RCRA PERMIT

FOR THE

IDAHO NATIONAL LABORATORY

Volume 14
INTEC Liquid Waste Management System

Attachment 4, Section F-2
Inspection Schedule

Revision Date: April 12, 2011

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ACRONYMS

ALARA	as low as reasonably achievable
CFA	Central Facilities Area
CFR	Code of Federal Regulations
CPP	Chemical Processing Plant
DCS	Distributed Control System
DOE	Department of Energy
DOE-ID	Department of Energy, Idaho Operations Office
EP/RCRA CP	Emergency Plan Resource Conservation and Recovery Act Contingency Plan
HEPA	high-efficiency particulate air
IDAPA	Idaho Administrative Procedures Act
INL	Idaho National Laboratory
INTEC	Idaho Nuclear Technology and Engineering Center
IWTU	Integrated Waste Treatment Unit
LET&D	Liquid Effluent Treatment and Disposal
PEWE	Process Equipment Waste Evaporator
RCRA	Resource Conservation and Recovery Act
TFT	Tank Farm Tank
TSDF	treatment, storage, or disposal facility
WAC	waste acceptance criteria

F-2. INSPECTION SCHEDULE

Surveillance and preventive maintenance programs are in place to ensure the proper and safe operation of the ILWMS. These programs will provide a mechanism for early detection, prevention, and expeditious correction of conditions that may cause or lead to the release of hazardous materials to the environment or that may pose a threat to human health.

All RCRA deficiencies noted during inspections are documented. Corrective action is initiated and tracked to completion.

The following subsections describe the key elements of the inspection program for the ILWMS. This program will address the inspection requirements necessary to prevent, detect, or respond to threats to human health or environmental hazards posed by this facility.

F-2a General Inspection [IDAPA 58.01.05.012 and 58.01.05.008; 40 CFR §§ 270.14(b)(5), 264.15(a) and (b), and 264.33]

The portions of the ILWMS addressed by this permit will be inspected for malfunctions, deterioration, operator error and discharges which may be causing or may lead to: (1) releases of hazardous waste constituents to the environment, or (2) a threat to human health. These inspections will be conducted often enough to identify problems in time to correct them before they harm human health or the environment.

This section discusses various operating practices and inspections employed to prevent hazards, and ensure safe operation of the ILWMS. Level sensors and indicators that are used for leak detection are calibrated annually to ensure reliability of the instrumentation.

The ILWMS is instrumented and alarmed to maintain proper operation and to detect system upsets. Records of data generated by the process instrumentation are maintained at INTEC or other INL storage facilities for the lifetime of the units. Operations personnel monitor the system instrumentation and alarms for process changes and to verify that no errors have been made. They are required to read and record values from the Distributed Control System (DCS). They are also required to read and record values on the inspection forms from the instrumentation. Examples of the inspection forms currently used are provided in Appendix F-1. Although the format of the forms is subject to change, inspections will remain the same.

The inspection records are maintained in the operating record. Records are retained for the life of the regulated unit and stored at INTEC or other INL storage locations. These records include the time

and date of the inspection, the printed name and signature of the inspector, notation of observations made, and the date and nature of any repairs or other remedial actions.

F-2a(1) Types of Problems [IDAPA 58.01.05.008; 40 CFR § 264.15(b)(3)]

The inspection schedules for the units that comprise the ILWMS, including the scope of the inspections performed and the types of problems noted, are summarized in Appendices F-2 through F-7.

F-2a(2) Frequency of Inspection [IDAPA 58.01.05.008; 40 CFR § 264.15(b)(4)]

The frequency of inspections or observations, and the inspecting organization are listed in the schedules in Appendices F-2 through F-7.

If a problem is found during an inspection surveillance or performance of a preventive maintenance inspection or action in progress, it is reviewed and confirmed by the applicable supervision or systems engineer. If the deficiency warrants immediate attention, shift supervision will be informed, and if necessary, the affected process will be immediately shut down. All items observed during an inspection that require repair, replacement, corrective action, or other attention are documented on the associated record sheet and tracked until final resolution. If the responsible supervision determines the need, an engineering evaluation will be conducted to determine whether operations can proceed, repairs must be made, or materials must be replaced. Environmental and Operations personnel work together to decide whether or not a remedial action is required and to plan the required action. Remedial actions are investigated, documented, and tracked to completion.

In those cases where an off-normal operational event (such as a ventilation upset and potential radioactive contamination) prevents access to an area where inspections are performed, a RCRA remedial will be opened and the remedial will be noted in the spaces on the inspection forms where the inspections or readings would normally be recorded. The RCRA remedial will be closed, and inspections resumed, as soon as the upset conditions have been corrected and the area released for re-entry.

The ILWMS is equipped with instruments and alarms to detect system upsets or operator error. The frequency of the inspections is listed in the inspection schedules (Appendix F-2 through F-5). Manufacturer specifications, process knowledge, and equipment history determine the frequency of instrument and alarm calibration and maintenance.

Operations personnel review the previous inspection logs and take note of previous observations for which corrective actions are necessary, before conducting further inspections. They read and/or record values on inspection forms from the instrumentation. While taking the readings, the operator is able to confirm that the instruments are operating. Per operating procedures, any parameter found to be outside of its operating range requires that the operator check the operability of the instruments as well as the status of the process and inform the shift supervisor. The shift supervisor will take appropriate action to correct the situation. For the Condensate Collection Cell, the WL-161 Evaporator Cell, and the Pump Pit Sump, daily visual cell inspections will be performed on portions of these cells through the use of cameras.

Inspections of IWTU tank systems and miscellaneous units will be completed in accordance with the inspection schedule in Appendix F-5. Due to personnel hazards, certain units will be visually inspected via the use of cameras as identified in Appendix F-5.

The IWTU Vault Storage Area, a container storage area, and the Vault Loading Area, a container loading area, will be visually inspected weekly. Due to the high radiation fields associated with the treatment product and to ensure exposure to workers remains as low as reasonably achievable (ALARA), the portable storage vaults will not be opened to complete container inspections. Rather, the vaults will be examined for evidence of damage, deterioration, or signs of leakage.

F-2b Specific Process Inspection Requirements

F-2b(1) Container Inspection [IDAPA 58.01.05.008; 40 CFR § 264.174]

State and federal regulations require owners and operators to inspect the areas where containers (canisters) are stored at least weekly. Due to the unique mixture of radiological, hazardous, and industrial safety conditions associated with the vault storage areas, the canisters are neither visible nor readily accessible. However, the storage vault configuration detailed in diagram 632359 found in Appendix III of this permit will enable weekly visual inspections of the portable storage vaults to be performed.

Visual inspections of the Vault Loading Area will be completed weekly when a vault is located in the area. The inspections will be completed by viewing the vault and loading area through the cell entrance. This angle will allow the inspector to view three sides of the vault. In addition, since the portable storage vaults are equipped with approximately 8-in. shoes, inspection below the vault will also be allowed. Any indication of deterioration of the vault or cell, and any sign of leaks or spills will be noted on the inspection form and appropriate action taken.

The vaults in the Vault Storage Area are configured so as to maintain a minimum 3-ft aisle space in the east/west direction. However, since two aisles are partially obstructed by 18-in. support beams, personnel will be restricted from accessing these aisleways and will only use the aisles that align with the access doors on the west side of the Vault Storage Area for inspection. Within each aisle the vaults will be stored in close proximity to one another. The overhang of the vault lids will generate a space that is approximately 6 inches between consecutive vault walls. This will allow inspection between vaults in the north/south direction; however, these aisleways will not be used for personnel movement. In addition, since the portable storage vaults are equipped with approximately 8-in. shoes, inspection below the vaults will also be allowed. Any indication of deterioration of the vault or storage area, and any sign of leaks or spills will be noted on the inspection form and appropriate action taken.

F-2b(2) Tank System Inspection [IDAPA 58.01.05.008; 40 CFR § 264.195]

F-2b(2)(a) Certification for Tank Repairs

An independent, qualified, professional engineer will certify ILWMS tank systems being permitted at INTEC when major repairs are made per 40 CFR § 264.196(f).

F-2b(2)(b) Tank System External Corrosion and Releases (IDAPA 58.01.05.008; 40 CFR § 264.195)

The ILWMS is secondarily contained in vaults and cells that are constructed of concrete, with a stainless steel lining, Hypalon® lining, or compatible coating or lining. The associated ancillary equipment is also equipped with adequate secondary containment.

State and federal regulations require owners and operators to inspect the externally accessible portions of tank systems for evidence of deterioration or signs of a release. EPA guidance suggests that daily inspections of tank systems or components are not necessary in cases where those systems are not readily accessible or visible. The EPA stresses that in these instances special efforts should be made to inspect for leaks from such systems.

The ILWMS is monitored using instrumentation to detect leaks from the system daily. However, due to the unique mixture of radiological, hazardous, and industrial safety conditions associated with the ILWMS, many of the tank systems are neither visible nor readily accessible. In those cases where the hazards to personnel are comparatively low, daily visual inspections will be performed.

Camera systems have only limited effectiveness due to the harsh radiological, corrosive, and thermal conditions of the system. Where camera use is feasible, daily inspections will be conducted for the limited coverage area.

Other tank systems associated with the ILWMS that cannot be visually inspected daily either through manned entries or remotely, via cameras, due to the unacceptable risk to personnel, are protected through a combination of other system controls including containment and leak detection systems; continuous DCS controls; and tank, process, and stack offgas monitoring.

Tank system inspection techniques and frequencies are outlined in the inspection schedules included as Appendices F-2 through F-7.

Steam jets are used for transferring liquids out of some ILWMS sumps. It is common for a small amount of liquid to remain in the sump following a transfer. This liquid results from liquid waste and steam and condensate in the jet piping draining back to the sump after the jet is shut off. A small amount of liquid may therefore be detected in the sump following a transfer. A continued accumulation of liquid may indicate a leak from the tank system. In this case, the condition would be investigated and appropriate action taken.

F-2b(2)(d) Tank System Overfilling Control Equipment [IDAPA 58.01.05.008; 40 CFR § 264.195(a)]

While conducting the daily inspection, the readings for tank levels are taken and compared to previous readings to determine if any spills or leaks have occurred. Additionally, alarms are provided to indicate conditions such as leaks or high liquid levels. Any monitor reading found to be outside its operating parameters prompts the operator to check the operability of the instruments as well as the status of the process and to inform the shift supervisor, as necessary. Required remedial action will be taken.

F-2b(2)(e) Tank System Monitoring and Leak Detection Equipment [IDAPA 58.01.05.008; 40 CFR § 264.195(b)(2)]

Information is recorded on the daily inspection form for all regulated tanks. The ILWMS operators review the previous daily inspection log and take note of any ongoing corrective actions before conducting further inspections. While taking the readings, the operator confirms that the instruments are operating properly. Any monitor reading found to be outside its operating parameters prompts the operator to check the operability of the instruments as well as the status of the process and to inform the shift supervisor, as necessary. Required remedial action will be taken.

F-2b(2)(f) Tank System Cathodic Protection [IDAPA 58.01.05.008; 40 CFR § 264.195(c)]

The ILWMS Cathodic Protection System will be inspected for proper operation at least annually; and all sources of impressed current will be inspected and/or tested bi-monthly, in accordance with IDAPA 58.01.05.008 [40 CFR § 264.195(g)(1) and (2)].

F-2b(2)(g) Tank Condition Assessment [IDAPA 58.01.05.008; 40 CFR § 264.195(b)(1)]

During maintenance turnarounds in the associated vaults/cells, an assessment of the regulated tanks will be performed. The assessment will consist of visual inspections of the exterior of the tanks for leaks, corrosion, and deterioration of tanks and secondary containment. The results of these inspections are documented in the facility's inspection records. The records are maintained at INTEC or other INL Site storage locations.

APPENDIX F-1

Example Inspection Forms

Form INTEC 4004 RCRA NWCF Tank Leak and Overfill Daily Facility Inspections, Rev. 33

Form INTEC 4005 RCRA PER Tank Overfill and Daily Leak Inspections, Rev. 30

Form INTEC 4006 RCRA PER Daily Facility Inspections, Rev. 23

INTEC 4025 RCRA PEW/Tank Farm Monthly Facility Inspections, Rev. 23

Form INTEC 4039 RCRA Waste Processing Vault and Valve Box Inspections, Rev. 11

Form INTEC 4053 RCRA LET&D Monthly Inspections, Rev. 19

Form INTEC 4055 RCRA LET&D Daily Facility Inspections, Rev. 22

Form INTEC 9123 RCRA LWCF Cell Inspections, Rev. 7

Form INTEC 9123A Abbreviated RCRA Cell Inspection, Rev. 4

Form INTEC 9124 RCRA LWCF Monthly Voice Paging/Evacuation System Inspections, Rev. 12

Form INTEC 8185 RCRA Tank Farm Daily Inspections and Process Monitoring Sheet, Rev 17

IWTU Inspection Forms:

Form INTEC XXXX RCRA IWTU Monthly Inspections

Form INTEC XXXX RCRA IWTU Daily Facility Inspections

Form INTEC XXXX RCRA IWTU Portable Storage Vault Weekly Inspections

RCRA NWCF TANK LEAK AND OVERFILL DAILY FACILITY INSPECTIONS

Previous Week's Inspection Checked (Initials): _____

The Open RCRA Remedials Tracking Book Index for this form has been compared to the previous week's form, the index has been updated, and the current open RCRA Remedials have been recorded on the tracking table (Initials): _____

Date: **Through**		**Time:**							
Area/Item	**Normal Condition**	**Off Spec. Condition**	**Thu**	**Fri**	**Sat**	**Sun**	**Mon**	**Tue**	**Wed**
INTEC Perimeter Fence									
"No Trespassing" signs posted at guard gates and on the fence around INTEC. Signs are visible and legible from at least 25 ft.(1)	Yes	No				Yes/No/N/A			
First Level									
Hazardous liquids on floor?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Phone/paging functional & accessible?(2)	Yes	No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
"Danger–Unauthorized Personnel Keep Out" signs - missing, damaged or obstructed?(3)	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Acid Recycle room doors locked?	Yes	No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
Second Level Corridors									
Hazardous liquids on floor?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Hazardous liquids on utility corridor floor?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Phone/paging functional & accessible?(2)	Yes	No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
Third Level Corridors									
Hazardous liquids on floor?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Phone/paging functional & accessible? (2)	Yes	No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
Loading and Unloading Docks									
North Dock: Presence of hazardous solid or liquid waste spills?(4)	No	Yes	No/Yes/NA	No/Yes/NA	No/Yes/NA	No/Yes/NA	No/Yes/NA	No/Yes/NA	No/Yes/NA
East Dock: Presence of hazardous solid or liquid waste spills?(4)	No	Yes	No/Yes/NA	No/Yes/NA	No/Yes/NA	No/Yes/NA	No/Yes/NA	No/Yes/NA	No/Yes/NA

(1) Perform inspection semi-annually on the second Sunday of April and October.
(2) Check designated phone.
(3) See list on page 2.
(4) This inspection is required daily only when loading/unloading is occurring.

RCRA NWCF TANK LEAK AND OVERFILL DAILY FACILITY INSPECTIONS

Doors which should be posted with "Danger-Unauthorized Personnel Keep Out" signs:

South side of NWCF:

1. Personnel door between Acid Recycle Storage Tank Enclosure (Room 443) and outdoors. Sign posted on the outside.
2. Roll-up door between Decon Vehicle Entry (Room 417) and outside ramp. Sign posted on the outside.

West side of NWCF:

1. Personnel door between Decon Vehicle Entry (Room 417) and outdoors. Sign posted on the outside.
2. Personnel door between Decon Hot Shop (Room 442) and outdoors. Sign posted on the outside.

