Commonwealth Edison Company
LaSalle Generating Station
2601 North 21st Road
Marseilles, IL 61341-9757
Tel 815-357-6761

ComEd

March 12, 1996

United States Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Document Control Desk

Subject: LaSalle County Station Units 1 and 2
Monthly Performance Report
NRC Docket Numbers 50-373 and 50-374.

Enclosed is the LaSalle County Station Monthly Performance Report for the month of February, 1996.

Respectfully,

D. J. Ray
Station Manager
LaSalle County Station

Enclosure

cc: H. J. Miller, NRC Region III Administrator
P. G. Brochman, NRC Senior Resident Inspector - LaSalle
M. D. Lynch, Project Manager, NRR - LaSalle
C. H. Matthews, IDNS Resident Inspector - LaSalle
D. Deppa, IDNS Reactor Safety - Springfield
P. Doverspike, GE Representative - LaSalle
T. A. Rieck, Nuclear Fuel Services - Downer's Grove
D. L. Farrar, Nuclear Regulatory Services Manager
Off-Site Safety Review - Downer's Grove
INPO - Records Center
Central file

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LASALLE NUCLEAR POWER STATION

UNIT 1

MONTHLY PERFORMANCE REPORT

February 1996

COMMONWEALTH EDISON COMPANY

NRC DOCKET NO. 050-373

LICENSE NO. NPF-11

TABLE OF CONTENTS
(UNIT 1)

I. INTRODUCTION (UNIT 1)

The LaSalle County Nuclear Power Station is a two-Unit facility owned by Commonwealth Edison Company and located near Marseilles, Illinois. Each unit is a Boiling Water Reactor with a designed net electrical output of 1078 Megawatts. Waste heat is rejected to a man-made cooling pond using the Illinois river for make-up and blowdown. The architect-engineer was Sargent and Lundy and the contractor was Commonwealth Edison Company.

Unit one was issued operating license number NPF-11 on April 17, 1982. Initial criticality was achieved on June 21, 1982 and commercial power operation was commenced on January 1, 1984.

This report was compiled by Michael J. Cialkowski, telephone number (815)357-6761, extension 2056.

II. MONTHLY REPORT

A. SUMMARY OF OPERATING EXPERIENCE (Unit 1)

Day	Time	Event
1	0000	Reactor sub-critical, Generator off-line, refuel outage (L1R07) in progress.
29	2400	Reactor sub-critical, Generator off-line, refuel outage (L1R07) in progress.

B. AMENDMENTS TO THE FACILITY OR TECHNICAL SPECIFICATION
On February 16, 1996, Amendment 109 was issued to license NPF-11 (Unit 1). This amendment removed the accelerated testing and special reporting requirements associated with the emergency diesel generators.

C. SUBMITTED LICENSEE EVENT REPORTS (Unit 1)
(None)

D. DATA TABULATIONS (Unit 1)

1. Operating Data Report (See Table 1)

2. Average Daily Unit Power Level (See Table 2)

3. Unit Shutdowns and Significant Power Reductions (See Table 3)

E. UNIQUE REPORTING REQUIREMENTS (UNIT 1)

1. Safety Relief Valve Operations
(None)

2. Major Changes to Radioactive Waste Treatment Systems
(See attached document titled "Major Change To Radwaste")

3. Static O-Ring Failures
(None)

4. Changes to the Off-Site Dose Calculation Manual
(None)

TABLE 1

D.1 OPERATING DATA REPORT

DOCKET NO. 050-373
UNIT LASALLE ONE
DATE March 11, 1996
COMPLETED BY M.J. CIALKOWSKI
TELEPHONE (815)-357-6761

OPERATING STATUS

1. REPORTING PERIOD: February 1996 — GROSS HOURS IN REPORTING PERIOD: 696

2. CURRENTLY AUTHORIZED POWER LEVEL (MWt): 3,323 — MAX DEPEND CAPACITY (MWe-Net): 1,036
DESIGN ELECTRICAL RATING (MWe-N: 1,078

3. POWER LEVEL TO WHICH RESTRICTED (IF ANY) (MWe-Net): N/A

4. REASONS FOR RESTRICTION (IF ANY): N/A

	REPORTING PERIOD DATA		
	THIS MONTH	YEAR-TO-DATE	CUMULATIVE
5. REACTOR CRITICAL TIME (HOURS)	0.0	585.5	75,527.5
6. REACTOR RESERVE SHUTDOWN TIME (HOURS)	0.0	0.0	1,641.2
7. GENERATOR ON-LINE TIME (HOURS)	0.0	582.3	73,922.4
8. UNIT RESERVE SHUTDOWN TIME (HOURS)	0.0	0.0	1.0
9. THERMAL ENERGY GENERATED (MWHt)	0	1,411,768	219,866,585
10. ELECTRICAL ENERGY GENERATED (MWHe-Gross)	0	470,404	73,514,256
11. ELECTRICAL ENERGY GENERATED (MWHe-Net)	-8,121	441,142	70,579,570
12. REACTOR SERVICE FACTOR (%)	0.0	40.7	70.8
13. REACTOR AVAILABILITY FACTOR (%)	0.0	40.7	72.4
14. UNIT SERVICE FACTOR (%)	0.0	40.4	69.3
15. UNIT AVAILIBILITY FACTOR (%)	0.0	40.4	69.3
16. UNIT CAPACITY FACTOR (USING MDC) (%)	-1.1	29.6	63.9
17. UNIT CAPACITY FACTOR (USING DESIGN MWe) (%)	-1.1	28.4	61.4
18. UNIT FORCED OUTAGE FACTOR (%)	0.0	0.0	7.8

19. SHUTDOWNS SCHEDULED OVER THE NEXT 6 MONTHS (TYPE, DATE, AND DURATION OF EACH): REFUEL, 01/25/96, 10 WEEKS

20. IF SHUTDOWN AT END OF REPORT PERIOD, ESTIMATED DATE OF STARTUP: 04/05/96

TABLE 2

D.2 AVERAGE DAILY UNIT POWER LEVEL (MWe-Net)

DOCKET NO. 050-373
UNIT LASALLE ONE
DATE March 11, 1996
COMPLETED BY M.J. CIALKOWSKI
TELEPHONE (815)-357-6761

REPORT PERIOD: February 1996

DAY	POWER	DAY	POWER
1	-12	17	-11
2	-12	18	-11
3	-12	19	-11
4	-12	20	-11
5	-15	21	-11
6	-12	22	-11
7	-12	23	-11
8	-11	24	-12
9	-12	25	-12
10	-13	26	-11
11	-12	27	-11
12	-12	28	-11
13	-12	29	-11
14	-11	30	
15	-11	31	
16	-11		

TABLE 3

D.3 UNIT SHUTDOWNS AND POWER REDUCTIONS > 20%
(UNIT 1)

YEARLY SEQUENTIAL NUMBER	DATE (YYMMDD)	TYPE F: FORCED S: SCHEDULED	DURATION (HOURS)	REASON	METHOD OF SHUTTING DOWN THE REACTOR OR REDUCING POWER	CORRECTIVE ACTIONS/COMMENTS (LER # if applicable)
01	960125	S	696.0	C	2	Refuel outage (L1R07)

SUMMARY OF OPERATION: The unit remained in a scheduled refueling outage for the entire month.

LASALLE NUCLEAR POWER STATION

UNIT 2

MONTHLY PERFORMANCE REPORT

February 1996

COMMONWEALTH EDISON COMPANY

NRC DOCKET NO. 050-374

LICENSE NO. NPF-18

TABLE OF CONTENTS
(UNIT 2)

I. INTRODUCTION (UNIT 2)

The LaSalle County Nuclear Power Station is a two-Unit facility owned by Commonwealth Edison Company and located near Marseilles, Illinois. Each unit is a Boiling Water Reactor with a designed net electrical output of 1078 Megawatts. Waste heat is rejected to a man-made cooling pond using the Illinois river for make-up and blowdown. The architect-engineer was Sargent and Lundy and the contractor was Commonwealth Edison Company.

Unit two was issued operating license number NPF-18 on December 16, 1983. Initial criticality was achieved on March 10, 1984 and commercial power operation was commenced on October 19, 1984.

This report was compiled by Michael J. Cialkowski, telephone number (815)357-6761, extension 2056.

