FLORIDA POWER & LIGHT COMPANY
ST. LUCIE UNIT 1
I & C PROCEDURE NO. 1-1220055
REVISION 5

1.0 TITLE:

CALIBRATION OF AREA RADIATION MONITORING SYSTEM (ARMS)

2.0 REVIEW AND APPROVAL:

Reviewed by Facility Review Group 8/24 1989

Approved by G. J. Boissy Plant General Manager 8/21 1989

Revision 5 Reviewed by F R G 5/20 1996

Approved by J. Scarola Plant General Manager 5/20 1996

THIS PROCEDURE HAS BEEN COMPLETELY REWRITTEN, PLEASE READ ENTIRE PROCEDURE BEFORE PROCEEDING. /R5

3.0 PURPOSE:

3.1 The purpose of this procedure is to delineate the instructions for calibration of the ARMS.

3.2 This procedure satisfies the surveillance requirements in table 4.3-3 of the Unit #1 Tech. Specs.

4.0 PRECAUTIONS & LIMITS:

4.1 Precautions on CIS Channels 3, 4, 5 and 6

1. Do not attempt calibration if any of the (4) CIS channels are in the alarm condition.

2. Work on CIS channels shall not be performed without notification of the NPS/ANPS.

4.0 PRECAUTIONS & LIMITS: (continued)

4.1 (continued)

3. Calibrate only one CIS channel at a time. If a CIS channel is inoperable, do not attempt to calibrate any other channels until the inoperable channel is repaired and functioning.

4. Prior to calibrating a CIS ARMs channel, bypass the Containment Evacuation Alarm by placing **KEY # 74** in the Containment Alarm Bypass switch located on the front panel of Cabinet D and bypass the appropriate ESFAS Containment Isolation Signal, high radiation channel **(KEY # 124)**.

NOTE
If any of the CIS channels alarm during the calibration, stop IMMEDIATELY and notify the NPS/ANPS.

5. Reset all alarms and channel trips actuated during the calibration and remove the Containment Evacuation Alarm bypass key after calibration is complete.

4.2 Inform operations' personnel **IMMEDIATELY** of any alarms caused by calibration of the ARMS.

4.3 The field calibrator shall be used **ONLY** under the direct supervision of Health Physics.

4.4 The four (4) CIS and Fuel Pool area monitors are to be calibrated at each refueling and not to exceed 18 months.

4.5 Channel calibration may be performed or verified by use of the field calibrator (All readings shall be ± 20% tolerance).

4.6 If the detector is dropped, mishandled or opened, a calibration is required.

ST. LUCIE UNIT 1
I & C PROCEDURE NO. 1-1220055, REVISION 5
CALIBRATION OF AREA RADIATION MONITORING SYSTEM (ARMS)

5.0 RELATED SYSTEM STATUS:

5.1 See 4.1 for CIS Channels 3, 4, 5 and 6.

6.0 REFERENCES:

6.1 FUSAR, Chapter 12

6.2 Victoreen Technical Manual 8770-8386

6.3 Operation of the ARMS, Operating Procedure 1120020

6.4 St. Lucie Unit 1 Technical Specifications

6.5 Area Radiation Monitoring System Preoperational Test

7.0 RECORDS REQUIRED:

7.1 An approved & completed copy of this procedure shall be maintained in the plant files in accordance with QI 17-FR/PSL-1, "Quality Assurance Records."

8.0 MATERIALS AND EQUIPMENT REQUIRED:

8.1 Digital Meter

8.2 ARMS Alarm Test Box

8.3 Keys #124 and #74 (For CIS Channels ONLY)

ST. LUCIE UNIT 1
I & C PROCEDURE NO. 1-1220055, REVISION 5
CALIBRATION OF AREA RADIATION MONITORING SYSTEM (ARMS)

9.0 DETAILED PROCEDURE:

9.1 CHANNEL CALIBRATION CHECK

NOTE
Read Precautions for CIS channels 3, 4, 5 and 6, Section 4.1.2

CAUTION
When using the Victoreen field Calibrator in areas where the background is greater than or equal to 5 mR/hr., this background must be subtracted from the readings obtained.

1. Health Physics (H.P.) is to supply the field calibrator.

2. Obtain the decayed values for the field calibrator and record these values on **Data Sheet 9.1**.

3. With assistance from H.P., place the detector in the field calibrator.

4. With the readout module in the operate position, record the as found readings on **Data Sheet 9.1** for the following cases:

   A. Expose the detector to low radiation level **(Position 1)**.

   B. Expose the detector to medium radiation level **(Position 2)**.

   C. Expose the detector to high radiation level **(Position 3)**.

5. Ensure that the field calibrator values and the as found readings are within ± 20% of each other. If they are not, perform **Section 9.6**.

6. Lift the input signal lead on the readout module or disconnect the field cable from the detector. Initial **Data Sheet 9.2**.

7. Verify that the **FAIL ALARM** light on the module is extinguished and that the annunciator, Q-36 on RTGB-106, alarms. Initials are required on **Data Sheet 9.1**. If Q-36 does not alarm, perform **Section 9.6**.

8. Reland the input signal lead on the readout module or the field cable to the detector and initial the **Data Sheet 9.1**.

9. Remove the detector from the field calibrator and install it in its proper location.

ST. LUCIE UNIT 1
I & C PROCEDURE NO. 1-1220055, REVISION 5
CALIBRATION OF AREA RADIATION MONITORING SYSTEM (ARMS)

9.0 INSTRUCTIONS: (continued)

9.1 (continued)

10. Reset all alarms on the readout module.

11. Turn the function switch to the alarm position and push and hold the alert alarm pushbutton. Record the setpoint value on **Data Sheet 9.1.**

12. Release the alert alarm pushbutton.

13. With the function switch in the alarm position, push and hold the high alarm pushbutton. Record the setpoint value on **Data Sheet 9.1.**

14. Release the high alarm pushbutton.

15. Set the alarm test box in a fully counter-clockwise position and ensure that it is OFF.

16. Connect the red (+) wire from the alarm test box to the **DC AMP OUTPUT** test point and the black (-) wire to chassis or dc ground. **(This test point is located inside the readout module.)**

17. Turn the function switch to the operate position.

18. Turn the alarm test box potentiometer slowly clockwise until the Alert alarm is actuated. On **Data Sheet 9.1**, record the reading of the readout module.