East side of NWCF:

1. Personnel door between Emergency Generator Room (432) and outdoors. Sign posted on the outside.
2. Personnel emergency exit door from Stair No. 1 to outdoors. Sign posted on the outside.
3. Outer door from elevator to east loading dock. Sign posted on the outside.
4. Double door between vestibule (Room 431) and east loading dock. Sign posted on the outside.

North side of NWCF:

1. Double door between Decon Solution Makeup Room (429) and north loading dock. Sign posted on the outside.
2. Roll-up door between Crane Maintenance Area (Room 428) and north loading dock. Sign posted on the outside.
3. Personnel door between Calcium Nitrate Addition Room (427) and north loading dock. Sign posted on the outside.
4. Roll-up door between Calcium Nitrate Addition Room (427) and north loading dock. Sign posted on the outside.
5. Double door between Decon Exhaust Air Plenum Room (431) and outside ramp. Sign posted on the outside.
6. Personnel emergency exit door from Corridor 424 to Tank Farm. Sign posted on the outside.
7. Personnel door between Equipment Decon Room (418) and Glycol Chiller Units. Sign posted on the outside.

Inside NWCF, first level:

1. Personnel door between Lunchroom and Decon Shift Office (Room 415). Sign posted on lunchroom side.
2. Personnel door between Corridor 441 and Crane Maintenance Area (Room 428). Sign posted on the corridor side.
3. Personnel door between Corridor 411 and Stair No. 3. Sign posted on the corridor side.
4. Personnel door between Corridor 411 and Decon Area. Sign posted on the corridor side.
5. Personnel door between Corridor 409 and Elevator Entry (Room 430). Sign posted on the corridor side.
6. Personnel door between Corridor 409 and Stair No. 1. Sign posted on the corridor side.

RCRA NWCF TANK LEAK AND OVERFILL DAILY FACILITY INSPECTIONS

Fire Systems-Fire Alarm Control Panel FACP0659-01

Display on Panel FACP0659-01	Normal Condition	Off Spec. Condition	Thu	Fri	Sat	Sun	Mon	Tue	Wed
Normal Condition (5)	Display On	Display Off	On/Off	On/Off	On/Off	On/Off	On/Off	On/Off	On/Off
L1M1 Waterflow 400 Level East	Display Off	Display On	On	On	On	On	On	On	On
L1M2 Waterflow 300 Level East	Display Off	Display On	On	On	On	On	On	On	On
L1M3 Waterflow 200 Level East	Display Off	Display On	On	On	On	On	On	On	On
L1M4 Waterflow Calciner Exhaust	Display Off	Display On	On	On	On	On	On	On	On
L1M5 Waterflow 300 Level West	Display Off	Display On	On	On	On	On	On	On	On
L1M6 Waterflow Calciner Supply	Display Off	Display On	On	On	On	On	On	On	On
L1M7 Waterflow Decon Exhaust	Display Off	Display On	On	On	On	On	On	On	On
L1M8 Waterflow Calciner Exhaust	Display Off	Display On	On	On	On	On	On	On	On
L1M9 Waterflow Decon Cell 308	Display Off	Display On	On	On	On	On	On	On	On
L1M10 Waterflow Filter Cell 309	Display Off	Display On	On	On	On	On	On	On	On
L1M11 Calciner Cell (Waterflow)	Display Off	Display On	On	On	On	On	On	On	On
L1M12 Heat Detector 400 Level Decon	Display Off	Display On	On	On	On	On	On	On	On
L1M13 Heat Detector 400 Level Decon	Display Off	Display On	On	On	On	On	On	On	On
L1M14 Heat Detector Decon/Calcine Cell	Display Off	Display On	On	On	On	On	On	On	On
L1M15 Manual Station 400 Level North	Display Off	Display On	On	On	On	On	On	On	On
L1M16 Manual Station 400 Level South	Display Off	Display On	On	On	On	On	On	On	On
L1M17 Manual Station 300 Level West	Display Off	Display On	On	On	On	On	On	On	On
L1M18 Manual Station 200 Level South	Display Off	Display On	On	On	On	On	On	On	On
L1M19 Smoke Detector 659 Control Room	Display Off	Display On	On	On	On	On	On	On	On
L1M30 Smoke Detector 659 400 Level Hall	Display Off	Display On	On	On	On	On	On	On	On
L1M33 Manual Station Acid Recycle Exit	Display Off	Display On	On	On	On	On	On	On	On
L1M45 Manual Station 659 400 Level East	Display Off	Display On	On	On	On	On	On	On	On
L1M46 Manual Station 659 300 Level East	Display Off	Display On	On	On	On	On	On	On	On
L1M51 Heat Detector 400 Level Calciner	Display Off	Display On	On	On	On	On	On	On	On
L1M52 Heat Detector 400 Level Calciner	Display Off	Display On	On	On	On	On	On	On	On

(5) If “Normal Condition” is displayed, circle “On” and skip all subsequent FACP0659-01 alarm display inspections. If “Normal Condition” is not displayed, circle “Off”, then circle “On” for all alarm conditions displayed that are listed. Alarms that are NOT listed do not require opening a remedial.

RCRA NWCF TANK LEAK AND OVERFILL DAILY FACILITY INSPECTIONS

Area/Item	Normal Condition	Off Spec. Condition	Thu	Fri	Sat	Sun	Mon	Tue	Wed
Calciner Cell									
New leaks observed in cell?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
NCC-105–New cracks, gaps, or deterioration visible?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
NCC-107–New cracks, gaps, or deterioration visible?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Piping–New cracks, gaps, or deterioration visible?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Floor–New cracks, gaps, or deterioration visible?(7)	No	Yes	No/Yes						

Area/Item	Normal Condition	Off Spec. Condition	Thu	Fri	Sat	Sun	Mon	Tue	Wed
Off-Gas Cell									
New leaks observed in cell?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Tanks or piping–New cracks, gaps, or deterioration visible?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Floor–New cracks, gaps, or deterioration visible?(7)	No	Yes	No/Yes						

Filter Cell and Valve Cubicle

New leaks observed in cell?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Piping–New cracks, gaps, or deterioration visible?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Floor–New cracks, gaps, or deterioration visible?(7)	No	Yes	No/Yes						

Liquid Sample Cell

New leaks observed in cell?(6)	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Piping–New cracks, gaps, or deterioration visible?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Floor–New cracks, gaps, or deterioration visible?(7)	No	Yes	No/Yes						

Footnote 6 is an item that has been previously identified. The operation of the Calciner process has been terminated; do not re-report these items unless new leaks are observed.
(6) Liquid Sample Cell. Evidence of leakage. Component leaking is unknown. See Form INTEC-4004 dated April 3, 2002.
(7) The areas of the floor that are visible from the shielding windows are inspected. The entire floor is inspected only when a cell entry is made.

RCRA NWCF TANK LEAK AND OVERFILL DAILY FACILITY INSPECTIONS

Flowmeter Cubicle

New leaks observed in cell?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Piping–New cracks, gaps, or deterioration visible?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Floor–New cracks, gaps, or deterioration visible?(7)	No	Yes	No/Yes						

Acid Recycle Room/Cell

Leaks observed in room/cell?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Tanks or piping-Cracks, gaps, or deterioration visible?(8)	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Floor-Cracks, gaps, or deterioration visible?(8)	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes

(7) The areas of the floor that are visible from the shielding windows are inspected. The entire floor is inspected only when a cell entry is made.
(8) The areas of the tanks, piping, and floor that are visible with mirrors are inspected. The entire floor is inspected only when a room/cell entry is made.

RCRA NWCF TANK LEAK AND OVERFILL DAILY FACILITY INSPECTIONS

Vessel	Instrument	Normal Range	Off Spec. Condition	Thu	Fri	Sat	Sun	Mon	Tue	Wed
Tank Farm Encasement	LSH-102-2C	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
VES-NCC-101 Volume	VOL101C	0 to 4,950 gal	>4,950 gal							
VES-NCC-102 Volume	VOL102C	0 to 3,460 gal	>3,460 gal							
VES-NCC-103 Volume	VOL103C	0 to 3,460 gal	>3,460 gal							
VES-NCC-104 Volume	VOL104C	0 to 10 gal	>10 gal							
Air Lift Pit Sump (Local)	LI-552-1	0 to 8 in.	>8 in.							
Blend and Hold Cell Drain	L-215C	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
VES-NCC-108 Volume	VOL108C	0 to 1,700 gal	>1,700 gal							
Off-Gas Cell Drain	L-207C	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
Absorber Cell Drain Line	L-206C	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
Decon Holdup Collection Tank Cell Drain	L-219C	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
VES-NCC-119 Volume	VOL119C	0 to 5,301 gal	>5,301 gal							
VES-NCC-122 Volume	VOL122C	0 to 4,082 gal	>4,082 gal							
Hot Sump Tank Cell Sump (Local) (9)	LI-551-1	0 to 10 in.	>10 in.							
VES-NCR-171	L171-1C	0 to 109 in.	>109 in.							
Acid Recycle Sump	L174-1C	0 to 4 in. WC	>4 in. WC							
LET&D to Acid Recycle Leak Detection	MJAH-174-1C	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
VES-NCR-171 to Valve Box Leak Detection	MJAH-174-2C	Off Alarm	On Alarm	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On	Off/On
VES-NCC-150 Volume	Q150-1C	0 to 2,500 gal	>2,500 gal							
VES-NCC-152 Volume	Q152-1C	0 to 170 gal	>170 gal							

(9) If the magnahelic for the Hot Sump Tank Cell Sump, LI-551-1, indicates>1 in. of water, GO TO TPR-7120 step 4.19 for response.

RCRA NWCF TANK LEAK AND OVERFILL DAILY FACILITY INSPECTIONS

Record the following information for leaks of hazardous materials from NWCF systems:

Date/time of leak discovery	
Location of leak: System/Cell	
Component leaking (valve, fitting, etc.)	
Estimated leak volume or rate	
Continuous or occasional leak? If occasional, when does leak occur?	
Comments:	

Form Review	Thu	Fri	Sat	Sun	Mon	Tue	Wed
Supervision Initials:							

Day	Inspector's Name (Print)	Inspector's Signature	Inspection Completed Date	Nature of Any Repairs or Other Remedial Actions	Repairs/Remedial Actions Completed or Not Required Supervision Signature/Date
Thu					
Fri					
Sat					
Sun					
Mon					
Tue					
Wed					

RCRA NWCF TANK LEAK AND OVERFILL DAILY FACILITY INSPECTIONS

Comments: _____

Open RCRA Remedials on this form:

Footnote Letter	Tracking Number	Date Remedial was Identified	Deficiency Description/Comments

RCRA PEW TANK OVERFILL AND DAILY LEAK INSPECTIONS

This Is the current revision per EDMS.

Signature / Date

Previous Week's Inspection Checked (Initials): _____

The Open RCRA Remedials Tracking Book Index for this form has been compared to the previous week's form, the index has been updated, and the current open RCRA Remedials have been recorded on the tracking table. (Initials): _____

Date: _____ Through_____ Time:

Vessel	Instrument	Normal Condition	Off Spec. Condition	Thu	Fri	Sat	Sun	Mon	Tue	Wed
VES-WL-135	L-WL-135-1	≤12 in. WC	>12 in. WC							
SU-WL-135	L-WL-135-2	≤5 in. WC	>5 in. WC							
VES-WL-136	L-WL-136-1	≤12 in. WC	>12 in. WC							
SU-WL-136	L-WL-136-2	≤19 in. WC	>19 in. WC							
VES-WL-137	L-WL-137-1	≤18 in. WC	>18 in. WC							
SU-WL-137	L-WL-137-2	≤23 in. WC	>23 in. WC							
VES-WL-138	L-WL-138-1	≤18 in. WC	>18 in. WC							
SU-WL-138	L-WL-138-2	≤23 in. WC	>23 in. WC							
VES-WL-139	L-WL-139-1	≤12 in. WC	>12 in. WC							
SU-WL-139	L-WL-139-2	≤19 in. WC	>19 in. WC							
SU-WL-140	L-WL-140-1	≤9 in. WC	>9 in. WC							
VES-WL-142	L-WL-142-1	≤12 in. WC	>12 in. WC							
SU-WL-142	L-WL-142-2	≤19 in. WC	>19 in. WC							
SU-WL-143	L-WL-143-1	≤11 in. WC	>11 in. WC							
VES-WL-144	L-WL-144-1	≤18 in. WC	>18 in. WC							
SU-WL-144	L-WL-144-2	≤23 in. WC	>23 in. WC							
SU-WL-145	L-WL-145-1	≤11 in. WC	>11 in. WC							
SU-WL-146	L-WL-146-1	≤10 in. WC	>10 in. WC							
SU-WL-147	L-WL-147-1	≤11 in. WC	>11 in. WC							
SU-WL-148	L-WL-148-1	≤11 in. WC	>11 in. WC							
VES-WL-106	Q-WL-106	≤4,250 gal	>4,250 gal							
VES-WL-107	Q-WL-107	≤4,250 gal	>4,250 gal							
VES-WL-163	Q-WL-163	≤4,250 gal	>4,250 gal							
VES-WL-134	L-WL-134	≤90 in. WC	>90 in. WC							
VES-WL-101	L-WL-101-1	≤ 104 in. WC	> 104 in. WC							
VES-WL-102	L-WL-102	≤ 104 in. WC	> 104 in. WC							
WL-101/102 Sump	L-WL-101/102S	≤24 in. WC	>24 in. WC							
VES-WL-133	L-WL-133-2	≤ 109 in. WC	> 109 in. WC							
VES-WL-132	L-WL-132-1	≤9 in. WC	>9 in. WC							
WL-132/133 Sump	L-WL-132/133S	≤20 in. WC	>20 in. WC							
VES-WM-100	L-WM-100-1	≤100 in. WC	> 100 in. WC							
WM-100 Sump	L-WM-100S-1	≤36 in. WC	>36 in. WC							
VES-WM-101	L-WM-101-1	≤ 100 in. WC	>100 in. WC							
VES-WM-102	L-WM-102-1	≤ 94 in. WC	> 94 in. WC							

RCRA PEW TANK OVERFILL AND DAILY LEAK INSPECTIONS

Vessel	Instrument	Normal Condition	Off Spec. Condition	Thu	Fri	Sat	Sun	Mon	Tue	Wed
WM-101/102 Sump	L-WM-101/102S-1	≤15 in. WC	>15 in. WC							
VES-WL-109	L-WL-109	≤95 in. WC	>95 in. WC							
VES-WL-111	L-WL-111	≤ 34 in. WC	> 34 in. WC							
VES-WL-161	L-WL-161	≤75 in. WC	> 75 in. WC							
VES-WL-131	L-WL-131	≤18 in. WC	>18 in. WC							
VES-WL-129	L-WL-129	≤ 75 in. WC	> 75 in. WC							
Pump pit sump	L-WL-528	≤10 in. WC	>10 in. WC							
VES-WL-150	L-WL-150-1	≤31 in. WC	>31 in. WC							
SU-WL-153	L-WL-153	≤4 in. WC	>4 in. WC							

Form Review	Thu	Fri	Sat	Sun	Mon	Tue	Wed
Supervision Initials:							

Day	Inspector's Name (Print)	Inspector's Signature	Inspection Completed Date	Nature of Any Repairs or Other Remedial Actions	Repairs/Remedial Actions Completed or Not Required Supervision Signature/Date
Thu					
Fri					
Sat					
Sun					
Mon					
Tue					
Wed					

Comments: _____

RCRA PEW TANK OVERFILL AND DAILY LEAK INSPECTIONS

Open RCRA Remedials on this form:

Footnote Letter	Tracking Number	Date Remedial was Identified	Deficiency Description/Comments:

Record the following information for leaks of hazardous materials from process systems:	
Date/time of leak discovery	
Location of leak: System/Cell	
Component leaking (valve, fitting, etc.)	
Estimated leak volume or rate	
Continuous or occasional leak? If occasional, when does leak occur?	
Comments:	

Date/time of leak discovery	
Location of leak: System/Cell	
Component leaking (valve, fitting, etc.)	
Estimated leak volume or rate	
Continuous or occasional leak? If occasional, when does leak occur?	
Comments:	

Form INTEC-4006
10/15/07
Rev. 23

Use with MCP-1283

RCRA PEW DAILY FACILITY INSPECTIONS

This form is the current revision per EDMS.