II. MONTHLY REPORT

A. SUMMARY OF OPERATING EXPERIENCE (Unit 2)

Day	Time	Event
1	0000	Reactor critical, Generator on-line at 1130 Mwe.
2	0200	Reduced power level to 1065 Mwe to transfer the Feedwater system Heater Drain pumps, Condensate/Condensate Booster pumps and surveillance performance.
	1100	Increased power level to 1130 Mwe.
4	2037	Manual Reactor scram due to loss of transformer cooling on the '2E' Main Power Transformer.
7	1020	Reactor critical.
8	0930	Manual Reactor scram for maintenance on the number 4 Main Turbine Control Valve.
9	1828	Reactor critical.
11	0225	Generator on-line at 60 Mwe.
	2250	Generator off-line for maintenance on the Main Power Transformer disconnect.
12	1252	Generator on-line at 60 Mwe.
15	0200	Power level at 1050 Mwe.
16	0100	Reduced power level to 800 Mwe for rod set performance.
17	0400	Increased power level to 1100 Mwe.
23	2200	Reduced power level to 850 Mwe to place the '2A' Turbine Driven Reactor Feedpump off-line for maintenance.
24	2200	Increased power level to 1000 Mwe.
25	2100	Reduced power level to 930 Mwe to place the '2A' Turbine Driven Reactor Feedpump on-line.
26	1700	Increased power level to 1035 Mwe.
29	2400	Reactor critical, Generator on-line at 1135 Mwe.

B. AMENDMENTS TO THE FACILITY OR TECHNICAL SPECIFICATION

On February 16, 1996, Amendment 94 was issued to license NPF-18 (Unit 2). This amendment removed the accelerated testing and special reporting requirements associated with the emergency diesel generators.

C. SUBMITTED LICENSEE EVENT REPORTS (Unit 2)

LER No.	Occurrence Date	Description
96-001	01/18/96	During a Technical Specification hourly fire watch surveillance in effect on the Unit 2 Division I, II, and III Core Spray Cooling Pump(CSCS) rooms, the Division I room was not being observed as required.

D. DATA TABULATIONS (Unit 2)

1. Operating Data Report (See Table 1)

2. Average Daily Unit Power Level (See Table 2)

3. Unit Shutdowns and Significant Power Reductions (See Table 3)

E. UNIQUE REPORTING REQUIREMENTS (UNIT 2)

1. Safety Relief Valve Operations
   (None)

2. Major Changes to Radioactive Waste Treatment Systems
   (See attached document titled "Major Change To Radwaste")

3. Static O-Ring Failures
   (None)

4. Changes to the Off-Site Dose Calculation Manual
   (None)

TABLE 1

D.1 OPERATING DATA REPORT

DOCKET NO. 050-374
UNIT LASALLE TWO
DATE March 11, 1996
COMPLETED BY M.J. CIALKOWSKI
TELEPHONE (815)-357-6761

OPERATING STATUS

1. REPORTING PERIOD: February 1996 — GROSS HOURS IN REPORTING PERIOD: 696

2. CURRENTLY AUTHORIZED POWER LEVEL (MWt): 3,323 — MAX DEPEND CAPACITY (MWe-Net): 1,036
DESIGN ELECTRICAL RATING (MWe-Net): 1,078

3. POWER LEVEL TO WHICH RESTRICTED (IF ANY) (MWe-Net): N/A

4. REASONS FOR RESTRICTION (IF ANY): N/A

	REPORTING PERIOD DATA		
	THIS MONTH	YEAR-TO-DATE	CUMULATIVE
5. REACTOR CRITICAL TIME (HOURS)	601.3	1,345.3	72,634.9
6. REACTOR RESERVE SHUTDOWN TIME (HOURS)	0.0	0.0	1,716.9
7. GENERATOR ON-LINE TIME (HOURS)	532.2	1,276.2	71,117.7
8. UNIT RESERVE SHUTDOWN TIME (HOURS)	0.0	0.0	0.0
9. THERMAL ENERGY GENERATED (MWHt)	1,588,659	3,930,132	215,899,387
10. ELECTRICAL ENERGY GENERATED (MWHe-Gross)	532,184	1,333,603	72,231,459
11. ELECTRICAL ENERGY GENERATED (MWHe-Net)	514,471	1,287,289	69,439,961
12. REACTOR SERVICE FACTOR (%)	86.4	93.4	72.9
13. REACTOR AVAILABILITY FACTOR (%)	86.4	93.4	74.6
14. UNIT SERVICE FACTOR (%)	76.5	88.6	71.4
15. UNIT AVAILIBILITY FACTOR (%)	76.5	88.6	71.4
16. UNIT CAPACITY FACTOR (USING MDC) (%)	71.3	86.3	67.3
17. UNIT CAPACITY FACTOR (USING DESIGN MWe) (%)	68.6	82.9	64.6
18. UNIT FORCED OUTAGE FACTOR (%)	23.5	11.4	10.0

19. SHUTDOWNS SCHEDULED OVER THE NEXT 6 MONTHS (TYPE, DATE, AND DURATION OF EACH): REFUEL, 09/07/96, 10 WEEKS

20. IF SHUTDOWN AT END OF REPORT PERIOD, ESTIMATED DATE OF STARTUP: N/A

TABLE 2

D.2 AVERAGE DAILY UNIT POWER LEVEL (MWe-Net)

DOCKET NO. 050-374
UNIT LASALLE TWO
DATE March 11, 1996
COMPLETED BY M.J. CIALKOWSKI
TELEPHONE (815)-357-6761

REPORT PERIOD: February 1996

DAY	POWER	DAY	POWER
1	1,099	17	1,055
2	1,092	18	1,063
3	1,099	19	1,085
4	940	20	1,101
5	-14	21	1,100
6	-12	22	1,101
7	-12	23	1,069
8	-12	24	851
9	-12	25	929
10	-13	26	1,057
11	173	27	1,104
12	16	28	1,108
13	527	29	1,107
14	908	30	
15	994	31	
16	930		

TABLE 3

D.3 UNIT SHUTDOWNS AND POWER REDUCTIONS > 20%
(UNIT 2)

YEARLY SEQUENTIAL NUMBER	DATE (YYMMDD)	TYPE F: FORCED S: SCHEDULED	DURATION (HOURS)	REASON	METHOD OF SHUTTING DOWN THE REACTOR OR REDUCING POWER	CORRECTIVE ACTIONS/COMMENTS (LER # if applicable)
02	960204	F	149.8	A	2	Manual Reactor scram due to loss of cooling on the '2E' Main Power Transformer and maintenance on the number 4 Turbine Control Valve.
03	960211	F	14.0	4	4	Generator taken off-line to perform maintenance on the Main Power Transformer disconnect. Reactor remained critical.

SUMMARY OF OPERATION: The unit started the month on-line at high power. A manual reactor scram was initiated on 02/04/96 due to loss of cooling on a Main Power Transformer. The Reactor was brought to criticality on 02/07/96. A manual Reactor scram was again initiated on 02/08/96 for repair of a Main Turbine Control valve. The unit was briefly returned to the system grid on 02/11/96. The generator was taken off-line for repair of a Main Power Transformer disconnect. The unit was returned to service on 02/12/96. The unit remained on-line for the remainder of the month. Several minor power reductions were required during the month due to maintenance, surveillance and testing activities.

MAJOR CHANGE TO RADWASTE

USE OF VECTRA ROVER™ SYSTEM TO PROCESS FLOOR DRAIN, CHEMICAL FLOOR DRAIN, AND EQUIPMENT DRAIN WASTE STREAMS

The following information is being submitted in accordance with Technical Specification 6.9:

- ***6.9.1.a.1 A summary of the evaluation that led to the determination that the change could be made in accordance with 10 CFR 50.59;***

  A copy of the approved safety evaluation (10 CFR 50.59 evaluation) is attached. *(See Attachment A)*. The evaluation is summarized as follows:

  A mobile vendor system (VECTRA) will be used to process water collected by the WF (Floor Drain) and WZ (Chemical Drain) systems. The vendor system will be located in the South Intermediate Storage Area of the Radwaste Truck Bay (RWTB). The mobile vendor system will also be used to process concentrated wastes generated during the processsing of water from the WF and WZ systems. The mobile vendor system may be optionally used to process WE (Equipment Drain) water.

  Accident scenarios previously evaluated in the SAR are not impacted by this change because there are no changes to the operating conditions of plant equipment *(pressures/temperatures)* with respect to design criteria or applicable design codes. The mobile vendor system has been conservatively constructed to meet Reg Guide 1.143 requirements.

  Accident scenarios introduced by use of the mobile vendor system are bounded by those presented in the UFSAR *(especially 15.7.3)*.

- ***6.9.1.a.2 - Sufficient detailed information to totally support the reason for the change without benefit or additional or supplemental information;***

  Currently the station employs evaporators to process the WF and WZ waste streams. Annual maintenance of the evaporators imposes a significant radiation exposure burden on Operating and Maintenance personnel. In addition, the evaporators generate a concentrated waste stream which must be solidified to meet applicable transportation and disposal regulations. Solidification is a relatively inefficient method of packaging solid waste with respect to burial volume.

