*AUGUSTA TELEX
*NSS Section Head (3)
*NE Section Head
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# 2

UOR DATABASE - CONVERTED FROM OPERATIONAL EVENT DATABASE (OEDB)

1. TITLE: VAPOR EXTRACTOR EJ-5 OIL DISCHARGE TO TURBINE BUILDING ROOF.

2. OEDB #: 1955 UOR #: 94-105 LER #: OTHER:
   HPES #: PRCE #:
3. TIME/DATE OF EVENT: 1150/11/29/94
   ADDENDUM DATE
4. PLANT CONDITIONS:

   OPERATING CONDITION (1-7): 7

5. DESCRIPTION OF OCCURENCE:
   0830 Operator on rounds recorded EJ-5(seal oil) ejector vacuum of 3.8 in H2O(normal).
   1150 Control room was notified oil droplets were visible on walkway outside near P-2C. PSS investigated and directed an operator to check vacuum on EJ-4(main lube oil) & EJ-5 vapor extractors. Operator found EJ-5 vacuum gauge pegged high (> 5in H2O). Operator adjusted damper approximately 1 in to bring vacuum back within specification. In order to adjust damper, a significant amount of force had to be applied to both "T" handle locking bolts in order to loosen them.
   1230 Notified hazardous waste coordinator to evaluate reportability of oil spill and to initiate cleanup effort.
   1320 Facilities personnel initiated cleanup of oil on roof. Approximately 3 to 5 gal of oil was recovered from the catch basin underneath the roof vent. The hazardous waste coordinator estimated that the equivalent of approximately one quart of oil blew onto the ground in droplet form. There was no accumulation of oil on the ground which could be recovered. Absorbent pads were placed around the catch basin and around the outfall pipe adjacent to the circ. water pump house. Some oil residue was found in the roof drain but there was no evidence of oil coming out of the outfall pipe.
   E-PLAN LEVEL ENS: N (Y/N)

7. REPORTABILITY DETERMINATION: REPORTING CRITERIA; SHORT TERM PROC. 1-26-1; EMERGENCY PLAN PROC. 2.50.0; LER (EXPLAIN)

   Not reportable per 1-26-1. For oil spill of less than 10 gallons to ground ITEM 1 of FORM C-1, IMMEDIATE NOTIFICATION OF SPILLS is required to be filled out. This report is logged but

QOD TREND CODE:

2

ATTACHMENT 3

ATLAS DOCUMENT INPUT FORM

| | |
|---|---|
| 1. TITLE | Unusual Occurrence Reports UORs Vapor Extractor EJ-5 Air Discharge to Turbine Building Roof |
| 2. DOCUMENT TYPE | Reports |
| 3. DOCUMENT FORM | |
| 4. DOCUMENT LOCATION | |
| 5. RETENTION PERIOD | |
| 6. TECHNICAL FILE NUMBER | 1.8.4.2 |
| 7. DOCUMENT NUMBER | |
| 8. REVISION NUMBER | |
| 9. DATE | 11/29/1994 |
| 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 | Operations |
| 19. RECEIVER | |
| 20. VENDOR CODE | |
| 21. ACCESSION NUMBER | |
| ACTION: ADD/REPLACE/DELETE (CIRCLE ONE) | |

CREW REVIEW/FIL

MY-0-3-76
REV. 22

INDEX NO. 94-105


## OPERATIONS DEPARTMENT

## UNUSUAL OCCURRENCE REPORT (UOR)

1. GENERAL

A. TITLE OF UOR: **VAPOR EXTRACTOR EJ-5 OIL DISCHARGE TO TURBINE BUILDING ROOF.**

B. DATE/TIME OF EVENT: **11/29/94 1150**

2. PLANT CONDITIONS AT TIME OF OCCURRENCE:

OPERATING CONDITION (1-7): **7** PLANT TRIP ?**N**
REACTOR POWER (%): **100**

3. DESCRIPTION OF OCCURRENCE & IMMEDIATE CORRECTIVE ACTIONS:

**0830 Operator on rounds recorded EJ-5(seal oil) ejector vacuum of 3.8 in H2O(normal).**

**1150 Control room was notified oil droplets were visible on walkway outside near P-2C. PSS investigated and directed an operator to check vacuum on EJ-4(main lube oil) & EJ-5 vapor extractors. Operator found EJ-5 vacuum gauge pegged high (> 5in H2O). Operator adjusted damper approximately 1 in to bring vacuum back within specification. In order to adjust damper, a significant amount of force had to be applied to both "T" handle locking bolts in order to loosen them.**

**1230 Notified hazardous waste coordinator to evaluate reportability of oil spill and to initiate cleanup effort.**

**1320 Facilities personnel initiated cleanup of oil on roof. Approximately 3 to 5 gal of oil was recovered from the catch basin underneath the roof vent. The hazardous waste coordinator estimated that the equivalent of approximately one quart of oil blew onto the ground in droplet form. There was no accumulation of oil on the ground which could be recovered. Absorbent pads were placed around the catch basin and around the outfall pipe adjacent to the circ. water pump house. Some oil residue was found in the roof drain but there was no evidence of oil coming out of the outfall pipe.**

4. THE FOLLOWING SIMILAR OCCURRENCES WERE FOUND IN THE OEDB: (LIST SEARCH CRITERIA)
**CRITERIA:"EJ-4, EJ-5, VAPOR EXTRACTOR"> no records found**
**:"OIL SPILL"> 26 records; UORs 89-035, 92-028, 92-095, 93-072, (94-038, 94-040 94-047 may be similar.)**

5. REPORTABILITY DETERMINATION; REPORTING CRITERIA; SHORT TERM PROC. 1-26-1; EMERGENCY PLAN PROC. 2.50.0; LER(EXPLAIN).
**Not reportable per 1-26-1. For oil spill of less than 10 gallons to ground ITEM 1 of FORM C-1, IMMEDIATE NOTIFICATION OF SPILLS is required to be filled out. This report is logged but no offsite notifications are required.**

5A. FITNESS FOR DUTY EVALUATED? **NO** (YES or NO)

5B. FOR CAUSE TEST REQUIRED? **NO** (YES or NO)
A For Cause Test is required as soon as possible after accidents involvi a failure in individual performance where there is a resonable suspicion that the worker's behavior contributed to those events which result in:
a. A personal injury.
b. A radiation exposure or release in excess of regulatory limits.
c. Actual or potential substantial degradation of the level of plant saf

5C. EVALUATE FOR 10 CFR 21 REPORTABILITY: **NO** (YES or NO)

6. SAFETY SIGNIFICANCE CLASSIFICATION: **II**
CATEGORIZE ACCORDING TO THE TIME REQUIRED FOR A RESPONSE FROM MANAGEMENT, AFTER THE UOR HAS BEEN PRESENTED AT THE MORNING MEETING.

I: Corresponds to Work Order (WO) Priority Categories 1 thru 5. May have Tech Spec or FSAR implications and a Safety Issues Concern form may be needed. RESPONSE TIME is immediate or accelerated e.g. 1400 of the same day when presented at the morning meeting.
II: Corresponds to WO Priority Category 6. RESPONSE Time is 24 hours when presented at the Morning Meeting
III: Corresponds to WO Priority Category 7 thru 10. A normal operational concern - routine.

7. NOTIFICATION:

| | Y/N | NOTIFIED BY | DATE/TIME |
|---|---|---|---|
| ENS | **N** | | |
| NRC RESIDENT INSPECTOR | **N** | | |
| DUTY CALL OFFICER | **N** | | |
| STATE INSPECTOR* | **N** | | |
| INDUSTRIAL SAFETY COORDINATOR | **N** | | |

* FOR: A) EMERGENCY CLASSIFICAION
B) UNSCHEDULED PLANT TRIP OR SHUTDOWN
C) UNSCHEDULED RELEASES OF RADIOACTIVITY.
D) ANY STATE AGENCY IS NOTIFIED EXCLUSIVE OF THE MONTHLY E-PLAN PHONE CHECKS.

8. SCREENING CRITERIA FOR CORRECTIVE ACTION:

a. Does the event have a high probability of occurrence/recurrence and a potential high consequence with respect to Nuclear Safety, Personnel Safety, Regulatory Response, Production/Cost or Public Relations. **YES** (YES/NO)

b. Does the event have a high probability of occurence/recurrence or a potential high consequence where any additional occurrence/ recurrence would be unacceptable. **YES** (YES/NO)

IF either 8.a or 8.b is YES, THEN go to Section 9; PSS and STA recommend type of Root Cause IAW 0-16-1.

IF both 8.a and 8.b are NO, THEN go directly to Section 10.

9. RECOMMENDED LEVEL OF ROOT CAUSE DETERMINATION: (Check one)

| | |
|---|---|
| X DEPARTMENTAL ROOT CAUSE | RC/PRCE |
| INTERDEPARTMENTAL TEAM ROOT CAUSE | RC/HPES |
| RIR RADIOLOGICAL INCIDENT REPORT | RC/Evnt Revw Bd |
| RC/Alt Method | |

10. PRELIMINARY LONGER TERM ACTION ITEMS:

AI 94-105-1 Facilities

**1. Clean roof, roof drain and roof drain piping.** SUDDEN

AI 94-105-2 Operations/ PED Support

2. Perform a Root Cause to Determine the Reason for A^Change in the Vacuum & System performance which resulted in the Oil overflow

11. SOME GOOD QUESTIONS TO ASK DURING THE MORNING MEETING:

a. Is this or another activity ongoing or likely to occur before corrective actions have been implemented? YES (YES/NO)
If so should we let it continue to occur without implementing some interim corrective measures? NO (YES/NO) Expedite RC & Temporary Dam From ROOF VENT.

b. Did this event have the potential for serious personnel injury? NO (YES/NO) If serious injury had occurred would we be doing anything differently?

c. If the problem involved a component required by technical specifications, was the opposite train component ever out of service during the period the component was inoperable? NA (YES/NO)

d. Does anyone have any questions or concerns not previously discussed? NO (YES/NO)

e. Should we put something on the "Nuclear Network"? NO (YES/NO)

SUBMITTED BY: **P.T.EBERT**

APPROVED BY/DATE: [signature] 11-29-9

NOTED BY: [signature] 4/30/94

**OPERATIONAL EVENT DATABASE**

[[ LAST UPDATE-10/08/94 ]]

O.E.D.B. #: 870
UOR # 89-035
EVENT DATE(Mo/Day/Yr) 4/6/89
ADDENDUM DATE
OPERATING CONDITION: 7 (1-7)
EVENT TIME: 1500
TREND CODE (QPD):
ENS: Y (Y/N)
E-PLAN LEVEL

**Reference Documents** (Leave blank if N/A)
SIC#:
L.E.R. #:
H.P.E.S #:
P.R.C.E. #:
OTHER:

UOR TITLE **Oil sheen detected on the Back River**

DESCRIPTION:

An oil sheen was detected on the Back River in the vicinity of the circ water pump house. Source was believed to be from the fuel oi spill on 4/5/89. The fuel oil was leached from the roofing material and carried to the river via the storm sewer. Ref UOR 89-035, OEDB 869, by rainwater. The Hazardous Waster Coordinator contacted the Maine DEP and the US Coast Guard. The NRC was notified via ENS under 50.72(b)(2)(vi).

ADDENDUM TEXT

**OPERATIONAL EVENT DATABASE**

[[ LAST UPDATE-**10/08/94** ]]

O.E.D.B. #: **1623**
UOR # **92-028**
EVENT DATE(Mo/Day/Yr)**2/21/92**
ADDENDUM DATE
EVENT TIME: **1520**
OPERATING CONDITION: **1** (1-7)
ENS: **Y** (Y/N)
TREND CODE (QPD):**19-M322-03**
E-PLAN LEVEL

**Reference Documents** (Leave blank if N/A)
SIC#:
H.P.E.S #:
L.E.R. #:
P.R.C.E. #:
OTHER:

UOR TITLE

DESCRIPTION:

1530 - Control Room receives report of minor oil spill at Circ Water Pumphouse from crane operations during removal of sludge fro "D"-Bay.

1600 - HAZ MAT Coordinator (S. Edgerly) confirms that spill is reportable to State DEP, but not to U.S. Coast Guard. Spill is on the ground and quantity is estimated at about one pint.

1615 - HAZ MAT Coordinator notifies State of Maine D.E.P. andadvises that clean up in progress. D.E.P. satisfied with MY response.

1625 - Notified SNSI's office of call to D.E.P.

1635 - M. Murphy advised of offsite calls being made. No media attention expected.

1637 - NRC Resident's Office notified of offsite State notifications and impending Red Phone call.

1700 - AMOD advised of impending ENS call.

1721 - NRC notified via ENS/Red Phone per 10CFR50.72(b)(2)(vi).

ADDENDUM TEXT

**OPERATIONAL EVENT DATABASE**

[[ LAST UPDATE-**10/08/94** ]]

O.E.D.B. #: **1694**
UOR # **92-095** EVENT DATE(Mo/Day/Yr) **11/03/92**
ADDENDUM DATE EVENT TIME: **1155**
OPERATING CONDITION: **7** (1-7) ENS: **Y** (Y/N)
TREND CODE (QPD): **EG-A335-E6** E-PLAN LEVEL

**Reference Documents** (Leave blank if N/A)
SIC#: H.P.E.S #:
L.E.R. #: P.R.C.E. #:
OTHER:

UOR TITLE **VISIBLE OIL SHEEN ON BACK RIVER DURING RAINSTORM**

DESCRIPTION:

**1155 - Security notified PSS of oil sheen on the back river by the circ pump house. PSS and Hazardous Waste Specialist investigated and determined the event to be reportable IAW the spill plan.**

**Facilities instructed to contain oil with boom and collect it with absorbent sheets.**

**Notifications made per the spill plan (see attached form).**

**During cleanup an oil sheen was found on the rain water entering the storm drain near the walkway were the transformer was cut up. Storm drain was covered; oil stopped from entering the river.**

ADDENDUM TEXT

**OPERATIONAL EVENT DATABASE**

[[ LAST UPDATE-10/08/94 ]]

O.E.D.B. #: 1793
UOR # 93-072
EVENT DATE(Mo/Day/Yr) 8/31/93
ADDENDUM DATE
OPERATING CONDITION: 1 (1-7)
EVENT TIME: 1200
TREND CODE (QPD):
ENS: Y (Y/N)
E-PLAN LEVEL

**Reference Documents** (Leave blank if N/A)
SIC#:
L.E.R. #:
H.P.E.S #:
OTHER:
P.R.C.E. #:

UOR TITLE **OIL SHEEN IN THE BACK RIVER**

DESCRIPTION:

1200 - The control room was notified of an oil sheen in the Back River. The sheen was inside the boom for the pump house intake.

Investigation determined that the source was a sump in the southwest corner of the pump house.

An NPO secured the sump pump and cleaned up the oil with absorbant pads and swipes.

The source of oil may have been P-26A which had oil marks on its discharge head and base.

Notifications were made IAW the Maine Yankee Spill Plan.

ADDENDUM TEXT

**OPERATIONAL EVENT DATABASE**

[[ LAST UPDATE-**10/08/94** ]]

O.E.D.B. #: **1886**
UOR # **94-038** EVENT DATE(Mo/Day/Yr) **6/15/95**
ADDENDUM DATE EVENT TIME: **1802**
OPERATING CONDITION: **7** (1-7) ENS: **Y** (Y/N)
TREND CODE (QPD): E-PLAN LEVEL

**Reference Documents** (Leave blank if N/A)
SIC#: H.P.E.S #:
L.E.R. #: P.R.C.E. #:
OTHER:

UOR TITLE **OIL SHEEN ON BACK RIVER**

DESCRIPTION:

**1802- Security notified the control room of a visible oil sheen on the Back River. The initial investigation confirmed that a sheen was inside the boom for the pump house intake but no source could be identified. After all the possible sources from the circ water pump house were checked, it was decided to check each of the storm drains in the area.**

**1910- The PSS identified the source of the sheen to be the "E" storm drain outfall on the North side of the circ water pumphouse. The storm drain had approximately 30 gpm of water flowing out onto oily absorbent pads and on into the river. The source of the water was determined to be the vacuum priming pump sump. The amount of oil spilled into the river was estimated to be one pint. The Hazardous Material Response Team was activated and clean absorbent pads from the spill response kit were placed under the outfall.**

**1940- Hazardous Material Response Team on site and placed additional absorbent materials around the outfall. The sheen subsequently dissipated.**

**Notifications were made IAW the Maine Yankee Spill Plan.**

**2200- Grab sample from the vacuum priming sump indicated less than 1 ppm oil. Discovered oil sheen in storm drains "E2" "E3" and on wood walkway outside door by P-2C. Suspect source to be roof work on turbine building (roof drain runs into storm drain E-2).**

ADDENDUM TEXT

**OPERATIONAL EVENT DATABASE**

[[ LAST UPDATE-10/08/94 ]]

O.E.D.B. #: 1888
UOR # 94-040
EVENT DATE(Mo/Day/Yr) 06/18/94
ADDENDUM DATE
OPERATING CONDITION: 7 (1-7) EVENT TIME: 0830
TREND CODE (QPD):1B-0211-D0 ENS: Y (Y/N)
E-PLAN LEVEL N/A

**Reference Documents** (Leave blank if N/A)
SIC#:
L.E.R. #: H.P.E.S #:
OTHER: P.R.C.E. #:

UOR TITLE **OIL SHEEN ON BACK RIVER**

DESCRIPTION:

0830 Industrial Safety Coordinator notified the Control Room abou the presence of a small oil sheen on the Back River. The source appeared to be the same as described in UOR 94-038 (turbine building roof drains). Heavy rains from the previous evening prompted the event.

The HAZ MAT team responded and deployed an oil boom near the outfall of the storm sewer discharge that serves the turbine building roof drains.

Cleaned up oil sheen with absorbent pads.

Additional oil absorbent materials were placed around storm sewer outlet.

0900 Notifications were made to offsite agencies IAW the Maine Yankee Spill Plan.

ADDENDUM TEXT

UCF
94-1

# OPERATIONAL EVENT DATABASE

[[ LAST UPDATE-10/08/94 ]]

O.E.D.B. #: 1896
UOR # 94-047
EVENT DATE(Mo/Day/Yr) 06/30/94
ADDENDUM DATE
OPERATING CONDITION: 7 (1-7)
EVENT TIME: 1000
TREND CODE (QPD): 1b-o340-01
ENS: Y (Y/N)
E-PLAN LEVEL

**Reference Documents** (Leave blank if N/A)
SIC#:
L.E.R. #:
H.P.E.S #:
OTHER:
P.R.C.E. #:

UOR TITLE **OIL SHEEN AT CIRCULATING WATER INTAKE STRUCTURE**

DESCRIPTION:

**NOTE: ALL TIMES ARE APPROXIMATE.**

**1000: A SLIGHT OIL SHEEN IS NOTED ON THE SURFACE OF THE WATER AT THE CIRCULATING WATER PUMP INTAKE STRUCTURE, INSIDE THE INSTALLED BOOM.**

**1100: CLEANED THE OIL SHEEN WITH ABSORBENT PADS.**

**1600 FOLLOWING DAY: NOTIFICATIONS WERE MADE TO OFFSITE AGENCIES IAW THE MAINE YANKEE SPILL PLAN. DUE TO THE EXTREMELY SMALL SIZE OF THE OIL SHEEN, IT WAS NOT IMMEDIATELY APPARENT THAT NOTIFICATION WAS REQUIRED; THUS ACCOUNTING FOR THE DELAY IN REPORTING.**

ADDENDUM TEXT

# HSA ID# 3

UOR DATABASE - CONVERTED FROM OPERATIONAL EVENT DATABASE (OEDB)

1. TITLE: Contents of sump pumped into river. Milky color caused discoloration of river. Some oil in pit. Considered to be emulsion.
   MAIN TRANSFORMER DRAIN SUMP PUMP DOWN

2. OEDB #: 710 UOR #: 124-88 LER #: OTHER:
   HPES #: PRCE #:
3. TIME/DATE OF EVENT: 2100/11/17/88
   ADDENDUM DATE 11/18/88
4. PLANT CONDITIONS:

   OPERATING CONDITION (1-7): 1

5. DESCRIPTION OF OCCURENCE:
   Prior approval to pump down sump granted by H.W.C. Pump down stopped due to milky color. Some oil on surface of water in sump. No initial phone calls based on H.W.C. assessment. In the morning a sheen of oil developed on the river. The H.W.C. decided the State should be called and Thurs NRC were called also.
   At approximately 0900 on 11/18/88 a sheen of oil was noticed on the back river between the circ. water pumphouse trash boom and screen wash trough. The sheen occupied approximately 500 square feet. The Hazardous Waste Coordinator decided that becuase of the area involved, the oil spill should be reported to the Maine Dept. of Enviromental Protection and the US Coast Guard. These reports were made at 0930hrs and at 1000 hrs. The NRC was notified per 10CFR 50.72 (b)(2)(vi) as a condition that impacts the environment for which Maine Yankee made notification to other governmental agencies.
   No releases were in progress when the oil sheen was noticed. It is believed that the oil originated from the transformer sump drain conducted earlier.
   E-PLAN LEVEL ENS: Y (Y/N)

7. REPORTABILITY DETERMINATION: REPORTING CRITERIA; SHORT TERM PROC. 1-26-1; EMERGENCY PLAN PROC. 2.50.0; LER (EXPLAIN)

QOD TREND CODE:

# HSA ID# 4

UOR DATABASE - CONVERTED FROM OPERATIONAL EVENT DATABASE (OEDB)

1. TITLE: OIL LEAKAGE INTO SPRAY BUILDING
OIL LEAKAGE INTO SPRAY BUILDING

2. OEDB #: 1203 UOR #: 89-106 LER #: OTHER:
HPES #: PRCE #:
3. TIME/DATE OF EVENT: 2130/10/29/89
ADDENDUM DATE 10/31/89
4. PLANT CONDITIONS:

OPERATING CONDITION (1-7): 7

5. DESCRIPTION OF OCCURENCE:
2130 Primary AO was making weekly tour of the Spray Building and noticed very strong odor of fuel oil upon entering building.
While inspecting the lower level of the spray building the AO noticed that oil had seeped onto the -6 ft elevation NW corner by E-3A. This area had historically allowed inleakage of rainwater. (see photos)
The oil water mixture had flowed along the -6 ft level and entered the -11 ft pit area below E-3A. (see photos)
The spray building sump pumps were turned off and absorbent material was placed on the oil. The area around the spray building was inspected to ensure there was no current source of leaking fuel oil.
The source of the oil was probably the leak identified from the storage tank for the RWST enclosure furnace identified in UOR 89-102. At the time the smell of fuel oil in the spray building was identified as probably entering via HV-7.
Since the source of fuel oil was probably the oil leak identified earlier no additional reporting requirements exist.
-1000 OPERATIONS COMMENCED PUMPING WELL POINTS IN ORDER TO SAMPLE THE WELL POINTS FOR OIL.
-1210 HAZARDOUS WASTE COORDINATOR NOTIFIED MAINE DEP OF OIL SPILL.
-1215 HAZARDOUS WASTE COORDINATOR NOTIFIED NATIONAL RESPONSE CENTER OF OIL SPILL.
THESE CALLS WERE MADE AFTER JOINT DISCUSSION AND DECISION BETWEEN LICENSING AND THE HAZARDOUS WASTE COORDINATOR.
-1330 4 HOUR REPORT UNDER 50.72 (B)(2)(VI) WAS MADE TO THE NRC VIA THE ENS DUE TO AN EVENT RELATED TO THE PROTECTION OF THE ENVIRONMENT FOR WHICH NOTIFICATION TO OTHER GOVERNMENT AGENCIES WAS MADE.
AT THE TIME OF THE WRITING, 1500, NO OIL HAS BEEN OBSERVED IN WATER PUMPED FROM THE WELL POINTS.
E-PLAN LEVEL ENS: N (Y/N)

7. REPORTABILITY DETERMINATION: REPORTING CRITERIA; SHORT TERM PROC. 1-26-1; EMERGENCY PLAN PROC. 2.50.0; LER (EXPLAIN)

N

QOD TREND CODE:

DECOM

4

ATTACHMENT B

ATLAS DOCUMENT INPUT FORM

| | |
|---|---|
| 1. TITLE | UOR 89-106 And Addendum Oil Leakage Into Spray Bldg. |
| 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 | 10/29/89 Addendum 10/30/89 |
| 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) | |

File

INDEX NO. 89-106
MY-O-3-76
REV.10
Page 1 of 3

2547.30.2

OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT (UOR)

1. GENERAL

A. TITLE OF UOR: **OIL LEAKAGE INTO SPRAY BUILDING**

B. DATE/TIME OF EVENT: **10/29/89 2130**

C. DATE/TIME UOR COMPLETED: **10/29/89 2400**

2. PLANT CONDITIONS AT TIME OF OCCURRENCE:

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

C. TAVE (F): **574** D. PZR. PRESSURE (PSIG): **2235** E. PZR LEVEL (%) **58**

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 : **COPY OF UOR**

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/SEQUEN OF EVENTS

2130 Primary AO was making weekly tour of the Spray Building and noticed very strong odor of fuel oil upon entering building.