Signature/Date

Previous Week's Inspection Checked (Initials): _____

The Open RCRA Remedials Tracking Book Index for this form has been compared to the previous week's form, the index has been updated, and the current open RCRA Remedials have been recorded on the tracking table. (Initials): _____

Date: _____ Through _____ **Time:**

Area/Item Yes/No	Normal Condition	Off Spec. Condition	Thu	Fri	Sat	Sun	Mon	Tue	Wed
Operating Corridor									
Process liquids on floor?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Telephone functional & accessible at the shift desk?	Yes	No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
Pipe Corridor									
Process liquids on floor?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Telephone functional & accessible?	Yes	No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
Access Corridor									
Process liquids on floor?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Telephone functional & accessible?	Yes	No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
Condensate Collection cell door locked?	Yes	No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
EVAP-WL-161 Cell (1)									
Leaks observed in cell?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Piping-cracks, gaps, or deterioration visible?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Tanks-cracks, gaps, or deterioration visible?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Condensate Collection Cell (1)									
Leaks observed in cell?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Pumps & Piping-cracks, gaps, or deterioration visible?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Tanks-cracks, gaps, or deterioration visible?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Pump Pit Sump Cell (1)									
Leaks observed in cell?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Pumps & Piping-cracks, gaps, or deterioration visible?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
North Cell (1)									
VES-WL-144 leaking?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
VES-WL-144-cracks, gaps, or deterioration visible?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Middle Cell (1)									
VES-WL-142 leaking?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
VES-WL-142-cracks, gaps, or deterioration visible?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Entrance to INTEC-605									
"Danger–Unauthorized Personnel Keep Out" sign - missing, damaged or obstructed?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes

RCRA PEW DAILY FACILITY INSPECTIONS

INTEC-605

Process liquids on floor?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Liquid in drain bottle for secondary containment of double containment piping – located on north wall	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Liquid in drain bottles for secondary containment of double containment piping – located on south wall	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes

(1) Inspect areas visible with remote camera.

Form Review	Thu	Fri	Sat	Sun	Mon	Tue	Wed
Supervision Initials:							

Record the following information for leaks of hazardous materials from process systems:

Date/time of leak discovery	
Location of leak: System/Cell	
Component leaking (valve, fitting, etc.)	
Estimated leak volume or rate	
Continuous or occasional leak? If occasional, when does leak occur?	
Comments:	

Day	Inspector's Name (Print)	Inspector's Signature	Inspection Completed Date	Nature of Any Repairs or Other Remedial Actions	Repairs/Remedial Actions Completed or Not Required Supervision Signature/Date
Thu					
Fri					
Sat					
Sun					
Mon					
Tue					
Wed					

Comments: _____

Open RCRA Remedials on this form:

Footnote Letter	Tracking Number	Date Remedial was Identified	Deficiency Description/Comments

RCRA PEW/TANK FARM MONTHLY FACILITY INSPECTIONS

Previous Month's Inspection Checked: _____ Date: _____ Time: _____

The Open RCRA Remedials Tracking Book Index for this form has been compared to the previous month's form, the index has been updated, and the current open RCRA Remedials have been recorded on the tracking table. (Initials): _____

PEW

Safety Showers and Eyewashes: Check for leaks, accessibility, and ensure supply valve is open, and the PM tag is current for the month being inspected.

Item	Bldg.	Location	Equipment No.	Passed Test		Problem(s) Found
1	604	Pipe Corridor, Center	SSW/EFN-WL-52	Yes	No	
2		Access Corridor, Northeast	SSW/EFN-WL-50	Yes	No	

Fire Extinguishers: Check for physical damage, sealed, accessibility, and gauge indication in green (if equipped).

Item	Bldg.	Location	Passed Test		Problem(s) Found
3	604	Switch Gear Room	Yes	No	
4		Pipe Corridor north wall	Yes	No	
5		Sample Corridor entry	Yes	No	
6		Access Corridor north wall	Yes	No	
7		Access Corridor south wall	Yes	No	
8		Control Room east Wall	Yes	No	
9		Operating Corridor north Wall	Yes	No	

Fire Alarm Pull Boxes: Check for accessibility.

Item	Bldg.	Location	Equipment No.	Passed Test		Problem(s) Found
10	604	Operating Corridor, North Exit	MFA-WL-1	Yes	No	
11		Operating Corridor, South Exit	MFA-WL-2	Yes	No	
12		Pipe Corridor, North Exit	MFA-WL-3	Yes	No	
13		Pipe Corridor, South Exit	MFA-WL-4	Yes	No	
14		Access Corridor, Vestibule	MFA-WL-5	Yes	No	
15		Access Corridor, South Exit	MFA-WL-6	Yes	No	

NOTE: *To ensure the leak detection cables are working properly, the following needs to be accomplished: Press and hold TEST button and confirm the following:*

Display indicates cable length
Red alarm indicator light is ON
Buzzer is ON
Yellow continuity indicator light is ON
Green power indicator light is ON
Red external alarm light is ON

Leak Detection Cables: Check to see if operational per TPR-7077.

Item	Bldg.	Location	Equipment No.	Passed Test		Problem(s) Found
16	605	Northeast Side of Walkway	MA-WLK-399-15A	Yes	No	
17		Northeast Side of Walkway	MA-WLL-296-11	Yes	No	

RCRA PEW/TANK FARM MONTHLY FACILITY INSPECTIONS

Tank Farm

Fire Extinguishers: Check for physical damage, sealed, accessibility, and gauge indication in green (if equipped).

Item	Bldg.	Location	Equipment No.	Passed Test		Problem(s) Found
18	618	North Wall	FE-WM-1	Yes	No	
19	628	Northwest Wall	FE-WM-2	Yes	No	
20	635	Northwest Wall	FE-WM-3	Yes	No	

Spill Control Equipment Inventory

Instructions: The cabinet is located in the CPP-604 WO area.
Place ✓ if minimum quantity (or greater) is present. Notify supervision of any usage so that cabinet can be restocked.
If seal no. is the same and the seal has not been broken, an inventory need not be taken.

Item	Quantity Required	Inventory
Non-rad acid suits (green) (1) (These are reusable)	6 pair	
Acid boots (1)	6 pair (2 > size 12)	
Rad acid suits (yellow) (1)	6	
Acid gloves (neoprene) (1)	12 pair	
Face shields	4	
Splash goggles	4	
Plastic buckets	2	
Spill control pillows	24	
Acid neutralizer	5 gallon bucket	
Caustic neutralizer	5 gallon bucket	
Hazardous material bags (1)	12	
Hazardous material pigs	12	
Mop Handles	1	
Mop Heads	3	
Safety rope	At least 25 feet	
Signs (5 total)	4 “Danger-Acid Spill” 1 “Chemical Spill”	
pH paper	2 boxes	
Duct tape (white)	2 rolls	
Shovel (flat head)	1	
Pocket knife	1	
Smear paper and envelopes	1 box	
Pencils, grease pencils	2 each	
Radiological tags/signs	5 each	
Radiation rope or ribbon	At least 25 feet	
Previous Inspections Seal Number for Cabinet		
Seal Number for Cabinet		

(1) Replace these items every July.

RCRA PEW/TANK FARM MONTHLY FACILITY INSPECTIONS

Item No.	Action(s) Taken to Correct Problem(s) Found	Action Date	Completion Date

Comments: _____

Open RCRA Remedials on this form:

Footnote Letter	Tracking Number	Date Remedial was Identified	Deficiency Description/Comments

Inspector's Name (Print): _____

Inspector's Signature: _____

Inspection Completed; Shift Supervisor's Signature: _____

Remedial Actions Completed or Not Required;
Shift Supervisor's Signature: _____

RCRA WASTE PROCESSING VAULT AND VALVE BOX INSPECTIONS

This data sheet is the current revision date per EDMS.

_____
Signature/Date

Previous Inspection Checked (Initials): _____ Vault Inspected: _____ Date: _____ Time: _____

The Open RCRA Remedials Tracking Book Index for this form has been compared to the previous form, the index has been updated, and the current open RCRA Remedials have been recorded on the tracking table. (Initials): _____

Equipment/Area Inspected	Types of Problems/Inspection Items	Observations	Nature of Any Repairs or Other Remedial Actions	Completion Date for Repairs/Remedial Actions
Sump	Erosion, cracks, debris, settling, spills			
Sump jet	Steam leaks, debris			
Concrete floor (stainless lined)	Cracks, deterioration, uneven settling, spills			
Concrete walls (stainless lined)	Cracks, deterioration, settlement			
Concrete floor (epoxy painted)	Cracks, deterioration, uneven settling, spills			
Concrete walls (epoxy painted)	Cracks, deterioration, settlement			
Concrete walls	Cracks, deterioration, settlement, paint			
Tank exteriors	Corrosion, erosion, leaks, discoloration, buckles, bulges			
Piping	Corrosion, erosion, leaks, loose or corroding connections			
Valves	Leaks (external), corrosion			
Diversion boxes	Leaks, corrosion, loose connections, deterioration			
Ladder	Corroded, poor structural stability, damaged			
Pumps	Leaking, corrosion, loose connections, deterioration			

Comments: _____

RCRA WASTE PROCESSING VAULT AND VALVE BOX INSPECTIONS

Open RCRA Remedials on this form:

Footnote Letter	Tracking Number	Date Remedial was Identified	Deficiency Description/Comments

Inspector's Name (Print): _____

Inspector's Signature: _____

Inspection Completed; Shift Supervisor's Signature: _____

Remedial Actions Completed or Not Required; Shift Supervisor's Signature: _____

RCRA LET&D MONTHLY INSPECTIONS

This form is the current revision per EDMS.

Signature/Date

Previous Month's Inspection Checked (Initials): _____ Date: _____ Time: _____

The Open RCRA Remedials Tracking Book Index for this form has been compared to the previous month's form, the index has been updated, and the current open RCRA Remedials have been recorded on the tracking table. (Initials): _____

Fire Extinguishers: Check for accessibility, physical damage, sealed, and gauge indication in green (if equipped).

Item	Level	Location	Passed Test		Problem(s) Found
1	1	East Door	Yes	No	
2		West Door	Yes	No	
3	2	East Door	Yes	No	
4		West Door	Yes	No	
5	3	East Door	Yes	No	
6		West Door	Yes	No	

Safety Showers and Eyewashes: Check for leaks, accessibility, and supply valve open, and the PM tag is current for the month being inspected.

Item	Level	Location	Equipment No.	Passed Test		Problem(s) Found
7	1	Sample Room	SSW/EFN-WLJ-97	Yes	No	
8	2	Center	SSW/EFN-WLQ-98	Yes	No	
9	3	Center	SSW/EFN-WLR-99	Yes	No	

Fire Alarm Pull Boxes: Check for accessibility.

Item	Level	Location	Location No.	Passed		Problem(s) Found
10	1	East Door	MFA-WLH-1	Yes	No	
11		West Door	MFA-WLH-2	Yes	No	
12	2	East Door	MFA-WLQ-3	Yes	No	
13		West Door	MFA-WLQ-4	Yes	No	
14	3	East Door	MFA-WLR-5	Yes	No	
15		West Door	MFA-WLR-6	Yes	No	

RCRA LET&D MONTHLY INSPECTIONS

SPILL CONTROL EQUIPMENT INVENTORY SHEET

Instructions:

1. Cabinets are located in the vestibule on level 1, and on the south central wall on level 2.
2. Place √ if minimum quantity (or greater) is present. Notify supervision of any usage so that cabinet can be restocked.
3. If seal no. is the same and the seal has not been broken, an inventory need not be taken.
4. The quantities listed are minimum requirements. Replacements should be obtained before levels reach the minimum required.

Item	Quantity Required	Level 1	Level 2
Non-rad acid suits (green) (1) (These are reusable)	6 pair		
Acid boots (1)	6 pair (2 > size 12)		
Rad acid suits (yellow) (1)	6		
Acid gloves (neoprene) (1)	12 pair		
Face shields	4		
Splash goggles	4		
Plastic buckets	2		
Spill control pillows	24		
Acid neutralizer	5 gallon bucket		
Caustic neutralizer	5 gallon bucket		
Hazardous material bags (1)	12		
Hazardous material pigs	12		
Mop Handles	1		
Mop Heads	3		
Safety rope	At least 25 feet		
Signs (5 total)	4 “Danger-Acid Spill” 1 “Chemical Spill”		
pH paper	2 boxes		
Duct tape (white)	2 rolls		
Shovel (flat head)	1		
Pocket knife	1		
Smear paper and envelopes	1 box		
Pencils, grease pencils	2 each		
Radiological tags/signs	5 each		
Radiation rope or ribbon	At least 25 feet		
	Previous Inspections Seal Number for Cabinet		
	Seal Number for Cabinet		

(1) Replace these items every July.

RCRA LET&D MONTHLY INSPECTIONS

Item No.	Action(s) Taken To Correct Problem(s) Found	Action Date	Completion Date

Comments: _____

Open RCRA Remedials on this form:

Footnote Letter	Tracking Number	Date Remedial Was Identified	Deficiency Description/Comments

Inspector's Name (Print): _____

Inspector's Signature: _____

Inspection Completed; Shift Supervisor's Signature: _____

Remedial Actions Completed or Not Required;
Shift Supervisor's Signature: _____

RCRA LET&D DAILY FACILITY INSPECTIONS

This form is the current revision per EDMS.

Signature/Date

Previous Week's Inspection Checked (Initials): _____

The Open RCRA Remedials Tracking Book Index for this form has been compared to the previous week's form, the index has been updated, and the current open RCRA Remedials have been recorded on the tracking table. (Initials): _____

Date: _____ Through _____

			Time:							
Area	**Item**	**Normal Condition**	**Off Spec. Condition**	**Thu**	**Fri**	**Sat**	**Sun**	**Mon**	**Tue**	**Wed**
First Level	"Danger– Unauthorized Personnel Keep Out" signs - missing, damaged or obstructed?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
	Hazardous liquids on floor?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
	Liquid in Sample Room leak detection bottle? (1)	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
	Telephone functional & accessible?	Yes	No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
	Cell 1 door locked? (2)	Yes	No	Yes/No/ NA	Yes/No/ NA	Yes/No/ NA	Yes/No/ NA	Yes/No/ NA	Yes/No/ NA	Yes/No/ NA
	Cell 2 door locked? (2)	Yes	No	Yes/No/ NA	Yes/No/ NA	Yes/No/ NA	Yes/No/ NA	Yes/No/ NA	Yes/No/ NA	Yes/No/ NA
Second Level	Hazardous liquids on floor?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
	Liquid in leak detection bottle on north middle wall? (1)	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
	Telephone functional & accessible?	Yes	No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
Third Level	Hazardous liquids on floor?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
	Telephone functional & accessible?	Yes	No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
	Cell 1 door locked? (2)	Yes	No	Yes/No/ NA	Yes/No/ NA	Yes/No/ NA	Yes/No/ NA	Yes/No/ NA	Yes/No/ NA	Yes/No/ NA
	Cell 2 door locked? (2)	Yes	No	Yes/No/ NA	Yes/No/ NA	Yes/No/ NA	Yes/No/ NA	Yes/No/ NA	Yes/No/ NA	Yes/No/ NA

(1) If liquid is found in any leak detection bottle, treat the liquid as a leak of process solution until proven otherwise.
(2) Cell doors may remain open when facility is not operating to facilitate daily cell inspections. The definition of "operating" is in footnote (3). Circle "Yes" if the facility is operating and the cell door is locked, circle "No" if the facility is operating and the cell door is NOT locked, circle "N/A" if the facility is not operating.