19. Continue turning the potentiometer until the High alarm is actuated. On the **Data Sheet 9.1**, record the reading of the readout module

20. The alarm setpoints must be within ± 20% of the readings obtained in steps 9.1.11 and 9.1.13. **(If out of tolerance, perform Section 9.7.)**

21. Turn off the potentiometer and disconnect the test box.

22. Clear all alarms and ensure that the function switch is in the operate position.

23. Remove all bypass keys and reset the ESFAS bistable. **(For CIS channels only.)**

9.0 INSTRUCTIONS: (continued)

9.2 NEW DETECTOR AND/OR NEW READOUT MODULE CHECK-OUT

1. If the item being replaced is the readout module, perform **Section 9.3.**
2. If the item being replaced is the detector, perform **Section 9.4.**
3. If both the detector and the readout module are being replaced, perform **Section 9.5.**

9.3 NEW READOUT MODULE CHECK-OUT

1. Connect the new readout module to the MSGC 1000 using the test cables located in the S/G Blowdown Building.
2. Connect a test detector or the field detector associated with the channel being worked on, to the readout module.
3. With H.P.'s assistance, place the detector in the MSGC 1000.
4. Verify that the readout module indicator is mechanically at zero and adjust if necessary.
5. Apply AC power to the readout module.
6. Verify that the following voltages in the readout module are within their tolerances and record them on **Data Sheet 9.2.** (All voltages are referenced to dc ground).

(+) 19.0 vdc to (+) 25.0 vdc (nom. + **22.0 vdc**) Measure inboard side of **R4.**

(+) 9.9 vdc to (+) 10.1 vdc (nom. + **10.0 vdc**) Measure (+) side of **C16.**

(+) 584 vdc to (+) 616 vdc (nom. + **600 vdc**) Measure across **V1 (high voltage tube).**

(-) 6.3 vdc to (-) 7.3 vdc (nom. - **6.80 vdc**) Measure **TP9** to **dc ground.**

(**For CIS**: (+) 534 vdc to (+) 566 vdc, (nom. + **550 vdc**)

9.0 INSTRUCTIONS: (continued)

9.3 (continued)

7. Depress the pushbutton mounted on the right side of the readout module. Adjust the potentiometer adjacent to it for a full scale indication on the readout module meter.

8. With H.P.'s assistance, apply power to the MSGC 1000.

9. With H.P.'s assistance, select three radiation values from the MSGC 1000 activity sheet. The values chosen should be as close as possible to the three decayed values of the field calibrator.

10. With H.P.'s assistance, apply these values, one at a time, to the detector.

11. Expose the detector to the first MSGC 1000 value (low range) and adjust **R12** so that the readout module indicates the correct value.

12. Expose the detector to the second MSGC 1000 value (medium) and adjust **R21** so that the readout module indicates the correct value.

13. Expose the detector to the third MSGC 1000 value (high) and adjust **C23** so that the readout module indicates the correct value.

14. Repeat steps 11 through 14 until no further adjustments are required.

15. Turn all AC power off. Disconnect the test cables and install the readout module in its original location in the control room.

16. Land all lifted leads and initial **Data Sheet 9.1**.

17. Calibrate the readout module by performing **Section 9.6**.

9.0 INSTRUCTIONS: (continued)

9.4 NEW DETECTOR CHECK-OUT

1. Take the new detector to the S/G Blowdown Building. Connect it to the MSGC 1000 using the test cable and a test readout module.

2. With H.P.'s assistance, apply approximately 400R/hr to the detector.

3. Verify that the test readout module indication remains off scale for approximately ten minutes.

4. If the test readout module stays off scale for the specified time limit, install it in its original location. If it does not stay off scale, replace or repair and repeat **Section 9.4**.

5. After installing the detector in its location, perform **Section 9.1** steps 1, 2, 3, 4 and 5.

9.5 NEW READOUT MODULE AND NEW DETECTOR CHECK-OUT

1. Perform **Step 9.3** in its entirety.

2. Perform **Step 9.4** in its entirety.

9.6 READOUT MODULE CALIBRATION

1. H.P. is to supply the field calibrator.

2. Obtain the decayed values for the field calibrator and record them on **Data Sheet 9.1**.

3. With the assistance of H.P., place the detector, for the channel under test, in the field calibrator.

4. Expose the detector to position 1 in the field calibrator and adjust **R12** in readout module until it indicates the correct radiation value.

5. Expose the detector to position 2 in the field calibrator and adjust **R21** in the readout module until it indicates the correct radiation value.

6. Expose the detector to position 3 in the field calibrator and adjust **C23** in the readout module until it indicates the correct radiation value.

ST. LUCIE UNIT 1
I & C PROCEDURE NO. 1-1220055, REVISION 5
CALIBRATION OF AREA RADIATION MONITORING SYSTEM (ARMS)

9.0 INSTRUCTIONS. (continued)

9.6 (continued)

7. Repeat steps **9.6.4 through 9.6.6** until the readout module indications are within ± 20% of the input values.

8. Measure the junction of **R41 and R60** on the main board for **+ 5.000 vdc.**

9. If necessary, adjust **R41** accordingly.

10. Verify that the appropriate recorder readings agree with the readout module readings. If the recorder is not in tolerance, adjust **R63** in the readout module.

11. Proceed to **Step 9.1.6.**

9.7 READOUT MODULE ALARM CALIBRATION

1. Reset all alarms on the readout module.

2. Turn the function switch to the alarm position and push and hold **the alert** (Amber light) pushbutton. Record the as found meter indication on **Data Sheet 9.1.**

3. If the as found meter indication is different that the desired setpoint, adjust **R37** on the **alert alarm board.** (Left side)

4. Release the alert pushbutton.

5. Turn the function switch to the alarm position and push and hold **the high** (Red light) pushbutton. Record the as found meter indication on **Data Sheet 9.1.**

6. If the as found meter indication is different than the desired setpoint, adjust **R37** on the **mother board.**

7. Turn the function switch to the operate position.

8. Set the alarm test box in a fully counter-clockwise position and ensure that it is OFF.

9.0 INSTRUCTIONS: (continued)

9.7 (continued)

9. Connect the red (+) wire from the alarm test box to the **DC AMP OUTPUT** test point and the black (-) wire to chassis or dc ground. **(This test point is located inside the readout module.)**

10. Turn the alarm test box potentiometer slowly clockwise until the **Alert** alarm is actuated. Verify the readout module indication actuates an alarm at the same setpoint value recorded in **Step 9.7.2**.

11. If the alert alarm does not actuate at its setpoint, adjust the test box potentiometer until the readout module is on the desired setpoint and adjust **R53** to actuate alarm.

12. Continue turning the test box potentiometer until the High alarm is actuated. Verify the readout module indication actuates an alarm at the same setpoint value recorded in **Step 9.7.5**.

13. If the alarm does not actuate at its setpoint, adjust the test box potentiometer until the readout module is on the desired setpoint and adjust **R54** to actuate alarm.