While inspecting the lower level of the spray building the AO noticed that oil had seeped onto the -6 ft elevation NW corner by E-3A. This area had historically allowed inleakage of rainwater. (see photos)

The oil water mixture had flowed along the -6 ft level and entered the -11 ft pit area below E-3A. (see photos)

The spray building sump pumps were turned off and absorbent material was placed on the oil. The area around the spray building was inspected to ensure there was no current source of leaking fuel oil.

The source of the oil was probably the leak identified from the storage tank for the RWST enclosure furnace identified in UOR 89-102. At the time the smell of fuel oil in the spray building was identified as probably entering via HV-7.

Since the source of fuel oil was probably the oil leak identified earlier no additional reporting requirements exist.

2547.10.4

OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT (UOR)

5. IMMEDIATE CORRECTIVE ACTIONS

Secure spray building sump pumps and use absorbent material on oily water.
Ensured there is no current source of oil leakage.

6. PRELIMINARY RECOMMENDATIONS FOR LONG TERM CORRECTIVE ACTION

Pump PCC well point to determine if there is any oil in the ground water.
Conduct a thorough cleanup of the spray building floors and sump to ensure all oil is removed
Determine long term plan to eliminate oil or collect leakage into spray building.

Submitted by : Rodney Dell

Approved by: [signature]

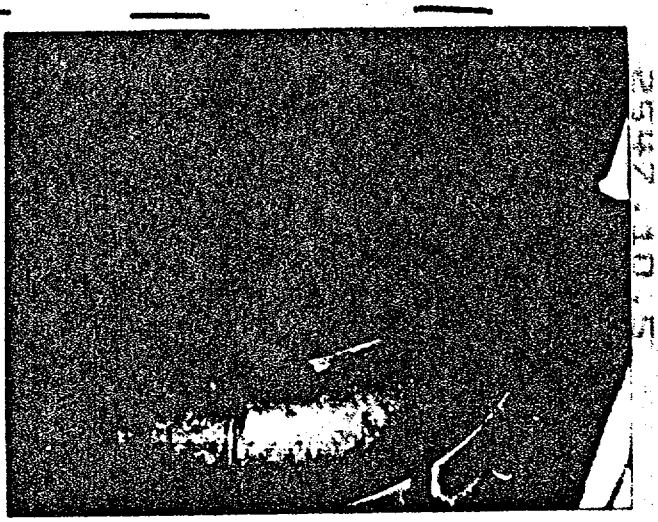
Noted by: [signature]

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 (JER) | Specialty Training Section Head (RLD) |
| *PSS | PED Section Head |
| *SOS | Required Reading System (before shift) |
| *RO (2) | VP Public Affairs (JDF) |

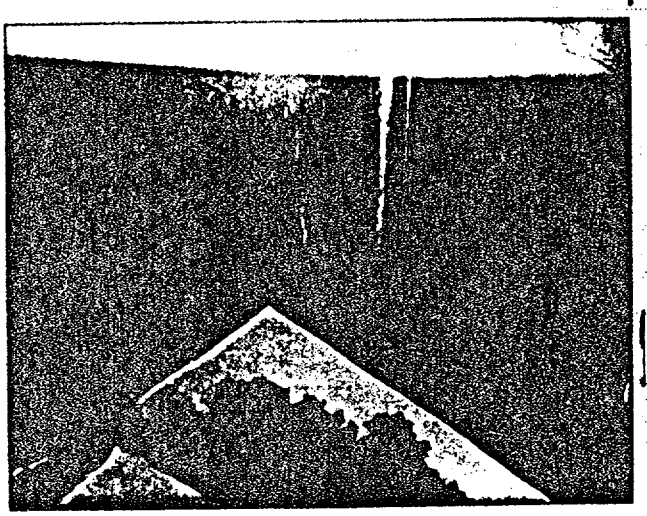
* Distribute promptly by on-shift personnel, remainder of list distributed by Operations Department Admin Specialist

Access to pit below E-3A
-6 ft elevation

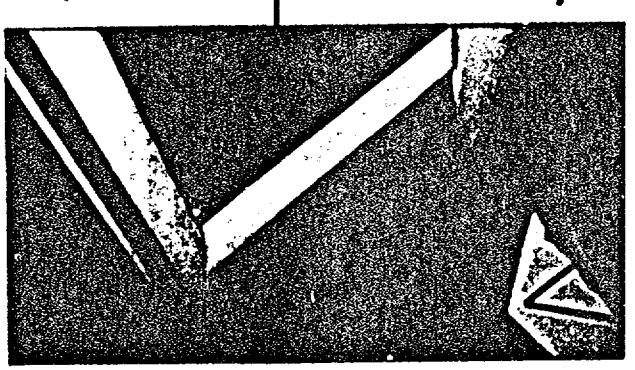


Pit below E-3A
-11 ft elevation

NorthWest Corner
By E-3A
-6 ft elevation



Close-up of NW
corner by E-3A
-6 ft elevation



Pit below E-3A
-11 ft elev

USC
53-136

File w/UOR

2547.10.6



ADDENDUM TO UOR 89-106

OPERATIONS DEPARTMENT

UNUSUAL OCCURENCE REPORT (UOR)

ADDITIONS TO UOR DATE OF ADDENDUM: 10/30/89

- 1000 Operations commenced pumping well points in order to sample the well points for oil.

- 1210 Hazardous Waste Coordinator notified Maine DEP of oil spill.

- 1215 Hazardous Waste Coordinator notified National Response Center of oil spill.

These calls were made after joint discussion and decision between licensing and the Hazardous Waste Coordinator.

- 1330 4 hour report under 50.72 (B)(2)vi was made to the NRC via the ENS due to an event related to the protection of the environment for which notification to other government agencies was made.

[redacted]time of writing, 1500, no oil has been observed in water pumped [redacted]m the well points.

Submitted by: D. Wakelin

Approved by:

Noted by:

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 |
| [redacted] | Required Reading System (before shift) |
| [redacted]2) | VP Public Affairs (JDF) |

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

File

2547.10.7

ADDENDUM to UOR 89-106 "OIL LEAKAGE INTO SPRAY BUILDING"

30 OCTOBER 1989

- 0100 - The PSS , after touri the spray building , decided that the 4-5 gallons of fuel oil seepage was an added fire consideration and should be corrected.

- 0130 - The DCO was called.
- 0130 - An operator was dispatched to the spray building to establish a foam application system and to act as a fire watch.

- 0145 - The fire protection coordinator was called in to direct establishing interim fire protection measures.

- 0220 - Personnel from plant services were called in to support the clean-up.

- A review of OP 1-26-1 reporting requirements indicates that there are no immediate reporting requirements. This assessment is based on the reprotability evaluation made for the fuel oil spill described in UOR 89-102 " Fuel Oil Spill from Storage Tank for RWST Enclosure Furnace" because this spill is considered to be the source of the oil seeping into the spray building.

RECOMMENDATION:

89-106-5

- A reevaluation of the fuel oil spill reportability should be made considering the current seepage into the spray building.

Submitted by James M. Taylor

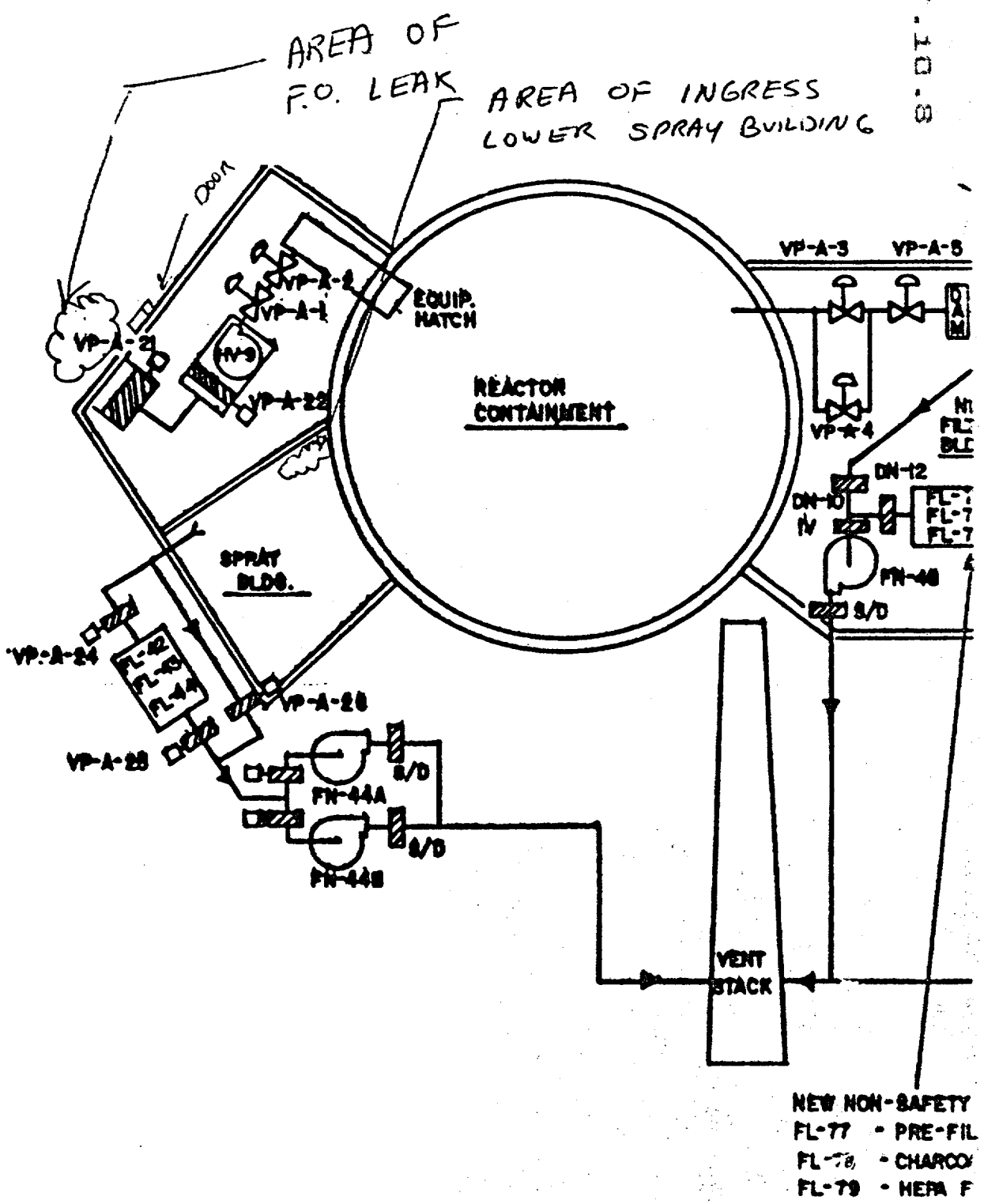
Approved by : J Grant

Noted by :

ADDENDUM TO WORK-

8.01-47452

TK-4



# HSA ID# 5

UOR DATABASE - CONVERTED FROM OPERATIONAL EVENT DATABASE (OEDB)

1. TITLE:

2. OEDB #: 1623 UOR #: 92-028 LER #: OTHER:
   HPES #: PRCE #:
3. TIME/DATE OF EVENT: 1520/2/21/92
   ADDENDUM DATE
4. PLANT CONDITIONS:

   OPERATING CONDITION (1-7): 1

5. DESCRIPTION OF OCCURENCE:
   1530 - Control Room receives report of minor oil spill at Circ Water Pumphouse from crane operations during removal of sludge from "D"-Bay.
   1600 - HAZ MAT Coordinator (S. Edgerly) confirms that spill is reportable to State DEP; but not to U.S. Coast Guard. Spill is on the ground and quantity is estimated at about one pint.
   1615 - HAZ MAT Coordinator notifies State of Maine D.E.P. andadvises that clean up in progress. D.E.P. satisfied with MY response.
   1625 - Notified SNSI's office of call to D.E.P.
   1635 - M. Murphy advised of offsite calls being made. No media attention expected.
   1637 - NRC Resident's Office notified of offsite State notifications and impending Red Phone call.
   1700 - AMOD advised of impending ENS call.
   1721 - NRC notified via ENS/Red Phone per 10CFR50.72(b)(2)(vi).
   E-PLAN LEVEL ENS: Y (Y/N)

7. REPORTABILITY DETERMINATION: REPORTING CRITERIA; SHORT TERM PROC. 1-26-1; EMERGENCY PLAN PROC. 2.50.0; LER (EXPLAIN)

   MINOR OIL SPILL DURING C.W. PUMPHOUSE MAINTENANCE
   Reportable under 10 CFR 50.72(b)(2)(vi) as a Four Hour, Non-Emergency Report (notification of other government agencies of an event related to protection of the environment).

QOD TREND CODE: 19-M322-03

5

DECOM

ATTACHMENT B

ATLAS DOCUMENT INPUT FORM

| | |
|---|---|
| 1. TITLE | UOR 92-028 Minor Oil Spill During C.W. Pumphouse Maintenance |
| 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 | 2/21/92 |
| 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: MINOR OIL SPILL DURING C.W. PUMPHOUSE MAINTENANCE

B. DATE/TIME OF EVENT: 2/21/92 1520

C. DATE/TIME UOR COMPLETED: 2-21-92 2030

2. PLANT CONDITIONS AT TIME OF OCCURRENCE:

OPERATING CONDITION (1-7): 1
REACTOR POWER (%): 0
Tave (deg F): 96
PLANT TRIP ?N/A
PZR PRESSURE (psig): 14.7
PZR LEVEL (%): 61

3. DESCRIPTION OF OCCURRENCE/SEQUENCE OF EVENTS:

1530 - Control Room receives report of minor oil spill at Circ Water Pumphouse from crane operations during removal of sludge from "D"-Bay.

1600 - HAZ MAT Coordinator (S. Edgerly) confirms that spill is reportable to State DEP; but not to U.S. Coast Guard. Spill is on the ground and quantity is estimated at about one pint.

1615 - HAZ MAT Coordinator notifies State of Maine D.E.P. andadvises that clean up in progress. D.E.P. satisfied with MY response.

1625 - Notified SNSI's office of call to D.E.P.

1635 - M. Murphy advised of offsite calls being made. No media attention expected.

1637 - NRC Resident's Office notified of offsite State notifications and impending Red Phone call.

1700 - AMOD advised of impending ENS call.

1721 - NRC notified via ENS/Red Phone per 10CFR50.72(b)(2)(vi).

5. REPORTABILITY DETERMINATION: (EXPLAIN, INCLUDING REPORTING CRITERIA AND EMERGENCY PLAN INFORMATION. CONSULT PROCEDURE 2.50.0).

**Reportable under 10 CFR 50.72(b)(2)(vi) as a Four Hour, Non-Emergency Report (notification of other government agencies of an event related to protection of the environment).**

6. SAFETY SIGNIFICANCE CLASSIFICATION: **III**
CATEGORIZE ACCORDING TO THE TIME REQUIRED FOR A RESPONSE FROM MANAGEMENT, AFTER THE UOR HAS BEEN PRESENTED AT THE MORNING MEETING.

Category I: Corresponds to Work Order (WO) Priority Categories 1 thru 5. May have Tech Spec or FSAR implications and a Safety Issues Concern form may be needed. RESPONSE TIME is immediate or accelerated e.g. 1400 of the same day when presented at the morning meeting.

Category II : Corresponds to WO Priority Category 6. RESPONSE TIME is 24 hours when presented at the Morning Meeting.

Category III : Corresponds to WO Priority Category 7 thru 10. A normal operational concern - routine.

7. IMMEDIATE CORRECTIVE ACTIONS:

1. **Contain spill.**
2. **Commence clean-up.**
3. **Advise HAZ MAT**
4. **Assess reportabiltiy**
5. **Make required notifications.**

8. ACTION ITEMS (LONG TERM):

~~1. Reassess MY policy for making ENS calls for such minor oil spills.~~

92028-1. Complete submission of spill plan to state DEP. Licensing.

9. NOTIFICATION:

| | Y/N | NOTIFIED BY | DATE/TIME |
|---|---|---|---|
| ENS | Y | R. Maloney | 1721: 2/21/92 |
| NRC RESIDENT INSPECTOR | Y | R. Maloney | 1637: 2/21/92 |
| DUTY CALL OFFICER | n | | |
| STATE INSPECTOR* | Y | R. Maloney | 1625: 2/21/92 |
| INDUSTRIAL SAFETY COORDINATOR | n | | |

* NOTIFY THE SNI IN CASE OF A) EMERGENCY CLASSIFICAION
B) UNSCHEDULED PLANT TRIP OR SHUTDOWN.
C) UNSCHEDULED RELEASES OF RADIOACTIVITY.
D) ANY STATE AGENCY IS NOTIFIED EXCLUSIVE OF THE MONTHLY E-PLAN PHONE CHECKS.

SUBMITTED BY: R.E. Maloney

APPROVED BY: _____

NOTED BY: _____

**Distribution:**

*PM (RWB)
*MMD (RLB)
*MOD (AJC)
*MTSD (RHN)
*AMOD (JAN)
*ATMOD
*PSS
*SOS
*RO
*VP,OPS (ETB)
*OPD Section Head (STL)
*MSP (MJV)
*PED Manager (CRS)
*CED Manager (JRH)
*State Inspector (PJD)
*NRC RESIDENT (CSM/WTO)
*MGR QPD (JCF)
*AUGUSTA TELEX
*NSS Section Head
*MOPS (RRL)
*RE Supervisor (DAR)
*Security - SAS (Shift Lieutenant)
Operator Training Section Head (MDE)
Specialty Training Section (HMS)
Required Reading System (before shift)
Public Affairs Director (MDM)

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

# HSA ID# 6

UOR DATABASE - CONVERTED FROM OPERATIONAL EVENT DATABASE (OEDB)

1. TITLE: OIL SHEEN ON BACK RIVER

2. OEDB #:2045 UOR #: 95-039 LER #: OTHER:
   HPES #: PRCE #:
3. TIME/DATE OF EVENT: 1156/3/31/95
   ADDENDUM DATE
4. PLANT CONDITIONS:

   OPERATING CONDITION (1-7): 1

5. DESCRIPTION OF OCCURRENCE:
   3/31/95
   1156 SECURITY NOTIFIED THE CONTROL ROOM OF A VISIBLE OIL SHEEN ON THE BACK RIVER. THE INITIAL INVESTIGATION BY THE PSS INDICATED THE SOURCE OF THE SHEEN TO BE THE E STORM DRAIN OUTFALL ON THE NORTH SIDE OF THE CIRC WATER PUMPHOUSE. PLANT SERVICES WAS NOTIFIED AND THE SPILL TEAM RESPONDED. LEAVES IN THE STORM DRAIN OUTLET APPEARED TO BE BLOCKING AND FILTERING THE OIL.

   1215 ABSORBENT PADS PLACED UNDER THE OUITFALL.

   MOD NOTIFIED OF SPILL. THE TURBINE HALL ROOF CATCH BASIN DRAIN SIGHT GLASS AND THE PIPE OUTLET TO THE TRUBINE HALL SUMP WERE CHECKED AND NO OIL RESIDUE WAS DETECTED. IT WAS SUBSEQUENTLY DETERMINED THAT THE VAPOR EXTRACTOR CATCFH BASIN INSTDALLATION STILL HAD SOME MINOR WORK TO BER COMPLESDTED AND THE ROOF PLUGS WERE STILL INSTALLED IN THE BASINS. THE CATCH BASINS WERE FOUND TO BE FULL WATER AND THEY HAD A LAYER OF OIL ON TOP OF THE WATER.