  The mobile vendor system utilizes state of the art technology to process the waste streams. Effluent quality will meet existing specifications for Cycled Condensate (CY) water and is assured by utilizing existing instrumentation which causes off-standard water to be shunted back to the Collector Tank.

  The vendor system is fully automated and thereby minimizes operator radiation exposure. The system utilizes very few moving parts and therefore primary maintenance is expected to involve the infrequent replacement of filter elements.

  The mobile system generates a waste stream which will be processed via a field-tested Radwaste Volume Reduction (RVR) system. Processing through the RVR system produces a dry powdery waste solid waste and is very efficient with respect to burial volume.

- ***6.9.1.a.3 - A detailed description of the equipment, components, and processes involved and the interfaces with other plant systems;***

  A detailed description of the mobile vendor system is provided in Attachment B.

  The mobile vendor system will receive waste streams via piping installed under a station Design Change *(DCP 95000140)*. The new piping receives feed from the WZ transfer pump an can be cross-tied to receive waste from the WF system.

  Processed water is returned to the station via piping installed under the same Design Change. The new piping ties into existing distillate piping for the 1WF Evaporator. The final flowpath of the processed water is identical to the distillate of the evaporators.

- ***6.9.1.a.4 - An evaluation of the change which shows the predicted releases of radioactive materials in liquid and gaseous effluents and/or quantity of solid waste that differ from those previously predicted in the license application and amendments thereto;***

  The mobile vendor system will be processing existing liquid radwaste streams and serves as a replacement for the evaporators. The new process configuration allows for the processed water to be returned to the station where it is then treated identical to the original evaporator distillate. There is no net change to the liquid effluent treatment.

  The mobile vendor system is located in the station's South Intermediate Storage Area which is subject to the Radwaste Building Ventilation system (VW). All potential gaseous effluents will be handled by the VW system and there is therefore no net change to the gaseous effluents as previously estimated in the license application.

  Solid waste produced from the mobile vendor system will be packaged for disposal in accordance with the station's Process Control Program to ensure compliance with applicable transportation and disposal regulations. Total quantity of solid radwaste is expected to decrease given the greater packaging efficiency of the vendor's RVR system. Since the liquid radwaste streams remain unchanged, the total radioactive quantity in the resultant solid radwaste will remain consistent with the original license application quantities.

- ***6.9.1.a.5 - An evaluation of the change which shows the expected maximum exposures to individual in the unrestricted area and to the general population that differ from those previously estimated in the license application and amendments thereto;***

  The mobile vendor system will be located in the South Intermediate Storage area which was originally designed to store 395 drums with dose rates in the 1.5 R/hr - 5 R/hr range. The mobile vendor system employs water and steel shielding to ensure that general area dose rates in the area are maintained ALARA. *(significantly lower than 1.5 R/hr)*. Since the dose rates in the room will be maintained significantly lower than the original design, expected exposures to individuals in the unrestricted area and to the general population are well below those previously estimated in the license application and amendments.

- ***6.9.1.a.6 - A comparison of the predicted releases of radioactive materials, in liquid and gaseous effluents and in solid waste, to the actual releases for the period to when the changes are to be made;***

  Liquid effluent releases are unaffected by this change because the final processing configuration of the treated water remains unchanged.

  Gaseous effluent releases are unaffected by this change because the vendor system is located in the Radwaste Building and therefore is subject to an existing ventilation system *(VW)*.

  A comparison between the existing annual solid waste generation *(based on 1993 -1995 data.)* and predicted annual solid waste generation is as follows:

Dry Solids	N/A	142
Membranes/Filters	N/A	52
Resin	N/A	60
Subtotal	N/A	254
TOTAL *(As Packaged)*	595[1]	365

(1) Based on the average burial volumes for 1993,1994, and 1995.

- ***6.9.1.a.7 - An estimate of the exposure to plant operating personnel as a result of the change;***

  Operation of the mobile vendor system will replace the need for the evaporators and the associated annual dose costs for Evaporator Operation/Maintenance. These dose costs are significant *(25 - 40 Person-Rem/Yr)*. These dose costs are based on previous dose history of previous Evaporator Outages. These dose figures are conservative in that dose costs attributed directly to Evaporator Operation are not included. Operation/Maintenance dose costs for the mobile vendor system are projected as follows:

System Operation	.520
Filter Replacement	.500
RO Membrane Replacement	.200
Polisher Resin Replacement	.050
TOTAL	1.2070

- ***6.9.1.a.8 - Documentation of the fact that the change was reviewed and found acceptable by the Onsite Review and Investigative Function;***

  The use of the VECTRA Mobile Processing System *(ROVER™)* to process Equipment, Floor, and Chemical Drain waste streams was reviewed and found acceptable per Onsite Review OSR 96-002.

ATTACHMENT A

ATTACHMENT A

OSR REPORT

Date Assignment Made 1.3.96 Review Number 96.002

Date Findings and Recommendations are to be reported 1.15.96

Subject of Review: Safety Evaluation: Use of Mobile Vandor Skid to Process WE, WF, and WZ Water and to Process Solid Wastes

Findings and Recommendations:
Ensure proper notification is made for Major Change to Radwaste per T.S. 6.9 (AIR 373-130-96-00003)

Attachments:

	YES	NO
Should this report be sent to the Offsite Review and Investigative Function? (If YES is checked, complete Attachment B, then submit the Onsite Review to Offsite Review in accordance with LAP-1200-2 and Technical Specification 6.1.G.2.a(6).	X	--
Does this review include any commitments or corrective actions yet to be completed? If yes, include summary and NTS tracking is required. See Findings & Recommendation	X	--

PARTICIPANT	TITLE AS REQUIRED BY LAP-1200-1	DISCIPLINES	SIGNATURE/DATE
Chuck Jeanblanc		A	Charles Jeanblanc
JoAnn Shields		A, D, E, G	JoAnn Shields 1/31/96
Jim Bakie		A	A J. Bakie 2-14-96
Jim Dietz			Jim Dietz 2.19.96

Approved: _____
Station Manager

WLAP

F.1	Identification	
a	LaSalle Unit	0
b	System	WF/WZ/WE
c	OSR#	96-002
d	Item ID #/Rev	N/A

Attachment A

Safety Evaluation
Characterization of Change

e	Title: Use of Mobile Vendor System to Process WE, WF, and WZ Water and to Process Solid Wastes.

f	Description of Change: A mobile vendor system will be used to process water collected by the WF (Floor Drain) and
	WZ (Chemical Floor Drain) systems. The system will be located in the A DPU Intermediate Level Storage area and Truck
	Bay area . The mobile vendor system will also be used to process the concentrated wastes that are generated during the
	processing of water from the WF and WZ systems. The mobile vendor system may be optionally used to process WE
	(Equipment Drain) water.
g	Reason for Change: Provide a processing alternative to the evaporators. Utilization of the vendor system is significantly
	dose efficient and generates significantly less waste.

h	Effects of Change	Identify and describe each applicable Category below (Attach additional sheets as necessary) SEE text of procedure for examples.

(a) Mechanical (b) Structural (c) Seismic (d) Interaction with Adjacent Equipment
(e) Electrical (f) ~~Divisional Separation~~ (g) Fire (h) Fire Protection
(i) Instrumentation & Control (j) Equipment Operating Modes (k) Administrative Controls (l) ~~Performance of Actions~~
(m) Heating, Ventilation, or Air Conditioning (n) Radiological (o) ~~Reactivity Control~~
(p) Flood Protection (q) ~~Security~~ (r) ~~Other~~