14. Record alert and high alarm setpoints in **Data Sheet 9.1**.

15. The alarms must be within ± 20% of their setpoints.

16. Turn off the test box potentiometer and remove test box.

ST. LUCIE UNIT 1
I & C PROCEDURE NO. 1-1220055, REVISION 5
CALIBRATION OF AREA RADIATION MONITORING SYSTEM (ARMS)

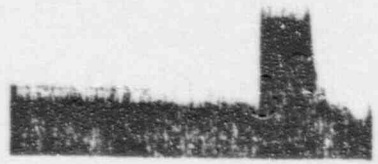
DATA SHEET 9.1
(Page 1 of 2)

Channel No.	As Found Rad. Value			As Left Rad. Value			Desired Alert Alarm	As Found Alert Alarm	As Left Alert Alarm	Desired HI Alarm	As Found HI Alarm	As Left HI Alarm	Detector Saturate Test	Fail Alarm Test	Leads Landed Performed By	Independent Verification	Date
	Lo	Med	HI	Lo	Med	HI											
1	60	300	2200	45	300	2100	1mR	9mR	9mR	10mR	9mR	9mR	N/A	[illegible]	N/A	[illegible]	5/[illegible]/96
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10											N/A	[illegible]					
11																	
12																	
13																	
14																	
15																	
16																	
17																	

ST. LUCIE UNIT 1
I & C PROCEDURE NO. 1-1220055, REVISION 5
CALIBRATION OF AREA RADIATION MONITORING SYSTEM (ARMS)

DATA SHEET 9.1
(Page 2 of 2)

Channel No.	As Found Rad. Value			As Left Rad. Value			Desired Alert Alarm	As Found Alert Alarm	As Left Alert Alarm	Desired Hi Alarm	As Found Hi Alarm	As Left Hi Alarm	Detector Saturate Test	Fail Alarm Test	Leads Landed Performed By	Independent Verification	Date
	Lo	Med	Hi	Lo	Med	Hi											
18																	
19																	
20																	
21																	
22																	
23																	
24									N/A								
25																	
26																	
27																	
36																	
37																	
38																	
39																	
52																	
53																	



ST. LUCIE UNIT 1
I & C PROCEDURE NO. 1-1220055, REVISION 5
CALIBRATION OF AREA RADIATION MONITORING SYSTEM (ARMS)

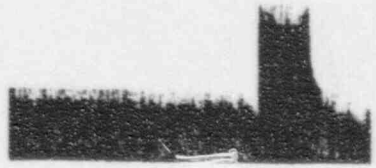
DATA SHEET 9.2
(Page 1 of 2)

Channel No.	As Found Voltage +22 VDC	As Found Voltage +10 VDC	As Found Voltage 6.8 VDC	As Found Voltage +600 VDC +550 VDC (CIS)	Channel Calibration Performed By: Date:	PWO Work Request Number For Repair Work
1	20.69	10.00	-6.509	5.87	[signature] 5/3/96	5615/63
2						
3						
4						
5						
6						
7						
8					N/A SD	
9						
10						
11						
12						
13						
14						
15						
16						
17						

ST. LUCIE UNIT 1
I & C PROCEDURE NO. 1-1220055, REVISION 5
CALIBRATION OF AREA RADIATION MONITORING SYSTEM (ARMS)

DATA SHEET 9.2
(Page 2 of 2)

Channel No.	As Found Voltage +22 VDC	As Found Voltage +10 VDC	As Found Voltage -6.8 VDC	As Found Voltage +600 VDC +550 VDC (CIS)	Channel Calibration Performed By: Date:	PWO Work Request Number For Repair Work
18						
19						
20						
21						
22						
23				N/A		
24						
25						
26						
27						
36						
37						
38						
39						
52						
53						



PMAI Form Version: 0

PMAI Corrective Action Form

PMAI Site: PSL

Number: PM96-08-303 Source Document: ATTACHED LIST OF OUTAGE CRITIQUE ITEMS Originator Dept: PM Due Date: 11/15/96

Assigned Department: CHEM CHEM/FAULKNER Implementor Name 0 Unit Outage Mode SNO NCR OWA

Title: CRITIQUE ITEM

Description: DEVELOP PLAN WITH BASIS (RCS CLEANUP AND PURIFICATION)

Due Date Extension/Transfer Responsibility Requests

Extend To Date | Request by /Date | Appvd By: Implementing Dept. Supervisor /Date | Originating Dept. /Date | Implementing Dept. Manager /Date

Extend To Date | Request by /Date | Appvd By: Implementing Dept. Supervisor /Date | Originating Dept. /Date | Implementing Dept. Manager /Date

Reasons: _____

XFER Resp. To | Request by /Date | Appvd By: Implementing Dept. Supervisor /Date | Implementing Dept. Manager /Date | Recipient Dept. /Date

Reasons: _____

Completion Section

Completion Date: 11/4/96 Close-Out Documents: ATTACHED

Comments: _____

Implementor: D H Faulkner (Signature) DH FAULKNER (Print) Date: 11/4/96

Reviewed By: Implementing Supv. H.N. Johnson (Signature) (Print) Date: 11/5/96

Approved By: Implementing Dept. Mgr. (Signature) (Print) Date:

Reviewed By: Originating Dept. (Signature) ALL HIGGINS (Print) Date: 11-8-96

LL1

PMAI 96-08-303
PAGE 2 of 4

	Outage critique items U-1 96 (high level)		
			DATE
	ITEM	TASK	ASSIGNED TO
B-297	PWO Closure	Improve process (Streamline)	MENOCAL 12/15
298	PMT Q.I.11's	Improve process	FULFORD 10/15
299	Non PWO activity scheduling	Develop process & criteria	WOOD 11/15
300	Clearance process	Implement new procedure	JOHNSON 10/15
301	Equipment OOS log	Improve process	MARPLE 10/15
302	Control of hot tools,hoses and cords	Develop process	MARCHESE 12/15
303	RCS cleanup and purification	Develop plan with basis	FAULKNER 11/15
304	Vent and Drain hoses	Improve process	ENFINGER 11/15
305	CEDM venting	Benchmark other utilities	J. WEST 10/15
306	IV Process revision	Improve process (allow temps to I.V.)	HOLT 11/15
307	Sensitive system/TSA/NPWO process impr	Improve process	CARROL 10/15
308	Guideline revision turn around	Improve process	HOLT 12/15
309	Craft and IEEW working together	Implement plan	SCAROLA 10/15
310	Qualification program for Temps	Develop program	ALLEN 10/15
311	Crane reliability and scheduling	Develop program and schedule	PRICE 11/15
312	Increased detail for pre-outage milestones	Add detail	MARVIN 11/15
313	PCM review and impimentation process	Improve process (FRG after not before)	HOLT 11/15
314	MSSV on line testing	Develop plan and implement	FULFORD 10/15
315	Cleanliness control during outage work	Develop plan and implement	MARCHESE 12/15
316	Cavity monitors	Staff and schedule for	BUCHANNAN 12/15
317	RFM load cell setpoints and procedure	Develop plan and implement	ENFINGER 11/15
318	Containment clean up	Staff and schedule for	FRECHETTE 12/15
319	Outage procedure review	Review and change as required procedures	PAWLEY 10/15
320		that will be used during the outage.	KORTE 10/15
321			MOTELY 10/15
322			ENGLISH 10/15
323			FRECHETTE 10/15
324			MARPLE 10/15
325			FAULKNER 10/15
326			FLOWERS 10/15
327	First time use procedures	Revise restrictions for 1st time use.	HOLT ~~11/15~~ 11/15
328	Parts prestaging	Develop and implement process	BOISSEY 10/15