   THE LIGHT OIL WHICH DISCHARGED INTO THE RIVER SPREAD AND DISSIPATED RAPIDLY. THE ESTIMATED AMOIUNT WAS LESS THAN 1 QUART.

   IN ADDITIOIN TO THE NOTIFICATIONS LISTED IN SECTION 7, THE STATE OF MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION WAS NOTIFIED AT 1252 AND THE NATIONAL RESPONSE CENTER WAS NOTIFIED AT 1315.

   1445 AFTER OBTAINING CONCURRENCE FROM CED, THE CATCH BASIN PLUGS WERE REMOVED AND THEIR CONTENTS WERE DRAINED TO THE TURBINE HALL SUMP.

   1600 FACILITIES SETTING UP TO FLUSH ROOF DRAINS TO REMOVE ANY RESIDUAL OIL.

QOD TREND CODE:

6

ATTACHMENT 3

ATLAS DOCUMENT INPUT FORM

| | |
|---|---|
| 1. TITLE | Unusual Occurrence Reports UORs' All Sheets in Back Issues |
| 2. DOCUMENT TYPE | Reports |
| 3. DOCUMENT FORM | |
| 4. DOCUMENT LOCATION | |
| 5. RETENTION PERIOD | |
| 6. TECHNICAL FILE NUMBER | 1.8.4.2 |
| 7. DOCUMENT NUMBER | |
| 8. REVISION NUMBER | |
| 9. DATE | 03/31/1995 |
| 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 | Operations |
| 19. RECEIVER | |
| 20. VENDOR CODE | |
| 21. ACCESSION NUMBER | |
| ACTION: ADD/REPLACE/DELETE (CIRCLE ONE) | |

UCR 95-039

# MEMORANDUM

## CORPORATE ENGINEERING DEPARTMENT

TO: TEDD M. GIFFORD DATE: APRIL 5, 1995

FROM: MATTHEW J. MARSTON FILE: MJM-95-003

SUBJECT: AI-95-039-3, TURBINE HALL ROOF DRAIN MOD ACTION ITEM RESPONSE

REFERENCES:

a. UCR 94-038, "Oil Sheen on Back River", dated June 15, 1994.

b. UOR 94-040, "Oil Sheen on Back River", dated June 18, 1994.

c. Memo from Matthew J. Marston to Robert H. Nelson, "Oil Sheen on the Back River - Root Cause No. CED-RC-94-005", file no. MJM-94-011, Rev. 1, dated October 31, 1994.

d. Letter from James R. Hebert to Frank Gehrling, Maine DEP, "Oil Spill Reports for Very Small Spills (all one pint or less) Occurring on June 15, 18, and 30, 1994", file no. JRH-94-173, dated August 9, 1994.

e. Technical Evaluation 365-94, "Turbine Hall Roof Drain Modifications".

f. Work Order 94-4232-00.

g. UCR 95-039, "Oil Sheen on Back River", dated March 31, 1995.

This memo is written to address concerns with regard to an overboard discharge of oil. Of specific interest are the reasons behind the fact that the installation of new roof drains intended to preclude such a discharge were not completed and why Plant Management was not aware of the fact that they were not completed. In addition, a summary of the status of other outstanding CED Projects is provided.

BACKGROUND:

References a. and b. were issued to document two separate instances of small oil spills observed on the Back River. As a result of these incidents, a tygon hose was installed to direct the North vapor extractor roof drain to the Turbine Hall Sump and a Root Cause Analysis (Reference c.) was performed. The Root Cause for the spills was determined to be a malfunction of a mechanical position stop on a discharge blast gate associated with the Seal Oil Vapor Extractor (EJ-5). The failure of the stop allowed the blast gate to become full open resulting in a high EJ-5 discharge flow. The higher than normal discharge flow carried with it a high oil content that was in turn deposited on the Turbine Hall Roof. Since the roof drains are routed to the yard storm drains, the oil from EJ-5 was discharged into the river.

The overboard oil spills were reportable and in the written report submitted to the State (Reference d.), Maine Yankee committed to the installation of a segregated drain system that would direct the drainage from bermed areas surrounding both the EJ-5 discharge and the Lube Oil Vapor Extractor (EJ-4) discharge to the Turbine Hall Sump. This modification would ensure that future malfunctions would not result in overboard discharges of oil. The required modifications were evaluated and approved in Technical Evaluation 365-94, "Turbine Hall Roof Drain Modifications" (Reference e.) as a "Facilities Modification", and the installation work commenced.

On Saturday, March 31, 1995, a third UOR (Reference g.) was issued as a result of an overboard discharge of oil. The source of the oil was again determined to be the Turbine Hall Roof Drains.

DISCUSSION:

With regard to the roof drain installation, the following information is provided:

1. A "Facilities Modification" may be installed without the use of a Job Order. As such, the controls associated with "Job Order Commitments" for control of partially modified systems do not apply.

2. Work Order 94-4232-00 (Reference f.) was signed-on by an OPS SCS as "work approved without White Tags" with the noted exception that the Turbine Hall Crane bus bars must be tagged out during Manlift operation. Since the vapor extractors posed no personnel safety hazard, tagging of this equipment was not considered.

3. The temporary tygon hose was installed on the North vapor extractor roof drain without the use of Yellow Tags (consistent with procedural requirements). The Operations Department tracked the status of the tygon hose in their Day-to-Day Operating Concerns.

4. Inflatable plugs were installed in the two berm area roof drains to preclude drainage through the partially installed piping during the course of drain installation and the temporary tygon hose was removed. This was done without the use of White or Yellow Tags (consistent with procedural requirements). Plant Management was informed of this requirement via discussion at the Morning Management Meeting by CED Management.

5. As a result of the required work locations, a Manlift was brought on site that would allow installation of the new roof drains without constructing a large amount of scaffolding. The Manlift travel path was to the South of the Turbine Hall Crane Bay. On January 14, 1995, while working to complete the roof drain work, the Cianbro Manlift malfunctioned and was removed from service until repairs could be completed.

6. Since the tygon hose was removed and the new drain piping appeared to be complete, OPS removed the associated Day-to-Day Operating Concern from their list.

7. On January 14, 1995, the plant was tripped due to the detection of a ground in the Main Generator. As a result of the ground, Main Generator disassembly was initiated. Westinghouse was mobilized to support the disassembly and, as described on the Turbine Deck Laydown Plan, the Westinghouse tool connex boxes were placed on the South and West sides of the crane bay.

8. Staging for the North end roof drain work would have resulted in interferences with handling of the tools and equipment involved in turbine and generator maintenance in the crane bay and for crane operation over the Main Generator. In addition, staging on the Turbine Deck for the South end roof drain work would have interfered with laydown for turbine and generator maintenance, crane operation, and Engineered Lift crane inspections.

9. With the plant shutdown, the risk of an additional oil spill was considered to be minimal. With the concurrence of CED Management, it was decided to defer completion of the drains until Manlift access could be restored.

11. [illegible]

12. A review of all other CED Projects that were currently in progress or that otherwise remained open was performed to verify that partially completed mods were adequately controlled. The following table lists the results of the investigation:

| PROJECT DESCRIPTION | EDCR/ WO/FAC MOD | PROJ. ENG. | STATUS | WTO | REMARKS |
|---|---|---|---|---|---|
| PRIOR CYCLES | | | | | |
| MAIN GENERATOR RENEWAL | EDCR | CHG | OPEN | YES | TURNING GEAR AIR MOTOR. |
| WATER TREATMENT UPGRD | EDCR | MJM | OPEN | YES | I-6 SAMPLE LINE TO SILICA ANALYZER |
| SERVICE BUILDING MODS. | EDCR | FSD | OPEN | NO | WORK COMPLETED. |

UOR 95-

CONCLUSIONS:

1. Communications in both directions between CED and OPS could have been improved. In this case, CED did not inform OPS that the modification was delayed and could not be completed until access to the roof from the Turbine Deck could be restored, consult OPS during the decision making process, or re-schedule the completion of the roof drain work. In addition, OPS assumed that the drains were complete and did not verify this fact (either by review of the applicable Work Order or by querying the cognizant engineer) prior to dropping the Day-to-Day Operating Concern and operating the vapor extractors.

2. The Root Cause of the vapor extractor malfunction that results in oil being discharged to the roof has not been corrected.

3. Nobody involved (OPS, CED, Facilities, Licensing) established administrative controls for the vapor extractors or drains through White or Yellow Tagging to preclude a spill.

4. There is no process in place for the release of plant equipment that is affected by a partially completed Work Order (outside the design control system).

5. A review of other CED projects indicates that there does not appear to be any other similar situations that could result in inadvertent operation or unexpected outcomes.

RECOMMENDATIONS:

1. Plant Management should re-emphasize communication between all organizations within the company. Of particular importance are instances where plans, schedules, or conditions change significantly.

2. Correct the cause of the vapor extractor malfunctions (OPS/PED/MAINT).

3. Obtain PORC permission for release of the partially modified roof drains (similar to the Job Order process)(CED).

4. Complete the roof drain modifications as soon as practicable (AI 95-039-0 - CED).

5. Close AI 95-039-03 to this memo.

c: P.C. Sheldon
C.R. Shaw
**UOR 95-039**
File

R:\PED\MJM\MJM95003.MEM

OPERATIONAL EVENT DATABASE

[[LAST UPDATE ON 3/26/95]]

UOR 95-03

E.D.B. #: 1886
UOR # 94-038VENT DATE(Mo/Day/Yr)6/15/94
ADDENDUM DATE EVENT TIME: 1802
OPERATING CONDITION: 7NS: Y/N)
TREND CODE (QPD): E-PLAN LEVEL

Reference Documentseave blank if N/A)
SIC#: H.P.E.S #:
L.E.R. #: P.R.C.E. #:
OTHER:

UOR TITLE OIL SHEEN ON BACK RIVER

DESCRIPTION:

1802- Security notified the control room of a visible oil sheen on the Back River. The initial investigation confirmed that a sheen was inside the boom for the pump house intake but no source could be identified. After all the possible sources from the circ water pump house were checked, it was decided to check each of the storm drains in the area.

1910- The PSS identified the source of the sheen to be the "E" storm drain outfall on the North side of the circ water pumphouse. The storm drain had approximately 30 gpm of water flowing out onto oily absorbent pads and on into the river. The source of the water was determined to be the vacuum priming pump sump. The amount of oil spilled into the river was estimated to be one pint. The Hazardous Material Response Team was activated and clean absorbent pads from the spill response kit were placed under the outfall.

1940- Hazardous Material Response Team on site and placed additional absorbent materials around the outfall. The sheen subsequently dissipated.

Notifications were made IAW the Maine Yankee Spill Plan.

2200- Grab sample from the vacuum priming sump indicated less than 1 ppm oil. Discovered oil sheen in storm drains "E2" "E3" and on wood walkway outside door by P-2C. Suspect source to be roof work on turbine building (roof drain runs into storm drain E-2).

ADDENDUM TEXT

OPERATIONAL EVENT DATABASE

[[LAST UPDATE ON 3/26/95]]

E.D.B. #: 1793
UOR # 93-072VENT DATE(Mo/Day/Yr)8/31/93 EVENT TIME: 1200
ADDENDUM DATE
OPERATING CONDITION: INS: Y/N)
TREND CODE (QPD): 5-PLAN LEVEL

OTHER:

UOR TITLE OIL SHEEN IN THE BACK RIVER

DESCRIPTION:

Investigation determined that the source was a sump in the southwest corner of the pump house.

An NPO secured the sump pump and cleaned up the oil with absorbant pads and swipes.

The source of oil may have been P-26A which had oil marks on it

Notifications were made IAW the Maine Yankee Spill Plan.

ADDENDUM TEXT

OPERATIONAL EVENT DATABASE

[[LAST UPDATE ON 3/26/95]]

E.D.B. #: 1694
UOR # 92-095VENT DATE(Mo/Day/Yr)11/03/92
ADDENDUM DATE EVENT TIME: 1155
OPERATING CONDITION: 7NS: Y/N)
TREND CODE (QPD):EG-A335-E6-PLAN LEVEL

Reference Documentseave blank if N/A)
SIC#: H.P.E.S #:
L.E.R. #: P.R.C.E. #:
OTHER:

UOR TITLE VISIBLE OIL SHEEN ON BACK RIVER DURING RAINSTORM

DESCRIPTION:

1155 - Security notified PSS of oil sheen on the back river by the circ pump house. PSS and Hazardous Waste Specialist investigated and determined the event to be reportable IAW the spill plan.

Facilities instructed to contain oil with boom and collect it with absorbent sheets.

Notifications made per the spill plan (see attached form).

During cleanup an oil sheen was found on the rain water entering the storm drain near the walkway were the transformer was cut up. Storm drain was covered; oil stopped from entering the river.

ADDENDUM TEXT

OPERATIONAL EVENT DATABASE

[[LAST UPDATE ON 3/26/95]]

E.D.B. #: 870
UOR # 89-035VENT DATE(Mo/Day/Yr)4/6/89 EVENT TIME: 1500
ADDENDUM DATE
OPERATING CONDITION: 7NS: y/N)
TREND CODE (QPD): E-PLAN LEVEL

Reference Documentseave blank if N/A)
SIC#: H.P.E.S #:
L.E.R. #: P.R.C.E. #:
OTHER:

UOR TITLE Oil sheen detected on the Back River

DESCRIPTION:

An oil sheen was detected on the Back River in the vicinity of the circ water pump house. Source was believed to be from the fuel oil spill on 4/5/89. The fuel oil was leached from the roofing material and carried to the river via the storm sewer. Ref UOR 89-035, OEDB 869, by rainwater. The Hazardous Waster Coordinator contacted the Maine DEP and the US Coast Guard. The NRC was notified via ENS under 50.72(b)(2)(vi).

ADDENDUM TEXT

OPERATIONAL EVENT DATABASE

[[LAST UPDATE ON 3/26/95]]

E.D.B. #: 1888
UOR # 94-040VENT DATE(Mo/Day/Yr)06/18/94 EVENT TIME: 0830
ADDENDUM DATE
OPERATING CONDITION: 7NS: Y/N)
TREND CODE (QPD):1B-0211-D0-PLAN LEVEL N/A

Reference Documentseave blank if N/A)
SIC#: H.P.E.S #:
L.E.R. #: P.R.C.E. #:
OTHER:

UOR TITLE OIL SHEEN ON BACK RIVER

DESCRIPTION:

0830 Industrial Safety Coordinator notified the Control Room abou the presence of a small oil sheen on the Back River. The source appeared to be the same as described in UOR 94-038 (turbine building roof drains). Heavy rains from the previous evening prompted the event.

The HAZ MAT team responded and deployed an oil boom near the outfall of the storm sewer discharge that serves the turbine building roof drains.

Cleaned up oil sheen with absorbent pads.

Additional oil absorbent materials were placed around storm sewer outlet.

0900 Notifications were made to offsite agencies IAW the Maine Yankee Spill Plan.

ADDENDUM TEXT

IIY-0-3-76
REV. 22

CREW REVIEW/FILE

INDEX NO. 95-039


**OPERATIONS DEPARTMENT**

**UNUSUAL OCCURRENCE REPORT (UOR)**

1. GENERAL

A. TITLE OF UOR: **OIL SHEEN ON BACK RIVER**

B. DATE/TIME OF EVENT: **3/31/95 1156**

2. PLANT CONDITIONS AT TIME OF OCCURRENCE:

OPERATING CONDITION (1-7): **1** PLANT TRIP ?**N**
REACTOR POWER (%): **0**

3. DESCRIPTION OF OCCURRENCE & IMMEDIATE CORRECTIVE ACTIONS:

**3/31/95**

**-1156 Security notified the control room of a visible oil sheen on the Back River. The initial investigation by the PSS indicated the source of the sheen to be the "E" storm drain outfall on the North side of the circ water pumphouse. Plant services was notified and the spill team responded.**

**Leaves in the storm drain outlet appeared to be blocking and filtering the oil.**

**-1215 Absorbent pads placed under the outfall.**

**MOD notified of spill. The turbine hall roof catch basin drain sight glass and the pipe outlet to the turbine hall sump were checked and no oil residue was detected. It was subsequently determined that the vapor extractor catch basin installation still had some minor work to be completed and the roof plugs were still installed in the basins. The catch basins were found to be full of water and they had a layer of oil on top of the water.**

**The light oil which discharged into the river spread and dissipated rapidly. The estimated amount was less than 1 quart.**

CHEMISTRY TOOK A SKIM SAMPLE OF THE OIL.

**In addition to the notifications listed in section 7, the State of Maine Department of Environmental Protection was notified at 1252 and the National Response Center was notified at 1315.**

**-1445 After obtaining concurrence from CED, the catch basin plugs were removed and their contents were drained to the turbine hall sump.**

**-1600 Facilities setting up to flush roof drains to remove any residual oil.**

4. THE FOLLOWING SIMILAR OCCURRENCES WERE FOUND IN THE QEDB:
(LIST SEARCH CRITERIA)
**Criteria:"Oil Spill River"> 6 records; UOR 94-038, UOR 93-072 UOR 92-095, UOR 89-035, UOR 94-040 similar**

5. REPORTABILITY DETERMINATION: REPORTING CRITERIA; SHORT TERM PROC. 1-26-1; EMERGENCY PLAN PROC. 2.50.0; LER(EXPLAIN).
**The Maine Yankee Spill Plan requires the National Response Center and the State DEP to be notified. The event is therefore reportable under 50.72(b)(2)(vi). Not LER reportable or reportable per 2.50.0.**

5A. FITNESS FOR DUTY EVALUATED? **NO** (YES or NO)

5B. FOR CAUSE TEST REQUIRED? **NO** (YES or NO)
A For Cause Test is required as soon as possible after accidents involvir a failure in individual performance where there is a resonable suspicion that the worker's behavior contributed to those events which result in:
a. A personal injury.
b. A radiation exposure or release in excess of regulatory limits.
c. Actual or potential substantial degradation of the level of plant safe

5C. EVALUATE FOR 10 CFR 21 REPORTABILITY: **NO** (YES or NO)

6. SAFETY SIGNIFICANCE CLASSIFICATION: **III**
CATEGORIZE ACCORDING TO THE TIME REQUIRED FOR A RESPONSE FROM MANAGEMENT, AFTER THE UOR HAS BEEN PRESENTED AT THE MORNING MEETING.

I: Corresponds to Work Order (WO) Priority Categories 1 thru 5. May have Tech Spec or FSAR implications and a Safety Issues Concern form may be needed. RESPONSE TIME is immediate or accelerated e.g. 1400 of the same day when presented at the morning meeting.
II: Corresponds to WO Priority Category 6. RESPONSE Time is 24 hours when presented at the Morning Meeting
III: Corresponds to WO Priority Category 7 thru 10. A normal operational concern - routine.

7. NOTIFICATION:

| | Y/N | NOTIFIED BY | DATE/TIME |
|---|---|---|---|
| ENS | Y | PETE EBERT | 3/31/95-1351 |
| NRC RESIDENT INSPECTOR | Y | PETE EBERT | 3/31/95-1348 |
| DUTY CALL OFFICER | Y | RON HOWARD | 3/31/95-1515 |
| STATE INSPECTOR* | Y | DAVE HULBERT | 3/31/95-1340 |
| INDUSTRIAL SAFETY COORDINATOR | Y | MURRAY HOWARD | 3/31/95-1158 |

* FOR: A) EMERGENCY CLASSIFICAION
B) UNSCHEDULED PLANT TRIP OR SHUTDOWN
C) UNSCHEDULED RELEASES OF RADIOACTIVITY.
D) ANY STATE AGENCY IS NOTIFIED EXCLUSIVE OF THE MONTHLY E-PLAN PHONE CHECKS.

8. SCREENING CRITERIA FOR CORRECTIVE ACTION:

a. Does the event have a high probability of occurrence/recurrence and a potential high consequence with respect to Nuclear Safety, Personnel Safety, Regulatory Response, Production/Cost or Public Relations. **NO** (YES/NO)

b. Does the event have a high probability of occurence/recurrence or a potential high consequence where any additional occurrence/ recurrence would be unacceptable. **NO** (YES/NO)

IF either 8.a or 8.b is YES, THEN go to Section 9; PSS and STA recommend type of Root Cause IAW 0-16-1.

IF both 8.a and 8.b are NO, THEN go directly to Section 10.

9. RECOMMENDED LEVEL OF ROOT CAUSE DETERMINATION: (Check one)

| | |
|---|---|
| DEPARTMENTAL ROOT CAUSE | RC/PRCE |
| INTERDEPARTMENTAL TEAM ROOT CAUSE | RC/HPES |
| RIR RADIOLOGICAL INCIDENT REPORT | RC/Evnt Revw Bd |
| RC/Alt Method | |

10. PRELIMINARY LONGER TERM ACTION ITEMS:

1. **Finish oil catch basin installation modification.**
2. **~~Consider~~ establishing periodic checks of outfalls for blockage or oil indications** AND SHOULD WE REEVALUATE THE CLEAN HARBORS RECOMMENDATIONS?
3. EVAL. THE DECISIONS MADE AND REASON FOR STOPPING THE JOB WHAT SHOULD OF BEEN DONE TO PREVENT THE POTENTIAL/ACTUAL RELEASE.