a	Mechanical - Portions of the Vendor Liquid Processing System operate at high pressure, approximately 900 psig.
	However, since the liquid system does not operate at high temperature, a piping failure will not result in a significant
	blowdown. Break flow would be limited by an automatic trip of all pumps on detection of rapidly decreasing system
	pressure. The Volume Reduction System uses an electric steam generator to produce heating steam for the
	evaporization and volume reduction of concentrated wastes. Failure of the steam generator piping would
	result in a blowdown which is limited by the volume of the steam generator and its low operating pressure (10-15 psig).
b	Structural - Vendor equipment will be staged in the A DPU Intermediate Level Storage area and Truck Bay. The floor
	loading represented by this equipment has been evaluated and found to be within the load rating for the areas.
c	Seismic - The vendor equipment is not designed as seismic, which is consistent with the design of the existing radwaste
	processing systems.
d	Interaction with Adjacent Equipment - Use of the vendor system will be in lieu of the evaporators and requires that process
	flow be diverted from the evaporators to the vendor system. This will be accomplished via valve line-ups. Water from the
	WF/ WZ system will be pumped to a vendor tank by the appropriate waste process pumps. Clean processed water will be
	returned to the WF system floor drain head tank. A control panel for the vendor equipment will be located in the radwaste
	control room. The control panel will only interact with the vendor equipment.
e	Electrical - All vendor equipment will be powered from an existing non-safety related bus or from a dedicated portable
	diesel generator located outside the Radwaste Building. The non-safety related bus has the capacity to accept the
	additional electrical load.
h	Fire Protection - The increase in fire loading represented by the vendor equipment has been evaluated and found to be
	within the capacity of the fire zone. The temporary diesel generator stored outside the Radwaste Building will be a
	sufficient distance away such that the fire loading from the diesel fuel will not be a concern.
i	Instrumentation and Controls - Once the vendor liquid waste processing equipment is placed into operation, it will operate
	automatically to provide the necessary backflushing of filters. Also, if the vendor tank reaches a high level, the tank will be
	automatically isolated and WF/WZ system flow will be diverted to the WF system floor drain collector tank. Leak detection
	for the vendor equipment will be provided via moisture sensors that are installed in equipment drip pans.

F.2	Effects of Change	Identify and describe each applicable Category below (Attach additional sheets as necessary) SEE text of procedure for examples.

(a) Mechanical	(b) Structural	(c) Seismic	(d) Interaction with Adjacent Equipment
(e) Electrical	(f) ~~Divisional Separation~~	(g) EQ	(h) Fire Protection
(i) Instrumentation & Control	(j) Equipment Operating Modes	(k) Administrative Controls	(l) ~~Performance of Actions~~
(m) ~~Heating, Ventilation, or Air Conditioning~~		(n) Radiological	(o) ~~Reactivity Control~~
(p) Flood Protection	(q) Security	(r) ~~Other:~~ _____	

	Sampling capability is provided at all process points to monitor system performance. The Volume Reduction Process
	is manually controlled. The blender/dryer is equipped with viewer ports and wiper assemblies to permit the operator
	to view the level of waste slurry both locally and remotely via a CCTV camera. During volume reduction, process
	parameters are monitored and equipment is tripped if off-normal conditions are detected. Interlocks are provided
	to prevent the inadvertent dumping of solid waste from the blender/dryer. Sonic level indication and remote visual
	display is provided to monitor the transfer of solidified waste from the blender/dryer to HICs.
j	Equipment Operating Modes - While the vendor mobile system is in use, operation of the WF and WZ system evaporators
	will not be required.
k	Administrative Controls - All vendor equipment will be operated in accordance with approved procedures. The procedures
	will prescribe appropriate actions when off-normal operating conditions are identified.
n	Radiological - The vendor equipment will be located in the A DPU Intermediate Level Storage area and Truck Bay.
	Shielding will be installed as required to maintain area dose rates ALARA.
p	Flood Protection - The vendor equipment includes a 15,000 gallon tank. A berm will be installed in the Intermediate Level
	Storage area and the existing floor drains will be blocked off such that upon a postulated tank failure, the entire contents of
	the tank will be contained within the area. Floor drains in the Truck Bay are adequate to collect the contents of the
	volume reduction equipment if its pressure boundary were to fail.
m	Heating, Ventilation, or Air Conditioning - The vendor system will be located in the South Intermediate Storage Area located
	in the Intermediate Truck Bay. All ventilation/exhaust pathways from the vendor system will be handled by existing HVAC
	systems in the RW Building. *(I.e. the vendor's ventilation system will interface with the station's ventilation exhaust system).*

F.3	Initial Screening of Proposed Change				
a.	IS THIS CHANGE EXEMPT FROM EVALUATION?				
1	Editorial Change	YES		NO	X
2	Fully evaluated in a previously approved Evaluation (Attach copy)	YES		NO	X
	(IF 2 above = "YES" refer to Step F.3.a.2 for Att. F/ Transmittal requirements) *If 1 or 2 above = "YES", OBTAIN approval, PROCEED with change (EXIT this procedure)*			*All answers NO:* • Sign Preparer block • <-- "N/A" approval • CONTINUE below:	
	2/20/96 / Prepared by / Date	N/A / Approved by / Date			
3	Is the proposed change a revision to Technical Specifications?	YES		NO	X
	If YES, Proceed to LAP 1200-12 "Technical Specification Changes"(EXIT this procedure)			*If NO*, CONTINUE with 2nd page of Attachment A.	

F.1	Identification
a	LaSalle Unit 0
b	Item ID#/Rev OSR 96-002

Attachment A
Document Review

Title: Use of Mobile Vendor System to Process WE, WF, and WZ Water and to Process Solid Wastes.

F.3	Initial Screening of Proposed Change
b.	IS A 50.59 EVALUATION (Attachment C) MANDATORY?
	Test or Experiment as defined by Procedure E.5 — YES [ ] NO [X]
	If "YES" Proceed directly to Attachment C (Attachment B not required)
	If "NO", CONTINUE with Screening, Attachment B

NOTE: Regardless of whether Attachment B or C is used, the area below MUST be used to record the documents reviewed. (Attach additional sheets as necessary)

F.4 List Documents Reviewed. Identify applicable section(s), SUMMARIZE review below:

(a) UFSAR (b) Technical Specifications (c) ODCM (d) Administrative Technical Requirements
(e) SER(s) (f) FSAR/Question(s) (g) PCP (h) Fire Protection Report
(i) CFR (j) NUREG (k) Reg Guides (l) ASME doc(s)
(m) EQ Binder (n) Component Classification Binder (o) GESTAR (p) COLR
(q) ZyFIND (list criteria used to find applicable CONTROLLED documents) (r) OTHER (describe): _____

( )	Section	Summary
a	2.4.12	This section states that all radwaste tanks are stored in concrete cells below grade with the exception
		of the concentrated waste tanks. The concentrated waste tanks are located above the drumming
		station and are housed in separate rooms. Each room has a metallic liner to prevent the spillage of
		radwaste due to a postulated radwaste tank failure.
a	3.1.2.6.2.3	This section states that since radwaste systems are used almost continuously, they do not require
		regularly scheduled testing with the exception of the discharge isolation valve which is tested
		periodically.
a	3.2.2	This section identifies the radwaste systems as being Seismic Category II.
a	3.8.4.1	This section identifies the Radwaste Building waste storage as being a non-Seismic Category I safety-
		related structure.
a	7.7.11	This section describes the liquid radwaste system instrumentation and controls. Radwaste system
		instrumentation and controls support manual processing and disposing of process wastes. The control
		system does not monitor radiation levels. Tank levels are recorded in the radwaste control room and
		high tank levels are annunciated in the radwaste control room. All tank levels are set to alarm at about
		90% of overflow level.
a	11.2.1	The safety design basis of the liquid radwaste system - the system is designed so that all liquid
		radwaste discharged from the site will have radioactivity concentrations within the limits specified by
		10CFR20 and meet the design objectives specified in 10CFR50 Appendix I. The station's liquid
		radwaste system is designed to permit maximum recycling of plant water. The liquid radwaste system

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F.4	List Documents Reviewed. Identify applicable section(s), SUMMARIZE review below:

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(e) SER(s) (f) FSAR/Question(s) (g) PCP (h) Fire Protection Report
(i) CFR (j) NUREG (k) Reg Guides (l) ASME doc(s)
(m) EQ Binder (n) Component Classification Binder (o) GESTAR (p) COLR
(q) ZyFIND (list criteria used to find applicable CONTROLLED documents) (r) OTHER (describe): _____