PGM Signature L. Scarola

A total of 6 different utilities were contacted to provide a basis for cleanup and purification practices. Dave Faulkner also attended the INPO Chemistry Managers meeting and discussed these items with the attendees. The results of these investigations have led to the following conclusions:

A. The benchmark activity level for Cobalt 58 is **0.05** uCi/ml. Most of the industry tries to cleanup to this level in SDC before purification is interrupted for maintenance, etc...

B. The decision on when to stop running RCP's after the initial crud burst is based on the solubility of Cobalt 58. When the Cobalt solubility exceeds **95 %**, drain down can commence. Purification must continue until the target of 0.05 uCi/ml is attained.

C. The RCS must be placed in an acid-reducing condition as soon as possible after the unit is shutdown.

These three targets translate into the following actions that will be pursued by the Chemistry Department on all subsequent St. Lucie outages.

A. The Chemistry Department will start monitoring the solubility of Cobalt 58 as soon as the unit is offline. RCPs will continue to run until the > 95 % value is attained. When this occurs, the Chemistry Department will inform Work Control / Outage Management that drain down, etc. can commence. This will occur sometime after the RCS is placed on SDC. We do not have any data at this time to predict exactly when this will take place. After the next two outages we will have a baseline to work from.

B. The Chemistry Department will continue to stress the importance of maintaining maximum purification flow at all times until 0.05 uCi/ml is attained. Hugh Johnson, Dave Faulkner, Joel Burgess, and Hank Buchanan met with the Work Control group and were informed that purification system work would not be scheduled until cleanup was completed. **Maintaining maximum purification is the key to achieving 0.05 uCi/ml.**

C. The Chemistry Department has committed to writing a procedure ("Primary Shutdown / Startup Considerations") which will address the following:

SHUTDOWN CONSIDERATIONS

1. Ion Exchanger operation prior to and during outages.
2. Hydrogen and lithium control just prior to shutdown.
3. Boration to refueling concentration ASAP.

(1. through 3. will ensure acid reducing conditions are met in the RCS)

4. Sampling programs for monitoring and evaluating Cobalt, Nickel, Solubility, etc..
5. Borated water movements, planning and implementation.
6. Silica considerations on Unit 1.

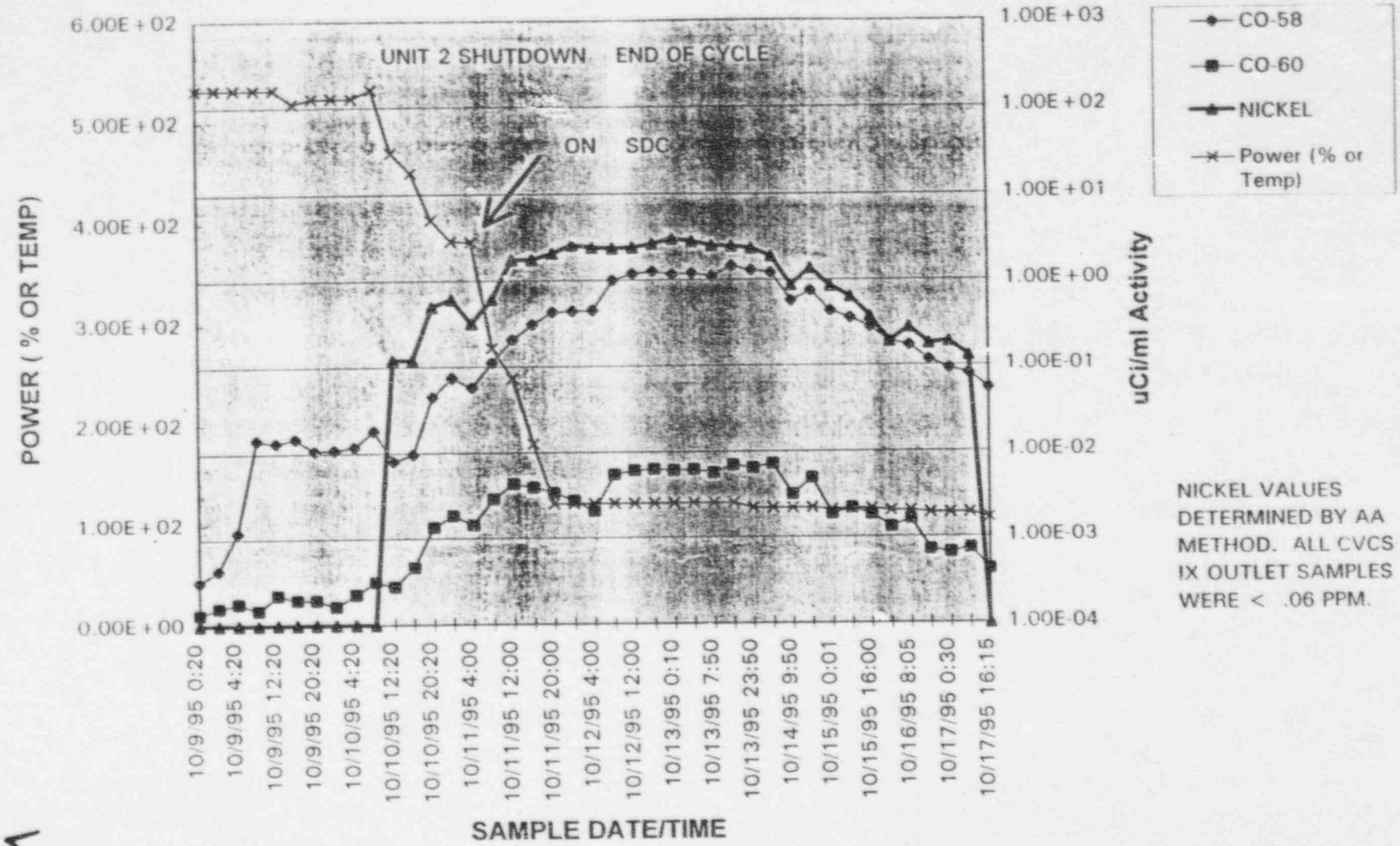
STARTUP CONSIDERATIONS

1. Ion Exchanger selection and use. (Boration / Lithiation)
2. Hydrazine / Oxygen considerations.
3. Lithium / Hydrogen control during startup.
4. Nickel monitoring.
5. Increased RCS Iodine sampling for fuel integrity.