AI 95-039-1 CED
AI 95-039-2 I&C E/S
AI 95-039-3 CED

11. SOME GOOD QUESTIONS TO ASK DURING THE MORNING MEETING:

a. Is this or another activity ongoing or likely to occur before corrective actions have been implemented? No (YES/NO) Ball Removal. If so should we let it continue to occur without implementing some interim corrective measures? Yes (YES/NO) ON LINE MODS ARE DONE W/ EXCEPTIONS OF THIS - CED TO VERIFY.

b. Did this event have the potential for serious personnel injury? No (YES/NO) If serious injury had occurred would we be doing anything differently?

c. If the problem involved a component required by technical specifications, was the opposite train component ever out of service during the period the component was inoperable? N/A (YES/NO)

d. Does anyone have any questions or concerns not previously discussed? No (YES/NO)

e. Should we put something on the "Nuclear Network"? NO (YES/NO)

SUBMITTED BY: **P.T.EBERT**

APPROVED BY/DATE: [signature] 3 31 95

NOTED BY: [signature] 4/3/95

# HSA ID# 7

UOR DATABASE - CONVERTED FROM OPERATIONAL EVENT DATABASE (OEDB)

1. TITLE: OIL SHEEN ON BACK RIVER

2. OEDB #:2046 UOR #:95-040 LER #: OTHER:
HPES #: PRCE #:
3. TIME/DATE OF EVENT: 1430/4/4/95
ADDENDUM DATE
4. PLANT CONDITIONS:

OPERATING CONDITION (1-7): 1

5. DESCRIPTION OF OCCURRENCE:
1450 THE CONTROL ROOM WAS NOTIFIED THAT A SLIGHT OIL SHEEN WAS VISIBLE AT THE INTAKE STRUCTURE. THE HAZARDOUS WASTE COORDINATOR AND INDUSTRIAL SAFETY COORDINATOR WENT TO THE INTAKE STRUCTURE AND WERE ABLE TO TRACK THE SHEEN BACK TO A LOCATION ON LAND AT THE SOUTH SIDE OF THE CIRC WATER PUMP HOUSE. THEY DETERMINED THE SOURCE TO BE A LOCATION OF PREVIOIUS SPILLS AND ACUMULATED OIL UNDER A CRANE. THEY CONCLUDED THAT THE RAIN THAT HAD BEEN FALLING FOR MOST OF THE DAY HAD CAUSED THE OIL TO BECOME MOBILE, TRAVELING TO THE WATER'S EDGE AND ONTO THE WATER SURFACE. NOTE: THE OIL BOOM WAS IN PLACE AT THE INTAKE STRUCTURE AND ALL OF THE OIL SHEEN WAS OBSERVED TO BE CONFINED WITHIN THE BOOM.

1515 THE HAAZARDOUS WASTE COORDINATOR BRIEFED THE PSS AS TO THE STATUS OF THE OIL SHEEN.

1520 PLANS WERE MADE FOR A BOAT TO BE DISPATCHED TO CLEAN THE WATER SURFACE AT THE INTAKE STRUCTURE, AND TO MONITOR THE EFFECTIVENESS OF THE OIL ABSORBING PADS THROUGH THE NIGHT.

QOD TREND CODE:

# HSA ID# 8

1. TITLE: SMALL WATER FLOOD AT CTMT -2 ELEVATION.

2. NUMBER: 95-096

3. TIME/DATE OF EVENT: 0232 12/07/95

4. PLANT CONDITIONS:

REACTOR POWER : 0%
PLANT TRIP? N
OPERATING CONDITION (1-7): 1

5. DESCRIPTION OF OCCURRENCE:

Note: 1-104-14.2 PLACING S/G #2 IN WET LAY-UP AND S/G #2 LOW PRESSURE TUBE LEAK TEST was in progress and stable at 0100.

At 1630 on 12/06/95 1-104-14.3 PLACING S/G #3 IN WET LAY-UP AND S/G #3 LOW PRESSURE TUBE LEAK TEST was started in order to fill #3 S/G to below the feed ring. The procedure was *on hold* until the #3 level transmitter could be placed into service.

I&C completed backfilling the #3 S/G level transmitters at 0145 on 12/07/95.

At 0216 #3 S/G filling commenced by continuing with 1-104-14.3 using P-25A.

At 0232 filling of S/G #3 was stopped due to slow response of wide range S/G level. Wide range level appeared to not be responding given the amount of water pumped in. (Wide range level slowly increased from zero to 55 inches over the course of the next hour).

At 0237 a report was made to the control room about water on the floor of the head lay down area on the CTMT -2 elevation.

PW-A-78 was shut to stop pressurization of #2 S/G (since 1-104-14.2 was also ongoing). Fire protection issues associated with PW-A-78 were considered. An NPO found water coming out of BD-56. BD-56 had been tagged open to prevent the possibility of wetting #1 S/G while filling #2 and #3 S/G. The NPO was directed to verify BD-52 and 53 on #2 S/G and BD-54 and 55 on #3 S/G shut. BD-54 and 55 were found tagged open. The White Tag Order was cleared and the valves were shut. Water stopped flowing from BD-56.

The water on the -2 elevation was cleaned up.

6. OEDB SEARCH:

| KEY WORD: | HITS: | SIMILAR EVENTS: |
|---|---|---|
| 1. Spill | 63 | UOR 90-062 and others described wet lay-up spills associated with #3 S/G. |
| 2. S/G Fill | 3 | 3 similar events including UOR 90-062 describe spills associated with wet lay-up. |

7. REPORTABILITY DETERMINATION: REPORTING CRITERIA; SHORT TERM PROC. 1-26-1; EMERGENCY PLAN PROC. 2.50.0; LER (EXPLAIN).

The event is not reportable IAW 1-26-1 or the Maine Yankee Spill Plan. No radiological consequences were associated with this event. No equipment damage was involved and procedures appear to have been followed.

8. FITNESS FOR DUTY:

8.1 FITNESS FOR DUTY EVALUATED? YES

8.2 FOR CAUSE TEST REQUIRED? NO

A For Cause Test is required as soon as possible after accidents involving a failure in individual performance where there is a reasonable suspicion that the worker's behavior contributed to those events which result in:

a. A personal injury.
b. A radiation exposure or release in excess of regulatory limits.
c. Actual or potential substantial degradation of the level of plant safety

# HSA ID# 9

1. TITLE: ASBESTOS SPILL IN CONTAINMENT

2. NUMBER: 96-001

3. TIME/DATE OF EVENT: 0320/1-1-96

4. PLANT CONDITIONS:

REACTOR POWER : 0%
PLANT TRIP? N
OPERATING CONDITION (1-7): 1

5. DESCRIPTION OF OCCURRENCE:

0320- Control room notified by maintenance that there was an asbestos spill in loop one in the vicinity of RC-M-11. Further discussion with maintenance personnel disclosed that an approximately 20 foot length of asbestos insulation on what appeared to be a 1 in. stem leakoff line from RC-M-11 was split open and spilling asbestos. In addition there were other areas in all three loops where the protective cover had worn off asbestos insulation as a result of workers standing on the insulation or contact during work in the area.

Safety, assistant outage manager and plant management notified of situation. Access to the loops was restricted until condition is corrected.

5. DESCRIPTION(Cont*d)

6. OEDB SEARCH:

| KEY WORD: | HITS: | SIMILAR EVENTS: |
|---|---|---|
| 1. Asbestos | 5 | None |
| 2. | | |
| 3. | | |
| 4. | | |

7. REPORTABILITY DETERMINATION: REPORTING CRITERIA; SHORT TERM PROC. 1-26-1; EMERGENCY PLAN PROC. 2.50.0; LER (EXPLAIN).

Reportable to Department of Environmental Protection(for spills involving more than 3 linear feet of material). May be reportable to Environmental Protection Agency if detailed inspection determines more than 260 feet or 160 square feet of asbestos-containing material spillage occurred.

# HSA ID# 10

UOR DATABASE - CONVERTED FROM OPERATIONAL EVENT DATABASE (OEDB)

1. TITLE: S/G #3 WET LAYUP RECIRCULATION SPILL
   S/G #3 WET LAYUP RECIRCULATION SPILL

2. OEDB #: 1318 UOR #: 90-062 LER #: OTHER:
   HPES #: N PRCE #:
3. TIME/DATE OF EVENT: 1330/5/2/90
   ADDENDUM DATE
4. PLANT CONDITIONS:

   OPERATING CONDITION (1-7): 1

5. DESCRIPTION OF OCCURENCE:
   S/G #3'S Wet Lay-up recirculation system takes a suction from its main steam line through a hose connected to MS-246 and discharges back to the SG via another hose through blowdown valves BD-149, BD-T-145, BD-T-146 and BD-30. The recirc system has a suction isolation valve SGR-31 and discharge valves on the filter by-pass SGR-36 and on the filter outlet SGR-37.
   4/25-2225 SG #3 in WLU recirc.
   4/29-2100 SG #3 off recirc.
   4/29-2349 Tagging order 878-90 issued to isolate drain BD-T-145 for repair(DR 506-90). BD-149 tagged open(apparantly skid end of hose was disconnected to allow it to be used to drain the blowdown piping through BD-149). No tags hung on SGR valves.
   5/2 Ops Day Orders direct that all recirc systems be activated to allow sampling by chemistry.
   5/2-1330 Operator had completed putting S/G #1 onto recirculation and was preparing to do S/G #3. He found that the discharge hose from the skid had been disconnected at the skid and was hanging from BD-149 to the floor below. The skid is on the 20' level of CTMT and BD-149 is in the overhead underneath the 20' level(approximately 20' above the -2' level). BD-T-145 is not visible from BD-149 area.
   The operator called Control Room and asked what to do. He was told to go ahead and reconnect the hose. Once the hose was reconnected, the operator opened the suction and discharge valves at the skid and water began to gravity feed to the blowdown line. Before the pump was placed in service, the Control room was notified that water was spilling out BD-T-145. The operator was contacted and he shut the discharge valve.
   5/2-1545 Control Room was notified that a worker had been soaked when the hydrazine treated water (230ppm) spilled out BD-T-145.
   5/2-1700 ISC notified of incident and initiated testing to insure there is no airborne hydrazine hazard.
   E-PLAN LEVEL ENS: N (Y/N)

7. REPORTABILITY DETERMINATION: REPORTING CRITERIA; SHORT TERM PROC. 1-26-1; EMERGENCY PLAN PROC. 2.50.0; LER (EXPLAIN)

QOD TREND CODE:

# HSA ID# 11

**From:** Aldo Capristo
**To:** Characterization File
**Date:** 8/28/97 6:32am
**Subject:** Charaterization Info

I was told about a gasoline spill of about 10 gallons that occurred about 4-6 months ago in front of the vehicle barrier. As it sounds, a vehicle was parked awaiting access and it began leaking fuel. Speedy dry was used and that was it.

Note - Dennis - I suppose you will be the keeper of this stuff? Please let me know. As I get more, I will forward to you.

a.c. 4530

# HSA ID# 12

## IDENTIFIED RADIOLOGICAL ISSUES FOR FURTHER CHARACTERIZATION

| Issue Description | Date | Status |
|---|---|---|
| Leak in RWST siphon return line to ground | 1988 | ~600 ft3 of soil removed and disposed as LLW<br>~NRC approves residual under 10 CFR § 20.302(a) on 8/31/89 |
| Residual slightly contaminated soil under LLW storage area in vicinity of yard crane | 1992 | ~Area evaluated and characterized by YNSD 10/92 (MYP #92-1173) and 1/93 (MYP # 93-0054)<br>~IAW 10 CFR § 50.75(g) placed in decommissioning plan file 4/12/93 (JHA-93-27) |
| Spreading of slightly contaminated silt from base of intake racks in unused area under transmission lines | 1992-97 | ~MDEP issued Dredge Spoil Utilization Permit S-20814-SS-A-N<br>~MDHE accepted practice 5/24/95 (R.J. Schell Ltr to MDEP) |

# QUESTIONNAIRE FOR MAINE YANKEE SITE CHARACTERIZATION

NAME Bob Hemyaue EMPLOYED FROM 5/87 TO PRESENT

CURRENT TITLE TRAINING MANAGER DEPT TRAINING
(Leave the above blank if you choose to remain anonymous.)

**PLEASE CIRCLE THE APPROPRIATE ANSWER CONCERNING ACTIVITIES AT MAINE YANKEE. ARE YOU AWARE, OR WERE YOU ASSOCIATED WITH ANY OF THE FOLLOWING ACTIVITIES:**

| | | |
|---|---|---|
| 1. A spill of Radioactive Material on the plant site? | Yes | No |
| 2. Inappropriate storage or control of Radioactive Material on the plant site? | (Yes) | No |
| 3. An effort to cover over or isolate Radioactive Material on the plant site? | Yes | (No) |
| 4. A spill of Asbestos Material on the site? | (Yes) | No |
| 5. Inappropriate storage or control of Asbestos Material on the plant site? | Yes | (No) |
| 6. An effort to cover over or isolate Asbestos Material on the plant site? | Yes | (No) |
| 7. A spill of Petroleum Products on the plant site? | (Yes) | No |
| 8. Inappropriate storage or control of Petroleum Products on the plant site? | Yes | (No) |
| 9. An effort to cover over or isolate Petroleum Products on the plant site? | Yes | (No) |
| 10. A Chemical spill on the plant site? | (Yes) | No |
| 11. Inappropriate storage or control of Chemicals on the plant site? | Yes | (No) |
| 12. An effort to cover over or isolate Chemicals on the plant site? | Yes | (No) |
| 13. Any Raw Lead inadequately stored or contained on the plant site? | Yes | (No) |

**If you answered YES to any of the above questions, please add the appropriate details** (date, time, location, etc.) **related to the questions above. If you know of or have a concern about any other Hazardous Material associated with Maine Yankee, please attach that information as well. Return this completed form to Dennis Hickey of Radiation Protection.**

(2) All items were very specific in nature and have been adequately resolved i.e. ICI tips

(4) Very limited items which were adequately resolved, i.e. asbestos insulation on [redacted] reactor coolant system piping.

(7) Very specific issues which were properly resolved, i.e. spill of heating oil in spare generator storage shed.

(10) Very specific issues which were adequately resolved, i.e. underground service water system leakage.

Note: One issue which as been mentioned is the sludge which was disposed of on-site which contained some activity levels. I'm not sure of the type of

ATTACHMENT B

ATLAS DOCUMENT INPUT FORM

| | |
|---|---|
| 1. TITLE | Licensed Silt Spreading Area |
| 2. DOCUMENT TYPE | Correspondence |
| 3. DOCUMENT FORM | MF |
| 4. DOCUMENT LOCATION | |
| 5. RETENTION PERIOD | |
| 6. TECHNICAL FILE NUMBER | 01.0f.04.02 |
| 7. DOCUMENT NUMBER | |
| 8. REVISION NUMBER | |
| 9. DATE | 10/04/1994 |
| 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/Licensing |
| 19. RECEIVER | |
| 20. VENDOR CODE | |
| 21. ACCESSION NUMBER | |
| ACTION: ADD/REPLACE/DELETE (CIRCLE ONE) | |

1) my-ME
2) 1.5.1
3) 1.8.4.2

Maine Yankee
RELIABLE ELECTRICITY SINCE 1972

329 BATH ROAD • BRUNSWICK, MAINE 04011 • (207) 798-4100

9505030345

October 4, 1994
JRH-94-209

RESPONSIBLE: Diehl
RESPOND BY: Hebert
NRC DUE DATE: N/A

Mr. Robert Schell
Radiological Health Program
Division of Health Engineering
Department of Human Services
State House Station # 11
Augusta, ME 04333

Subject: Licensed Silt Spreading Area

Reference: Dredge Spoil Utilization License, S-20814-SS-A-N, July 15, 1992

Dear Mr. Schell:

As has been discussed in conversations between you and Leann Diehl, Maine Yankee is spreading marine silt removed from the intake area at the Maine Yankee site in accordance with the referenced MDEP license. This silt has trace levels of radionuclides that were previously released, in accordance with our U.S. Nuclear Regulatory Commission operating license, to the circulating water system discharge.

The attached report, Evaluation of Sediment Removed from Maine Yankee's Intake Bays, September 1994, includes an analysis of the pathways and radiological health impacts of the spreading of this material. The report concludes that this spreading activity does not present any threat to the health and safety of MY employees or members of the public.

We trust that we have supplied all needed information and we plan to proceed with spreading as outlined in the referenced license and the attached report. Please contact John Arnold, 207-798-4213, should you have questions or comments.

Very truly yours,

James R. Hebert, Manager
Licensing & Engineering Support Department

JHA/mwf

General Dist w/o enc

1: yrk ltrs jenbkdb ltr

# EVALUATION OF SEDIMENT

# REMOVED FROM MAINE YANKEE'S INTAKE BAYS

September, 1994

Major Contributors: F. X. Bellini
J. W. Bisson

## EXECUTIVE SUMMARY

Maine Yankee (MY) land-spreads sediment from the MY plant circulating water system intake bays on the plant site pursuant to a land spreading license issued by the state of Maine Department of Environmental Protection (DEP). These bays are dredged during each refueling outage. Trace levels of radionuclides have been detected in this sediment. The radioactivity originates from NRC licensed liquid effluent from the plant circulating water discharge. The sediment spreading is subject to determination and licensing by the Maine DEP.

This report analyzes the potential radiological consequences of spreading which are quite minimal. Evaluated scenarios include those for sediment already removed as well as for sediment which will accumulate over the remainder of the current plant license.

On-site spreading of the sediment was chosen because there is:

- no health risk to plant workers or the general public
- no environmental impairment
- limited migration of radionuclides from the placement area
- no long lived radionuclide (greater than 35 years half-life)
- no material containing total activity greater than 5.0E-5 $\mu$Ci/gram
- no material in a form likely to be recycled.

In addition, the area chosen is under the direct control of MY site management and security. Sediment placement and documentation will be done in accordance with requirements in 10CFR20.2002 and 10CFR50.75(g).

A detailed calculation, MYC-1647 (Reference 6) was performed to conservatively evaluate various potential (likely and unlikely) exposure pathways of the silt spreading. Using conservative assumptions for sediment volume and radioactivity content, results indicate the maximum expected exposure would be about 0.7 mrem/yr via direct dose from the ground. Although unlikely, exposure due to wind suspension, drinking of ground water, and ingesting crops, fish and shellfish were also examined. Potential exposure for these pathways was found to be about an order of magnitude lower

than that for direct ground dose.

These documents are developed in accordance with YNSD Environmental Engineering Department procedure YA-REG-230, a procedure developed to evaluate such activities.

## TABLE OF CONTENTS

## 1.0 INTRODUCTION

The Maine Yankee Atomic Power Company (MY) herein documents its radiological analysis of on-site land spreading of river sediment and related debris routinely removed from the cooling water intake structure. This material contains very low levels of radioactivity which are attributable to NRC licensed plant liquid effluent discharges. Documentation is provided here in accordance with standard recommendations contained in 10 CFR 20.2002 and Reference 1.

The source of this material is the routine cleaning of the Circulating Water System Intake Bay and related piping. Sediment and mussel shells settle from water taken from the Back River, adjacent to the Maine Yankee Atomic Power Station. Some 10 to 20 $yds^3$ of this material accumulate every 15 to 18 months. In addition, a small increment of such sediment, generated from cleaning of Service Water pipes, is also occasionally included for land spreading. This Service Water pipe debris is very similar to the material removed from the Intake Bay.

The radiological character of these materials has been quantified by testing of samples. The non-radiological chemistry of the material is addressed by sampling in keeping with state regulations and the state DEP license (Reference 2).

Due to nature of the subject material and the very low concentrations of radioactivity in it, there are no convenient and cost-effective methods to remove or reduce the radioactivity. Thus, on-site spreading is a low cost, minimal consequence option for this material. Selection of this option implies that no further radiological monitoring of the spreading area is warranted. Criteria for this include:

- The land-spreading of the material presents no health risk to the public or MY employees.
- Significant radionuclides in the material have short half lives (NRC Office of Nuclear Reactor Regulations proposes 35 years or less).
- Sediment is not in a physical form that damages or endangers the spreading area environment.

- The nuclides in the material are mostly fission and activation products such as Co-58, Co-60, Ag-110m and Cs-137.
- Total activity concentration is less than 5.0E-5 $\mu$Ci/gram.
- The material is in a form that is very unlikely to be recycled.
- The radionuclides are in a form that will limit their migration from the spreading area.

Because all these criteria are met, land spreading is the best on-site method for the handling of sediment/debris that results from intake bay cleaning.

## 2.0 MATERIAL DESCRIPTION

### 2.1 Physical Properties of the Sediment

MY is a 860 MWe (net) PWR which has been in operation since 1973. The plant's Circulating Water system provides ocean water for condenser cooling, drawn from the adjacent Back River. Sediment accumulates in the Circulating Water System Intake Bays as a normal consequence of water intake flow (420,000 gpm) from the river. Routine sediment and debris removed from this intake structure is the source of most of the material to be spread. Less than one percent of the recently accumulated debris is from a one-time cleaning of Service Water pipe, done in preparation for pipe lining. This debris is very similar in character to the rest of the subject material.

The total volume of sediment removed from Intake Bays during the 1993 outage was examined to determine the nature of the material. The sediment consists of silt with mussel shells and minor amounts of sand. Traces of marine organic constituents including seaweed, and clay-sized materials are also present, although the material is low in plasticity. The sediment is unconsolidated and friable. Reference 3 includes grain size analyses and description of three grab-samples of sediment taken from the Intake Bays in February of 1992.

The material designated as debris from the Circulating Water System Intake Bays consists mostly of mussel shells, similar to those which are distributed throughout the sediment. Other debris from the scaling of the Service Water pipe consists of fine-grained sediment with iron corrosion products. It is, like the Intake Bay sediment, soft, friable and non-plastic.

These materials have been tested in accordance with Maine Department of Environmental Protection (DEP) requirements for land disposition and they meet all relevant chemical criteria for land application of sludge and residuals, as detailed in Reference 4 and Section 2.5 of this report. A state license for its placement was issued to MY by the DEP July 16, 1992 (Reference 2).

### 2.2 Volume and Mass of the Material

The estimated dewatered volume of the subject materials is based on field measurements of sediment and debris removed during the fall outage of 1993. This material, recently removed from the

Intake Bay, and the Service Water Pipe debris have been placed on a 25 ft. by 125 ft. area within the designated 3 acre area (Figure 1). The average depth of sediment is estimated as 3 inches. Spreading of the materials is such that about 75% of the 25 ft. by 125 ft. area is covered.

The volume of the material removed from the Intake Bays during the 1993 MY outage is thus estimated to be approximately 22 $yds^3$. This amount is considered by plant staff to be relatively high compared to the amount removed during previous outages. The volume of Service Water pipe debris is estimated to be about 0.1 $yd^3$. Already placed during the 1992 outage is an estimated 11 $yds^3$ of similar material.