( )	Section	Summary
		is designed to minimize radiation exposure to operating personnel. Compartments which contain
		wastes being processed have floor and wall coatings for ease of contamination in case of spills.
a	Table 11.2-6	Normal Floor Drain/Chemical Drain inputs are as follows:
		Floor drains - 5000 GPD/365 days per year
		Chemical Drains - 3010 GPD/365 days per year *(assuming resin regeneration)*
a	Table 11.2-7	Design basis Process Decontamination Factors (DF) for the Evaporators is 10^3 for halogens and 10^4
		for other nuclides.
a	11.2.1.8	This section states that equipment in the liquid radwaste system which contains radioactive waste is
		classified as Quality Group D.
a	11.2.1.9	This section describes general design features for liquid radwaste systems.
a	11.2.1.10	This section describes liquid radwaste tank level control features. Tank high levels are annunciated in
		the radwaste control room. Tank overflows are hard piped to an adjacent sump having redundant
		capacity.
a	11.2.2	Floor drain/chemical waste demineralizers are designed to provide effluent conductivity of .1μmho/cm.
a	11.2.2.2	Floor Drain Processing Subsystem - floor drain water is processed through evaporators which produce
		a condensed distillate. This distillate is pumped to floor drain head tanks. Conductivity instrumentation
		is provided with automatic return to the collector tank on high conductivity.
a	11.2.2.3	Chemical Waste Subsystem - Water is neutralized *(as appropriate)* and then processed through an
		evaporator. The resultant distillate is pumped to a head tank. The chemical waste system is cross-tied
		with the floor drain subsystem to provide process redundancy.
a	11.2.2.5.5	This section describes the function of the concentrator waste tanks.
a	11.2.3.1	Liquid radwaste processing results in two streams - *Reject*, which is solidified in cement
		and *Product or clean*, which is
		returned to the CY tanks providing water quality is acceptable.
a	11.4.1	This section describes the design basis for the solid radwaste system. It states that a system bypass
		allows connection to portable, state of the art equipment.
a	11.4.1.2	This section describes the safety design basis of the solid radwaste system. The solid radwaste
		system is enclosed in a Seismic Category II structure. All piping and components are designed and
		constructed in accordance with the requirements of NRC Quality Group D. The seismic criteria
		for structures housing solid waste systems described in Reg. Guide 1.143 are not applicable to
		portable solid waste systems.
a	12.1.2.2.5	Radioactive fluids are to be contained and controlled to keep the release of radioactive materials to
		general access areas and the environment ALARA. The floor drain system is designed to handle
		volumes of liquids up to 300 gpm.
a	15.7.3	This section addresses postulated radioactive releases due to liquid radwaste tank failure. The tank
		with the largest quantity of significant radionuclides is considered. The tank considered is a
		Concentrated Waste Tank and the postulated event assumes a complete release of the tank's
		contents. The tank failure evaluation assumes that all the liquid contents are contained in the lined

NOTE: Regardless of whether Attachment B or C is used, the area below MUST be used to record the documents reviewed. (Attach additional sheets as necessary)

F.4	List Documents Reviewed. Identify applicable section(s), SUMMARIZE review below:

(a) UFSAR (b) Technical Specifications (c) ODCM (d) Administrative Technical Requirements
(e) SER(s) (f) FSAR/Question(s) (g) PCP (h) Fire Protection Report
(i) CFR (j) NUREG (k) Reg Guides (l) ASME doc(s)
(m) EQ Binder (n) Component Classification Binder (o) GESTAR (p) COLR
(q) ZyFIND (list criteria used to find applicable CONTROLLED documents) (r) OTHER (describe): _____

( )	Section	Summary
		tank room *(i.e., the liquid waste is unable to seep out of the cubicle and is therefore contained).*
		Release to the air is via the radwaste ventilation exhaust *(which is eventually released to the environment via the station vent stack).* Radiological effects are based on short term release to the atmosphere and resultant whole body dose from gamma radiation emitted by iodine. Liquid releases will not have any adverse effects on the cooling lake or the Illinois river since the liquid is contained in the cubicle. Radwast tanks on 663' TB are below the level of the lake surface and therefore no liquid radwaste from these tanks would be released to the environment.
b	1.33	The Process Control Program (PCP) shall contain the current formulas, sampling, analyses, test, and determinations to be made to ensure that processing and packaging of solid radioactive wastes based on demonstrated processing of actual or simulated wet solid wastes will be accomplished in such a way as to assure compliance with 10CFR20, 61, and 71, State regulations, burial site requirements, and other requirements governing the disposal of solid radioactive wastes.
b	3/4 11.1; B3/4 11.1	The quantity of radioactive material in any outside temporary tanks shall be limited to ODCM limits.
b	6.7	Changes to the Process Control Program (PCP) shall be documented. Documentation shall contain sufficient information to support the change along with appropriate analyses or evaluations. Documentation shall also contain a determination that the change will maintain conformance to existing Federal, State, or other applicable regulations. The PCP change shall become effective upon review and acceptance by the Onsite Review and Investigative Function. (OSR)
b	6.9	Major Changes to Radioactive Waste Treatment Systems shall be reported to the NRC in the Monthly Operating Report for the period in which the evaluation was reviewed by the OSR. The report contents are also specified.
c	12.3.1.B.4	The radioactive contents of outside temporary holdup tanks within the site should be limited such that in the event of an uncontrolled release, the concentration of radioactive material released from the site is limited to 10 times the concentration value in Appendix B, Table 2, Column 2 to 10CFR20.1001-20.2402 for radionuclides other than dissolved or entrained noble gases. For dissolved or entrained noble gases, the concentration shall be limited to the concentrations specified in Table 12.3.1-1 of the ODCM.
e	15.3.9	In the event of a spill, liquid wastes in the radwaste treatment systems will be retained within metal liners surrounding the tanks within the radwaste building rooms. Each liner can be drained and processed by alternate routes in the radwaste treatment subsystems.
g	E.11	The following guidance shall be considered when using any portable solidification and/or dewatering system. Tanks containing wet wastes are limited to in-plant installation, they should not be part of a portable system. The use of flexible piping should be limited to necessary interfaces with plant systems. Portable systems should be located on concrete pads with curbs and drainage provisions for containing radioactive spills. Provisions should be available for interfacing with the plant's liquid radwaste system. Portable systems should have integral ventilation systems with either self-contained filters or interface with the plant's ventilation exhaust system.

NOTE: Regardless of whether Attachment B or C is used, the area below MUST be used to record the documents reviewed. (Attach additional sheets as necessary)

F.4	List Documents Reviewed. Identify applicable section(s), SUMMARIZE review below:

(a) UFSAR (b) Technical Specifications (c) ODCM (d) Administrative Technical Requirements
(e) SER(s) (f) FSAR/Question(s) (g) PCP (h) Fire Protection Report
(i) CFR (j) NUREG (k) Reg Guides (l) ASME doc(s)
(m) EQ Binder (n) Component Classification Binder (o) GESTAR (p) COLR
(q) ZyFIND (list criteria used to find applicable CONTROLLED documents) (r) OTHER (describe): _____

( )	Section	Summary
g	F.6.b	Written, onsite reviewed, and approved solid radwaste vendor procedures and their revisions are used
		to implement the LSCS PCP.
g	Attachment E	LSCS Controls on Vendor's Waste Processing Procedures
g	Attachment F	LSCS Requirements for Dewatering Radioactive Waste
i	10CFR61.55, 56	These 10CFR sections describe how wastes should be classified for near surface disposal.
k	1.143	Design Guidance for Radioactive Waste Management Systems, Structures, and Components Installed
		in Light-Water Cooled Nuclear Power Plants - All tanks located outside reactor containment and con-
		taining radioactive materials in liquids should include the following design features ; provisions to
		monitor and control tank levels, routing of tank overflows, drains, and sample lines to the liquid
		radwaste treatment system, indoor tanks should have curbs or elevated threshholds with floor drains
		routed to the liquid radwaste treatment system. The systems should be designed and tested to
		requirements set forth in Table 1. *(e.g. All welding is performed per ASME Code Title IX, materials are*
		per ASME Code Section II, piping is designed , fabricated, and tested per ANSI B31.1)

F.1	Identification	Attachment B Safety Evaluation Screening
a	LaSalle Unit 0	
b	Item ID#/Rev OSR 96-002	Title: Use of Mobile Vendor System to Process WE, WF, and WZ Water and to Process Solid Wastes

By law (10CFR50.59), Attachment C is REQUIRED for any change to the facility or its operation as described by the SAR. Determine if this change meets this requirement by evaluating the effects of the proposed change for each question below. The area below each question MUST contain some discussion of the conclusion. The evaluator should attempt to correctly conclude "YES" for each question to ensure a conservative approach.