This procedure will be implemented prior to the Unit 2 outage.

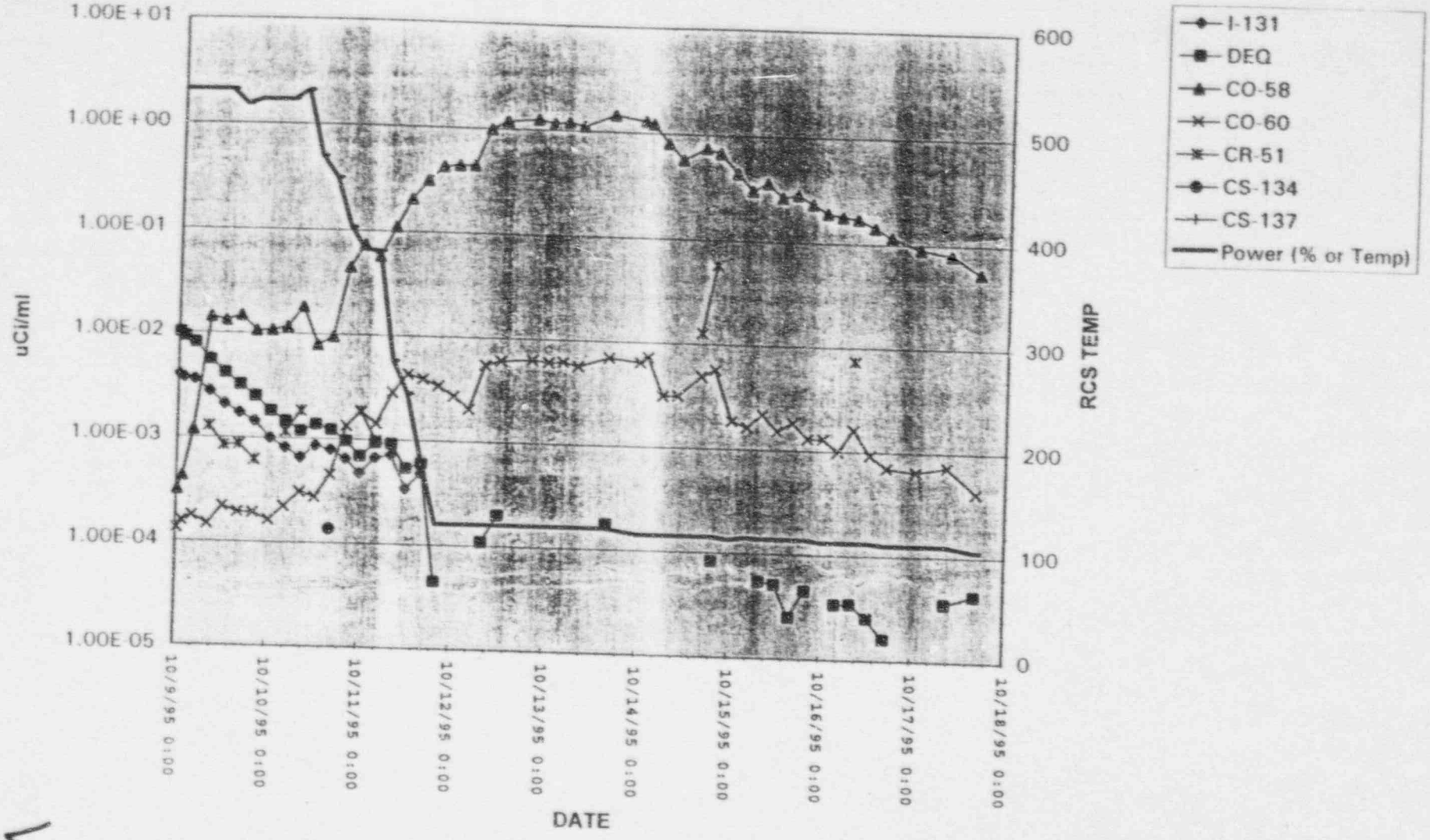
D. The Chemistry and Health Physics Departments will develop a plan to monitor dose rates at specific points on the RCS piping, S/G's, and SDC system piping and pumps. The proposed monitoring will be continuous from shutdown until startup. This data will then be correlated with cleanup data to provide a basis for using Hydrogen Peroxide in the future, or for modifying our cleanup procedure.

SHUTDOWN COBALT AND NICKEL VALUES



NICKEL VALUES DETERMINED BY AA METHOD. ALL CVCS IX OUTLET SAMPLES WERE < .06 PPM.