Based on these estimates the total volume of material to be spread on-site over the remaining licensed life of the plant is conservatively estimated as 292 $yds^3$, the sediment accumulated from 14 (12 future) outages. As a conservative estimate, the projected volume for the 12 future outages was based on the high volume removed during the 1993 outage. The estimated density of this silt-like material, 1.8 $g/cm^3$, is not expected to change for future removals. Therefore, the total mass of material which will be removed from the Intake Bays is estimated to be 408,969 kg.

### 2.3 Physical Description of the Material

The sediment consists of silt with mussel shells and minor amounts of sand. Traces of marine organic constituents including seaweed, and clay-sized materials are also likely to be present, although the material is low in plasticity. The material is generally loose and friable, but it consolidates into a stable mass that supports plant growth. It can thus be fully stabilized so that rain or runoff will not cause significant erosion. In addition, its physical properties and its situation will greatly impede atmospheric suspension under dry conditions.

The Service Water pipe debris is similar in physical character to the sediment, except that it contains iron corrosion products and no mussel shells.

As an aid to obtaining representative samples, they were taken with access available to the entire volume of material produced from the 1993 outage. This entire volume of material was visually compared with samples to provide assurance that they were representative of the subject materials.

Samples were taken from both the sediment and debris portions of the material, as described previously.

**2.4 Special Characteristics**

Samples of the subject material were analyzed for the presence of gamma-emitting radionuclides. Gamma spectroscopy analysis was performed by the Yankee Atomic Environmental Laboratory using established procedures and a lower limit of detection appropriate for the counting geometry for soil samples. Although several samples were negative, three plant-related radionuclides (Ag-110m, Co-58, Co-60) and one atmospheric testing and plant produced nuclide (Cs-137) were found to be present in very low concentrations in some samples. Average concentrations for these four radionuclides, based on analytical results, are presented in Section 2.6.1.

The half-life for each detected radionuclide is provided in Table 1. The concentrations of two of the detected radionuclides, Ag-110m and Co-58, will decrease significantly within a few years due to their very short half-lives. Concentrations of the other radionuclides, Co-60 and Cs-137, will be present longer, although their concentrations will also decrease with time. Therefore the already very low hazard associated with placement and on-site retention of the subject material will further diminish by radioactive decay.

Furthermore, the material will be located on licensee-owned and controlled land. MY's operating license remains in effect for at least the next 15 years, and the site will be subject to additional years of NRC License control beyond the end of plant life to decommission the plant.

The natural chemical properties of the radionuclides in question tend to bind them tightly to sediment particles, impeding their movement through soil. Retardation factors for movement of the radionuclides through soil are provided in Table 1. The retardation factors represent the delay with which radionuclides are expected to move compared to the rate of rain water or ground water movement through soil. Due to this very slow movement, radioactive decay will diminish the presence of each of these radionuclides long before any significant migration can occur.

Given the form of the material, mostly a silty soil, it is highly unlikely to be disturbed due to

any intrinsic value. It is neither a good structural material, nor a particularly fertile soil.

2.5 Chemical Properties of the Sediment

As described above, the sediment consists of silt with some mussel shells, minor amounts of sand and traces of marine organic constituents. Some clay-sized materials and trace organics are also assumed to be present, although the material is low in plasticity. The sediment may occasionally vary from mostly silt to material that is mostly sand. Its mineralogy is inferred to be typical of New England ocean shoreline/river sediment with a general mineral composition of mostly silica dioxide (quartz) with minor amounts of other silicate minerals.

Trace element chemical analyses have been performed on samples of the sediment and underlying soil, in accordance with DEP regulations. Tables 2 and 3 include results of these analyses which include determinations for heavy metals, oil and grease, volatile components and PCB's. None of these components is present in the sediment in concentrations which exceed the DEP criteria for land application of sludge, as set forth in Reference 4. The sediment thus presents no known chemical hazard, given its proper situation, as outlined in the state license allowing it to be land-spread, Reference 2.

**2.6 Radiological Properties and Estimate of Radionuclide Activities**

The basis for radiological characterization of the sediment is a set of sample analyses presented in Table 4. This includes 8 samples from sediment and debris removed from the Intake Bays during the outage of the fall of 1993. Table 5 presents gamma spectroscopy data for Service Water pipe debris (0.1 $yds^3$), also removed during the 1993 outage. Table 6 presents sample analyses for underlying soil in the spreading area.

Four radionuclides are present in the 1993 Intake Bay material samples. These are a metastable isotope of silver 110 (Ag-110m), cobalt 58 (Co-58), cobalt 60 (Co-60), and cesium 137 (Cs-137). The measured concentrations of Cs-137 fall within the range of Cs-137 soil concentrations associated with fallout from weapons testing in the 1950's and 60's, and this could easily be the source for this nuclide. Naturally occurring radionuclides in the soil include potassium 40 (K-40),

beryllium 7 (Be-7) and actinium-thorium 228 (AcTh-228).

Total radionuclide activities were estimated from the analytical results from the 1993 Intake Bay material samples. Average radionuclide concentrations (shown in Table 4) were conservatively based on only those samples with detected quantities of radioactivity less naturally occurring nuclides. The total radionuclide activities were then developed using these average concentration values, an assumed material density, 1.8 g/cc (Reference 5), and the estimated volume of the 1993 Intake Bay material (22 $yds^3$). The total radionuclide activities are presented in Table 7.

The data from the Service Water Pipe samples (Table 5) were not used because (i) the measured concentrations were lower than the conservatively estimated average concentrations for the Intake Bay material, and (ii) the volume of the Service Water Pipe material was small compared to the volume of Intake Bay material (about 0.1%). Therefore, the radiological consequence associated with the small volume of Service Water pipe debris was bounded by the consequences from the Intake Bay material.

The concentrations of radionuclides in Intake Bay material removed during 1992 is assumed to be the same as that for 1993 Intake Bay material. Volume of 1992 material is estimated as 11 $yds^3$, half of the 1993 volume. The total activities for the 1992 and 1993 Intake Bay material already in place in the spreading area are shown in Table 7.

Since there is routine removal of material from the Intake Bay during plant outages, the radiological evaluation (Reference 6) also examined the dose consequences associated with anticipated future spreading of Intake Bay material. The average radionuclide concentrations for the 1993 Intake Bay material, as well as the 1993 volume, were assumed to be representative of the Intake Bay material which may be removed during each future outage. The evaluation examined the consequences associated with the accumulated Intake Bay material from a total of 14 outages occurring 15 months apart. Radionuclide activities were adjusted for decay and were also assumed to be homogenous within each volume. The total radionuclide activities at the end of 14 outages (1992, 1993, plus 12 future outages) are presented in Table 7.

## 2.7 Operational Factors

Plant operations are not expected to be affected in any way by the on-site spreading of the subject material. No changes in the plant Technical Specifications are required and no effect on plant operation will occur due to this program.

## 3.0 DESCRIPTION OF THE METHOD FOR LAND SPREADING

### 3.1 Sediment Generation and Preparation for Spreading

The immediate source of the subject sediment is settlement of particles from sea water in the MY plant Circulating Water system intake structure. Water enters this structure from the Back River. The structure of the intake bay consists of four concrete cells, about 25 by 45 feet and about 20 feet deep. Water flows continuously into these cells when system pumps operate.

The source of the radionuclides in this sediment is licensed releases of effluent from the plant through the discharge of the Circulating Water system. This source is a known and well documented one. A previous configuration of the Circulating Water system discharge caused accumulation of measurable concentrations of radionuclides into Bailey Cove, a small bay on the opposite side of Bailey Point, the peninsula on which the plant site is located (Reference 7). All concentrations released are well within allowable limits for discharge. However, the natural morphology of the river causes some of the elements to disperse in small measure in the river-bottom sediment, rather than in the huge volume of water which daily tidal flux caused to flow past the plant.

Sediment is removed from the Circulating Water Intake Bays during planned plant outages. These occur about every 18 months. Temporary storage of material is done as needed, and release for spreading takes place when warranted by results of analyses and site conditions. This has occurred twice, in 1992 and in 1993, and is expected to occur during each future outage.

No treatment of the sediment is used or warranted. No convenient and cost-effective methods exist to remove or reduce the radioactivity due to nature of the subject material and the very low concentrations of radioactivity in it.

Each batch of sediment will be visually examined and described. Non-radiological chemical analysis of each the land spreading area is conducted annually in keeping with DEP requirements as outlined in Reference 2.

Appropriate records will be kept to represent the material, its origin, handling, and placement. These records should include material source and volume documentation, contractor records, results

of sample analyses, analysis of sample data, and records of placement location and procedures. Data similar to that presented here should be generated for each quantity of sediment placed.

### 3.2 Method of Land Spreading

MY Work Order 92-5074, parts 01 through 04, is used to control the work done to accomplish sediment removal from intake bays and placement. A contractor is retained to dredge sediment from the Intake Bays using a pump truck. The sediment is mixed with a considerable amount of water during this process and is thus handled like a liquid for the purposes of its dredging and initial placement. An area of the site removed from regular traffic and activities is designated as a Land Application Area and used only for this specific purpose (Figure 1).

The procedure for spreading of sediment includes steps to:

(a) dredge sediment from the Intake Bays per MY Work Order 92-5074,

(b) transport soil to the spreading area,

(c) temporarily stabilize the soil to prevent its erosion,

(d) spread[1] the soil at a thickness not to exceed 3-4 inches, so as not to kill underlying vegetation,

(e) retain suitable records, and

(f) provide DEP with required reports.

Details of specific measures included in Reference 3 should be used to guide the process. Handling of sediment should be governed by normal plant procedures.

### 3.3 Location

A drawing of the spreading area is shown in Figure 1. The area is located in the area of the transmission line which runs north out of the MY plant switchyard. The total land area used for spreading of sediment involves about 3 acres (131,000 $ft^2$). This area is of more than sufficient size to accept all of the material presently accumulated and all which can be expected to accumulate for

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[1] Spread only during the growing season, when frost or snow do not cover the ground with temporary storage provided as outlined in Reference 5.

the balance of the plant license term.

This land is part of the 740 acre MY site. No regular activity takes place in this area. Plant workers are rarely required to enter this area, and it is seldom traversed by any other persons. Access to the area is monitored by site security personnel. This ownership and supervision by MY staff represent barriers to inappropriate site use.

Vegetation growth in the area is maintained and woody plant herbicide applied tri-annually for transmission line maintenance. For the purposes of this spreading work maintenance makes security easier and prevents sediment erosion.

Release of radionuclides due to wind or water erosion will be insignificant. The humid climate, the flat topography of the area, and vegetative cover will almost completely prevent fluvial erosion. The vegetation also presents a significant wind-break, impeding any wind erosion process.

The MY site spreading area meets or exceeds all state regulations. Accordingly, the material will not be stockpiled or spread within 1000 feet of a public water supply, within 300 feet of a private water supply or over a sand and gravel aquifer, or within 300 feet of the ocean shoreline. The closest public potable water source is the well used as a source for the MY plant, 1000 feet distant from the spreading area (Figure 1). The closest private dwelling is 1500 feet away and across Bailey Cove, which forms a hydrologic barrier to ground water flow in that direction beyond that feature. Reference 3 identifies that no sand and gravel aquifers are located within two miles of the MY plant. In addition, no wells can be located in surficial deposits down-gradient of the site without the knowledge and permission of MY.

The physical environment of the spreading site consists of a man-made early-successional field established through the prior spreading of sediment excavated for the construction of the MY plant (Reference 8). It is beneath and around the MY plant's electric transmission lines as they exit the switchyard. The fill was obtained from bedrock and soil foundation excavations for plant structures, clayey bottom sediments from Montsweag Bay, and other construction materials. This fill ranges from 5 to 15 feet thick. Natural soil underlying the fill consists of the clay-silt Presumpscot formation which

has a thickness of 10 or more feet thick in the spreading area (Reference 8). Bedrock occurs beneath the Presumpscot.

The form of the sediment in no way impairs the spreading area environment. No physical or administrative barriers exist to prevent present or future use of this area for these purposes. The plant's Environmental Statement (Reference 14, pg. III-19), issued in 1972, had originally identified that sediment captured in the intake structure would be suitably placed on plant property.

### 3.4 Credible Accidents and Prevention Measures

This report and Reference 6 conclude that highly favorable conditions exist for on-site placement of sediment. There is no expectation that any measurable migration of radionuclides will occur from the subject material. It thus poses no potential hazard for significant accidents. No radiological monitoring of the spreading site is thus proposed or warranted.

It is recommended that procedures be followed to guide future dredging and placement of the subject materials, as outlined in Section 3.2.

## 4.0 EVALUATION OF RADIOLOGICAL IMPACTS OF SEDIMENT PLACEMENT

### 4.1 Potential Exposure Pathways

The most likely exposure pathway is the direct external exposure to the material after placement. The radiological evaluation (Reference 6) determined annual direct doses for two time periods: during the operating lifetime of the plant, and after site closure. The targeted area for spreading is approximately 3 acres of owner-controlled land.

Members of the public have very limited and infrequent access to the area, and their occupation time would be curtailed by plant security during the operating life of the plant. The radiological evaluation (Reference 6) calculates direct dose to a worker based on a conservative occupation time of 2000 hours (one full work year). It is unlikely that actual occupation times for MY workers would exceed more than just a few hours per year. Actual occupation times for members of the public are likely to be significantly shorter. Therefore, determination of a maximum direct dose for a worker present in the area for 8 hours per day for 50 work weeks provides a bounding direct dose for a member of the public while the spreading area remains under the ownership of the licensee. The direct dose to an individual after site closure is based on a conservative occupancy time of 8760 hours and accounts for radioactive decay over a 20 year period.

Reference 6 also examined the potential for exposure due to wind-induced suspension of Intake Bay material. This pathway is unlikely to affect a member of the public because (i) MY's intent is to spread the material so as not to inhibit growth of underlying vegetation, (ii) the vegetation cover would then reduce the chances of significant amount of suspension and erosion of the Intake Bay material, and (iii) reported values for resuspension factors due to wind resuspension are low (Reference 10). The radiological consequences via inhalation were examined for workers who would be responsible for spreading the Intake Bay material.

Less likely potential exposure pathways which were also examined include radionuclide migration through the soil to surface water for exposure via ingestion of fish and shellfish, uptake by edible plants, and ingestion of ground water from a hypothetical well within the spreading area.

Although addressed in the radiological evaluation, the possibility of exposure via these pathways is considered remote due to the location of the MY plant. For example, receiving water is not likely to be used for drinking or irrigation purposes (Reference 9). Nevertheless, the consequences from all conceivable waterborne pathways to a hypothetical member of the public were examined.

Included as part of the assessment of the waterborne exposure pathway is the potential for exposure due to drinking of ground water in the spreading area. Although there is currently no possible means for an individual to site a well in the subject spreading area, this pathway is assessed as a matter of providing a thorough assessment of all potentially significant pathways.

As a potential future exposure pathway, the radiological consequences due to ingesting vegetables grown on the spreading area was examined. Evaluation of this pathway assumed that a fraction of the radioactivity remaining after 20 years finds its way into vegetables which are subsequently ingested by a hypothetical individual.

### 4.2 Evaluation of Dose Rates and Doses

#### 4.2.1 Direct Dose Rate and Dose

The radiological evaluation (Reference 6) examined the dose consequences from direct exposure to three volumes: (1) the volume of the 1993 Intake Bay material (approximately 583 $ft^3$), (2) the volume of Intake Bay material removed during 1992 and 1993 (approximately 872 $ft^3$), and (3) the accumulated volume of Intake Bay material from 14 outages (approximately 7875 $ft^3$). Various spreading thicknesses were used in the direct dose rate calculations.

The highest direct dose rate, 3.44e-4 mrem/yr, was associated with a 10-inch spreading thickness for the 1993 Intake Bay material. The estimated direct dose rates from this material ranged from 1.38-4 mrem/hr (for 1 inch thickness) to 3.43E-4 mrem/hr (for 12 inch spreading thickness). Dose rate estimates decreased once the spreading thickness was greater than 10 inches. For all spreading thicknesses, the estimated dose rates represented only a small fraction of the 2 mrem/hr limit established in 10CFR20 for an unrestricted area (<0.02%). The maximum annual dose was obtained by applying a 2000 hour exposure period (ignoring decay) to the highest dose rate. The

resulting maximum annual dose (0.69 mrem) is less than 0.02% of the radiation worker exposure limit and less than 1% of the 10CFR20 exposure limit for a member of the public.

Although the maximum direct dose rate is associated with a spreading thickness of 10 inches, it is doubtful that a 10 inch spreading thickness will allow growth of underlying vegetation. Therefore, it is recommended that a spreading thickness of 3-4 inches be used (see Section 3.2). A 3-inch spreading thickness would result in a lower dose rate (2.6E-4 mrem/hr) and would also increase the likelihood for growth of underlying vegetation.

The Intake Bay material will be spread on owner-controlled land, which means that occupancy time is under the supervision and control of the licensee. When a 3-inch spreading thickness is procedurally required (see Section 3.2), the maximum annual dose for a worker or a member of the public is 0.5 mrem. Conservatism in this dose estimate is maintained by assuming an occupancy time of 2000 hours (1 work year). Whether compared to occupational limits or limit for members of the public, the resulting conservative maximum annual dose estimate is only a very small fraction (less than 1%) of exposure limits established in 10CFR20.

The estimated direct dose to a hypothetical individual who was assumed to inhabit the spreading area 20 years into the future was based on the total activity in the Intake Bay material accumulated from 14 outages (1992, 1993, plus 12 future outages). In addition, the calculation accounted for radioactive decay over a 20 year period and incorporated a conservative occupancy time of 1 year (8760 hours). In 20 years, the direct dose rate in the spreading area is estimated to be 7.4E-5 mrem/hr, significantly lower than the 2 mrem/hr limit established in 10CFR20 for an unrestricted area. Moreover, the corresponding maximum annual direct dose to an individual would be 0.6 mrem, which is significantly lower than the 10CFR20 radiation exposure limit for a member of the public (<1%).

### 4.2.2 Dose Due to Wind Suspension

The inhalation dose for plant workers was examined by radionuclide on two levels: (1) the committed effective dose equivalent (CEDE), and (2) the maximum committed dose equivalent (CDE)

to any organ. The estimated CEDE was 3.1e-3 mrem, and the estimated CDE was 1.5e-2 mrem. Both doses were based on the very conservative assumptions, given in Reference 6, in order to determine bounding doses via this unlikely exposure pathway. Even under very conservative assumptions, the inhalation of suspended Intake Bay material neither presents a health hazard nor significantly contributes to the total dose from the material.

### 4.2.3 Estimation of Waterborne Pathway Doses

The dose to a hypothetical individual who would ingest ground water from the location of the sediment spreading was also examined as part of the radiological evaluation (Reference 6). Results show that dose rates are extremely low with all dose peaks less than 0.1 mrem/yr for a hypothetical maximally exposed individual who would consume 730 liters of ground water from a well in the worst-case location.

### 4.2.4 Estimation of Dose Via Vegetation Ingestion

This potential exposure pathway was examined in Reference 6 by assuming that an individual ingests vegetables grown in a garden located in the spreading area after site closure (i.e., in 20 years). Under this scenario, the residual radioactivity in the soil reaches the vegetables via root uptake. The annual dose via ingestion of these vegetables was estimated to be 4E-4 mrem/yr (0.0004% of 10CFR20 limit for a member of the public).

## 5.0 ENVIRONMENTAL IMPACT ASSESSMENT

No adverse environmental impacts will result from placement of sediment, as proposed, on the site. A number of specific characteristics of the material make this true. The plant-related radioactivity in this sediment derives from radionuclides which have half lives of 30 years or less. The material is in a chemical and physical form that poses no hazard to the environment. The natural properties of the radionuclides and the underlying soils are such that migration from the spreading site will be completely prevented. The total activity over the remaining licensed life of the plant will amount to less than 5.5E-5 Ci dispersed in approximately 7875 $ft^3$ of sediment. The material is placed in a location which is under the direct control of plant management.

## 7.0 SUMMARY

The placement of subject material does not present any threat to the health and safety of MY employees or members of the public. The radiological consequences of on-site placement of the Intake Bay material have been conservatively estimated. Exposure to the material potentially results in a dose which is a very small fraction of the applicable limits.

Accumulation of sediment in the Intake Bays takes place continuously. Removal of this material is a required and recognized maintenance activity performed during each refueling outage (15-18 months). No special changes to existing scheduling or planning are needed to implement a placement program.