F.5	EVALUATE Effects Considering the effects identified on Att A. Will the change (including any single failure):	YES	NO
a	Alter the design or function of any System, Structure or Component As Described in the SAR?	X	
	Section 11.2 of the UFSAR describes the plant equipment that is currently used for processing wastes from the Floor Drain system and Chemical Waste system. Mobile vendor equipment will be used to process the wastes collected by these systems instead of the WF and WZ system evaporation and ion exchange equipment.		
b	Alter any procedural methods or Administrative limits for performance of actions Described in the SAR?		
	N/A		
c	Degrade the performance of any required Equipment Important to Safety (except as specifically allowed by Technical Specifications)?		
	N/A		
d	Affects failure modes or introduce new failure modes of any Equipment Important to Safety?		
	N/A		
e	Align or reconfigure any required Equipment Important to Safety (except as specifically allowed by Technical Specifications)?		
	N/A		
f	*If ANY answer above is "YES"* * "N/A" any questions F.5.a through F.5.e above that were left unanswered * "N/A" signatures in section "g" below * COMPLETE Attachment C, "50.59 Safety Evaluation" 2/20/96 Prepared by / Date		
g	*ALL answers No:* *"N/A" signature in section "f" above *OBTAIN Approval *PROCEED with change (Attachment C Evaluation NOT required.) N/A / Prepared by / Date N/A / Approved by / Date		

Attachment C
Safety Evaluation Worksheet

F.1	Identification	
a	LaSalle Unit 0	
d	Item ID#/Rev OSR 96-002	Title: Use of Mobile Vendor System to Process WE, WF, and WZ Water and to ProcessSolid Wastes

F.6	LIST all Transients, Accidents, and Technical Specifications which are potentially affected by proposed change:
UFSAR 2.4.12	Dispersion, Dilution, and Travel Times of Accident Releases of Liquid Effluents in Surface Water
UFSAR 3.2.2	System Quality Group Classification
UFSAR 7.7.11	Liquid Radwaste System Instrumentation and Control
UFSAR 11.2.1.10	Tank Level Control
UFSAR 11.4.1.2	Safety Design Basis
UFSAR 15.7.3	Postulated Radioactive Release Due to Liquid Radwaste Tank Failure

F.7	Discuss safety EFFECTS of change (Also see body of procedure (F.2) for examples for consideration.)

(a) Effects on system(s) Safety Design Basis

(b) Introduction of new failure modes or changes to failure effects

(c) Changes to operating conditions of equipment (pressures, temperatures, cooldown rates, etc) with respect to design criteria or applicable codes.

(d) Effects on assumed operator actions or role during accidents

(e) Changes to inventory of hazardous material (combustible materials, radioisotopes).

(f) Effect on peak values of critical parameters in accident analysis (e.g. peak pressures, temperatures).

(g) Other (describe): _____

a	The safety design basis of the Liquid Radwaste System is to limit the radioactive concentration of liquid radwaste
	discharged from the site to well within the limits specified in 10CFR20. This is achieved by sampling treated liquid
	radwaste prior to discharge and by establishing the appropriate dilution rates during discharge. The Mobile Vendor System
	does not alter these aspects of the existing Liquid Radwaste System at LSCS. Therefore, there will be no impact to the
	safety design basis of the Liquid Radwaste System. The safety design basis of the Solid Radwaste System is to package
	solid wastes for offsite shipment and burial or onsite storage in accordance with applicable NRC, DOT and burial site
	regulations. The Mobil Vendor System incorporates the safety design features of existing in-plant equipment.
	System controls are designed to avoid a malfunction or spills due to operator error.
b	The Vendor Liquid Processing System uses a filtration and reverse osmosis process (and polishing if required) to process
	liquid radwaste. Active failures of valves and pumps will only render the Vendor Liquid Processing System inoperable and
	will not affect any permanent plant systems. To prevent overpressurization of system components, numerous
	pressure transmitters provide indication as well as pump trips on high pressure signals.
	Each skid of the Vendor Liquid Processing System has a drip pan to collect minor leakage that may occur. To
	detect and isolate leakage that may occur, a leakage detection system has been designed to detect the presence of water
	in the drip pans or on the floor. If water in the drip pans exceeds 1/8" deep, all pumps and remote operated valves will be
	de-energized. Pumps will stop and remote isolation valves will close placing the system in a "safe shutdown" condition. A
	floor mounted sensor will be located to detect leakage from piping between the skids. Also, a rapidly decreasing pressure
	indication from any of the pressure transmitters that is not attributed to stopping a pump or a system alignment change will

F.7	Discuss safety EFFECTS of change (Also see body of procedure (F.2) for examples for consideration.)

(a) Effects on system(s) Safety Design Basis

(b) Introduction of new failure modes or changes to failure effects

(c) Changes to operating conditions of equipment (pressures, temperatures, cooldown rates, etc) with respect to design criteria or applicable codes.

(d) Effects on assumed operator actions or role during accidents

(e) Changes to inventory of hazardous material (combustible materials, radioisotopes).

(f) Effect on peak values of critical parameters in accident analysis (e.g. peak pressures, temperatures).

(g) Other (describe): _____

	cause the system to go into the same "safe shutdown" condition. System flow rates at each stage of the system will be
	compared by the control system. Discrepancies outside of allowable ranges will generate a warning signal at the control
	panel to alert the operator of potential leakage. A sample sink included with the Vendor Liquid Processing System will be
	provided with a three-position float switch. The high and low level setpoints will start and stop the sample sink drain pump,
	respectively. In addition, the high-high setpoint will shut off all continuous flows to the sample sink and generate an alarm
	at the control panel. The 15,000 gallon concentrates tank provided with the Vendor Liquid Processing System will have
	two independent sonic level controllers to monitor tank level. One of the controllers will provide all of the normal control
	functions for tank level. Both controllers will have a high level setpoint to automatically shut the concentrates tank inlet
	valve if the tank level increases above an acceptable level. Only one high level signal is required to generate this trip. As
	a backup to the sonic controllers, a conductive type level sensor will be provided to shut the concentrates tank inlet valve
	if the tank level reaches six inches from the top of the tank. Connections between the Vendor Liquid Processing System
	and existing plant piping will be by flanged connections. Hose connections will only be used to facilitate alignment of
	vendor equipment skids. The Vendor Volume Reduction System uses an evaporative process to reduce the volume
	of concentrated wastes. Wastes are de-watered to a dry powder form for onsite storage or shipment to a low level
	burial facility. A blender/dryer receives liquid waste from the vendor concentrates tank. The blender/dryer is equipped
	with viewing ports and wiper assemblies to permit the operator to view the level of waste slurry both locally and remotely
	via a CCTV camera. A steam generator provides heating steam to a steam jacket on the blender/dryer. Pressure
	instrumentation automatically trips the steam generator if abnormal pressure is detected in the blender/dryer.
	Powdered waste from the blender/dryer is transferred to a HIC via a dump valve in the bottom of the blender/dryer.
	Interlocks are provided to prevent the inadvertent dumping of waste from the blender/dryer. Sonic level indication
	and remote visual display via CCTV is provided to monitor the transfer of solidified waste from the blender/dryer
	to the HIC. A photo-electric beam indexes the HIC directly under the discharge chute of the blender/dryer and
	allows for an inflatable container seal to seal the upper lip of the container. Suction from a HEPA system is
	provided at the fill head to maintain positive ventilation control. A 50-ton chilled water system is used by the Volume
	Reduction System to condense the waste evaporate that is produced during the volume reduction process. The
	chiller will be located outside of the Radwaste Building and poses no hazard to the Station.
c	The Mobile Vendor System will not change the operating conditions of any existing plant equipment. Processed liquid
	radwaste returned to the WF system floor drain head tank will be at temperatures and pressures that are compatible
	with the existing plant equipment. All waste streams will be pumped to the vendor concentrates tank for solidification
	by the Vendor Volume Reduction Equipment. Solidified wastes will be stored in HICs which are currently approved for use
	at LSCS. The vendor system will utilize a holding tank to maintain inventory of the reject liquid until a target
	concentration is achieved. Guidance for use of portable solidification/dewatering systems *(outlined in LAP-200-6, PCP; reference Branch Technical Position ETSB 11-3)* was considered. The only exception taken was for the limitation on using
	in-plant tanks for wet waste storage. The vendor system uses a tank which is not in-plant, however the vendor system is

F.7	Discuss safety EFFECTS of change (Also see body of procedure (F.2) for examples for consideration.)

(a) Effects on system(s) Safety Design Basis

(b) Introduction of new failure modes or changes to failure effects

(c) Changes to operating conditions of equipment (pressures, temperatures, cooldown rates, etc) with respect to design criteria or applicable codes.

(d) Effects on assumed operator actions or role during accidents

(e) Changes to inventory of hazardous material (combustible materials, radioisotopes).

(f) Effect on peak values of critical parameters in accident analysis (e.g. peak pressures, temperatures).