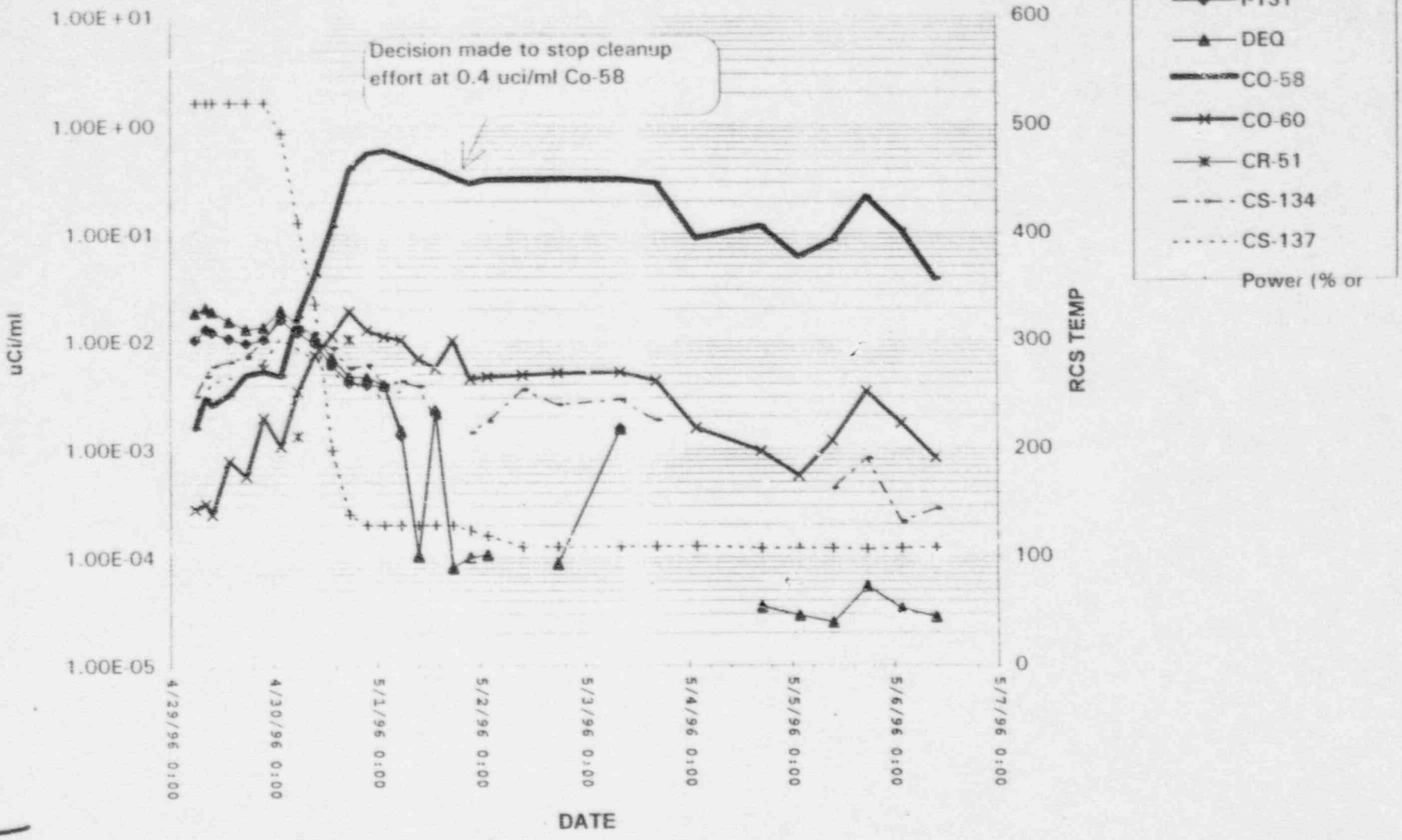
SHUTDOWN CRUD/IODINE ACTIVITIES



LY3

U

SHUTDOWN CRUD/IODINE ACTIVITIES
UNIT 1 EOC 13



114

SOLID WASTE
REDUCTIONS

LL19

Author: Paul Stoner at usfpl211
Date: 11/1/96 10:01 AM
Priority: Normal
Receipt Requested
TO: Hank Buchanan at USFPL820
CC: Doc Mercer at USFPL800
CC: Bruce Somers at USFPL800
CC: Doug Haithcox at USFPL800
Subject: Backyard/Blowdown Status--11/1/96
---------- Message Contents ----------

CURRENT CLEAN UP ACTIVITIES

3rd floor Blowdown Building completed
- see inventory above
- Electrical Maint. has submitted PWO for racks to hang cables and hoses

Surveying wood in conex boxes
- one box nearly complete
- one box suspected to have little smearable next
- one box suspected to have significant smearable last
- (4) 3-sided boxes to be surveyed at Gate 3
- about (2) 3-sided boxes to DAW conex

Pumping oil to tanker
- 7 drums completed
- one liner nearly complete 18 drums next
- tanker to be topped off with remaining liner

Unit 2 Cask washdown
- not working this job at present
- all small tools and scaffold parts cleared
- about 2/3 of Hot Particle bags evaluated and cleared
- several (2?) highly contaminated ladders to clean
- status of hoses/cables uncertain (need to check)

Grit Blaster
- not working this job at present but unit is fully operational
- priority placed on wood in conex boxes
- (3) 3-sided boxes of metal for processing
- (2) conex boxes of metal for processing

Backlog of drums/boxes dirt, etc.
- 37 boxes have been sampled and analyzed
- 14 boxes have been blue tagged for release
- 10 boxes remaining to be sampled and analyzed
- no drums have been sampled or analyzed yet

INVENTORY:

Inside Blowdown-3rd Floor:

Reusable Outage supplies:
34 drums 120v electr. cords/string lights
32 drums red air hoses
14 drums green water hoses
9 drums 480v cables
8 drums weld leads
1 drums stick lights
2 drums scaf. parts for grit-blast
1 lead shielded drum
34 empty drums

19 large HEPA units
4 small HEPA units
2 boxes HEPA filter (both partial)
20 10-gallon carboys
2 5-gallon carboys
5 3-gallon carboys
22 old style bullard filters
2 insulator gang boxes
2 light stands
about 30 stantions
2 Kelly buildings (disassembled)

Waste:
20 drums dirt/sludge/resin
3 drums old unuseable lead shielding
1 drum old rad monitors w/sources
1 drum unuseable air hose
1 drum wet blowdown resin

Outsite Blowdown:

1 conex box DAW (full)
2 conex boxes DAW (being filled)
2 conex boxes metal for grit-blast
2 conex Boxes wood to be surveyed
1 conex Box wood being surveyed (nearly complete)

18 drums Oil to be pumped
2 drums degreaser
2 drums oily water
1 drum thick oil/sluge(?)
7 empty oil drums

1 liner oil (being pumped to tanker)
1 liner oil (to be pumped)
1 liner blowdown resin (full)
1 liner blowdown resin (to be filled)

Grit Blast Trailer:

3 3-sided boxes metal to be processed
18 drums oil/water to be analyzed

Dry Storage Warehouse:

Inside:
54 drums diesel dirt
7 drums resin
7 drums diesel fuel
7 drums water
6 drums black beauty
4 drums diesel mix
1 drum hydraulic fluid
1 drum kerosene

Outside:
20 LSA boxes sampled
10 LSA boxes to be sampled
3 LSA boxes outage equipment
12 empty LSA boxes

Gate 3:

Surveyed:
14 LSA boxes to be released (blue tagged)
3 LSA boxes to be returned to DSW