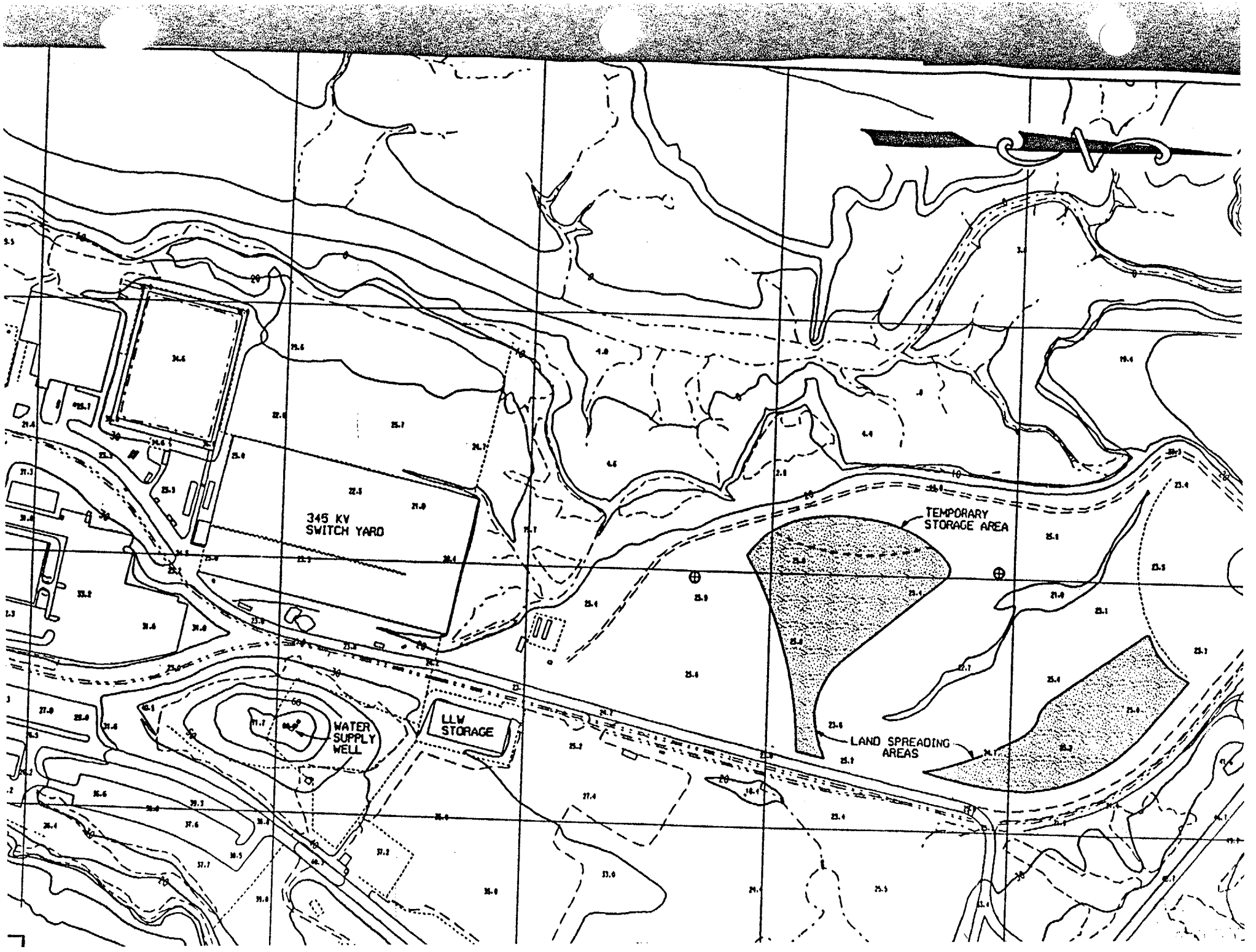

345 KV
SWITCH YARD
TEMPORARY
STORAGE AREA
WATER
SUPPLY
WELL
LLW
STORAGE
LAND SPREADING
AREAS

Table 1
Half-Life and Retardation Factor* Data
for Radionuclides Found in Samples

| Radionuclide | Half-Life (yrs) | Retardation Factors (RF) | RF Data Source |
|---|---|---|---|
| Cs-137 | 30.0 | 173 to 7200 | Reference 12 |
| Co-58 | 0.19 | 600 | Reference 13 |
| Co-60 | 5.26 | 860 to 3600 | Reference 12 |
| Ag-110M | 0.70 | 2000 | Reference 13 |

* Retardation factors represent a time-delay factor for travel of radionuclides through a soil. These compare with fully soluble substances, which have a retardation factor of 1.

Table 2
1993 Inorganic Chemical Analyses of Soil Samples.

| Analysis | Underlying Soil 9/1/92 | Underlying Soil 8/23/93* | Underlying Soil 10/22/93 | Intake Sediment 10/22/93 | SW Pipe Debris 9/7/93 | ME DEP Limits, CH. 567 |
|---|---|---|---|---|---|---|
| pH | 5.88 | 7.88 | 7.63 | 7.73 | 4.36 | NA |
| Cation Exchange Capacity | 14 | 34 | 22 | 35 | 25 | NA |
| potassium | 3700 | 4000 | 5000 | 3800 | 5000 | NA |
| phosphorus | 1030 | 1100 | 1000 | 1600 | 1000 | NA |
| magnesium | 5800 | 7800 | 6400 | 6200 | 2000 | NA |
| calcium | 33000 | 36400 | 10700 | 125900 | 7400 | NA |
| cadmium | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | 10 |
| chromium | 57 | 61 | 61 | 46 | 28 | 1000 |
| copper | 21 | 61 | 24 | 87 | 90 | 1000 |
| lead | 6 | 30 | 6 | 20 | 4 | 700 |
| mercury | 0.02 | 0.08 | 0.01 | 0.15 | 0.06 | 10 |
| nickel | 26 | 35 | 40 | 45 | <1 | 200 |
| zinc | 60 | 100 | 70 | 72 | 136 | 2000 |
| arsenic | 10.1 | 6.2 | 8.3 | 7.4 | 2.4 | NA |

Elemental concentrations are in mg/kg, dry weight.

Table 3
1992 Inorganic Chemical Analyses of Soil Samples.

| Analysis | S-1 2/12/92 | S-2 2/12/92 | S-3 2/12/92 | ME DEP Limits, CH. 567 |
|---|---|---|---|---|
| cadmium | <0.2 | <0.2 | <0.2 | 10 |
| chromium | 44 | 56 | 66 | 1000 |
| copper | 610 | 440 | 500 | 1000 |
| lead | 32 | 27 | 26 | 700 |
| mercury | 0.13 | 0.29 | 0.26 | 10 |
| nickel | 32 | 37 | 31 | 200 |
| arsenic | 8.4 | 13.9 | 13.4 | NA |
| PCB's | <100 ug/kg | <100 ug/kg | <100 ug/kg | 10 |
| Total Solids | 62.07% | 40.98% | 38.17% | NA |
| Total Volatile Solids | 6.81% | 15.35% | 12.35% | NA |
| Oil & Grease | 0.08% | 0.23% | 0.22% | NA |

Elemental concentrations are in mg/kg, dry weight, except as noted.

Table 4
1993 Sediment and Debris Sample Data.

| Sample No. and Source | Radionuclide Concentrations, μCi/g | | | | |
|---|---|---|---|---|---|
| | Ag-110M | Co-58 | Co-60 | Cs-137 | Total |
| SE-2 8/23/93 Intake Bay Debris | 3.8E-8 | 6.3E-8 | 6.6E-8 | 6.3E-8 | 2.3E-7 |
| SE-4 9/6/93 North End Soil | 3.3E-8 | ND | 4.4E-8 | 1.0E-7 | 1.8E-7 |
| SE-5 9/6/93 South End Soil | 2.3E-8 | ND | 5.7E-8 | 8.3E-8 | 1.6E-7 |
| SE-7 10/22/93 North End #1: Soil | ND | ND | ND | 1.2E-7 | 1.2E-7 |
| SE-8 10/22/93 North End #2: Debris | ND | ND | 2.6E-8 | 4.0E-8 | 6.6E-8 |
| SE-9 10/22/93 Middle #3: Soil | ND | ND | ND | ND | ---- |
| SE-10 10/22/93 South End #4: Soil | ND | 8.0E-8 | 2.2E-7 | 2.4E-7 | 5.4E-7 |
| SE-11 10/22/93 Mussel Shells | ND | ND | ND | ND | ---- |
| Average | 3.1E-8 | 7.2E-8 | 8.3E-8 | 1.1E-7 | 3.0E-7 |

ND: Not Detected

Table 5
1993 Service Water Pipe Debris Sample Data.

| Sample No. and Source | Radionuclide Concentrations, μCi/g | | | | |
|---|---|---|---|---|---|
| | Ag-110M | Co-58 | Co-60 | Cs-137 | Total |
| SE-3 9/6/93 SW Pipe Debris | ND | 5.7E-8 | 2.9E-8 | ND | 8.6E-8 |
| SE-12 10/22/93 SW Pipe Debris | ND | 2.5E-8 | 4.8E-8 | 3.3E-8 | 1.1E-7 |
| Average | — | 4.1E-8 | 3.9E-8 | 3.3E-8 | 1.1E-7 |

ND: Not Detected

Table 6
1993 Spreading Area Soil Sample Data.

| Sample No. and Source | Radionuclide Concentrations, μCi/g | | | | |
|---|---|---|---|---|---|
| | Ag-110M | Co-58 | Co-60 | Cs-137 | Total |
| SE-1 8/23/93 Spreading Area Underlying Soil | ND | ND | 2.8E-8 | 6.9E-8 | 9.7E-8 |
| SE-6 10/22/93 Land Spread '93 Spreading Area Underlying Soil Composite | ND | ND | ND | ND | ---- |

ND: Not Detected

Table 7
Estimated Total Radionuclide Activities[a] in Intake Bay Material.

| Material Volume ($ft^3$) | Ag-110m (Ci) | Co-58 (Ci) | Co-60 (Ci) | Cs-137 (Ci) | Total Ci |
|---|---|---|---|---|---|
| 582.7[b] | 9.3E-7 | 2.1E-6 | 2.5E-6 | 3.2E-6 | 8.7E-6 |
| 872.3[c] | 1.1E-6 | 2.1E-6 | 3.6E-6 | 4.8E-6 | 1.2E-5 |
| 7875.0[d] | 1.3E-6 | 2.1E-6 | 1.5E-5 | 3.6E-5 | 5.4E-5 |

[a] Total radionuclide activities are based on an average of results for only those samples in which there are detectable quantities of radionuclides (Table 4).
[b] Volume of material removed during 1993. Radioactive decay not taken into account.
[c] Sum of volumes removed during 1993 and 1992. Radioactive decay of 1992 material taken into account.
[d] Estimated volume at end of 14 outages (i.e, 1992, 1993, plus 12 additional future outages). Radionuclide activity estimates account for decay.

# HSA ID# 13

MY-HP-216-86, Rev. 2

MAINE YANKEE ATOMIC POWER COMPANY

No. 86-268

☒ NOTICE OF RADIOLOGICAL CONTROLS INFRACTION
☐ OBSERVED GOOD WORK PRACTICE

Issued To Dept. Manager: R. Prouty Date: 5-5-86

Issued By: C. O'BRIEN

Violation Date: 5-1-86 Time: 0840 Location: Horizon warehouse

Individuals Involved:

The following ☒ Radiological Controls Infraction ☐ Good Work Practice is being brought to your attention by worker(s) under your supervisor.

☐ Improper use of protective clothing
☐ Failure to follow RWP instructions
☐ Poor Work Practice
☐ Improper frisking/failure to frisk
☒ Inadequate Contamination Control
☐ Violation of station Radiological Controls procedures
☐ Other

EXPLANATION: Shower Drains go to sewage treatment system. — sinks are used for decontamination. Decon showers also drain to treatment plant.

Comments: refer to print 11550-FB-27D

REQUESTED ACTION (Completed by Rad. Controls Section Head):

Respond by 5-20-86 indicating the corrective action taken.

RESPONSE (to Radiological Controls Section Head):

SIGNATURE: DATE:

Response by ☐ Dept. Manager ☐ Section Head ☐ Supervisor

6

# HSA ID# 14

MY-HP-216-85, Rev. 2

GDC

MAINE YANKEE ATOMIC POWER COMPANY

No. 86-246

☒ NOTICE OF RADIOLOGICAL CONTROLS INFRACTION
☐ OBSERVED GOOD WORK PRACTICE

Issued To Dept. Manager: T. Boulette Date: 4/25/86

Issued By: C. O'BRIEN

Violation Date: 4-11-86 Time: 1330 Location: BAILY POINT

Individuals Involved:

The following ☒ Radiological Controls Infraction ☐ Good Work Practice is being brought to your attention by worker(s) under your supervisor.

☐ Improper use of protective clothing
☐ Failure to follow RWP instructions
☐ Poor Work Practice
☒ Improper frisking/failure to frisk
☒ Inadequate Contamination Control
☐ Violation of station Radiological Controls procedures
☐ Other

EXPLANATION: PAVEMENT & GRAVEL FROM THE CONTAINMENT ALLEYWAY (WHICH IS CONTAMINATED) IS PILED OUT ON THE TIP OF BAILY POINT.

Comments:

REQUESTED ACTION (Completed by Rad. Controls Section Head):

Respond by 5/9/86 indicating the corrective action taken.

RESPONSE (to Radiological Controls Section Head):

There is no reason to suspect that gravel from the containment alleyway would be contaminated. Pavement from the alleyway was checked by Rad. Controls prior to and after removal from the

SIGNATURE: [signature] DATE: 5-6-86

Response by ☐ Dept. Manager ☐ Section Head J.H. ☑ Supervisor

containment alleyway. A survey of the pile of gravel was conducted on 4-29-86 and no radiation or contamination was found on the exterior gravel and pavement on the pile. To make sure there is no contaminated gravel or pavement outside of the Radiation Control area, the pile will be rechecked for contamination.

179.12.300

# HSA ID# 15

# RADIOLOGICAL INCIDENT REPORT

86-1
NUMBER

SECTION I

DATE AND TIME OF INCIDENT: Aug 29, 1986 11:00 AM

LOCATION: Tip of Bailey Point

HOW RADIATION CONTROLS WAS NOTIFIED: Mark Rawlings (Radiological Cont Tech) Verbal Sup
CJ. Hess

PERTINENT DETAILS (Attach copies of surveys, samples, etc. as necessary for documentation): While removing the sandpile from Bailey Point To the Radiation Control Area for Sorting, approximate one liter of contaminated asphalt and gravel was found with radiation levels ranging from 300 count per minute above background To 50 mR/HR contact. (See attached surveys)

J. Cochrane
PREPARER SIGNATURE

DATE 9-12-86 TIME 0800

SECTION II RADIOLOGICAL CONTROLS SECTION HEAD REVIEW

[ ] This incident requires no further reports, documentation or followup

[X] This incident requires the following corrective action and/or notification or reports:

See Attached

J. Cochrane
Rad Controls Section Head

DATE 9-12-86

Route to: 1. Dept. Head E.L.B. Dept.
2. Plant Mgr. JRG 9/25/86
3. File (Return to Radiological Controls)

Radiological Incident 86-1

During the 1985 refueling outage, the containment alleyway was dug up to work on PCC piping. The asphalt removed was suspected to be possibly contaminated due to being located inside the Radiation Control Area, there was no reason to suspect that the gravel under the asphalt should be contaminated. The accessible asphalt was surveyed by Health Physics Technicians and contaminated pieces were removed. After removing the contaminated asphalt from the gravel, each bucket load of gravel was surveyed with an RM-14 with a HP-210 probe for release from the Radiation Control Area. The gravel was supposed to be disposed of outside the established Radiation Control Area but inside the plant security fence. Approximately 75 yards of gravel was released from the Radiation Control Area on Oct 9 or 10th, 1985 and was taken outside the plant security fence thru gate #6 and dumped on the tip of Barley Point. Radiological Control Supervisors were not aware that the asphalt and gravel had been removed outside the security fence and dumped on the tip of Barley Point.

On Oct 30, 1985 it was brought to the

attention of Radiological Control Supervisor that the contaminated alleyway gravel was located at the top of Baileyport located outside the plant security fence but on Maine Yankee property. A Radiological Controls Technician (Dennis Hickey) was sent out on April 3 to survey the pile of gravel and asphalt To determine if the pile contained radioactive material. A survey taken by Dennis Hickey showed Two spots on the gravel pile that indicated positive contamination above background using an RM-14 detector with a HP-210 probe. (See attached survey) On April 1, 1985, Dennis Hickey and a Plant Service Worker removed approximately ½ a drum of contaminated asphalt and gravel from the exterior of the pile. A survey taken following the removal of contaminated asphalt and gravel showed the exterior of the pile to be less than .1 MR/HR and free of contamination. (See attached survey). Based on the results of this survey, I (Gary Cochran) made the determination that the pile of gravel was not in violation of 10 CFR 20 requirements.

On April 11, 1986, A Radiological Controls Technician Inspection #86-246 was conducted that contaminated asphalt and gravel was located outside the plant security fence

Jim Hummer and Gary Cochrane using an RM-14 ratemeter with HP-210 probe spot checked the exterior of the gravel pile and found no contamination or external radiation levels on the gravel pile. My response to the INFRACTION was that the pile of gravel would be brought back inside the Radiation Control Area to be re-surveyed using more sophisticated monitors that had been setup to monitor gravel being reboxed from the Radiation Control Area. At this time I did not consider the gravel pile to be in violation of 10 CFR 20 due to previous surveys Taken to release the gravel and a follow-up survey taken by Dennis Hickey.

On Aug. 26, 1986 I requested a thorough survey of the gravel pile to determine if any radioactive material would be found to justify bringing the gravel pile back inside the Radiation Control Area for additional surveys. The survey Taken Aug 26, 1986 showed several spots on the pile to be above background radiation levels with a high reading at one location of 16,000 counts per minute. Based on finding these positive counts above background radiation levels, I confirmed by previous

decision that the gravel pile should be brought back on site and re-surveyed.

On Aug 29, 1986 the gravel pile was removed from Bailey Point To the Radiation Control Area. During the removal process approximately one liter of contaminated asphalt and gravel was found with a contact reading of 50 MR/HR. The reading at waist level from this material was less than .1 MR/HR.

Following the removal of the gravel pile the area was barricaded and posted as a Radiation and Contaminated Area. Detailed radiation surveys of the area were Taken Sept 2, 3, and 4 th, 1986. The area was released on Sept 4, 1986 as being free of radiation and contamination.

Immediate Corrective Action.

Upon finding a 50 MR/HR particle, the Bailey Point area was established as a Radiation Control Area. All of the gravel was removed from Bailey Point To the Radiation Control Area inside the plant.

LONG TERM CORRECTIVE ACTION

Radiological Control procedure 9.1.1 (PLANNING RADIOLOGICAL SURVEYS) would be revised to require written instructions approved

by Radiological Control Supervisor before
entrance or difficult to survey items are
released from the Radiation Control
Area.

These instructions will be of a signoff type, and
will be filed for future reference by the Rad Controls
Section.

JNG

GDC

MAINE YANKEE ATOMIC POWER COMPANY

No. 86-240

☒ NOTICE OF RADIOLOGICAL CONTROLS INFRACTION

☐ OBSERVED GOOD WORK PRACTICE

Issued To Dept. Manager: T. Boulette Date: 4/25/86

Issued By: C. O'Brien

Violation Date: 4-11-86 Time: 1830 Location: Bailey Point

Individuals Involved:

The following ☒ Radiological Controls Infraction ☐ Good Work Practice is being brought to your attention by worker(s) under your supervisor.

- ☐ Improper use of protective clothing
- ☐ Failure to follow RWP instructions
- ☐ Poor Work Practice
- ☒ Improper frisking/failure to frisk
- ☒ Inadequate Contamination Control
- ☐ Violation of station Radiological Controls procedures
- ☐ Other

EXPLANATION: PAVEMENT & GRAVEL FROM THE CONTAINMENT ALLEYWAY (WHICH IS CONTAMI IS PILED OUT ON THE TIP OF BAILY PO

Comments:

REQUESTED ACTION (Completed by Rad. Controls Section Head):

Respond by 5/9/86 indicating the corrective action taken.

RESPONSE (to Radiological Controls Section Head):

There is no reason to suspect that gravel from the contain alleyway would be contaminated. Pavement from the alleyway was checked by Rad Controls prior to and after removal from t

SIGNATURE: C O'Brien DATE: 5-6-86

Response by ☐ Dept. Manager ☒ Section Head J.H. ☒ Supervisor

Containment alleyway. A survey of the pile of ground was conducted on 4-24-86 and the radiation in contamination was found on the exterior gravel and pavement on the pile. To make sure there is no contaminated gravel or pavement outside the Radiation Control area, the pile will be re-checked for contam

# MAINE YANKEE ATOMIC POWER COMPANY

## GENERAL SURVEY FORM

Counter NA  Inst. Type & No. E140 # 522  Date 8-29-86

Eff. [illegible]  Time 1100

Bldg. [illegible]  Tech. MMM

NOTE: All Dose Rate readings in MR/HR.
All Contamination readings are circled in DPM/100cm$^2$.

Area/Item SAND PILE ON BAILEY POINT

(1) GEN AREA DOSE RATE ON & AROUND PILE WITH E140 AND HP270 PROBE < 0.1 MR/HR

(2) RADIOACTIVE "CHIPS" IN PILE WERE FOUND RANGING FROM 300 CPM TO > 50 MR/HR ON CONTACT WITH HP 210 PROBE ← WITH HP270 PROBE ON E140
CHIP READING 750 MR/H W/HP210 READS ~ 12 MR/HR W/RO2A
THESE WERE PLACED IN A 55 GAL DRUM AS THEY WERE FOUND

(3) SAND PILE REMOVED TO AREA BETWEEN RAILT & DUST FOR PROCESSING

(4) BULK OF PILE MOVED BY 1910 AREA WHERE PILE WAS LOCATED IS STILL ROPED OFF AS RADIATION AREA, CONTAMINATION AREA. PENDING A ~~SURVEY~~ COMPLETE DETAILED SURVEY, A CURSARY SURVEY INDICATED SOME "CHIPS" STILL NEED TO BE REMOVED.