(g) Other (describe): _____

	constructed to meet the requirements of Reg Guide 1.143. *(NOTE: Branch Technical Position ETSB-11-3 states that portable solidification/dewatering systems do not need to meet seismic requirements of Reg Guide 1.1.43.)* The tank will
	be located in the plant and will be bounded by UFSAR 15.7.3.
d	The Mobile Vendor System has no impact on assumed operator actions during accidents. The current UFSAR
	analysis of a radwaste tank failure does not take credit for any immediate operator action to mitigate the consequence
	of the failure. The contents of the tank are retained by a liner in the tank cubicle and there is no liquid release to
	the environment. Similarly, the vendor concentrates tank will be located in the Intermediate Level Storage area.
	The floor drains in the area will be blocked off and a berm will be installed such that, upon a postulated tank failure,
	the entire contents of the vendor concentrates tank will be retained within the area. The existing epoxy coating on
	the floor and walls of the Intermediate Level Storage area will prevent the tank contents from seeping through the
	the Radwaste Building foundation and into the ground water. Floor drains in the Truck Bay are adequate to collect
	the contents of the volume reduction equipment if its pressure boundary were to fail.
e	The additional combustible loading represented by the Mobile Vendor System has been evaluated and found to have
	no impact on the combustible limits established for the area. The temporary diesel generator located outside the
	Radwaste Building will be a sufficient distance away such that fire loading from the diesel fuel will not be a concern.
	(i.e. > 5 ft from RW building outer wall per NML Property Loss Prevention Standards III.E.1.d)
	The radioisotopic inventory of the Mobile Vendor System and the vendor concentrates tank will not exceed that
	assumed in the Concentrated Waste Tank, which is the radwaste tank failure presently analyzed in the UFSAR.
	Shielding will be provided as required to maintain the area dose rate ALARA.
f	The Mobile Vendor System does not effect the peak values of critical parameters that are assumed in accident
	analyses. The applicable critical parameters are radioisotopic contents and concentrations. Since the
	radioisotopic contents and concentrations of the Vendor Liquid Processing System, the vendor concentrates tank,
	and the Vendor Volume Reduction System are bounded by those assumed to be in the Concentrate Waste Tank,
	they will have no impact on the accident analyses.

F.1	Identification
a	LaSalle Unit 0
d	Item ID#/Rev OSR 96-002

Attachment C
50.59 SAFETY EVALUATION

Title: Use of Mobile Vendor System to Process WE, WF, and WZ Water and to Process Solid Wastes

By law, this Attachment is required to DOCUMENT an adequate basis for the determination that the proposed change meets the requirements of 10CFR50.59. Attach additional sheets as necessary to complete this documentation and reference them in your responses to the questions below.

F.8	Answer each question below, based upon the information obtained from Attachment C Worksheet	YES	NO
a	COULD the probability of an accident which has been previously evaluated in the SAR be increased?		X
	The probability of a radwaste tank failure is not increased because there are no changes to the operating conditions of plant equipment (pressures, temperatures) with respect to design criteria or applicable design codes. Also, the design standards for construction of the Mobile Vendor System are equivalent to those of the existing liquid radwaste equipment.		
b	COULD the consequences of an accident which has been previously evaluated in the SAR be increased?		X
	The consequences of a radwaste tank failure has not been increased because the radioisotopic contents and concentrations of the vendor concentrates tank are bounded by that assumed in the Concentrated Waste Tank. Also, the Intermediate Level Storage area will be capable of retaining the contents of the vendor concentrates tank upon a postulated tank failure.		
c	COULD the probability of a malfunction of Equipment important to Safety which has been previously evaluated in the SAR be increased?		X
	The probability of a malfunction of equipment important to safety is not increased because there are no changes to the operating conditions of plant equipment (pressures, temperatures) with respect to design criteria or applicable design codes. Numerous protective features have been provided which will detect abnormal conditions and prevent overpressurization of equipment and spillage of liquid and solid wastes from the Mobile Vendor System. Also, the design standards for construction of the Mobile Vendor System are equivalent to those of the existing liquid radwaste equipment. Plant power is supplied from a non-safety related bus.		
d	COULD the consequences of a malfunction of Equipment important to Safety which has been previously evaluated in the SAR be increased?		X
	The consequences of a malfunction of equipment important to safety has not been increased because the radioisotopic contents and concentrations of the vendor concentrates tank are bounded by that assumed in the Concentrated Waste Tank. Numerous protective features have been provided which will detect abnormal conditions and place the Mobile Vendor System in a "safe shutdown" condition. Also, the Intermediate Level Storage area will be capable of retaining the contents of the vendor concentrates tank upon a postulated tank failure. Floor drains in the Truck Bay are adequate to collect the contents of the Volume Reduction System if its pressure boundary were to fail.		
e	COULD the possibility of an accident of a DIFFERENT TYPE than any previously evaluated in the SAR be created?		X
	All credible failures, i.e., pressure boundary, off-normal system parameters, etc., have been considered and adequate protective features have been provided. Credible Mobile Vendor System failures are bounded by the existing accident analyses in the UFSAR. A different type of accident will not be created.		
f	COULD the possibility of a malfunction of Equipment important to Safety DIFFERENT than any previously evaluated in the SAR be created?		X
	All credible failures, i.e., pressure boundary, off-normal system parameters, etc., have been considered and adequate protective features have been provided. The Mobile Vendor System has limited interface with existing plant equipment and all process parameters are compatible with those interfaces. A different type of malfunction of equipment important to safety will not be created.		

By law, this Attachment is required to DOCUMENT an adequate basis for the determination that the proposed change meets the requirements of 10CFR50.59. Attach additional sheets as necessary to complete this documentation and reference them in your responses to the questions below.

F.8	Answer each question below, based upon the information obtained from Attachment C Worksheet	YES	NO
g	Will the margin of safety as defined in the basis of any Technical Specifications be reduced?		X
	The margin of safety defined in the Technical Specifications assure that an uncontrolled release of the contents of a radwaste tank will not exceed 10CFR20 limits. Since the radioisotopic contents and concentrations of the Mobile Vendor System are bounded by that of existing plant equipment and since failure of the vendor concentrates tank will not result in a liquid release to the environment, the margin of safety is not reduced.		

	If ANY answer e-g above is YES, DO NOT Proceed with change		
h	* "N/A" signatures below * CONTACT Regulatory Assurance to obtain NRC approval for proposed change.	N/A / Prepared by / Date	N/A / Approved by / Date
	ALL answer e-g above NO:		
i	*NO UNREVIEWED SAFETY QUESTION EXISTS * Complete Attachment D transmittal * Transmit copy of package to Reg. Assurance (per Att. D) * PROCEED with change	2/20/96 Prepared by / Date	2/20/96 Approved by / Date

Attachment D
10CFR50.59 Safety Evaluation Transmittal

F.1	Identification	
a	LaSalle Unit 0	
b	Item ID#/Rev OSR 96-002	Title: Use of Mobile Vendor System to Process WE, WF, and WZ Water and to Process Solid Wastes

F.9	SECTION 1 - To be completed by Preparer	YES	NO
a	Is this 50.59 Evaluation to be included in the NRC Annual Report?	X	
	"YES" If: 1) Attachment B screening required Attachment C completion (Change involves "Change to Facility or Operation as described in SAR", or a Test or Experiment)		
b	Is UFSAR Update Required?	X	
	LIST affected sections, ATTACH revision(s): 11.2.1		
c	Is this an evaluation of a proposed test or experiment that affects nuclear safety?		X
d	Is this an evaluation of a proposed change or modification to a system or equipment that affects nuclear safety?		X
e	Is this an evaluation of a proposed change to procedure that affects nuclear safety?		X
f	If ANY answer c through e above is YES, the Evaluation and the package need to be Onsite Reviewed 2/21/96 Prepared By / Date		
g	Attachment C approval date (or Att. A date if using a previous evaluation per F.3.a.2) _____ ATTACH Safety Evaluation and Change Package, TRANSMIT package to Regulatory Assurance. **CAUTION: Failure to transmit package to Regulatory Assurance will result in VIOLATIONS of 10CFR50.59 and Technical Specifications.** 2/21/96 Prepared By / Date		

F.10	SECTION 2 - To be completed by Regulatory Assurance
a	AIR #_____
b	If change package did not include Onsite Review INITIATE LOSR i.a.w. LAP 1200-2: LOSR# (or N/A): _____
c	VERIFY Documentation is complete for: Offsite Review NRC Annual Report UFSAR Update _____/_____ Regulatory Assurance / Date

11.2 LIQUID WASTE MANAGEMENT SYSTEMS

The liquid radwaste system collects, monitors, and treats all potentially radioactive liquid wastes produced by the station during normal operation and maintenance, as well as transient conditions.

11.2.1 Design Bases

11.2.1.1 Safety Design Basis

The liquid radwaste system is designed so that liquid radwastes discharged from the site will have radioactivity concentrations well within limits specified in 10 CFR 20 and meet the design objectives of 10 CFR 50, Appendix I.