To be surveyed:
4 3-sided boxes wood

ATTACHMENT A

ST. LUCIE PLANT
PLANNED RADWASTE SHIPMENTS

Date:	Material:	PWO/WR:	Volume:	Estimated$	Funding Source, WO
03 October	Dry Active Waste	96015678	2194 cubic ft	125000	Routine, 3280
08 October	Dry Active Waste	96015678	2194 cubic ft	125000	Routine, 3280
15 October	SGBTF Resins	96015679	800 cubic ft.	162500	Backlog, 9864
16 October	SGBTF Resins	96015679	600 cubic ft.	122500	Backlog, 9864
23 October	Used Oil	96015682	1500 gal	40000	Backlog, 9864
30 October	Used Oil	96015682	1500 gal	40000	Backlog, 9864
05 November	Black Beauty			35000[1,2]	Backlog, 9864
07 November	Black Beauty			35000[1,2]	Backlog, 9864
12 November	Black Beauty			35000[1,2]	Backlog, 9864
14 November	Black Beauty			35000[1,2]	Backlog, 9864
19 November	Cond. Polisher Resins			31000[1,2]	Backlog, 9864
21 November	Cond. Polisher Resins			31000[1,2]	Backlog, 9864
26 November	Dirts			30000[1,2]	Backlog, 9864
04 December	Non-Compactibles			135834[3]	Backlog, 9864
10 December	Non-Compactibles			135834[3]	Backlog, 9864
12 December	Non-Compactibles			135832[3]	Backlog, 9864

Routine Budget	$ 250000
Backlog Budget	$ 1004500
Total Costs	$ 1,254,000[4]

Notes: 1. Scientific Ecology Group, Green is Clean @ $0.90/lb.
2. Material candidate for survey and free release from PSL @ reduced $'s
3. Uses low cost options identified in Attachments B & C for onsite processing of contaminated materials.
4. All cost based upon estimated weights and volumes of waste.

Attachment B

Eliminate Blowdown Building Inventory

Inventory

140 Drums of misc. reusable material
80 Drums of identifies waste material
Approx. 1000 cubic feet of additional unpackaged material

Option 1: Process waste material offsite and dispose

Waste Cost:	
(220) Drums at 250 lbs/drum	55,000 lbs
Approx. 10,000 lbs of additional material	10,000 lbs
Processing and disposal at $5.34/lb	$347,000
Packaging and shipping cost (3 shipments)	$ 9,000
State Inspection (7500 cubic feet)	$ 15,000
Total	$371,000

Option 2: Sort and Decontaminate On Site and Dispose Remaining Waste

WasteCost:

(80) Drums of identified waste
(35) Drums of additional waste (assumes 75% recovery of material)

(115) Drums of waste at 250 lbs/drum	28,750 lbs
Processing and disposal at $5.34/lb	$153,500
Packaging and shipping cost (2 shipments)	$ 6,000
State Inspection (1000 cubic feet)	$ 2,000
Total	$161,500

Labor to sort and decontaminate reusable material:

Contract Deconners (6 persons/4 weeks)	$ 19,500
Raytheon Laborers (6 persons/4 weeks)	$ 17,800
Temporary Utility Workers (6 persons/4 weeks)	$ 25,000
Total using Contract Deconners:	$181,000

Option 2 saves St. Lucie Plant $190,000 over Option 1

Attachment C

Clean Up Backlog of Contaminated Outage Material

Inventory

(2) Conex boxes of contaminated tools and equipment (2500 cubic feet)
(2) Conex boxes of contaminated wood (2500 cubic feet)
(2) Conex boxes of misc. contaminated scrap metal (2500 cubic feet)
Unit 2 Cask Washdown Pit (approx. 1700 cubic feet)

Option 1: Process waste material offsite and dispose

WasteCost:	
(4) Conex boxes at 14,000 lbs/box	56,000 lbs
(1) Additional Conex box at 10,000 lbs	10,000 lbs
Processing and disposal at $5.34/lb	$352,000
Packaging and shipping cost (3 shipments)	$ 9,000
State Inspection (6,400 cubic feet)	$ 12,500
Total	$373,500

Labor to sort and decontaminate outage equipment:	
Contract Deconners (8 persons/6 weeks)	$ 43,100
Raytheon Laborers (10 persons/6 weeks)	$ 38,500
Temporary Utility Workers (16 persons/6 weeks)	$ 58,200
Total using Contract Deconners:	$416,600

Option 2: Sort and Decontaminate On Site and Dispose Remaining Waste

WasteCost:	
(2) Conex boxes at 14,000 lbs/box (assumes 75% recovery of material)	28,000 lbs
Processing and disposal at $5.34/lb	$149,500
Packaging and shipping cost (1 shipment)	$ 3,000
State Inspection (2,560 cubic feet)	$ 5,000
Total	$157,500

Labor to sort and decontaminate material on site:	
Contract Deconners (6-7 persons/12 weeks) (or 9-10 persons/8 weeks)	$ 69,000
Raytheon Laborers (10 persons/12 weeks) (or 15 persons/8 weeks)	$ 77,800
Temporary Utility Workers (12-13 persons/12 weeks) (or 18-20 persons/8 weeks)	$ 93,100
Total using Contract Deconners:	$226,500

Option 2 saves St. Lucie Plant $190,100 over Option 1

Steam Generator Blowdown Treatment Facility

Reusable Material Being Stored on 65.5' Elevation

11/1/96

120V & 240V Drop Cords

Drum No.	Contents
E1	(10) cords
E2	(15) cords
E3	(10) cords & light strings
E4	(20) cords
E5	(4) light strings
E6	(16) cords
E7	(10) cords
E8	(8) cords
E9	(10) cords
E10	(14) cords
E11	(12) cords
E12	(15) cords
E13	(20) cords
E14	(16) cords
E15	(20) cords
E16	(16) cords
E17	(8) cords
E18	(12) cords
E19	(8) cords & light strings
E20	*(no count)*
E21	(12) cords
E22	(14) cords
E23	(20) cords
E24	*(no count)*
E25	(18) cords
E26	(12) cords
E27	(10) cords
E28	(12) cords
E29	(10) cords
E30	(15) cords
E31	(12) cords
E32	(8) cords
E33	(4) cords & light strings
E34	(10) cords

480V Cords

E35	(4) cords
E36	(4) cords
E37	(3) cords
E38	(4) cords
E39	(3) cords
E40	(2) cords
E41	(4) cords
E42	(4) cords
E43	(4) cords

Red Air Hoses

Drum No.	Contents
R1	(4) hoses
R2	(5) hoses
R3	(5) hoses
R4	(6) hoses
R5	(20) small dia. hoses
R6	(5) hoses
R7	(4) hoses
R8	(4) hoses
R9	(4) hoses
R10	(5) hoses
R11	(4) hoses
R12	(5) hoses
R13	(5) hoses
R14	*(no count)*
R15	(5) hoses
R16	(4) hoses
R17	(4) hoses
R18	(5) hoses
R19	(5) hoses
R20	(8) hoses
R21	(6) small dia. hoses
R22	(4) hoses
R23	(4) hoses
R24	(4) hoses
R25	(4) hoses
R26	(5) hoses
R27	(5) hoses
R28	(5) hoses
R29	(10) small dia. hoses
R30	(4) hoses
R31	(10) small dia. hoses
R32	(10) small dia. hoses