RCRA LET&D DAILY FACILITY INSPECTIONS

Item	Thu	Fri	Sat	Sun	Mon	Tue	Wed
Is the LET&D Facility operating (3)? Circle Yes or No. (4)	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No

(3) The LET&D Facility is considered operating when steam is being fed to the reboiler or either Fractionator contains liquid.
(4) If circled "Yes", then the daily cell inspections **ARE NOT** required, leave the cell inspection sections blank. If circled "No" then the daily cell inspections **ARE** required.

Item	Normal Condition	Off Spec. Condition	Thu	Fri	Sat	Sun	Mon	Tue	Wed
Cell #1 (4)									
Leaks observed in cell?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Piping-cracks, gaps, or deterioration visible?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Tanks-cracks, gaps, or deterioration visible?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Cell #2 (4)									
Leaks observed in cell?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Pumps & Piping-cracks, gaps, or deterioration visible?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Tanks-cracks, gaps, or deterioration visible?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes

	DCS Tag Number	Normal Condition	DCS Alarm/Off-Spec. Condition	Thu	Fri	Sat	Sun	Mon	Tue	Wed
Tank Levels	L-WLK-197-2	≤ 28 in. WC	> 28 in. WC							
	L-WLK-171-1	≤ 40 in. WC	> 40 in. WC							
	L-WLL-170-1	≤ 40 in. WC	> 40 in. WC							
	L-WLL-195-2	≤ 28 in. WC	> 28 in. WC							
Sump Levels	L-WLK-171-39	< 17 in. WC	≥ 17 in. WC							
	L-WLL-170-38	< 17 in. WC	≥ 17 in. WC							
	L-WLL-169-1	< 7 in. WC	≥ 7 in. WC							

Form Review	Thu	Fri	Sat	Sun	Mon	Tue	Wed
Supervision Initials:							

RCRA LET&D DAILY FACILITY INSPECTIONS

Day	Inspector's Name (Print)	Inspector's Signature	Inspection Completed Date	Nature of Any Repairs or Other Remedial Actions	Repairs/Remedial Actions Completed or Not Required Supervision Signature/Date
Thu					
Fri					
Sat					
Sun					
Mon					
Tue					
Wed					

Comments: _____

Open RCRA Remedials on this form:

Footnote Letter	Tracking Number	Date Remedial was Identified	Deficiency Description/Comments:

Record the following information for leaks of hazardous materials from process systems:

Date/time of leak discovery	
Location of leak: System/Cell	
Component leaking (valve, fitting, etc.)	
Estimated leak volume or rate	
Continuous or occasional leak? If occasional, when does leak occur?	
Comments:	

RCRA LWFC CELL INSPECTIONS

This form is the current revision per EDMS.

Signature/Date

Previous Inspection Checked (Initial): _____

The Open RCRA Remedials Tracking Book Index for this form has been compared to the previous form, the index has been updated, and the current open RCRA Remedials have been recorded on the tracking table. (Initials): _____

Facility: _____ Cell Inspected: _____ Date: _____ Time: _____

A full inspection of the cell will be conducted when the cell is initially entered. If the cell remains open for more than one day (24 hours), and cell conditions have not changed, a cell inspection will be performed using either Form INTEC-9123 or 9123A each day the cell is re-entered. If the cell remains open for 7 days or longer, then perform a full cell inspection every 7 days when entering the cell.

Equipment/Area Inspected	Types of Problems/Inspection Items	Observations	Nature of Any Repairs or Other Remedial Actions	Completion Date for Repairs/Remedial Actions
Sump	Erosion, cracks, debris, settling, spills			
Sump jet	Steam leaks, debris			
Concrete floor (stainless lined)	Cracks, gaps, deterioration, uneven settling, spills			
Concrete walls (stainless lined)	Cracks, gaps, deterioration, settlement			
Concrete floor (epoxy painted)	Cracks, gaps, deterioration, uneven settling, spills, paint			
Concrete walls(1)	Cracks, deterioration, settlement, paint			
Tank exteriors	Corrosion, erosion, leaks, cracks, gaps, discoloration, buckles, bulges			
Piping	Corrosion, erosion, leaks, cracks, gaps, loose or corroded connections			
Valves	Leaks (internal and external), corrosion			
Cell door	Deterioration, corrosion, will not close			
Pumps (if any)	Corrosion, erosion, leaks, deterioration, loose connections			
Filter unit exterior	Deterioration, corrosion, bulges, buckles, leaks			

(1) The WL-161, Cell at INTEC-604 is known to have defects in the concrete walls above the stainless-steel liner. When this cell is inspected, compare the photos in EDF-6859, located on EDMS. If no change is noted, write NO CHANGE in the Observations section. No remedial actions will be necessary. If additional deterioration is noted, write this observation down and forward to the facility support engineer for further evaluation. Remedial action for this observation will be evaluated and repairs completed, if warranted.

RCRA LWFC CELL INSPECTIONS

Comments: _____

_____

_____

_____

_____

Open RCRA Remedials on this form:

Footnote Letter	Tracking Number	Date Remedial was Identified	Deficiency Description/Comments

Containerized Hazardous Waste Stored at Location?	Inspection if Waste is Stored at Location	Normal Condition	Off-Spec Condition	Inspection	Comments
Yes/No[(2)]	Containers leaking?	No	Yes	No/Yes	
	Containers deteriorating?	No	Yes	No/Yes	
	Containers closed?	Yes	No	Yes/No	
	Hazardous liquids on floor?	No	Yes	No/Yes	
	Deterioration visible [(3)]	No	Yes	No/Yes	

(2) Inspection is not required if containerized hazardous waste is not stored at location. Inspection is required on a weekly basis if containerized hazardous waste is stored at location.

(3) Inspect stainless steel containment liner on floor and walls for cracks, gaps, corrosion, and deterioration.

Inspector's Name (Print): _____

Inspector's Signature: _____

Inspection Completed; Shift Supervisor's Signature: _____

Remedial Actions Completed or Not Required; Shift Supervisor's Signature: _____

ABBREVIATED RCRA CELL INSPECTION

This form is the current revision per EDMS.

Signature/Date

Previous Inspection Checked (Initials): _____

Cell Inspected: _____ Date: _____ Time: _____

The Open RCRA Remedials Tracking Book Index for this form has been compared to the previous inspection form, the index has been updated, and the current open RCRA Remedials have been recorded on the tracking table (Initials): _____

Equipment/Area Inspected	Types of Problems/Inspection Items	Observations	Nature of Any Repairs or Other Remedial Actions	Completion Date for Repairs/Remedial Actions
Sump(s), floor, walls, exterior tank surfaces, piping, valves, and pumps that are visible, and waste containers [1]	Erosion, deterioration, cracks, settling, leaks, spills, debris, or corrosion			

1. Abbreviated inspections may be performed by several means (e.g., cameras, observing the area through the cell entryway, walkthroughs, etc.). Walkthrough inspections completed by personnel performing work within the cell will be limited to those areas encountered while traversing between the cell entrance and the specific work location.

Containerized Hazardous Waste Stored at Location?	Inspection if Waste is Stored at Location	Normal Condition	Off-Spec Condition	Inspection	Comments
Yes/No[(2)]	Containers leaking?	No	Yes	No/Yes	
	Containers deteriorating?	No	Yes	No/Yes	
	Containers closed?	Yes	No	Yes/No	
	Hazardous liquids on floor?	No	Yes	No/Yes	
	Deterioration visible [(3)]	No	Yes	No/Yes	

2. Inspection is not required if containerized hazardous waste is not stored at location. Inspection is required on a weekly basis if containerized hazardous waste is stored at location.

3. Inspect stainless steel containment liner on floor and walls visible through shield window for cracks, gaps, corrosion, and deterioration.

ABBREVIATED RCRA CELL INSPECTION

Comments: _____

Footnote Letter	Tracking Number	Date Remedial was Identified	Deficiency Description/Comments

Inspector's Name (Print) _____

Inspector's Signature _____

Inspection Completed:
Shift Supervisor's Signature _____

Remedial Actions
Completed or Not Required:
Shift Supervisor's Signature _____

RCRA LWFC MONTHLY VOICE PAGING/EVACUATION SYSTEM INSPECTIONS

Previous Inspection for this Facility Checked (Initials): _____ Date: _____ Time: _____

The Open RCRA Remedial Tracking Book Index for this form has been compared to the previous month's form, the index has been updated, and the current open RCRA Remedials have been recorded on the tracking table. (Initials): _____

NOTE 1: *The Voice Paging System and the Evacuation System use the same speakers.*

NOTE 2: *Use only one copy of this form as a "Master Copy." Ensure all areas checked are transferred to the Master Copy and keep a copy of the completed form at CPP-1683.*

Facility	Area Checked "√"(1)	Areas to Check	Requirements Met?(2)		Inspector's Initials
NWCF		All levels in the facility (including the Decon area)	Yes	No	
Waste Side		Tank Farm	Yes	No	
		CPP-604/605 (All levels in the facility)	Yes	No	
		LET&D (All levels in the facility)	Yes	No	
		CPP-1683	Yes	No	
CPP-1617		Areas in CPP-1617	Yes	No	
CPP-659		Plant Shift Supervisor (PSS) pager (2096 or most current number) and cell phone (521-0883 or most current number)(3)	Yes	No	
Solids Storage Facilities		Solids Storage Facilities I, II, III, IV, V, VI (4)	Yes	No	

(1) Place a "√" in the "Area checked" column to indicate which area(s) was inspected; leave the other boxes blank. Only fill in the "Requirements Met" section for the area(s) inspected:

(2) Requirements are met if the Voice paging/Evacuation System is operational and can be heard throughout the normally accessible area(s) inspected. If an area is a high noise area, the requirements are met if the visual alarms are operational.

(3) Requirements are met if PSS pager and cell phone successfully receive test calls once a month. The inspector will verify the correct numbers and will note any changes in the comments section.

(4) Requirements are met if the Voice Paging/Evacuation System is operational and can be heard throughout the Solids Storage Facilities area(s).

RCRA LWFC MONTHLY VOICE PAGING/EVACUATION SYSTEM INSPECTIONS

List areas where system is not operating properly (if any):

Area Where System is Not Operating Properly	Nature of any Repairs or Other Remedial Actions	Completion Date for Repairs/Remedial Actions

Comments: _____

Open RCRA Remedials on this form:
Note: *The Open RCRA Remedial Tracking Index for this inspection form is maintained at CPP-1683.*

Footnote Letter	Tracking Number	Date Remedial was Identified	Deficiency Description/Comments

Inspector's Name (Print): _____

Inspector's Signature: _____

Inspection Completed; Shift Supervisor's Signature: _____

Remedial Actions Completed or NOT Required;
Shift Supervisor's Signature: _____

RCRA TANK FARM DAILY INSPECTIONS AND PROCESS MONITORING SHEET

This form is the current revision per EDMS.

Signature/Date

Previous Week's Inspection Checked (Initials): _____

The Open RCRA Remedials Tracking Book Index for this form has been compared to the previous week's form, the index has been updated, and the current open RCRA Remedials have been recorded on the tracking table. (Initials): _____

Date: _____ Through _____

			Time:							
Instrument No.	**Normal Condition**	**Off-Spec. Condition**	**Base**	**Thu**	**Fri**	**Sat**	**Sun**	**Mon**	**Tue**	**Wed**
LRA-WM-187	5–95%	< 5 or > 95%								
LRA-WM-188	5–95%	< 5 or > 95%								
LRA-WM-189	5–95%	< 5 or > 95%								
LRA-WM-190	0%	> 0%								
LRA-WM-187N	≤ 14 in.	> 14 in.								
LRA-WM-187S	≤ 14 in.	> 14 in.								
LRA-WM-188N	≤ 14 in.	> 14 in.								
LRA-WM-188S	≤ 14 in.	> 14 in.								
LRA-WM-189N	≤ 40 in.	> 40 in.								
LRA-WM-189S	≤ 40 in.	> 40 in.								
LRA-WM-190N	≤ 40 in.	> 40 in.								
LRA-WM-190S	≤ 40 in.	> 40 in.								

Instrument No.	**Normal Condition**	**Off-Spec. Condition**	**Base**	**Thu**	**Fri**	**Sat**	**Sun**	**Mon**	**Tue**	**Wed**
L-WM-B9	≤ 5 in.	> 5 in.								
L-WM-B10	≤ 6 in.	> 6 in.								
L-WM-JB7	≤ 6.5 in.	> 6.5 in.								
L-WM-JB8	≤ 6.5 in.	> 6.5 in.								
A7	OFF	HIGH								
B1	OFF	HIGH								
B2	OFF	HIGH								
B11	OFF	HIGH								
C12	OFF	HIGH								
C24	OFF	HIGH								
C25	OFF	HIGH								
C32	OFF	HIGH								
C37	OFF	HIGH								
C40	OFF	HIGH								
D4	OFF	HIGH								

RCRA TANK FARM DAILY INSPECTIONS AND PROCESS MONITORING SHEET

Location	Item	Normal Condition	Off-Spec. Condition	Thu	Fri	Sat	Sun	Mon	Tue	Wed
DVB-C30	Liquid in sump?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
INTEC-628	Telephone functional?	Yes	No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
INTEC-635	Telephone functional?	Yes	No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
INTEC-636	Telephone functional?	Yes	No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
Tank Farm	Tank Farm gates locked?	Yes	No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
INTEC-628	Process liquids on floor?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
INTEC-635	Process liquids on floor?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
INTEC-636	Process liquids on floor?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Entrances/ Gates	"Danger – Unauthorized Personnel Keep Out" signs posted?	Yes	No						Yes/No	

Form Review	Thu	Fri	Sat	Sun	Mon	Tue	Wed
Supervision Initials:							

Day	Inspector's Name (Print)	Inspector's Signature	Inspection Completed Date	Nature of Any Repairs or Other Remedial Actions	Repairs/Remedial Actions Completed or Not Required Supervision Signature/Date
Thu					
Fri					
Sat					
Sun					
Mon					
Tue					
Wed					

Comments: _____

RCRA TANK FARM DAILY INSPECTIONS AND PROCESS MONITORING SHEET

Open RCRA Remedials on this form:

Footnote Letter	Tracking Number	Date Remedial was Identified	Deficiency Description/Comments

Record the following information for leaks of hazardous materials from process systems:

Date/time of leak discovery	
Location of leak: System/Cell	
Component leaking (valve, fitting, etc.)	
Estimated leak volume or rate	
Continuous or occasional leak?	
If occasional, when does leak occur?	

Comments: _____

RCRA IWTU MONTHLY INSPECTIONS

This data sheet is the current revision date per EDMS.

Signature/Date

Previous Month's Inspection Checked (Initials): _____ Date: _____ Time: _____

The Open RCRA Remedials Tracking Book Index for this form has been compared to the previous month's form, the index has been updated, and the current open RCRA Remedials have been recorded on the tracking table. (Initials): _____

Fire Extinguishers: Check for accessibility, damage, seal, and gauge indication in green (if equipped). If problems are noted, contact Utilities Support.