Each liquid radwaste stream terminates in a sample tank. Since the liquid radwaste system operates on a batch basis, this arrangement allows each treated batch to be sampled when appropriate to assure that the treatment was effective. If the sample indicates that the waste needs further processing, it is recycled either through the same treatment or through a subsystem providing a higher degree of treatment. If the treated waste water is not needed for recycle, the water is sent to the discharge tank and held until a discharge batch is accumulated. Each batch is sampled to verify that its activity level is within limits for discharge. The actual discharge to the lake blowdown line requires opening a keylock valve in accordance with written operating procedures, only after sampling.

INSERT A

11.2.1.2 Power-Generation Design Basis

The liquid radwaste system is sized to handle expected liquid waste inputs on the basis of both volume and activity as the result of normal operation, including anticipated abnormal occurrences.

Unit 1 and Unit 2 have separate equipment and floor drain collection and process systems. This is to prevent mixing of the liquid wastes between units, if desired. The corresponding subsystems in each independent radwaste system are provided with extensive crossties to provide a high degree of radwaste system availability. The laundry and sludge subsystems are common to both units.

The La Salle County Station (LSCS) Units 1 and 2 liquid radwaste system is designed to permit maximum recycling of plant water, whose inventory is kept nearly constant at all times. The plant is designed to minimize noncontaminated inputs from leakage of service water, circulating water, and groundwater into the plant floor drain system. Clean demineralized well water is used as makeup to the primary system or for decontamination work. Since it is not feasible to eliminate or separate all noncontaminated inputs to the liquid radwaste system, some processed liquid waste

INSERT A

A system bypass allows connection to portable waste treatment equipment. This enables the efficient processing of liquid radwaste through the use of state of the art radwaste processing technology.

ATTACHMENT B

VECTRA

ROV•R™

SYSTEM DESCRIPTION

The filtration and reverse osmosis unit is a portable, self contained, automated system designed to concentrate suspended and dissolved solids contained in a waste or process stream. The system has been fabricated to meet the requirement of Regulatory Guide 1.143 and is housed on seven separate skids. The skid frames are constructed of heavy-duty steel. Catch pans have been built into the skids to contain any leakage that may occur. Moisture sensors have been installed in the drip pans to detect excessive leakage and shut down the system to a safe condition should such leakage occur.

The system is controlled from a remote control panel from which the operator is capable of performing all routine functions. Control of system parameters is accomplished using an industrial computer, operating in a Windows environment as the operator interfaces with a Siemens/TI PLC providing logic and control functions. The computer has the capability of being accessed, for data acquisition, via Modem or the site computer network. All data and control functions are protected by a multi level password system to prevent unauthorized access. Two printers are provided with the system, a report printer which will be capable of generating printouts of system operating parameters and various other reports. A line printer that will record the date, time and nature of any alarms and/or abnormal events.

The system has been designed as a turn-key unit, requiring 480 3-phase, 165 Amps total power and the retaining area to store the permeate and concentrate solutions. The instrumentation necessary to monitor critical operation parameters such as pressure, flow and conductivity have been provided in analog or digital forms. The system will shutdown due to any abnormal operating parameter (high/low flow, high/low pressure) and has complete isolation capability.

The first system component is the Centrifugal Filter skid. The centrifugal force inside the filter forces solids to be separated from the waste stream and collect in the bottom. The solids will flush out the bottom of the filter on a timer which will open the discharge valve periodically. Collected solids are flushed to the Concentrates Holding Tank.

The second system component, the filtration skid, contains an eight (8) vessel multifilament mesh bag unit capable of processing flows up to 125 gpm. The filters are constructed of a polyester fiber and have the option of either 1 or 5 micron bags depending on the system performance. The capability to monitor the developed pressure (or solids loading) as well as sample ports to determine filter efficiency have been provided.

Effluent from the filtration skid is fed to the third system component, the Cartridge Filter Skid. The vessel contains 40 cartridges capable of filtrating to 0.5 micron absolute. As with the first two skids, this skid has remote backflush capability.

The fourth skid is the Charcoal Vessel. The vessel is 72" high by 42" in diameter. It is fabricated of fiberglass to National Sanitary Foundation Standards and to ASME Code. The vessel has a design pressure rating of 150 psi at 100°F and a usable volume of 46 ft^3. There is a 12 bolt flange on the top and bottom of the vessel for easy access to the retention elements and defuser. The flanged top also aids in filling and sluicing. The flanges are sealed with O-rings.

The fifth system component is the RO Skid. The effluent from the charcoal vessel is fed to the RO system. The RO system consists of 2 separate stages, one housing thirty six (36) elements and the other containing fifteen (15) elements.

The RO system is designed to optimize the concentration of dissolved solids, through membrane separation, into a concentrate stream and a permeate stream, which is relatively free of dissolved solids. The system is divided into two stages. The first stage concentrate containing virtually all of the dissolved solids from the feed solution, is recirculated to the concentrates holding tank, while the permeate containing a very small amount of dissolved solids, is sent as feed for the second stage.

The first stage of the RO system contains six pressure vessels each containing 6 membranes per housing. The vessels are arranged in parallel to provide a maximum permeate recovery.

The second stage of the RO system is similar to the first. This stage consists of three pressure vessels containing five membranes. The arrangement provides for a permeate quality extremely low in dissolved solids.

The sixth system component is the Standby Polisher skid consisting of two stainless steel tanks. Each vessel will hold 30 cu ft of resin. The effluent is returned to the Floor Drain Head Tank.

The Sample Sink is seventh component in the system. All sample lines are routed to the sink allowing either Plant Chemistry/VECTRA personnel to pull samples from any phase of the process. The sample sink contains instrumentation to continuously monitor conductivity at various points in the process. Also the sample system is continuously monitoring Silica, Turbidity, and TOC of the effluent being returned to the plant.

VECTRA

RVR-500

SYSTEM DESCRIPTION

VECTRA Technologies, Inc. (VECTRA) has developed a liquid volume reduction system designed to provide the nuclear industry with the greatest volume reduction possible of liquid waste streams. This system, known as the RVR-500, will reduce evaporator bottoms and other non-dewaterable waste streams to a dry solid form for shipment and burial at a low level burial facility. The actual volume reduction for each plant will vary according to the solids content and radionuclides in the waste stream. The long term systems are capable of processing up to 800 gallons per day, while our demand use system will process up to 500 gallons per day.

The RVR System is a 25 cubic foot capacity dryer, using a steam heated jacket and agitator/scraper to dry the waste. The agitator/scraper is driven by a 25 hp electric motor reduced to 20 rpm by a parallel gear reducer. All wetted surfaces are Type 304 Stainless Steel. A sight glass is provided to observe the waste throughout the drying process.

Plant wastes are introduced through a waste supply valve. When the liquid level in the dryer reaches a predetermined level, (high level) the differential pressure switch will automatically shut the waste valve. The liquid is then heated and steam vapor is pulled from the dryer through the condenser heat exchanger. This condenser is cooled by a 50 ton chilled water system. The condensate is routed to the condensate reservoir from which it can be returned to the plant and also used as the motive fluid for the system's jet pump. After approximately three hours (time varies with each waste stream) the dryer will boil down to the low level. At this time, the waste supply valve will be opened and additional waste will enter the system, bringing the concentration back up to the high level. (Three such transfers generate a batch cycle.)

The dry out phase begins with the end of the third transfer - the dryness of the material is verified by monitoring several system parameters, as well as a visual observation through the site glass.

Upon verification of dryness, the agitator helix moves the material to the pneumatically operated discharge valve located at the bottom center of the dryer shell. The material is discharged into the burial container using gravity.

The packaging enclosure, which houses the burial container, is kept under a negative pressure and vented through a HEPA system. This allows the operator to open the enclosure door to cap and remove the burial container without releasing contaminated particulate. The final product of some waste streams, such as evaporator bottoms, will be a dry fine powder. In such cases, a binding material can be introduced to the system prior to discharge. The material and binder are mixed for approximately 20 minutes before being discharged into the burial container. Using the binder addition will result in a free-standing billet with a compression strength of up to 250 psi.

VECTRA is presently operating five (5) RVR-800 units at four commercial nuclear utilities in the United States and is building a trailer mounted portable unit for demand processing at facilities that generate small quantities of non-dewaterable waste. This unit, known as the RVR-500 will be capable of processing 500 gallons of liquid waste per day. The final product of the RVR System is acceptable for burial at both the Hanford, Washington and Barnwell South Carolina low-level disposal sites as at Type A unstable waste. Should the activity in the waste form require stabilization, VECTRA can provide burial containers to meet the stabilization criteria.