MY-4R-16

YANKEE ATOMIC POWER COMPANY

GENERAL SURVEY FORM

Inst. Type & No. RM 14 #5640 Date 12-26-85

Time 1305

Tech. DEH

BEST AVAILABLE COPY

NOTE: All Dose Rate readings in MR/HR
All Contamination readings are circled in DPM/100cm$^2$

Area/Item

Control Outside Gate "6"

Gen'l Rad levels in the spots 2000 : Beta

# MAINE YANKEE ATOMIC POWER COMPANY

## GENERAL SURVEY FORM

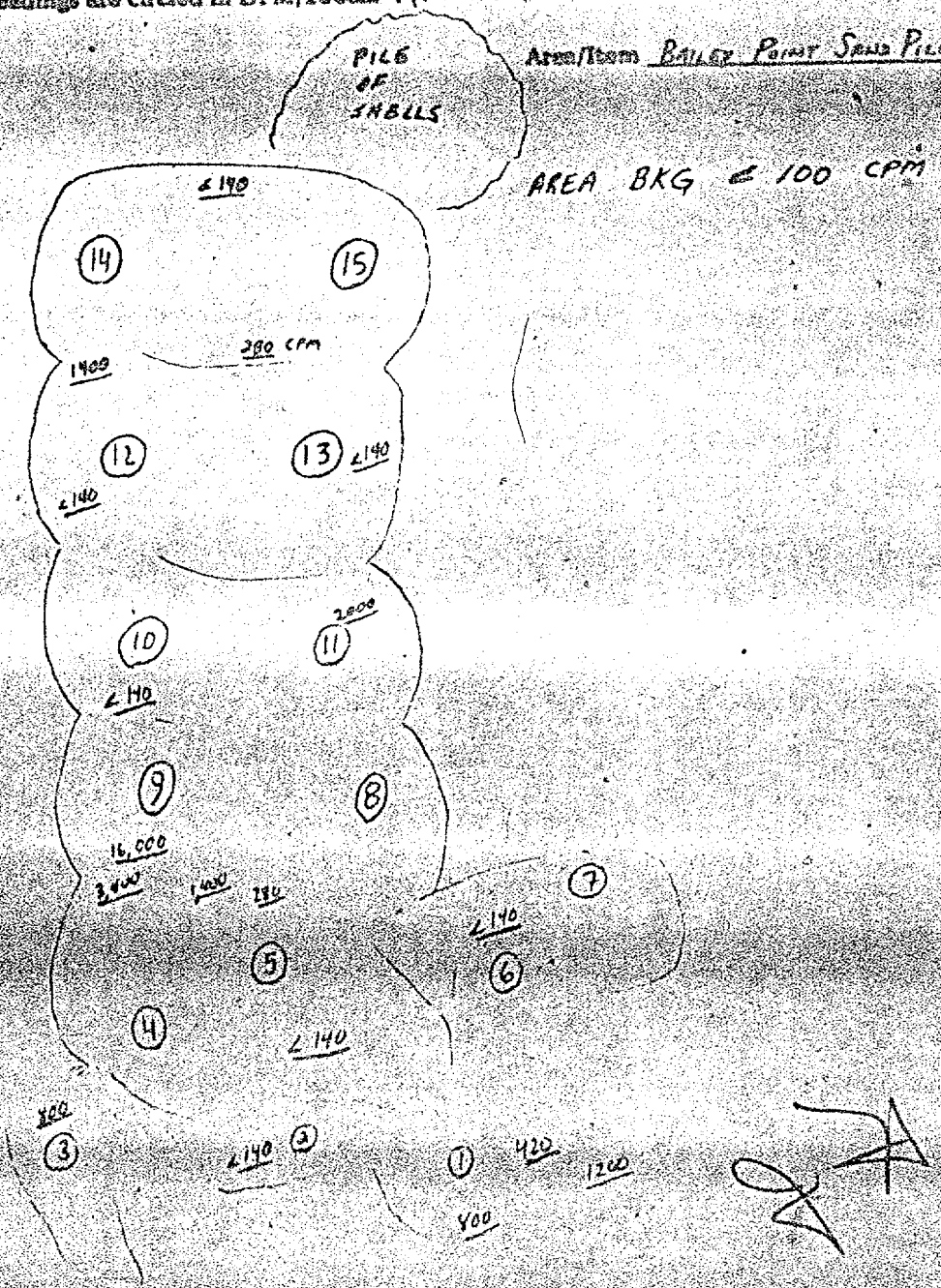
Counter N/A Inst. Type & No. E-140 # 522 w/HP-210 probe Date 26 AUGUST 19

Eff. _____ RWP 86-8-114 Time 14:30

Bkg. _____ Tech. AS/DN/SAC

NOTE: All Dose Rate readings in ~~MR/HR~~ mR CPM
All Contamination readings are circled in DPM/100cm². (SAMPLES TAKEN IN MERIWELL DEPTHS)

Area/Item BAILEY POINT SPENT PILE SA



MY-HP-161-83

MAINE YANKEE ATOMIC POWER COMPANY

GENERAL SURVEY FORM

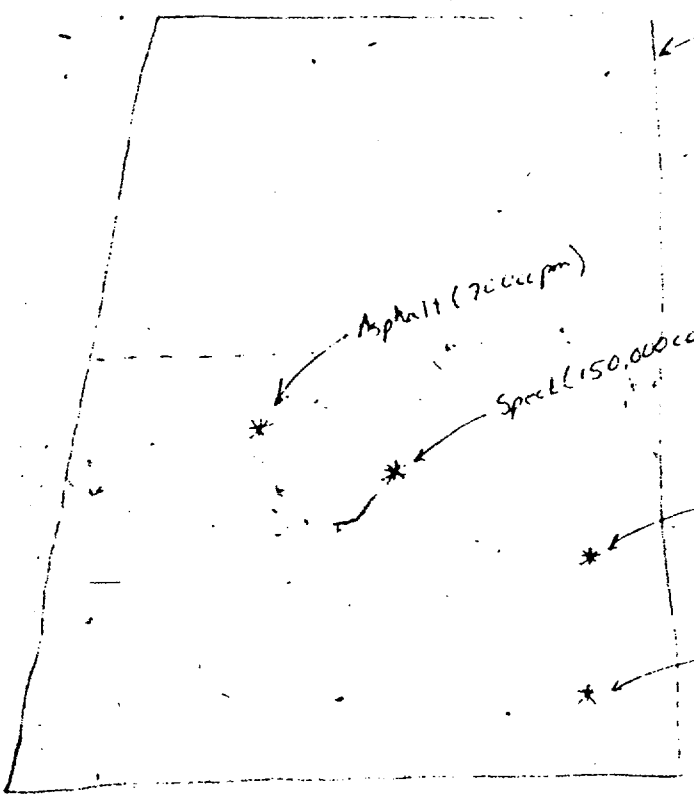
Counter N/A Inst. Type & No. E-520 / 35541, 3571 Date 9/[illegible]

Eff. N/A Time 1230 - 1330

Bkg. N/A Tech. JRT / [illegible]

NOTE: All Dose Rate readings in MR/HR.
All Contamination readings are circled in DPM/100cm$^2$.

Area/Item Bailey Point [illegible]




Area from the dotted line down was direct frisked (100% of area). ~~Contaminated~~ asphalt and specks were removed and the immediate areas were < 100 cpm. The entire area was < 100 cpm.

* Speck (100,000 cpm)

1188 2310

MY-HP-161-8

MAINE YANKEE ATOMIC POWER COMPANY

GENERAL SURVEY FORM

Counter See Surveys Taken Sept 2, 3, and 4th. Inst. Type & No. _____ Date Sept 12, 19

Eff. _____ Time 1300

Bkg. _____ ~~Tech~~ Cochrane

NOTE: All Dose Rate readings in MR/HR.
All Contamination readings are circled in DPM/100cm$^2$.

Area/Item AFter Gravel Pile Removal

Based on surveys taken by Radiological Control Technician on Sept 2, 3 and 4th, 1986 the gravel pile location on the Tip of Bailey Point has been released as free of radiation and contamination.

1186 2371

MY-HP-161-83

MAINE YANKEE ATOMIC POWER COMPANY

GENERAL SURVEY FORM

Counter _____ Inst. Type & No. E-140 # 522 Date 26 AUGUST 1986

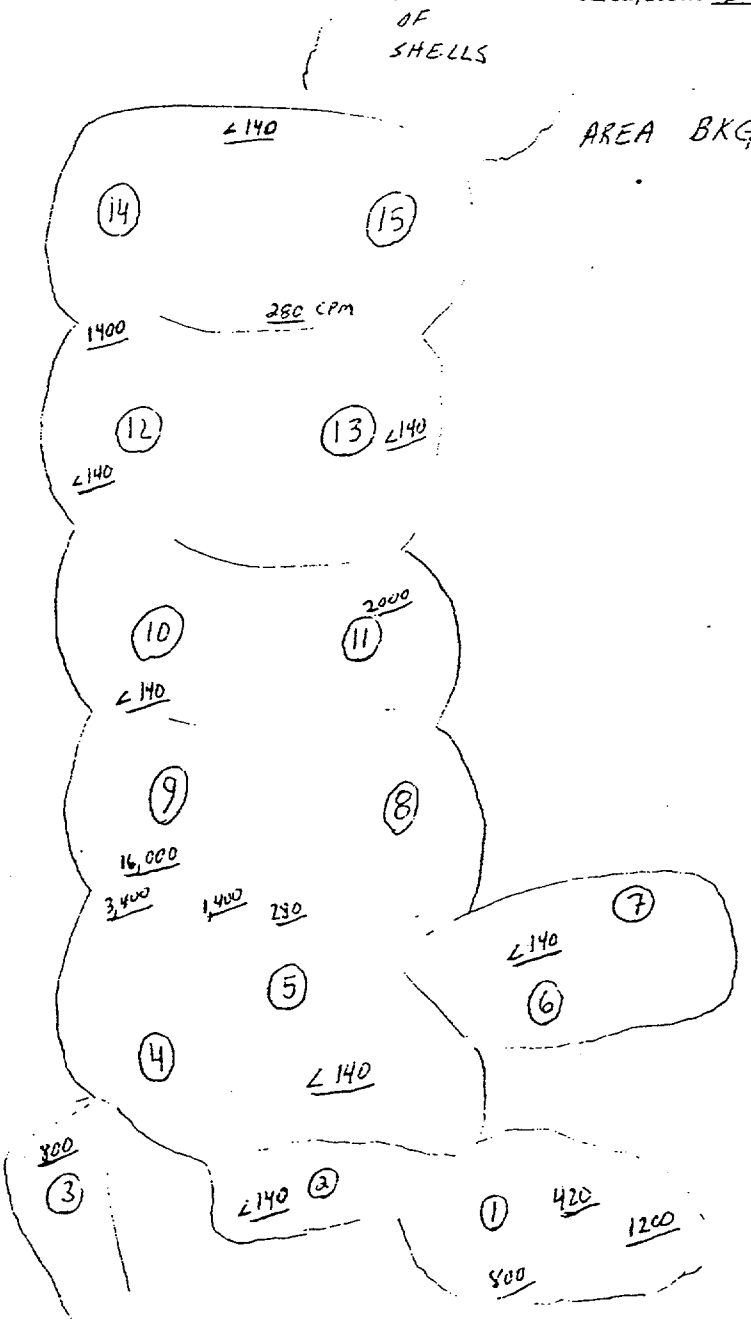
Eff. _____ RWP 86-8-114 Time 14:30

Bkg. _____ Tech. AS/DH/SAC

NOTE: All Dose Rate readings in ~~MR/HR.~~ SAC CPM

All Contamination readings are circled in DPM/100cm$^2$. (SAMPLES TAKEN IN MERINELLI BEAKERS)

Area/Item BAILEY POINT SAND PILE SURV



MAINE YANKEE ATOMIC POWER COMPANY

GENERAL SURVEY FORM

Counter N/A Inst. Type & No. E-520 #3565 with Long Date 30 Aug 86

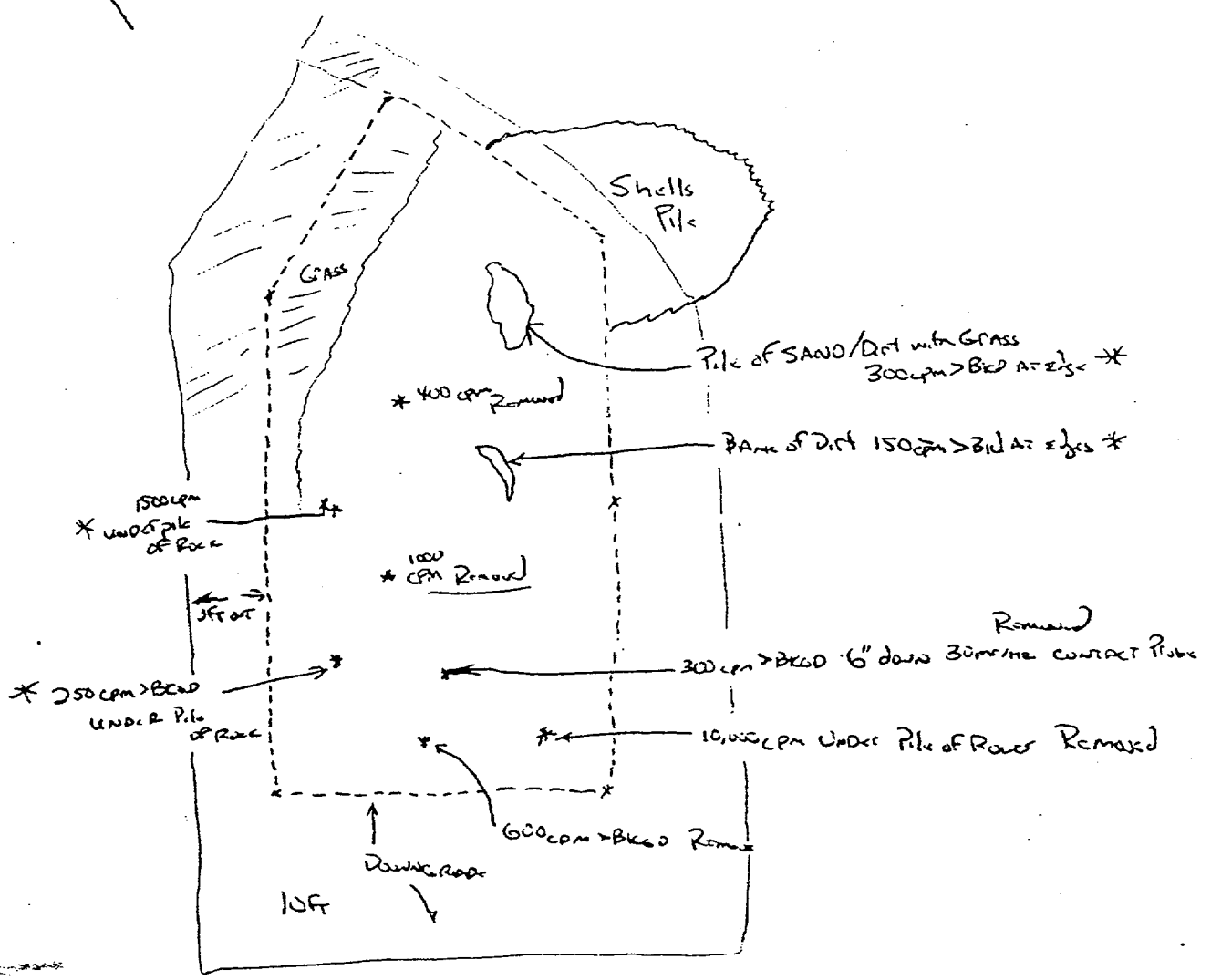
Eff. N/A RWP 86-8-114 Time 0815

Bkg. N/A Tech. WD

NOTE: All Dose Rate readings in MR/HR.
All Contamination readings are circled in DPM/100cm$^2$.

Area/Item Posted Area on Bailey Point

BKGD 40cpm




From 3ft out around Posted Area except @ Bottom From 10ft out and on Dump Road < BKGD

MY-HP-161-83

# MAINE YANKEE ATOMIC POWER COMPANY

## GENERAL SURVEY FORM

Counter N/A Inst. Type & No. RM-14 #365 Date 1 SEPT 86

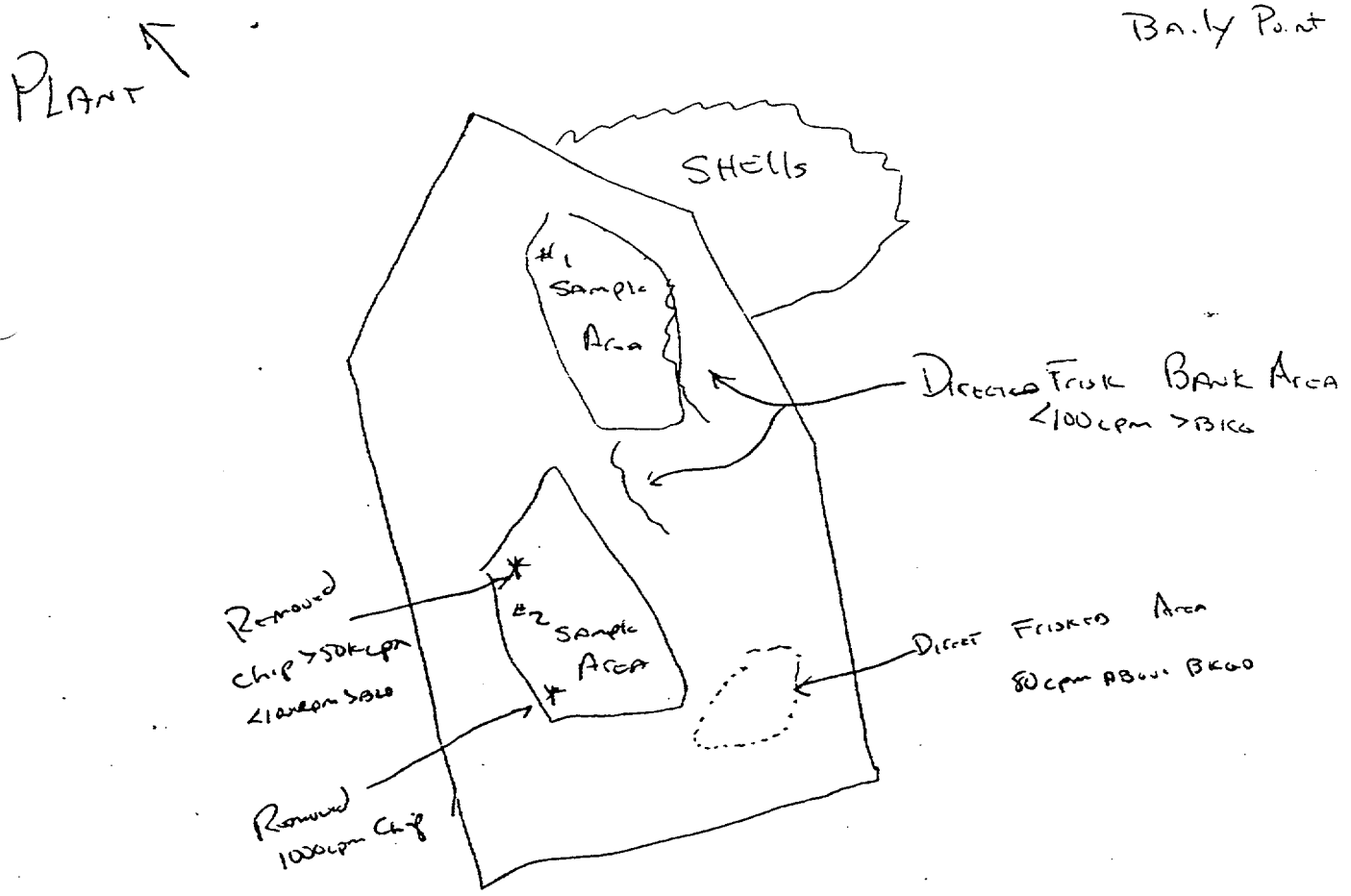
Eff. _____ Time 1400

Bkg. ↓ Tech. LD

BKGD 100 cpm

NOTE: All Dose Rate readings in MR/HR.
All Contamination readings are circled in DPM/100cm$^2$.

Area/Item #2 SAMPLE AREA
BAY POINT



TO: G. D. Cochrane _____ Company/Location _____ June 25, 1986

FROM: R. P. Wills _____ Company/Location _____ FILE 14.8.2

SUBJECT: Methodology for Release of Sand from the Radiation Control Area (Rev. 1)

Maine Yankee has in its controlled area, a sand pile which originated from the excavation of the PCC piping. Throughout this total project only one area was defined as a potential source of contamination. This area is the top few milimeters of sand directly underneath the hot top of an old high rad storage bunker. All hot top was removed as radwaste, and all excavated sand is being surveyed for removal to other locations within the plant protected area. In order to comply with our radwaste volume reduction goals, I have been tasked with the removal and release of this material.

The release of all material from the controlled area must meet the conditions of Procedure 9.1.1, section 7.3 "Release of Material from the Plant Radiation Control Area." This section states that three conditions must be fully satisfied: no alpha contamination above 100 DPM; no beta/gamma contamination above 1,000 DPM; and, all beta/gamma readings are less than 0.1 mr/hr. As an added assurance for the protection of plant personnel, we will perform an isotopic analysis of each 55 gallon drum we release from the radiation control area.

We have set up a frisking apparatus which consists of five RM-14/HP-210 probes. All friskers are source checked daily by a Rad Controls technician, and so logged. The sand is kept to a thin layer "less than or equal to two inches," and a present frisking speed no faster than two inches per second. All RM 14/HP-210 friskers will be set to alarm at 100 cpm above background with a maximum allowable background of 200 cpm. The conditions set forth in the above paragraph will assure compliance with two of the three required conditions, "less than 1,000 DPM beta/gamma and less than 0.1 mr/hr gamma." The alpha limits can be excluded by the understanding of the origin of this sand. It was never exposed to any material subject to fission products, and at Maine Yankee we have never seen an alpha contamination problem in any of our routine surveys.

Our last and most limiting condition for removal of this sand is the isotopic analysis performed on each cubic yard of sand (four - 55 gallon drums). Rad Controls with assistance from Chemistry will analyze a one liter sample of sand for each cubic yard of sand frisked clean and report all results to the Lead Radiological Controls Specialist, or the Hazardous Waste Coordinator. All sand samples identified as having any isotopes with an activity equal to or greater than 1/10 of the most limiting value for MPC limits for water in Table II of Appendix B of 10CFR20 will be removed as radioactive waste.

All other material is considered clean and may be removed out side the radiation controlled area, but not outside the plant restricted/protected area.

Robert P. Wills
Hazardous Waste Coordinator

RPW:pab

cc: J. H. Garrity
E. T. Boulette
P. J. Dostie

2586M:RPW:pab

May 15, 1986

Operational Instruction for Removal of Sand
From the Radiation Control Area (RCA)

1. Initiate RWP each day.
2. Set up the conveyer belt.
3. Set up the sand height discriminator at one inch.
4. Obtain five RM-14/HP 210 probes from Rad Controls.
5. Source check all the RM-14s each day prior to use.
6. Set up the RM-14s and probes in a shielded rack over the conveyer belt.
7. Set the alarm point at 100 cpm above the background readings. Note: DO NOT frisk in an area where the background is greater than 200 cpm. If the background exceeds 200 cpm, contact the Hazardous Waste Coordinator (HWC).
8. Start the conveyer belt at a speed of two inches per second.
9. If you receive an RM-14 alarm, STOP the conveyer belt. Survey the area with RM-14/HP-210 probe to remove only the material causing the alarm.
10. Place the removed material into a radioactively labelled 55 gal drum.
11. All the drummed material will be disposed of according to the HWC's instruction.
12. All the sand that is released from the RCA will be relocated under Fred Klein's direction.
13. Notify the HWC of any problems.