Item	Level	Location	Passed Test		Problem(s) Found
1	1	Vault Storage Northwest Exit	Yes	No	
2		Vault Storage West Exit	Yes	No	
3		Vault Storage Southwest Exit	Yes	No	
4		Vault Storage Northeast Exit	Yes	No	
5		Vault Storage Northeast Wall	Yes	No	
6		Vault Storage Southeast Wall	Yes	No	
7		Vault Storage Vestibule	Yes	No	
8		Mechanical Equipment Room Vestibule Near Tool Crib	Yes	No	
9		Mechanical Equipment Room East Wall	Yes	No	
10		Mechanical Equip. Room/Office	Yes	No	
11		Personnel Airlock Area	Yes	No	
12		Mechanical Equipment Corridor/Compressor Room	Yes	No	
13		Mechanical Equipment Corridor Northeast Wall Opposite of Compressor Room	Yes	No	
14		Mechanical Equipment Corridor Opposite of the Additive Airlock	Yes	No	
15		Mechanical Equipment Corridor Near Additive Storage Room Entrance	Yes	No	
16		Control Room (clean agent type)	Yes	No	
17		Personnel Corridor Outside Change rooms (clean agent type)	Yes	No	
18		Additive Storage Room Center	Yes	No	
19		Additive Storage Room North Wall	Yes	No	
20		Additive Storage Room West Wall	Yes	No	
21		Cask Loading Area Northwest Wall (clean agent type)	Yes	No	
22		Cask Loading Area East Wall	Yes	No	
23		Cask Loading Area South Wall	Yes	No	

RCRA IWTU MONTHLY INSPECTIONS

This data sheet is the current revision date per EDMS.

Signature/Date

24		Main Process Room Northeast	Yes	No	
25		Main Process Room North	Yes	No	
26		Main Process Room Northwest	Yes	No	
27		Main Process Room Southwest	Yes	No	
28		Main Process Room South	Yes	No	
29		Truck Air Lock Northeast	Yes	No	
30		Truck Air Lock Southeast	Yes	No	
31		Blower Room Northeast	Yes	No	
32		Blower Room North	Yes	No	
33		Blower Room Northwest	Yes	No	
34		Blower Room Southwest	Yes	No	
35		Blower Room South	Yes	No	
36		Blower Room Southeast	Yes	No	
37	2	Air Handler Room Northeast	Yes	No	
38		Air Handler Room Northwest	Yes	No	
39		Air Handler Room Southwest	Yes	No	
40		Air Handler Room Southeast	Yes	No	
41		Air Handler Room East Wall North	Yes	No	
42		Air Handler Room East Wall South	Yes	No	
43		HEPA Filter Room Northeast	Yes	No	
44		HEPA Filter Room Northwest	Yes	No	
45		HEPA Filter Room West	Yes	No	
46		HEPA Filter Room Southwest	Yes	No	
47		HEPA Filter Room Southeast	Yes	No	
48		HEPA Filter Room Process Gas Filter	Yes	No	
49		Process Room Mezzanine Norteast	Yes	No	
50		Process Room Mezzanine Northwest	Yes	No	
51		Process Room Mezzanine West Wall North	Yes	No	
52		Process Room Mezzanine West Wall South	Yes	No	
53		Process Room Mezzanine Southwest	Yes	No	
54		Process Room Mezzanine South	Yes	No	
55		Mezzanine Superheater Room	Yes	No	

RCRA IWTU MONTHLY INSPECTIONS

This data sheet is the current revision date per EDMS.

Signature/Date

Safety Showers and Eyewashes: Check for leaks, accessibility, and supply valve open.

Item	Level	Location	Equipment No.	Passed Test		Problem(s) Found
56	1	Mech. Equipment Room		Yes	No	
57		Mech. Equipment Room		Yes	No	
58		Storage Room		Yes	No	

Fire Alarm Manual Pull Boxes: Check for accessibility.

Item	Level	Location	Location No.	Passed		Problem(s) Found
59	1	Vault Storage Northwest Exit		Yes	No	
60		Vault Storage West Exit		Yes	No	
61		Vault Storage Southwest Exit		Yes	No	
62		Vault Storage Northeast Exit		Yes	No	
63		Vault Storage Vestibule Exit		Yes	No	
64		Mechanical Equipment Room Exit		Yes	No	
65		Cask Loading Area Exit		Yes	No	
66		Main Process Area West Exit		Yes	No	
67		Main Process Area West Stairwell Exit		Yes	No	
68		Blower Room Southwest Exit		Yes	No	
69		Truck Airlock Southeast Exit		Yes	No	
70		Truck Airlock Stairwell		Yes	No	

RCRA IWTU MONTHLY INSPECTIONS

SPILL CONTROL EQUIPMENT INVENTORY SHEET

Instructions:

1. Cabinets are located in the vestibule on level 1, and on the south central wall on level 2.
2. Place √ if minimum quantity (or greater) is present. Notify supervision of any usage so that cabinet can be restocked.
3. If seal no. is the same and the seal has not been broken, an inventory need not be taken.
4. The quantities listed are minimum requirements. Replacements should be obtained before levels reach the minimum required.

Item	Quantity Required	Level 1	Level 2
Non-rad acid suits (green) (1) (These are reusable)	6		
Acid boots (1)	6 pair (2 > size 15)		
Rad acid suits (yellow) (1)	6		
Acid gloves (neoprene) (1)	12 pair		
Face shields	4		
Splash goggles	4		
Plastic buckets	2		
Spill control pillows	24		
Acid neutralizer	5 gallon bucket		
Caustic neutralizer	5 gallon bucket		
Hazardous material bags (1)	12		
Hazardous material pigs	12		
Mop Handles	1		
Mop Heads	3		
Safety rope	At least 25 feet		
Signs (5 total)	4 “Danger-Acid Spill” 1 “Chemical Spill”		
pH paper	2 boxes		
Duct tape (white)	2 rolls		
Shovel (flat head)	1		
Pocket knife	1		
Smear paper and envelopes	1 box		
Pencils, grease pencils	2 each		
Radiological tags/signs	5 each		
Radiation rope or ribbon	At least 25 feet		
	Previous Inspections Seal Number for Cabinet		
	Seal Number for Cabinet		

(1) Replace these items every July.

RCRA IWTU MONTHLY INSPECTIONS

Item No.	Action(s) Taken To Correct Problem(s) Found	Action Date	Completion Date

Comments: _____

Open RCRA Remedials on this form:

Footnote Letter	Tracking Number	Date Remedial Was Identified	Deficiency Description/Comments

Inspector's Name (Print): _____

Inspector's Signature: _____

Inspection Completed; Shift Supervisor's Signature: _____

Remedial Actions Completed or Not Required;
Shift Supervisor's Signature: _____

Form INTEC-XXXX

RCRA IWTU DAILY FACILITY INSPECTIONS

This form is the current revision per EDMS.

Signature/Date

Rev.

Previous Week's Inspection Checked (Initials): _____

The Open RCRA Remedials Tracking Book Index for this form has been compared to the previous week's form, the index has been updated, and the current open RCRA Remedials have been recorded on the tracking table. (Initials): _____

Date: _____ Through _____

			Time:							
Area	**Item**	**Normal Condition**	**Off Spec. Condition**	**Thu**	**Fri**	**Sat**	**Sun**	**Mon**	**Tue**	**Wed**
First Level	"Danger– Unauthorized Personnel Keep Out" signs - missing, damaged or obstructed?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
	Hazardous liquids on floor?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
	Telephone functional & accessible?	Yes	No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
	Process Module Cell door locked? (1)	Yes	No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
	CRR Cell door locked? (1)	Yes	No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
Second Level	Hazardous liquids on floor?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
	Telephone functional & accessible?	Yes	No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No

(1) Cell doors may remain open when facility is not operating to facilitate daily cell inspections. Circle "Yes" if the facility is operating and the cell door is locked, circle "No" if the facility is operating and the cell door is NOT locked.

RCRA IWTU DAILY FACILITY INSPECTIONS

Item	Thu	Fri	Sat	Sun	Mon	Tue	Wed
Is the IWTU Facility operating (2)? Circle Yes or No.	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No

Item	Normal Condition	Off Spec. Condition	Thu	Fri	Sat	Sun	Mon	Tue	Wed
Process Module Cell (3)									
Leaks observed in cell?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Piping-cracks, gaps, or deterioration visible?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Tanks-cracks, gaps, or deterioration visible?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
CRR Cell (3)									
Leaks observed in cell?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Pumps & Piping-cracks, gaps, or deterioration visible?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Tanks-cracks, gaps, or deterioration visible?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Product Receiver Cells 1 and 2 (2)									
Leaks observed in cell?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Piping-cracks, gaps, or deterioration visible?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes
Tanks-cracks, gaps, or deterioration visible?	No	Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes	No/Yes

	Instrument ID Number	Normal Condition	DCS Alarm/Off-Spec. Condition	Thu	Fri	Sat	Sun	Mon	Tue	Wed
Tank Level	L-C-131-2B	TBD	TBD							
Sump Level	L-C-190-1	TBD	TBD							
Tank Level	L-C-141-1	TBD	TBD							

Form Review	Thu	Fri	Sat	Sun	Mon	Tue	Wed
Supervision Initials:							

RCRA IWTU DAILY FACILITY INSPECTIONS

Day	Inspector's Name (Print)	Inspector's Signature	Inspection Completed Date	Nature of Any Repairs or Other Remedial Actions	Repairs/Remedial Actions Completed or Not Required Supervision Signature/Date
Thu					
Fri					
Sat					
Sun					
Mon					
Tue					
Wed					

Comments: _____

Open RCRA Remedials on this form:

Footnote Letter	Tracking Number	Date Remedial was Identified	Deficiency Description/Comments:

RCRA IWTU DAILY FACILITY INSPECTIONS

Record the following information for leaks of hazardous materials from process systems:

Date/time of leak discovery	
Location of leak: System/Cell	
Component leaking (valve, fitting, etc.)	
Estimated leak volume or rate	
Continuous or occasional leak? If occasional, when does leak occur?	
Comments:	

Date/time of leak discovery	
Location of leak: System/Cell	
Component leaking (valve, fitting, etc.)	
Estimated leak volume or rate	
Continuous or occasional leak? If occasional, when does leak occur?	
Comments:	

RCRA IWTU PORTABLE STORAGE VAULT WEEKLY INSPECTIONS

Signature/Date

Previous Week's Inspection Checked (Initial) _____

The Open RCRA Remedials Tracking Book Index for this form has been compared to the previous week's form, the index has been updated, and the current open RCRA Remedials have been recorded on the tracking table. (Initials): _____

Inspections may be performed through shield windows (as appropriate).
Locations where hazardous waste may be stored in containers:

Location	Vaults Containing Hazardous Waste Stored at Location?	Inspection	Inspection Date/Time: Normal Condition	Off-Spec Condition	Inspection	Comments
Vault Storage Area	Yes/No[(a)]	Vaults leaking?	No	Yes	No/Yes	
		Vaults deteriorating?	No	Yes	No/Yes	
		Vaults open?	No	Yes	Yes/No	
		Liquid on floor?	No	Yes	No/Yes	
Vault Staging Area	Yes/No[(a)]	Vaults leaking?	No	Yes	No/Yes	
		Vaults deteriorating?	No	Yes	No/Yes	
		Vaults Open?	No	Yes	Yes/No	
		Liquid on floor?	No	Yes	No/Yes	

(a) Inspections are not required if containerized hazardous waste is not stored in this location.

RCRA IWTU WEEKLY PORTABLE VAULT INSPECTIONS

Open RCRA Remedials on this form:

Footnote Letter	Tracking Number	Date Remedial was Identified	Deficiency Description/Comments

Inspector's Name (Print): _____

Inspector's Signature: _____

Inspection Completed; Shift Supervisor's Signature: _____

Remedial Actions Completed or Not Required; Shift Supervisor's Signature: _____

APPENDIX F-2

CPP-604 Inspection Schedule

CPP-604 Inspection Schedule

Equipment Inspected	Types of Problems or Observations	Frequency	Inspecting Organization
MONITORING EQUIPMENT INSPECTION			
Panel-Mounted Instrumentation	Instrument operability, out of spec readings	Daily	Shift Operations
Distributed Control System (DCS)	Internal automatic diagnostics	Daily	Shift Operations
FIRE PROTECTION SYSTEM INSPECTIONS			
Fire Sprinkler System	System Damage, Water Pressure, Leaks	Monthly	Life Safety Systems
Portable Fire Extinguishers	Physical Damage, Charge (if equipped), Accessibility and Sealed	Monthly	Shift Operations
EMERGENCY EQUIPMENT INSPECTIONS			
Safety Showers and Eyewashes	Supply Valve is Open, Accessibility, Check for Leaks	Monthly	Shift Operations
Spill Control Cabinets	Broken Seals, Inventory Equipment	Monthly	Shift Operations
Plant Voice Paging and Evacuation Alarm System	Operation, Coverage	Monthly	Shift Operations
Communication Devices	Operation at Each Building Level	Daily	Shift Operations
FACILITY INSPECTIONS			
Access Warning Signs	Missing, Damaged, or Obstructed Signs	Weekly	Shift Operations
CPP-604 SYSTEM INSPECTIONS			
VES-WL-132, VES-WL-133 VES-WL-109, VES-WL-131 VES-WL-129, VES-WL-161 VES-WL-134, VES-WL-106 VES-WL-107, VES-WL-163 VES-WL-111, VES-WM-100 VES-WM-101, VES-WM-102 VES-WL-101, VES-WL-102 VES-WL-135, VES-WL-136 VES-WL-137, VES-WL-138 VES-WL-139, VES-WL-142 VES-WL-144, VES-WL-150	Out of Spec Level	Daily	Shift Operations
Vault/Cell Sump Liquid Monitors	Alarm Condition	Daily	Shift Operations
Cell inspections VES-WL-132 VES-WL-133 EVAP-WL-161/VES-WL-109/VES-WL-111 (via camera)* EVAP-WL-129 VES-WL-101/VES-WL-102/VES-WL-150 VES-WL-106/-107/-163/VES-WL-131/VES-WL-134	Cracks, Deterioration, Leaks, Spills	Daily* and upon Initial Cell Entry	Shift Operations

CPP-604 Inspection Schedule (continued)

Equipment Inspected	Types of Problems or Observations	Frequency	Inspecting Organization
(via camera)*			
VES-WM-100			
VES-WM-101/VES-WM-102			
VES-WM-103			
VES-WL-104/VES-WL-105			
VES-WL-135			
VES-WL-136			
VES-WL-137			
VES-WL-138			
VES-WL-139			
VES-WL-142 (via camera)*			
VES-WL-144 (via camera)*			
Pump Pit Sump (via camera)*			

APPENDIX F-3

CPP-1618 Inspection Schedule

CPP-1618 Inspection Schedule

Equipment Inspected	Types of Problems or Observations	Frequency	Inspecting Organization
MONITORING EQUIPMENT INSPECTION			
Distributed Control System (DCS)	Internal automatic diagnostics	Daily	Shift Operations
FIRE PROTECTION SYSTEM INSPECTIONS			
Fire Sprinkler System	System Damage, Water Pressure, Leaks	Monthly	Life Safety Systems
Portable Fire Extinguishers	Physical Damage, Charge (if equipped), Accessibility and Sealed	Monthly	Shift Operations
EMERGENCY EQUIPMENT INSPECTIONS			
Safety Showers and Eyewashes	Supply Valve is Open, Accessibility, Check for Leaks	Monthly	Shift Operations
Spill Control Cabinets	Broken Seals, Inventory Equipment	Monthly	Shift Operations
Plant Voice Paging and Evacuation Alarm System	Operation, Coverage	Monthly	Shift Operations
Communication Devices	Operation at Each Building Level	Daily	Shift Operations
FACILITY INSPECTIONS			
Access control signs	Missing, Damaged or Obstructed Signs	Weekly	Shift Operations
CPP-1618 SYSTEM INSPECTIONS			
VES-WLK-197, VES-WLL-195, VES-WLK-171, VES-WLL-170	Out of Spec Level	Daily	Shift Operations
Feed Solution	TOC, Aluminum:Fluoride Ratio	Each feed batch	Shift Operations
Cell inspections FRAC-WLK-171/VES-WLK-197 FRAC-WLL-170	Deterioration, Cracks, Leaks, Spills	Daily, when not operating	Shift Operations
Leak Detection Bottles	Liquid in Bottle	Daily	Shift Operations

APPENDIX F-4

CPP-659 Inspection Schedule

CPP-659 Inspection Schedule

Equipment Inspected	Types of Problems or Observations	Frequency	Inspecting Organization
MONITORING EQUIPMENT INSPECTION			
Distributed Control System (DCS)	Internal automatic diagnostics	Daily	Shift Operations
FIRE PROTECTION SYSTEM INSPECTIONS			
Fire Sprinkler System	System Damage, Water Pressure, Leaks	Monthly	Life Safety Systems
Portable Fire Extinguishers	Physical Damage, Charge (if equipped), Accessibility and Sealed	Monthly	Shift Operations
EMERGENCY EQUIPMENT INSPECTIONS			
Safety Showers and Eyewashes	Supply Valve is Open, Accessibility, Check for Leaks	Monthly	Shift Operations
Spill Control Cabinets	Broken Seals, Inventory Equipment	Monthly	Shift Operations
Plant Voice Paging and Evacuation Alarm System	Operation, Coverage	Monthly	Shift Operations
Communication Devices	Operation at Each Building Level	Daily	Shift Operations
FACILITY INSPECTIONS			
Access control signs	Missing, Damaged or Obstructed Signs	Weekly	Shift Operations
VES-NCR-171 VES-NCC-152 VES-NCC-150 VES-NCC-101 VES-NCC-102 VES-NCC-103 VES-NCC-119 VES-NCC-122 VES-NCC-108 VES-NCC-136 VES-NCC-116	Out of Spec Level	Daily and Initial cell entry[1]	Shift Operations
Vault/Cell Sump Liquid Monitors	Alarm Condition	Daily	Shift Operations
Cell inspections VES-NCR-171[1] VES-NCC-101, VES-NCC-102, VES-NCC-103, VES-NCC-152, VES-NCC-150 VES-NCC-108, VES-NCC-116, VES-NCC-136 VES-NCC-119, VES-NCC-122	Deterioration, Cracks, Leaks, Spills	Initial cell entry[2]	Shift Operations

1 Mirrors and other aids may be used for daily inspections of VES-NCR-171.

2 VES-NCR-171 will be inspected daily; all other tanks listed under cell inspections will be inspected on initial cell entry.