Prepared By: Robert P. Wills
Robert P. Wills
Hazardous Waste Coordinator

Approved By: G Cochrane
Gary D. Cochrane
Rad Controls Section Head

RPW:pab

2265M:RPW

# HSA ID# 16

MY-HP-216-8½, Rev. 2

MAINE YANKEE ATOMIC POWER COMPANY

No. 86-228

☑ NOTICE OF RADIOLOGICAL CONTROLS INFRACTION
☐ OBSERVED GOOD WORK PRACTICE

Issued To Dept. Manager: T. Boulette Date: 4-24-86

Issued By: C.A. Young

Violation Date: 4-11-86 Time: 0326 Location: H.P. CKPT

Individuals Involved:

S. Clukey

The following ☒ Radiological Controls Infraction ☐ Good Work Practice is being brought to your attention by worker(s) under your supervisor.

☐ Improper use of protective clothing
☐ Failure to follow RWP instructions
☒ Poor Work Practice
☒ Improper frisking/failure to frisk
☒ Inadequate Contamination Control
☒ Violation of station Radiological Controls procedures
☐ Other

EXPLANATION: Allowing Release of Grove from ~~Hot Side~~ RCA without Proper Survey.

Comments: Grove was checked only by smearing tires

REQUESTED ACTION (Completed by Rad. Controls Section Head):

Respond by 5-8-86 indicating the corrective action taken.

RESPONSE (to Radiological Controls Section Head):

Discussed need for dose rate measurements in addition to smearable contamination check.

SIGNATURE: J. Hammes DATE: 5/13/86

Response by ☐ Dept. Manager ☐ Section Head J.H. ☒ Supervisor

CDEF

179.12.274

# HSA ID# 17

MY-HP-216-86, Rev. 2

MAINE YANKEE ATOMIC POWER COMPANY

No. 86-191

☑ NOTICE OF RADIOLOGICAL CONTROLS INFRACTION
☐ OBSERVED GOOD WORK PRACTICE

Issued To Dept. Manager: W. Paine J. Frothingham Date: 4-10-86
Issued By: C.A. Young
Violation Date: 4-9-86 Time: 0800 Location: HV-9 AREA
Individuals Involved:
Plant Services

The following ☒ Radiological Controls Infraction ☐ Good Work Practice is being brought to your attention by worker(s) under your supervisor.

☐ Improper use of protective clothing
☐ Failure to follow RWP instructions
☒ Poor Work Practice
☐ Improper frisking/failure to frisk
☐ Inadequate Contamination Control
☐ Violation of station Radiological Controls procedures
☐ Other

EXPLANATION: Pit in HV-9 Area Remains Contaminated even though NO Radioactive Systems are in this Area. DON 4/30/86 [signature]

Comments: We don't have anything to do with this but we're cleared up [signature]

REQUESTED ACTION (Completed by Rad. Controls Section Head):
Respond by 4-18-86 indicating the corrective action taken.

RESPONSE (to Radiological Controls Section Head):
this area belongs to the operations Dept.

SIGNATURE: W Braun DATE: 4-15-86
Response by ☐ Dept. Manager ☐ Section Head ☑ Supervisor

AE

179.12.225

# HSA ID# 18

[ ] Section Head [illegible]

[ ] Supervisor P. Dostie

MY-HP-216-86

No.: 86-135

MAINE YANKEE ATOMIC POWER COMPANY

NOTICE OF RADIOLOGICAL CONTROLS INFRACTION

Issued To: T. Boulette Date: 4-3-86

Issued By: CA Young

Violation Date: 4-1-86 Time: 0830 Location: Backyard

Individuals Involved:
Rad Waste Coordinator

The following violation of radiological safety practices by workers under your supervision is being brought to your attention:

[ ] Improper use of proctective clothing

[ ] Failure to follow RWP instructions

[ ] Failure to log in/out

[ ] Improper frisking/failure to frisk

[X] Other: Crane laying in backyard is Contaminated with Core Bored Chips and is not Covered in Plastic or marked as Radioactive.

REQUESTED ACTION (Completed by Rad. Controls Section Head):

[✓] FIRST NOTICE: Respond by 4/17/86 indicating the corrective action taken to prevent a recurrence.

[ ] SECOND NOTICE: Contact Rad. Controls Section Head by to schedule a conference to include: Immediate Supervisor and individual(s) involved.

[ ] THIRD NOTICE: Contact Rad. Controls Section Head by to schedule a conference to include: Immediate Supervisor, Section Head and individuals involved.

[ ] OTHER:

RESPONSE (to Radiological Controls Section Head):
This is not the responsibility of the Rad Waste Coordinator to investigate loose ends from someone else. This appears to me to be the responsibility of the department which the crane was specifically since they did not contact HP to properly stage it to prevent the spread of contamination.

SIGNATURE: Pat Dostie DATE: 4/15/86

0294f

P.S. The infraction should be directed at the responsible dept. and removed

179.12.167

# HSA ID# 19

| | Section Head ODC
| | Supervisor J. Hummer

MR 216-86
No.: 86-132

MAINE YANKEE ATOMIC POWER COMPANY

NOTICE OF RADIOLOGICAL CONTROLS INFRACTION

Issued To: T. Boulette Date: 4-2-86

Issued By: RADINGER

Violation Date: 3-30-86 Time: 0600 Location: CTMT ALLY

Individuals Involved:
Rad. Cont. group

The following violation of radiological safety practices by workers under your supervision is being brought to your attention:

| | Improper use of proctective clothing
| | Failure to follow RWP instructions
| | Failure to log in/out
| | Improper frisking/failure to frisk
|X| Other: 55 GAL DRUM CONTAINING SAND SWEPT UP FROM GROUND HAS 1 SPOT READING 35 mR/HR DRUM NOT MARKED RAD. MAT. OR DOSE RATED - CORRECTED

REQUESTED ACTION (Completed by Rad. Controls Section Head):

|X| FIRST NOTICE: Respond by 4-15-86 indicating the corrective action taken to prevent a recurrence.

| | SECOND NOTICE: Contact Rad. Controls Section Head by to schedule a conference to include: Immediate Supervisor and individual(s) involved.

| | THIRD NOTICE: Contact Rad. Controls Section Head by to schedule a conference to include: Immediate Supervisor, Section Head and individuals involved.

| | OTHER:

RESPONSE (to Radiological Controls Section Head):
Corrected on the spot.

SIGNATURE: J. Hummer DATE: 4/10/86

0294f

C

179.12.164

# HSA ID# 20

MY-HP-216-86

No.: 86-111

MAINE YANKEE ATOMIC POWER COMPANY

NOTICE OF RADIOLOGICAL CONTROLS INFRACTION

Issued To: R. Prouty Dept: Maint Date: 3/27/86

Issued by Robert Wilks

Violation Date: 3/27/86 Time: 1120 Location: RCA TK-85

Individuals Involved:

*Equipment*

P120 / P123 Leak

The following violation of radiological safety practices by workers under your supervision is being brought to your attention:

|__| Improper use of proctective clothing

|__| Failure to follow RWP instructions

|__| Failure to log in/out

|__| Improper frisking/failure to frisk

|X| Other: Those Pumps leak Contaminated water to the Clean RCA floor causing a Contamination Problem.

REQUESTED ACTION (Completed by Rad. Controls Section Head):

|__| FIRST NOTICE: Respond by_____ indicating the corrective action taken to prevent a recurrence.

|__| SECOND NOTICE: Contact Rad. Controls Section Head by_____ to schedule a conference to include: Immediate Supervisor and individual(s) involved.

|__| THIRD NOTICE: Contact Rad. Controls Section Head by_____ to schedule a conference to include: Immediate Supervisor, Section Head and individuals involved.

|__| OTHER:

RESPONSE (to Radiological Controls Section Head):

LEAKS HAVE BEEN REPAIRED

SIGNATURE: [signature] DATE: 4-26-86

0294f

179.12.139

# HSA ID# 21

# RADIOLOGICAL INCIDENT REPORT

84-4
NUMBER

SECTION I

DATE AND TIME OF INCIDENT: 9/11/84 Approx noon hrs

LOCATION: RCA Storage Area Fuel Rack Disassembly

HOW RADIATION CONTROLS WAS NOTIFIED: Technician called higher smear results

PERTINENT DETAILS (Attach copies of surveys, samples, etc. as necessary for documentation): There were no regulatory consequences of the attached air sample taken in the work area even though the 1hr/24hr count was assessed at the limit. This report is prepared merely to document the routine task which has occurred.

[signature]
PREPARER SIGNATURE

DATE 9/13/84 TIME 1115

SECTION II RADIOLOGICAL CONTROLS SECTION HEAD REVIEW

☒ This incident requires no further reports, documentation or followup

☐ This incident requires the following corrective action and/or notification or reports: None. The job was reevaluated and measures were taken to limit removable surface contamination in the opening doors and the cask lid.

[signature]
Rad Controls Section Head

DATE 9-14-84

Route to: 1. Dept. Head _____ Dept.
2. Plant Mgr.
3. File (Return to Radiological Controls)

MAINE-YANKEE 11-SEP-84 12:08:00

SAMPLE: RCA FUEL RACK DISABS
DATA COLLECTED ON 11-SEP-84 AT 11:50:34
DECAYED TO 0. DAYS, 2.7597 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 UC/CC MEASURED | ERROR | DECAY CORRECTED | ERROR | ENERGY COMPARISON (KEV) EXPECT | DIFF |
|---|---|---|---|---|---|---|
| AG-110M | 7.47E-09 | +-6.88E-11 | 7.47E-09 | +-6.88E-11 | 657.74 | 0.09 |
| | | | | | 884.67 | 0.06 |
| CO-58 | 3.09E-10 | +-2.10E-11 | 3.09E-10 | +-2.10E-11 | 810.76 | 0.03 |
| | | | | | 511.01 | 0.65 |
| CO-60 | 7.11E-09 | +-8.19E-11 | 7.11E-09 | +-8.19E-11 | 1332.46 | 0.13 |
| | | | | | 1173.21 | 0.11 |
| CS-136 | 4.35E-10 | +-2.76E-11 | 4.37E-10 | +-2.78E-11 | 818.50 | -0.43 |
| CS-137 | 1.31E-09 | +-3.34E-11 | 1.31E-09 | +-3.34E-11 | 661.64 | 0.09 |
| F-18 | 4.66E-11 | +-9.12E-12 | 1.32E-10 | +-2.59E-11 | 511.01 | 0.65 |
| HG-203 | 5.22E-11 | +-1.05E-11 | 5.23E-11 | +-1.06E-11 | 279.19 | 0.46 |
| K-40 | 2.57E-10 | +-1.81E-10 | 2.57E-10 | +-1.81E-10 | 1460.73 | 0.21 |
| MN-54 | 1.83E-10 | +-2.42E-11 | 1.83E-10 | +-2.42E-11 | 834.83 | -0.00 |
| NB-97 | 7.21E-09 | +-7.09E-11 | 3.63E-08 | +-3.34E-10 | 658.17 | -0.34 |
| SE-134 | 3.56E-10 | +-2.41E-11 | 3.57E-10 | +-2.42E-11 | 602.71 | 0.11 |
| | | | | | 1690.94 | 0.31 |
| SB-125 | 5.29E-10 | +-4.82E-11 | 5.29E-10 | +-4.83E-11 | 427.86 | 0.12 |
| | | | | | 600.60 | 0.13 |
| SE-75 | 9.13E-11 | +-1.36E-11 | 9.14E-11 | +-1.36E-11 | 264.67 | 0.00 |
| | | | | | 135.97 | -0.04 |
| SN-113 | 7.72E-11 | +-1.96E-11 | 7.72E-11 | +-1.97E-11 | 391.69 | 0.12 |
| ZR-97 | 3.56E-10 | +-2.50E-11 | 3.98E-10 | +-2.89E-11 | 743.41 | 0.87 |
| TOTAL | 2.43E-08 | +-2.30E-10 | 8.50E-08 | +-4.05E-10 | | |

STANDARD DEVIATION = 0.30

ERAR = 1.51 MEV/DISINTEGRATION
MAXIMUM PERMISSABLE ACTIVITY = 6.41E+01 UC/CC
TOTAL MEASURED ACTIVITY = 8.40E-08 (+-3.58E-10) UC/CC
% TECH. SPEC. = 0.00 (+-0.00)

ERROR QUOTATION AT 1.00 SIGMA

### PEAKS NOT USED IN ANALYSIS

| CENTROID CHANNEL | ENERGY KEV | NET AREA COUNTS | ERROR | GAMMAS/SEC |
|---|---|---|---|---|
| 240.99 | 121.93 | 467. | 32.4 | 4.29E+00 |
| 355.28 | 176.28 | 700. | 14.9 | 8.84E+00 |
| 894.25 | 446.91 | 2082. | 5.5 | 0.40E+01 |
| 927.09 | 463.34 | 440. | 34.1 | 1.36E+01 |
| 1020.34 | 509.93 | 264. | 31.8 | 2.20E+00 |
| 1241.13 | 620.47 | 1112. | 10.1 | 4.44E+01 |
| 1355.56 | 677.73 | 1887. | 3.5 | 1.03E+01 |
| 1374.40 | 687.10 | 2321. | 8.3 | 1.04E+02 |
| 1413.42 | 704.72 | 8751. | 2.2 | 2.67E+02 |

NMB 9/14/89

| RADIONUCLIDE | CONCENTRATION (uCi/cm³) | 10CFR20 APP. B TABLE II MPC (uCi/cm³) | MULTIPLE MPC |
|---|---|---|---|
| Ag-110m | $7.47 \times 10^{-9}$ | $3 \times 10^{-10}$ | 24.9 |
| Co-60 | $7.11 \times 10^{-9}$ | $3 \times 10^{-10}$ | 23.7 |
| Cs-137 | $1.31 \times 10^{-9}$ | $5 \times 10^{-10}$ | 2.62 |
| Nb-97 | $3.63 \times 10^{-8}$ | $2 \times 10^{-7}$ | 0.18 |

T/S gave annual average $\frac{\chi}{Q} = 2.59 \times 10^{-5}$ sec/m³

According to P. Littlefield there is a plume centerline $\chi/Q$ value for a ground level release.

Roof Hatch: 14' x 14' = 196 ft² x 929 cm²/ft² = $1.821 \times 10^5$ cm²

Hatch open for ~3 hrs.

Assuming a 1 ft/sec discharge velocity:

$$\dot{V} = 1.821 \times 10^5 \text{ cm}^2 \times \frac{254 \text{ cm/in} \times 12 \text{ in}}{60 \text{ sec}} = 9.25 \times 10^4 \text{ cm}^3/$$

$Ag\text{-}110m$ $Q = \dot{V} \cdot C_{Ag} = 9.25 \times 10^4 \text{ cm}^3/\text{sec} \times 7.47 \times 10^{-9} \mu\text{Ci/cm}^3$

$$Q_{Ag} = \frac{6.91 \times 10^{-4} \mu\text{Ci/sec}}{10^6 \mu\text{Ci}} \times 1 \text{ Ci} = 6.91 \times 10^{-10} \text{ Ci/sec}$$

$\chi = 6.91 \times 10^{-10}$ Ci/sec $\times$ $2.59 \times 10^{-5}$ sec/m³ $= 1.79 \times 10^{-14}$ $\mu$Ci/

1 m = 100 cm

1 m³ = $10^6$ cm³

1 Ci = $10^6$ $\mu$Ci

$\chi = 1.79 \times 10^{-14}$ $\mu$Ci/cm³ at the site boundary for Ag-110 for 1 ft/sec velocity at the hatch. ~$10^4$ less than MPC

# HSA ID# 22

19.11.4

The attached are outage-related personnel contamination reports. The difficulty encountered with core barrel chip contamination and tracking of that contamination is attested to by these reports. Daily and shiftly surveillance was imposed and remedial measures were constantly reviewed and updated.

These reports are filed as a group because the problem was limited to one major project which made its impact throughout the plant. The high specific activity and minuscule size of the chips made the control of the chips extremely difficult. The portal monitor was however sensitive enough to prevent any chips from leaving the RCA.

Rad Controls Supervisor

# HSA ID# 23

TO _____ Company or Location

FROM B. Kimball Company or Location FILE 14.8.2/19.11.4

SUBJECT Radiological Incident 83-2

While attempting to dewater a cavity drain line filter assembly, water and radioactive crud was sprayed on the floor of the RCA and an individual near the filter.

This was caused by not shutting off the air supply to the air line being used to push the water out of the filter prior to connecting the air line to the filter. When the air line was connected, full instrumentation pressure was applied to the filter. This caused the drain from the filter to jump out of the floor drain and spray water on the RCA floor. When the individual who had connected the air line realized what had happened, he disconnected the air line from the filter. Pressure had been built up in the filter, and water and crud sprayed on him.

Surface contamination: 14 kdpm/100cm$^2$

Personal contamination: 5600 dpm/100cm$^2$

Personal contamination report made out and operator was sent for a body count.

Blaine Kimball
Rad. Controls Foremna

BMK/pgw

1188 2201

# HSA ID# 24

24

DECOM



ATTACHMENT B

ATLAS DOCUMENT INPUT FORM

| | |
|---|---|
| 1. TITLE | UOR 079-85 PCC Leak Underground |
| 2. DOCUMENT TYPE | Reports |
| 3. DOCUMENT FORM | M |
| 4. DOCUMENT LOCATION | |
| 5. RETENTION PERIOD | |
| 6. TECHNICAL FILE NUMBER | 11.14.6 1.8.4.2 1.8.4.2 |
| 7. DOCUMENT NUMBER | UOR85-079 |
| 8. REVISION NUMBER | |
| 9. DATE | 10-10-85 |
| 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) | |

079-85

OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT

MY-0-3-76
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File

DATE 10-10-85

TIME 1950

1. PLANT CONDITIONS AT TIME OF OCCURRENCE

% POWER Shutdown %

TAVE ____ °F

PZR. PRESS ____ psig

PZR. LEVEL ____ %

PLANT TRIP YES ____ NO X

STEADY STATE ____

SHUTDOWN X

TRANSIENT ____

OTHER ____

2. NOTIFICATION

DOES OCCURANCE REQUIRE NRC NOTIFICATION YES X NO ____ 50.72 (B)(2)(vi)
(if No, explain why in Discussion).

HAS PROCEDURE 2.50.0, "DECLARATION AND CATEGORIZATION OF EMERGENCY CONDITION" BEEN CONSULTED? YES ____ NO X

NRC NOTIFIED BY R McGrath TIME/DATE 1850 / 10-10-85

WHAT METHOD RED PHONE X NET PHONE ____ OTHER ____

NSE NOTIFIED & INVOLVED R McGrath

* DUTY CALL OFFICER NOTIFIED BY ____ DATE/TIME ____

NRC RESIDENT INSPECTOR NOTIFIED (if applicable) yes

DATE/TIME ____

* DUTY CALL OFFICER WILL NOTIFY THE PLANT MANAGER & THE MANAGER OF OPERATIONS (MOO)

NSE - NUCLEAR PLANT RELIABILITY DATA SYSTEM NPRDS - ROUTED TO ENGINEERING SUPPORT GROUP YES ____ NO X

DISCUSSION:

Samples of water from foundation drains indicated cromates were leaking from underground piping near the

OPERATIONS DEPARTMENT

UNUSUAL OCCURRENCE REPORT

MY-U-3-76
Page 2 of 2
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Containment bldg. (10-7-85)

The Maine State Department of Environmental Protection was informed on 10-8-85 and were on site investigating the leak area today. (10-10-85)

In accordance with 10CFR 50.72 Rev. the NRC was informed as this event involved notification of another Goverment Agency (involving a situation related to the health and safety of the public).

Excavation has revealed the approximate leak location in a PCC line near the Spray Bldg. Currently the PCC system is being removed from service and repair essorts continuing.

DATA ATTACHED YES ____ NO X

Report Prepared By [signature]

PSS Review [signature]

Original Copy to Operations Department Head [signature]

Copies for the following:

PSS
SOS
RO (2 copies)
PM
APM

# QUESTIONNAIRE FOR MAINE YANKEE SITE CHARACTERIZATION

**NAME** Don Stevenson **EMPLOYED FROM** 10/70 **TO** 10/97

**CURRENT TITLE** Senior Instructor **DEPT** Training
(Leave the above blank if you choose to remain anonymous.)

**PLEASE CIRCLE THE APPROPRIATE ANSWER CONCERNING ACTIVITIES AT MAINE YANKEE. ARE YOU AWARE, OR WERE YOU ASSOCIATED WITH ANY OF THE FOLLOWING ACTIVITIES:**

1. A spill of Radioactive Material on the plant site? Yes (No)
2. Inappropriate storage or control of Radioactive Material on the plant site? Yes (No)
3. An effort to cover over or isolate Radioactive Material on the plant site? Yes (No)
4. A spill of Asbestos Material on the site? Yes (No)
5. Inappropriate storage or control of Asbestos Material on the plant site? Yes (No)
6. An effort to cover over or isolate Asbestos Material on the plant site? Yes (No)
7. A spill of Petroleum Products on the plant site? Yes (No)
8. Inappropriate storage or control of Petroleum Products on the plant site? Yes (No)
9. An effort to cover over or isolate Petroleum Products on the plant site? Yes (No)
10. A Chemical spill on the plant site? Yes (No)
11. Inappropriate storage or control of Chemicals on the plant site? Yes (No)
12. An effort to cover over or isolate Chemicals on the plant site? Yes (No)
13. Any Raw Lead inadequately stored or contained on the plant site? Yes (No)

**If you answered YES to any of the above questions, please add the appropriate details** (date, time, location, etc.) **related to the questions above. If you know of or have a concern about any other Hazardous Material associated with Maine Yankee, please attach that information as well. Return this completed form to Dennis Hickey of Radiation Protection.**

THE ONLY HAZARDOUS MATERIAL SPILL (LEAK) THAT COMES TO MIND IS THE PCL PIPING LEAK THAT WAS REPAIRED. THE LEAK WAS UNDERGROUND BETWEEN THE CONTAINMENT & SERVICE BUILDING (THE ALLEY WAY) I BELIEVE L. J. SPEED WAS THE ENGINEER IN CHARGE OF REPAIRS