APPENDIX F-5

CPP-1696 Inspection Schedule

CPP-1696 Inspection Schedule

Equipment Inspected	Types of Problems or Observations	Frequency	Inspecting Organization
MONITORING EQUIPMENT INSPECTION			
Distributed Control System (DCS)	Internal automatic diagnostics	Daily	Shift Operations
FIRE PROTECTION SYSTEM INSPECTIONS			
Fire Sprinkler System (except the shielded process cells)	System Damage, Water Pressure, Leaks	Monthly	Life Safety Systems
Portable Fire Extinguishers	Physical Damage, Charge (if equipped), Accessibility and Sealed	Monthly	Shift Operations
EMERGENCY EQUIPMENT INSPECTIONS			
Safety Showers and Eyewashes	Supply Valve is Open, Accessibility, Check for Leaks	Monthly	Shift Operations
Spill Control Cabinets	Broken Seals, Inventory Equipment	Monthly	Shift Operations
Plant Voice Paging and Evacuation Alarm System	Operation, Coverage	Monthly	Shift Operations
Communication Devices	Operation at Each Building Level	Daily	Shift Operations
FACILITY INSPECTIONS			
Access control signs	Missing, Damaged or Obstructed Signs	Weekly	Shift Operations
CPP-1696 System Inspections	Out of Spec Level		Shift Operations
VES-SRC-131		Daily[1]	
VES-SRC-140		Daily[1]	
VES-SRC-160		Daily[1]	
F-SRC-153		Daily[1]	
F-SRC-160		Daily[1]	
VES-SRC-190/191		Daily[1]	
F-SRC-191		Daily[1]	
F-SRC-190		Daily[1]	
F-SRH-141A/B		Daily	
TK SRH-141		Daily[2]	
TK-SRE-196		Daily [2]	
Vault/Cell Sump Liquid Monitors	Alarm Condition	Daily	Shift Operations
Cell inspections	Deterioration, Cracks, Leaks, Spills		Shift Operations
Process Module		Daily[1]	
CRR Enclosure		Daily[1]	
Canister Filling Cells		Daily[1]	
Mercury Adsorber Area		Daily	
Vault Storage and Loading Areas (due to radiological exposure concerns, inspect portable storage vaults only)		Weekly[1]	

1 Cameras or other aids may be used to perform inspection.

2 Monitor leak detection

APPENDIX F-6

Tank System Inspections for the
INTEC Liquid Waste Management System

TANK SYSTEM INSPECTIONS FOR THE INTEC LIQUID WASTE MANAGEMENT SYSTEM

INTRODUCTION

According to the tank system inspection requirements found in Title 40 of the Code of Federal Regulations (CFR), Section 264.195(b):

The owner or operator must inspect at least once each operating day:

(1) Aboveground portions of the tank system, if any, to detect corrosion or releases of waste;

(2) Data gathered from monitoring and leak detection equipment (e.g., pressure or temperature gauges, monitoring wells) to ensure that the tank system is being operated according to its design; and

(3) The construction materials and the area immediately surrounding the externally accessible portion of the tank system, including the secondary containment system (e.g., dikes) to detect erosion or signs of releases of hazardous waste (e.g., wet spots, dead vegetation).

Requirement (2) above is addressed in Sections D-2d, D-2f, F-2b(2)(b), and F-2b(2)(e) of the Hazardous Waste Management Act (HWMA)/Resource Conservation and Recovery Act (RCRA) Volume 14 Part B Permit Application, Revision 2, October 2003, which discuss the monitoring and leak detection systems utilized for the Idaho Nuclear Technology and Engineering Center (INTEC) Liquid Waste Management System (ILWMS). Requirements (1) and (3) are addressed in Section F-2b(2)(b) of the application, which states, "Visual inspections are limited to infrequent occasions during equipment maintenance and repair. Radiation levels prevent visual inspections of these items on a daily basis. Complete inspections of the cells/vaults will be conducted when the cell is first entered for maintenance or repairs and repeated at least weekly when such activities are prolonged."

In permit condition III.E.3. of the draft final partial permit for the ILWMS issued in March 2004, the Idaho Department of Environmental Quality (DEQ) proposed that, "The Permittee shall visually inspect all tanks and ancillary equipment, located within radiological containment areas, daily whenever the cells are entered. The inspection protocols for the initial entrance inspection, and on-going daily inspections, may be established as part of the specific work permit."

As a result of public comments received on the draft final partial permit, the DEQ has requested information on the radiological conditions encountered in the system and a description of controls to further justify the proposed inspection frequency.

This paper provides: (1) a regulatory analysis of the inspection requirements and Environmental Protection Agency (EPA) guidance related to the externally accessible portion of the system; (2) a discussion of system controls that guarantee the integrity of the system and ensure leaks are detected in a timely manner; (3) a description of potential hazards to personnel that limit the ability to perform daily visual inspections for some ILWMS tank systems; and (4) a discussion of the feasibility of installing camera systems in lieu of performing daily visual inspections.

DISCUSSION

Regulatory Analysis

40 CFR 264.15(b)(1) requires an owner/operator to develop and follow a written schedule for inspecting monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment that are important to preventing, detecting, or responding to environmental or human health hazards. Section 264.15(b)(4) provides that the frequency of inspection may vary for the items on the schedule but that it should be based on the rate of deterioration of the equipment and the probability of an environmental or human health incident if a problem goes undetected between inspections. Further, that at a minimum, the inspection schedule must include the frequencies called for in 40 CFR 264.195(b). That section specifically requires daily inspections for aboveground portions of the tank system, data gathered from monitoring and leak detection equipment, and the construction materials and area immediately surrounding the externally accessible portion of the tank system, including the secondary containment system to detect erosion or signs of releases of hazardous waste. Section 270.14(b)(5) requires that the inspection schedule be included in the Part B submission. The comment at section 264.15(b)(4) indicates that the inspection schedule will be evaluated to ensure that it adequately protects human health and the environment and that as part of the review, the regulator may modify or amend the schedule as may be necessary.

In Faxback 12921, May 1987, EPA was asked whether, for a flat-bottomed tank containing hazardous waste that sat on a concrete pad, inspection of the visible portions of the tank was a satisfactory method for detecting leaks and corrosion as required by 40 CFR 264.195. EPA responded that the intent of section 264.195 was that all accessible and visible aboveground portions of tank systems be inspected at least once each operating day. However, in a case where the tank bottom was obscured from view (e.g., sitting on concrete), such an inspection was not feasible. EPA also noted that in such a case, special efforts should be made to carefully observe any leakage around the base of the tank. The situation with some of the Volume 14 tanks is analogous. Just as the bottom of the aboveground tank addressed in Faxback 12921 couldn't be inspected, ALARA (maintaining radiological exposure to personnel as low as reasonably achievable) concerns associated with many of the Volume 14 tank systems prevent daily visual inspections. The note following 40 CFR 164.15(b)(4), addressed above, contemplates such situations and allows the regulator, through the permitting process, to address such issues.

It should also be noted that in Faxback 12868, March 1987, EPA acknowledged that the regulations don't specify any particular methods that have to be used to meet the inspection requirements and that as a result, video monitoring is not categorically excluded as a way to meet the requirement. The effectiveness of such a system would, however, be subject to scrutiny.

Hazards to Personnel

High radiation, hazardous materials, and industrial safety issues prevent daily personnel access and visual inspections of certain tank systems on a routine basis. Attachment 1 provides a detailed account of the radiation levels for each cell of the ILWMS where tanks reside. The estimated personnel radiation exposure for a 15-minute entry (the estimated time to complete an inspection) poses an unacceptable risk to personnel for many of the ILWMS tank systems.

Apart from radiological concerns, risks resulting from hazardous materials/wastes and other industrial hazards such as confined space entries, temperature, and spatial limitations inhibit the ability to complete daily visual inspections. For instance, some tanks reside in cells where confined space entry is required and transfer piping and equipment must be traversed. During operation of the miscellaneous treatment units, the potential for exposure to nitric acid fumes exists. Furthermore, extreme temperatures, up to 200° F, may be encountered.

Since the estimated radiological exposures are comparatively low and hazardous material and industrial safety risks are minimal, the following areas will be visually inspected by facility personnel daily. In cases where limited access or industrial hazards exist, use of mirrors or other aids may be used to the extent practicable to visualize components of the tank system and sump(s).

- Process Waste Liquid (PWL) System
  - VES-WL-142, located in the CPP-604 Middle Cell
  - VES-WL-144, located in the CPP-604 North Cell
- Acid Recycle Tank Vault
  - VES-NCR-171
  - VES-NCR-173

Since the estimated radiological exposures are comparatively low, but hazardous material and industrial safety risks are significant during operation of the fractionators, the Permittee proposes that facility personnel will visually inspect the following areas daily **when the fractionators are not operating**:

- Fractionator Cell 1
  - VES-WLK-197
  - VES-WLK-171
- Fractionator Cell 2
  - VES-WLL-170

System Controls

ILWMS miscellaneous treatment units are remotely operated from the distributed control system (DCS) for facility operations. The process components that comprise the ILWMS DCS contain instrumentation and a control system to monitor and control process variables and provide for safe and efficient shutdown, if necessary. In addition, the DCS monitors and controls waste transfers through tanks and ancillary equipment to detect any leaks within the system. Upon detection, the condition is investigated and appropriate action taken.

As discussed in Section F-4d of the permit application, the ILWMS is equipped with redundant systems. The ILWMS has the capability to allow for the isolation and removal from service of any tank or line supported by the DCS where a leak has been detected. This ensures that if a leak does occur within the system, measures can be taken to protect human health and the environment. The ILWMS is specifically designed and operated to prevent corrosion that may cause leaks, for all system components as discussed in the permit application.

Another safeguard within the ILWMS is the monitoring of radiation from particulate loading on the facility's ventilation Atmospheric Protection System (APS) filters, Process Off Gas (POG) filters, Vessel Off Gas (VOG) filters, and at the Main Stack. Any unexpected rise in the radiation levels on these filters or at the Main Stack radiation monitor alerts operations that a leak may have occurred, and measures are taken to determine the nature and extent of a possible leak.

Moreover, as discussed in the permit application, all ILWMS tank systems are equipped with secondary containment and leak detection devices to alert personnel to potential leaks or spills. Liquid level instrumentation associated with the secondary containment systems initiates an alarm on the DCS to alert operations personnel of potential upset conditions.

Camera Systems

To avoid routine entries into areas where high radiation and industrial hygiene/safety concerns exist, the use of remote camera systems has been considered to supplement current practices. As illustrated in Attachment 1, the estimated personnel radiation exposure to install cameras in certain cells poses an unacceptable risk to personnel. Furthermore, the typical life expectancy for cameras installed in the radiological fields that would be encountered in these cells is from 2 weeks to 6 months. In order to replace these cameras, significant quantities of decontamination solutions and associated solid mixed waste (i.e., personal protective equipment) would be generated and personnel exposure to radiation would be increased.

Attachment 2 provides in detail the logistics and safety issues that would be present if remote camera systems were to be installed in the ILWMS. This attachment also outlines the radiation, temperature, feasibility, and practicality issues for installation of a camera system. Lowering cameras into cells and then removing them is also impractical since: (1) access ports for cameras are not readily available; (2) confined space entries would be required for certain cells; (3) entry into some cells would require personnel to pass through other cells; and (4) estimated radiological exposure to personnel is unacceptable.

Although not initially installed for RCRA inspection purposes, cameras are located in the following ILWMS areas and will be utilized to conduct daily inspections for the coverage area:

- EVAP-WL-161 Evaporator Cell – one installed in the lower level of the cell to visually inspect the sump (estimated cell coverage – <10%)
- Condensate Collection Cell – one installed in the center of the west wall and another installed in the northeast corner of the cell (estimated cell coverage – 25-30%)
- Pump Pit Sump – one directed into the sump only

The Permittee proposes that tank systems not identified for inspection in this and the “Hazards to Personnel" section (bulleted items) will not be visually inspected daily. Rather than daily visual inspections, facility personnel will rely on the system controls discussed above and the secondary containment and leak detection systems to ensure protection of human health and the environment.

CONCLUSION

State and federal regulations require owners and operators to inspect the externally accessible portions of tank systems for evidence of deterioration or signs of a release. EPA guidance suggests that daily inspections of tank systems or components are not necessary in cases where those systems are not readily accessible or visible. The EPA stresses that in these instances special efforts should be made to inspect for leaks from such systems.

Due to the unique mixture of radiological, hazardous, and industrial safety conditions associated with the ILWMS, many of the tank systems are neither visible nor readily accessible. In those cases where the hazards to personnel are comparatively low, daily visual inspections will be performed; although for the fractionators and tank systems associated with the Liquid Effluent Treatment and Disposal facility, the Permittee proposes that daily visual inspections will only occur when the fractionators are not operating.

Camera systems have only limited application due to the harsh radiological, corrosive, and thermal conditions of the system. Where camera use is feasible, daily inspections will be conducted for the limited coverage area.

Other tank systems associated with the ILWMS that cannot be visually inspected daily either through manned entries or remotely, via cameras, due to the unacceptable risk to personnel, are protected through a combination of other system controls including containment and leak detection systems; continuous DCS controls; and tank, process, and stack offgas monitoring.

ATTACHMENT 1

TANK # DESCRIPTION	**LOCATION (CELL)**	**TYPE OF RADIOLOGICAL AREA-** Contamination Area (CA), High Contamination Area (HCA), Radiation Area (RA), High Radiation Area (HRA), Airborne Radioactivity Area (ARA).	**RADIATION LEVELS-** Estimated General Area Radiation Levels During Operation	**ESTIMATED PERSONNEL RADIATION EXPOSURE PER ENTRY** estimation of 15 minutes inspection time for each tank at the highest estimated radiation level in the cell except for the last 8 identified areas which are < 5 mrem)
VES-WL-132 Evaporator Feed Sediment	PEWE System Feed Sediment and Feed Collection Vaults	HCA, HRA, ARA	100 to >25,000 mR/hr	> 5000 mrem
VES-WL-133 Evaporator Feed Collection	PEWE System Feed Sediment and Feed Collection Vaults	HCA, HRA, ARA	100 to >25,000 mR/hr	> 5000 mrem
VES-WL-102 Surge Tank for VES-WL-133	VES-WL-101/102 Cell	HCA, HRA, ARA	100 to >25,000 mR/hr	> 5000 mrem
VES-WL-101 Bottoms Collection	VES-WL-101/102 Cell	HCA, HRA, ARA	100 to 10,000 mR/hr	> 2500 mrem
VES-WL-150	VES-WL-101/102 Cell	HCA, HRA, ARA	100 to 10,000 mR/hr	> 2500 mrem
VES-WL-109 Evaporator Head	Evaporator 161 Cell	HCA, HRA, ARA	100 to 10,000 mR/hr	> 2500 mrem
VES-WL-161 Evaporator	Evaporator 161 Cell	HCA, HRA, ARA	100 to 10,000 mR/hr	> 2500 mrem
VES-WL-111 Bottoms Collection	Evaporator 161 Cell	HCA, HRA, ARA	100 to 10,000 mR/hr	> 2500 mrem

ATTACHMENT 1

VES-WL-129 Evaporator	Evaporator 129 Cell	HCA, HRA, ARA	100 to 10,000 mR/hr	> 2500 mrem
VES-WL-131 Condensate Surge	Condensate Collection Cell	HCA, HRA, ARA	5 to 100 mR/hr	> 25 mrem
VES-WL-134 Condensate Surge	Condensate Collection Cell	HCA, HRA, ARA	5 to 100 mR/hr	> 25 mrem
VES-WL-106 Process Condensate Collection Tank	Condensate Collection Cell	HCA, HRA, ARA	5 to 100 mR/hr	> 25 mrem
VES-WL-107 Process Condensate Collection Tank	Condensate Collection Cell	HCA, HRA, ARA	5 to 100 mR/hr	> 25 mrem
VES-WL-108 Process Condensate Knock-out Pot	Condensate Collection Cell	HCA, HRA, ARA	5 to 100 mR/hr	> 25 mrem
VES-WL-163 Process Condensate Collection Tank	Condensate Collection Cell	HCA, HRA, ARA	5 to 100 mR/hr	> 25 mrem
VES-WM-100 CPP-604 TFT	WM Vault	HCA, HRA, ARA	100 to >25,000 mR/hr	> 5000 mrem
VES-WM-101 CPP-604 TFT	WM Vault	HCA, HRA, ARA	100 to >25,000 mR/hr	> 5000 mrem
VES-WM-102 CPP-604 TFT	WM Vault	HCA, HRA, ARA	100 to >25,000 mR/hr	> 5000 mrem

ATTACHMENT 1

VES-WL-135	D-5 Valve Box	HCA, HRA, ARA	5 to 100 mR/hr	> 25 mrem
VES-WL-136	D-8 Valve Box	HCA, HRA, ARA	5 to 100 mR/hr	> 25 mrem
VES-WL-137	CPP-649 Filter Cell	HCA, HRA, ARA	5 to 100 mR/hr	> 25 mrem
VES-WL-138	CPP-604 Off-Gas Blower Cell	HCA, HRA, ARA	100 to 5000 mR/hr	> 1250 mrem
VES-WL-139	CPP-604 Off-Gas Blower Cell	HCA, HRA, ARA	100 to 5000 mR/hr	> 1250 mrem
VES-WL-142	CPP-604 Middle Cell	CA, RA	5 to 100 mR/hr	< 5 mrem
VES-WL-144	CPP-604 North Cell	CA, RA	5 to 100 mR/hr	< 5 mrem
VES-WLK-197	Fractionator Cell 1	CA, RA	5 to 100 mR/hr	< 5 mrem
VES-WLK-171	Fractionator Cell 1	CA, RA	5 to 100 mR/hr	< 5 mrem
VES-WLL-170	Fractionator Cell 2	CA, RA	5 to 100 mR/hr	< 5 mrem
VES-WLL-195	Fractionator Cell 2	CA, RA	5 to 100 mR/hr	< 5 mrem
VES-NCR-171	Acid Recycle Tank Vault	CA, RA	5 to 100 mR/hr	< 5 mrem
VES-NCR-173	Acid Recycle Tank Vault	CA, RA	5 to 100 mR/hr	< 5 mrem

ATTACHMENT 2

Due to radiological conditions, chemical hazards, confined space entries, waste generation, and limited access, the installation of monitoring cameras for detection of leaks from vessels and associated piping within vaults and cells is not considered practical for all the tank systems in the ILWMS where cameras are not currently installed. Information regarding the logistics to install cameras in each cell of the ILWMS is as follows:

1. VES-WL-132 is only accessible through a hatch in the ceiling of its vault. There are no available penetrations for cable runs and there is no lighting in this vault. Radiation levels are extremely high with an estimated exposure of over 5 Rem for a 15-minute access. All flanged piping connections are located along the top or sides of the tank and thus the top and upper sides of the vessel would be the key location to observe for any small volume leakage. To observe these areas would require a minimum of 2 cameras located near the ceiling on both the east and west walls of the vault. Even greater coverage could be achieved with a third camera down very near the floor on either the east or the west walls with its view directed underneath the tank through the access hole in the support skirt of the tank. VES-WL-132 is a vertical tank and rests on a 360-degree support skirt with 3 cradles, designed for remote removal and used to stabilize the tank. Given the very high radiation levels, the difficulty of access, and the absence of any cable penetrations, the most effective means for both initial placement and long term maintenance of cameras into this vault would be to core drill dedicated penetrations through the vault ceiling/hatch cover and suspend the cameras with remotely retrievable supports so the entire assembly can be remotely maintained. The core-drilled holes will need shielding to prevent radiation streaming and will be difficult to install since there is no additional access to install the core catcher. Without this core catcher, the core-drilled concrete pieces could fall into the vault and cause damage to the vault liner or the tank. Routine personnel entry is not possible or acceptable due to the high radiation exposure, confined space entry, and the acid exposure if a leak should occur. It is not possible to drain, flush, empty, or decontaminate this tank on a daily basis for routine cell entries, or for any construction work of installing cameras.

2. VES-WL-133 is only accessible through the vault containing VES-WL-132 (see Item 1 above) via a small man-way in the wall separating the two vaults. There are no penetrations for cable runs and there is no lighting in this vault. As with VES-WL-132, radiation levels are extremely high with an estimated exposure of over 5 Rem for a 15-minute access. VES-WL-133 is a horizontal tank setting in low cradles arrayed with its long axis north to south and with all flanged penetrations running along the top of the tank. Remote observations of the tank would require cameras inserted through core-drilled holes from the sample corridor positioned so they would be able to view the east and west sides and top of the tank. Lighting would be required to illuminate a distance of about 30 feet to allow viewing of the entire length of the tank. A third camera could also be installed lower in the vault to view the underside of the tank. The remotely maintained cameras, shielding, difficult core drilling, etc. associated with the VES-WL-132 tank would also apply to this tank. Routine personnel entry is not possible or acceptable due to the high radiation exposure, confined space entry, and the acid exposure if a leak should occur. It is not possible to drain, flush, empty, or decontaminate this tank on a daily basis for routine cell entries, or for any construction work of installing cameras.

3. VES-WL-101 and VES-WL-102 share a vault and are arrayed in much the same way as VES-WL-133 discussed above (i.e., their long axis is north to south). They are each setting in a pair of low cradles and all flanged penetrations run along the top of the tanks. This vault is accessible through a small man-way from the sample corridor in the southwest corner of the vault. Radiation levels are extremely high with an estimated exposure of over 2.5 Rem for a 15-minute access. There are believed to be available penetrations into this vault for cable runs but the cameras could not be remotely maintained and there is no lighting in this vault. Acceptable closed-circuit television (CCTV) coverage of these tanks could be achieved with a minimum of 3 cameras core drilled into the vault from the sample corridor; one located near the ceiling on the east wall, another similarly placed along the west wall and the third placed near the ceiling midway between the two tanks.

ATTACHMENT 2

The sump is located between the two tanks and this third camera could be placed to provide a remote view into the sump. Greater coverage could be provided with a fourth camera located near the floor in a position to observe underneath the central portions of both tanks. The remotely maintained cameras, shielding, difficult core drilling, etc. associated with the VES-WL-132 tank would also apply to this tank. Routine personnel entry on a daily basis is not possible or acceptable due to the high radiation exposure, confined space entry, and the acid exposure if a leak should occur. It would be possible to empty, flush, and partially decontaminate the VES-WL-101 tank, with the use of between 10,000 and 25,000 gallons of water that would then have to be processed in the INTEC Liquid Waste Management System (ILWMS), however this could not be accomplished on a daily basis. The VES-WL-102 tank can be filled with about 12,000 gallons of water for some shielding but the decontamination would be minimal due to the large volume of solids now in this tank.

4. VES-WM-101 and VES-WM-102 share a vault with layout and properties essentially identical to that described for VES-WL-101 and VES-WL-102 in Item 3 above, with higher radiation fields. Required number and placement of cameras would essentially be identical to that discussed above. Routine personnel entry is not possible or acceptable during operations due to the high radiation exposure, confined space entry, and the acid exposure if a leak should occur. It would be possible to empty, flush, and partially decontaminate these tanks, with the use of between 10,000 and 25,000 gallons of water per tank that would have to be processed in the ILWMS, however this could not be accomplished on a daily basis.

5. VES-WM-100 sits in its own vault but is otherwise arrayed in much the same fashion as the tanks described in Items 2, 3, and 4 above. Radiation levels in this vault are similar to those around VES-WL-132 and -133 (i.e., estimated exposure for a 15-minute access would be greater than 5 Rem). Required number and placement of cameras would essentially be identical to that discussed in Item 2 above. Routine personnel entry is not possible or acceptable during operations due to the high radiation exposure, confined space entry, and the acid exposure if a leak should occur. It would be possible to empty, flush, and partially decontaminate this tank, with the use of between 10,000 and 25,000 gallons of water that would have to be processed in the ILWMS, however due to the solids expected in this tank the flushing may still not allow entry into this vault on a routine basis.

6. VES-WL-150 is a small tank installed in the VES-WL-101/-102 vault, as part of the VES-WL-102 isolation project. It should be observable with the cameras already discussed in Item 3 above. The entry requirements would also be identical to the discussion in Item 3 above.

7. VES-WL-161 is positioned vertically, in the center of the Evaporator 161 Cell. It rises through nearly the entire height of the cell from the floor to the ceiling and is surrounded by multiple levels of access decking. This decking would prohibit a full scan of the sides of the vessel with a CCTV camera at any single elevation. The diameter of the tank is such that complete coverage of the vessel could only be achieved with at least 2 cameras on opposite sides at each decking level. There are manned access and cable penetrations into this cell, however radiation levels are very high during operation with an estimated exposure of 2.5 Rem for a 15-minute entry. In addition, this cell becomes thermally hot during operation, achieving temperatures in excess of 200° F, a condition that would prohibit the use of commercial grade camera equipment and would instead require thermally shielded equipment with a cooling air circulation system. Remotely repairable cameras would not be a mandatory requirement in this cell, as described for the vaults above, but would be highly recommended if the cameras are to be used routinely for cell inspections. Remote cameras could be installed with core-drilled holes from access, pipe, sample, and operating corridors or the ceiling. Routine personnel entry is not possible or acceptable during operations due to the high radiation exposure, high temperatures, and the acid exposure if a leak should occur. It would be possible to empty, flush, and partially decontaminate this system, with the use of between 1,000 and 2,500 gallons of decontamination solution that would have to be processed in the ILWMS, however this could not be accomplished on a daily basis.

ATTACHMENT 2

8. VES-WL-109 shares the Evaporator 161 Cell with VES-WL-161. It is located high on the east wall in the southeast corner of the cell. It is a small tank and should be partially viewed with the cameras used in Item 7 above. An additional camera would be required to view the southeast side of this tank. The entry and decontamination requirements are the same as Item 7 above.

9. VES-WL-111 also shares the Evaporator 161 Cell with VES-WL-161. It is a rectangular tank 12' long lying along the north wall of the cell with its long axis running east and west. All flanged penetrations are along the top of the tank and like the other large tanks with this configuration would need at least two camera positions for full coverage, which could possibly also be used for some of the VES-WL-161 inspections. The entry and decontamination requirements are the same as Item 7 above.

10. VES-WL-129 is positioned vertically, in the center of the Evaporator 129 Cell and is identical to VES-WL-161 in item 7 above. VES-WL-129 experiences the same thermal and radiation concerns associated with VES-WL-161. However, the WL-129 cell is different from the VES-WL-161 cell in that it is fully lined with stainless steel and any core drilling would damage the liner, which would need to be repaired. Moreover, since this cell does not share common walls with the corridors, all core drills would have to be made from outside (from either the ceiling or the north, east, or south walls). Routine personnel entry during operations is not possible or acceptable due to the high radiation exposure, high temperatures, and the acid exposure if a leak should occur. It would be possible to empty, flush, and partially decontaminate this system, with the use of between 1,000 and 2,500 gallons of decontamination solution that would have to be processed in the ILWMS, however this could not be accomplished on a daily basis.

11. VES-WL-131, VES-WL-134, VES-WL-106, VES-WL-107, VES-WL-163, and VES-WL-108 are all contained within the Separation and Condensation Cell. The cell is accessible with cable penetrations and has a relatively low exposure estimate of 25 mrem for a 15-minute entry. The cell is configured similarly to the Evaporator 161 Cell in that four of the vessels; VES-WL-106, -107, -163, and -134 all stand upright within the cell and are surrounded by multiple levels of access decking, thereby requiring multiple camera positions at each level. VES-WL-131 sits horizontally and is located in the middle of the cell. VES-WL-108 sits high on the east wall in the southeast corner of the cell. Remotely repairable cameras would not be a mandatory requirement in this cell as described for the vaults above, but would be highly recommended if the cameras are to be used routinely for cell inspections due to the difficulty in repairing equipment in contaminated cells. Remote cameras could be installed with core-drilled holes from access, pipe, and operating corridors or the ceiling. Routine personnel entry is possible but not recommended due to the mechanical equipment and acidic nature of the liquid in the equipment. It would be possible to drain this system resulting in a volume of liquid from 5,000 to 15,000 gallons that would have to be processed in the ILWMS, however this could not be accomplished on a daily basis.

12. VES-WL-135 and VES-WL-136 are located in individual valve boxes about 8 feet below ground level. Both valve boxes are confined space entries, have very limited access for cabling, and lack lighting for inspections. Each tank could be adequately covered with a single camera deployed from the valve box lid. Cabling for the camera equipment would need to be protected when running from the valve boxes into CPP-604. Remotely maintainable cameras would be required due to the difficulty of maintaining equipment in contaminated valve boxes and being located outside. Personnel entry is possible, but not recommended, due to the acidic nature of the off-gas in the equipment, the confined space, and the contamination levels. It would be possible to decontaminate these valve boxes with minimal increase of liquid volume that would have to be processed in the ILWMS, however this could not be accomplished on a daily basis.

ATTACHMENT 2

13. VES-WL-137, VES-WL-138, VES-WL-139, VES-WL-142 and VES-WL-144 are all relatively small tanks contained in concrete sumps lined with stainless steel and covered with a stainless steel grating located in various of the offgas system cells. Each can be adequately covered with a single camera installed below the grating. Remotely maintainable cameras would be required due to the difficulty of maintaining equipment in contaminated cells. Routine personnel entry to VES-WL-137, -138, and -139 is possible but not recommended due to the radiation and contamination levels. It would be possible to decontaminate these cells with minimal increase of liquid volume that would have to be processed in the ILWMS, however this could not be accomplished on a daily basis.

14. VES-WLK-197, FRAC-WLK-171, FRAC-WLL-170, and VES-WLL-195 are components in the Liquid Effluent Treatment and Disposal (LET&D) system. Their cells are accessible and have relatively low radiological levels with exposure estimates of 5 mrem for a 15-minute exposure. However, when the system is in operation both cells become very thermally hot; on the order of 200 degree F. This temperature precludes the use of commercial grade CCTV equipment and would instead require thermally shielded equipment with a cooling air circulation system. Remotely maintainable cameras would be required due to the difficulty of maintaining equipment in contaminated cells and the very high levels of nitric acid contained in the system. It would be possible to empty, flush, and partially decontaminate this system, with the use of between 1,000 and 2,500 gallons of decontamination solution that would have to be processed in the ILWMS, however this could not be accomplished on a daily basis.

15. VES-NCR-171 and VES- NCR-173 are in readily accessible locations and can be easily inspected on a daily basis. This cell has relatively low radiological levels with exposure estimates of 5 mrem for a 15-minute exposure. Remotely maintainable cameras should be considered due to the very high levels of nitric acid contained in the system. If a leak should occur no entries would be allowed without full acid suits and supplied air-breathing equipment. The atmosphere in the cell would have to be continually monitored for routine cell entries due to the high concentrations of nitric acid fumes possible in the cell.

ATTACHMENT 3

RCRA Tank Inspection Cameras

Summary of Estimated Costs, Feasibility, and Practicality

PEWE Tanks.

Tank Number/ Description	Year of Operation	Location (Cell)	Last Date Entered	Known Leaks/ Brief History	Concept and Estimate for Design and Installation of Camera	Estimated Cell Coverage (%)	Remotely Retrievable?	Radiation Exposure to Install	Practical ?
VES-WL-132 Evaporator Feed Sediment	1983	PEWE System Feed Sediment and Feed Collection Vault	1983	No known leaks.	Note 1. 3 cameras $129,000	75	Y	1600 mR	N
VES-WL-133 Evaporator Feed Collection	1983				Note 2. 3 cameras $129,000	75	Y	1600 mR	N
VES-WL-102 Surge Tank For VES-WL-133	1951	VES-WL-101/102 Cell	1996	No known leaks. Cell liner, (Hypalon) was installed and a P.E. Certification was received in June 1993 on the newly installed liner. Cell was entered in 1996 to reroute a transfer line from WL-101 to the tank farm.	Note 3. 4 cameras $140,000	75	Y	2000 mR	N
VES-WL-101 Bottoms Collection	1951	VES-WL-101/102 Cell			Included Above	75	Included Above	Included Above	N
VES-WL-150	1996	VES-WL-101/102 Cell			Note 6. Included Above	75	Included Above	Included Above	N

ATTACHMENT 3

Tank Number/ Description	Year of Operation	Location (Cell)	Last Date Entered	Known Leaks/ Brief History	Concept and Estimate for Design and Installation of Camera	Estimated Cell Coverage (%)	Remotely Retrievable?	Radiation Exposure to Install	Practical ?
VES-WL-109 Evaporator Head	1953	Evaporator 161 Cell	1999	Known leaks from the valves and flanges on the original evaporator, WL-113 prior to ~1992. Equipment has been replaced, removed or rerouted. Cell entered in 1996 to install sump. Entered in 1999 to isolate VES-111. No known leaks presently.	Note 8. 1 camera $41,000	75	Y	800 mR	N
VES-WL-161 Evaporator	1984	Evaporator 161 Cell			Note 7. 4 cameras (minimum) $164,000	75	Y	2000 mR	1 camera in place
VES-WL-111 Bottoms Collection	N/A	Evaporator 161 Cell			Note 9. 2 cameras $82,000	100	Y	1200 mR	N
VES-WL-129 Evaporator	1985	Evaporator 129 Cell	2003	Sump Level indicator detected leak. Entered cell to replace leaking elbow on feed line. No known leaks presently	Note 10. 3 cameras $123,000	75	Y	1600 mR	1 camera in Pump Pit

ATTACHMENT 3

Tank Number/ Description	Year of Operation	Location (Cell)	Last Date Entered	Known Leaks/ Brief History	Concept and Estimate for Design and Installation of Camera	Estimated Cell Coverage (%)	Remotely Retrievable?	Radiation Exposure to Install	Practical ?
VES-WL-131 Condensate Surge	1975	Condensate Collection Cell	2004	No known Leaks. Cell entered to replace condensate pump. Cell also entered to perform removal of equipment per Voluntary Consent Order.	Note 11. 1 camera $36,000	75	Not Req'd	800 mR	N
VES-WL-134 Condensate Surge	1984	Condensate Collection Cell			Note 11. 4 - 8 cameras $288,000	75	Not Req'd	3600 mR	N
VES-WL-106 Process Condensate Collection Tank	1953	Condensate Collection Cell			Note 11. 4 - 8 cameras $288,000	75	Not Req'd	3600 mR	2 cameras in place
VES-WL-107 Process Condensate Collection Tank	1953	Condensate Collection Cell			Note 11. 4 - 8 cameras $288,000	75	Not Req'd	3600 mR	N
VES-WL-163 Process Condensate Collection Tank	1984	Condensate Collection Cell			Note 11. 4 - 8 cameras $288,000	75	Not Req'd	3600 mR	N
VES-WL-108 Process Condensate Knock-out Pot	1951	Condensate Collection Cell			Note 11. 1 camera $36,000	75	Not Req'd	800 mR	N

ATTACHMENT 3

Tank Number/ Description	Year of Operation	Location (Cell)	Last Date Entered	Known Leaks/ Brief History	Concept and Estimate for Design and Installation of Camera	Estimated Cell Coverage (%)	Remotely Retrievable?	Radiation Exposure to Install	Practical ?
VES-WM-100 CPP-604 TFT	1953	WM Vault	1953	No known leaks. Remote TV inspection was performed in ~1988 to check for deterioration and evidence of leaks. No leaks were detected. Deteriorated concrete was found around embedded lines. Lines were upgraded (from outside of the vault) to meet regulatory compliance.	Note 5. 4 cameras $140,000	75	Y	2000 mR	N
VES-WM-101 CPP-604 TFT	1953	WM Vault			Note 4. 4 cameras $140,000	75	Y	2000 mR	N
VES-WM-102 CPP-604 TFT	1953	WM Vault			Included Above	75	Included Above	Included Above	N
VES-WL-135	1991	D-5 Valve Box	2003	Leaking flange on NWCF O.G. Line. Piping repaired in 1998. No known leaks. P.E. Certified on 7/94.	Note 12. 1 camera $43,000	50	Y	800 mR	N

ATTACHMENT 3

Tank Number/ Description	Year of Operation	Location (Cell)	Last Date Entered	Known Leaks/ Brief History	Concept and Estimate for Design and Installation of Camera	Estimated Cell Coverage (%)	Remotely Retrievable?	Radiation Exposure to Install	Practical ?
VES-WL-136	1991	D-8 Valve Box	2003	Entered D-8 to perform cleanup of dirt, gravel and debris. No known leaks. P.E. Certified on 7/94	Note 12. 1 camera $43,000	50	Y	800 mR	N
VES-WL-137	1991	CPP-649 APS Filter Cell	2004	No known leaks. Filter in cell is DOP tested annually. P.E. Certified on 7/94	Note 13. 1 camera $28,000	50	Not Req'd	800 mR	N
VES-WL-138	1991	CPP-604 Offgas Blower Cell	2002	No known leaks. Cell entered in 2002 to replace filter. P.E. Certified on 7/94	Note 13. 1 camera $28,000	50	Not Req'd	800 mR	N
VES-WL-139	1991	CPP-604 Offgas Blower Cell			Note 13. 1 camera $28,000	50	Not Req'd	800 mR	N
VES-WL-142	1991	CPP-604 Middle Cell	2002	No known leaks. Cells entered occasionally for maintenance. P.E. Certified on 7/94	Note 13. 1 camera $28,000	50	Not Req'd	40 mR	N
VES-WL-144	1991	CPP-604 North Cell			Note 13. 1 camera $28,000	50	Not Req'd	40 mR	N

ATTACHMENT 3

LET&D Tanks

Tank Number/ Description	Year of Operation	Location (Cell)	Last Date Entered	Known Leaks/Brief History	Concept and Estimate for Design and Installation of Camera	Estimated Cell Coverage (%)	Remotely Retrievable?	Radiation Exposure to Install	Practical?
VES-WLK-197	1993	Fractionator Cell 1	2004	Cells entered periodically to perform maintenance (e.g. rupture disk replacement). Occasionally during a cell inspection, evidence of minimal leaks is found under the fractionators. Areas are cleaned up. No known leaks presently. LET&D was P.E. Certified on 4/92	Note 14. 2 cameras, $86,000	90	Y	60 mR	N
VES-WLK-171	1993	Fractionator Cell 1			Note 14. 4 - 8 cameras, $344,000	50	Y	180 mR	N
VES-WLL-170	1993	Fractionator Cell 2			Note 14. 4 - 8 cameras, $344,000	50	Y	180 mR	N
VES-WLL-195	1993	Fractionator Cell 2			Note 14. 2 cameras, $86,000	90	Y	60 mR	N
VES-NCR-171	1995	Acid Recycle Tank Vault	2004	No known leaks. Vault level instrumentation is monitored once per shift. Occasional maintenance. P.E. Certified on 6/95	Note 15. No cameras needed	100	NA	NA	NA
VES-NCR-173	1995	Acid Recycle Tank Vault			Note 15. No cameras needed	100	NA	NA	NA

ATTACHMENT 4

Cost Estimate for RCRA Cell Inspection Cameras

Preliminary Rough Order of Magnitude Costs

NOTES:

1. Due to the general definition of this project's scope, this estimate is intended to be used for planning purposes only. More specific details are needed to develop estimates for cost baseline and budgeting purposes.

2. Costs include design, materials, equipment, and installation labor costs.

3. The following costs are not included in this estimate and would significantly increase overall project cost:

   - project management
   - special worker PPE
   - drilling through soil to reach underground vaults VES-WL-132 and 133 (see notes at end of document)
   - operations and radcon support (charged to facility numbers instead of projects)
   - costs required to empty, flush, and partially decon vessels with water, where required to reduce radiation levels
   - costs required to process wastewater from decon operations, through the PEWE system
   - operational impacts to facilities due to system shutdowns and activities described above
   - design, fabrication, and installation of radiological shielding where required
   - radiological engineering support
   - permits and characterization work
   - escalations and contingencies

ATTACHMENT 4

4. Costs are computed based on the following assumptions:

Base cost per camera
(includes wiring, video monitors, misc. hardware): $28,000

Based on IFSF Video Camera Upgrade in CPP-603, Spring / Summer 2004

Additional costs:

High Temperature Camera (Camera cost increases from $2000 to $8000)	$6,000
Acid Resistant Camera (Camera cost increases from $2000 to $10,000) This $8000 adder is sufficient where cameras with both acid resistance and high temperature capabilities are needed.	$8,000
Core Drilling, per camera (9" diameter hole thru concrete ceiling or wall, 4 ft. avg. thickness. Subsurface and engineering evaluations included. Scaffolding and core catch assembly included.)	$7,000

ATTACHMENT 4

Tank Number/ Description	Location (Cell)	Number of Cameras Needed	High Temp. Cameras Required?	Acid Resist. Cameras Required?	Core Drilling Required?	Total Costs
VES-WL-132 Evaporator Feed Sediment	PEWE System Feed Sediment and Feed Collection Vault	3	NO	YES	YES *	$129,000 *
VES-WL-133 Evaporator Feed Collection		3	NO	YES	YES *	$129,000 *
VES-WL-102 Surge Tank For VES-WL-133	VES-WL-101/102 Cell	4	NO	NO	YES	$140,000
VES-WL-101 Bottoms Collection	VES-WL-101/102 Cell					
VES-WL-150	VES-WL-101/102 Cell					
VES-WL-109 Evaporator Head	Evaporator 161 Cell	1	YES	NO	YES	$41,000
VES-WL-161 Evaporator	Evaporator 161 Cell	4	YES	NO	YES	$164,000
VES-WL-111 Bottoms Collection	Evaporator 161 Cell	2	YES	NO	YES	$82,000
VES-WL-129 Evaporator	Evaporator 129 Cell	3	YES	NO	YES	$123,000

ATTACHMENT 4

Tank Number/ Description	Location (Cell)	Number of Cameras Needed	High Temp. Cameras Required?	Acid Resist. Cameras Required?	Core Drilling Required?	Total Costs
VES-WL-131 Condensate Surge	Condensate Collection Cell	1	NO	YES	NO	$36,000
VES-WL-134 Condensate Surge	Condensate Collection Cell	4 to 8	NO	YES	NO	$288,000
VES-WL-106 Process Condensate Collection Tank	Condensate Collection Cell	4 to 8	NO	YES	NO	$288,000
VES-WL-107 Process Condensate Collection Tank	Condensate Collection Cell	4 to 8	NO	YES	NO	$288,000
VES-WL-163 Process Condensate Collection Tank	Condensate Collection Cell	4 to 8	NO	YES	NO	$288,000
VES-WL-108 Process Condensate Knock-out Pot	Condensate Collection Cell	1	NO	YES	NO	$36,000

ATTACHMENT 4

Tank Number/ Description	Location (Cell)	Number of Cameras Needed	High Temp. Cameras Required?	Acid Resist. Cameras Required?	Core Drilling Required?	Total Costs
VES-WM-100 CPP-604 TFT	WM Vault	4	NO	NO	YES	$140,000
VES-WM-101 CPP-604 TFT	WM Vault	4	NO	NO	YES	$140,000
VES-WM-102 CPP-604 TFT						
VES-WL-135	D-5 Valve Box	1	NO	YES	YES	$43,000
VES-WL-136	D-8 Valve Box	1	NO	YES	YES	$43,000
VES-WL-137	CPP-649 APS Filter Cell	1	NO	NO	NO	$28,000
VES-WL-138	CPP-604 Offgas Blower Cell	1	NO	NO	NO	$28,000
VES-WL-139	CPP-604 Offgas Blower Cell	1	NO	NO	NO	$28,000
VES-WL-142	CPP-604 Middle Cell	1	NO	NO	NO	$28,000

ATTACHMENT 4

Tank Number/ Description	Location (Cell)	Number of Cameras Needed	High Temp. Cameras Required?	Acid Resist. Cameras Required?	Core Drilling Required?	Total Costs
VES-WL-144	CPP-604 North Cell	1	NO	NO	NO	$28,000
VES-WLK-197	LET&D Fractionator Cell 1	2	YES	YES	YES	$86,000
VES-WLK-171	LET&D Fractionator Cell 1	4 to 8	YES	YES	YES	$344,000
VES-WLL-170	LET&D Fractionator Cell 2	4 to 8	YES	YES	YES	$344,000
VES-WLL-195	LET&D Fractionator Cell 2	2	YES	YES	YES	$86,000
VES-NCR-171	Acid Recycle Tank Vault	0	N/A	N/A	N/A	$0 (direct inspection is practical)
VES-NCR-173	Acid Recycle Tank Vault	0	N/A	N/A	N/A	$0 (direct inspection is practical)
TOTAL						$3,398,000

* The core drilling required for installing cameras for VES-WL-132 and 133 would likely require drilling through over 40 feet of soil just to access the concrete above the tank vault. This installation is not considered feasible or practical. The costs of these extra requirements could be quite high, and they aren't included here.