Green Water Hoses

G1	(10) hoses
G2	(12) hoses
G3	(2) hoses
G4	(5) hoses
G5	(5) hoses
G6	(4) hoses
G7	(3) hoses
G8	(4) hoses
G9	(3) hoses
G10	(5) hoses
G11	(4) hoses
G12	(4) hoses
G13	(4) hoses
G14	(4) hoses

Welding Leads

Drum No.	Contents
W1	(4) leads
W2	*(no count)*
W3	*(no count)*
W4	(12) leads
W5	(15) leads
W6	(17) leads
W7	(20) leads
W8	(15) leads

The following information is provided as guidance in the proper handling and survey of condensate polishing resins, diesel dirt, black beauty, etc, as a part of the backyard clean up effort. The requirements for the handling of radioactive materials are procedurally addressed in HPP-41, Movement of Material and Equipment.
This guideance is provide to assist the RPM in the performance of his duties. If in doubt, contact Bruce Somers, Doug Haithcox or Paul Stoner.

THIS GUIDE DOES NOT REPLACE NOR SUPERCEDE ANY OF THE REQUIREMENTS OF PROCEDURE HPP-41.

- Identify the container (B-25 box or drum) to be processed.
- Stage the container on the south side of the PSL2 RAB, near the Gate 3 Bldg.
- Using the next sequential number from the PSL 2 gamma isotopic log book:
  1. Write the sample number on the side of the container of material. Use a metal marker. Do not write the sample number on the container lid!
  2. Write the sample number on the Marinelli beaker.
- Obtain a representative sample of the container contents using a 1" to 2" Dia. pipe or trowel as is necessary. The object is to obtain a sample that represents the entire contents of the package. Collect enough material to completely fill the Marinelli beaker.
- Analyze the sample on the PSL2/MCA2 HPGe system. Use the 2FRSOL4L geometry.
  1. Weigh the sample. Record the weight on the HPP10 Form and in the Gamma isotopic Log Book.
  2. Secure the sample lid.
  3. Using the Marinelli harness, place the sample on the @ 2 Detector. Close the shield lid.
  4. Start the analysis.
  5. Input Sample Number, Sample weight (grams), and your name, e.g. J. Doe (not RPM nor HPTECH, nor Unit 2 HP,etc.) when prompted by the software. Use current date and time for sample collection.
  6. Review analysis results. Log results in the Gamma Isotopic Log Book.
  7. Contact Bruce Somers or Paul Stoner to review the analyses.

L46

- If the isotopic analysis indicates that the sample is clean (non-radioactive), prepare a "Blue Tag". Note, "Blue Tags" for these materials are to be "co-signed" by either Bruce Somers or Paul Stoner prior to the release of the materials from the RCA.

- Empty the contents of the Marinelli Beaker into the container from which the sample was taken.

- Attach the "Blue Tag" to the container. Secure the container lid.

- Remove unneeded radioactive materials markings and labels from the container.
- Stage the container in an area designated by Doug Haithcox or Bruce Somers or Paul Stoner for removal from the RCA.

- If the results of the isotopic analysis indicate the presence of any radioactive material, immediately contact Bruce Somers or Paul Stoner. Paul or Bruce will determine if the identified materials are naturally occuring or if they are by-product material.

- Affix a "Caution, Radioactive Material" tag on each container found to hold "by-product materials". Include the Sample Number on the Radioactive Material Tag.

- Empty the contents of the Marinelli Beaker into the container from which the sample was taken.

- Transfer packages found to contain "by-product material" to a properly posted "Radioactive Materials" area as directed by D. Haithcox, B. Somers or P. Stoner.

- Stage the containers for dispostion:

  1. An attempt wil be made to consolidate similar materials found to be contaminated.

  2. Weigh each drum of material prior to consolidation. Record gross drum weight on the side of the drum.

  3. Drummed materials will be transfered to B-25 boxes containing similar materials (Diesel Dirt with Diesel Dirt, CP resins with CP resins, Black Beauty with Black Beauty, etc.)

  4. Write the sample number and weight of material on each B-25 box for each drum of material added to the box.

Current Backyard Rad. Mat'l Inventory:

17	LSA Boxes, Grit – Blue tagged at Gate 7
8	LSA Boxes, Misc. Scrap Equip.
12	LSA Boxes, Empty
1	LSA Box, Re-usable Contam. Equip.
21	LSA Boxes, Staged for Shipment
18	Pallets (misc. sizes) Wood to be frisked at Gate 3
2	Liners, Blowdown Resin
1	Liners, Blowdown Resin being filled (about 1/2)
1	Conex Box, DAW
1	Conex Box, DAW being filled (about 1/2)
2	Conex Boxes, Empty (1 will be used for outage wood)
1	Conex Box, Scrap Metal for recylcle facility (about 1/3)
2	Conex Boxes, Scrap Metal & Misc. Contam. Equip. being processed (Both partials)
1	Gang Box, Tools being deconned
5	Gang Boxes, Empty to be frisked at Gate 3
8	Gas Bottles, to be deconned
2	Liners for Oil (1 Empty, 1 about 1/3)
100	Drums, Grit & Misc. Mat'l
1	3-sided Box, Scrap Metal for release (partial)

Successfully Completed Tasks:

3rd-Floor Blowdown Building organized
Unit 2 Cask Washdown Room emptied
Contaminated oil shipped
Blowdown Resin shipped
LSA Boxes of Grit sampled and analyzed

Successfully Released from RCA:

6	3-Sided Boxes Misc. Equip.
4	Pallets Scap Wood
	Tools from Gang Boxes (Qty. to be determined)
1300	lbs. Scrap Metal

Successfully Shipped as Radwaste:

4	Conex Boxes, DAW
2	Liners, Contaminated Oil
6	L. ers, Blowdown Resin

L47

December 2, 1996

Successfully Return for Reuse as Rad Mat'l

14 Drums, Water Hoses
32 Drums, Air Hoses
51 Drums, Electrical Cords & Cables
Contaminated Tools (Qty. to be determined)

Current Work in Progress:

Deconning tools in last gang box
Deconning gas bottles
Segregating mat'l in conex boxes
Non-metals
Reusable equip.
Grit-blast for release
Radwaste (>10K cpm)
Grit-blasting metal for release

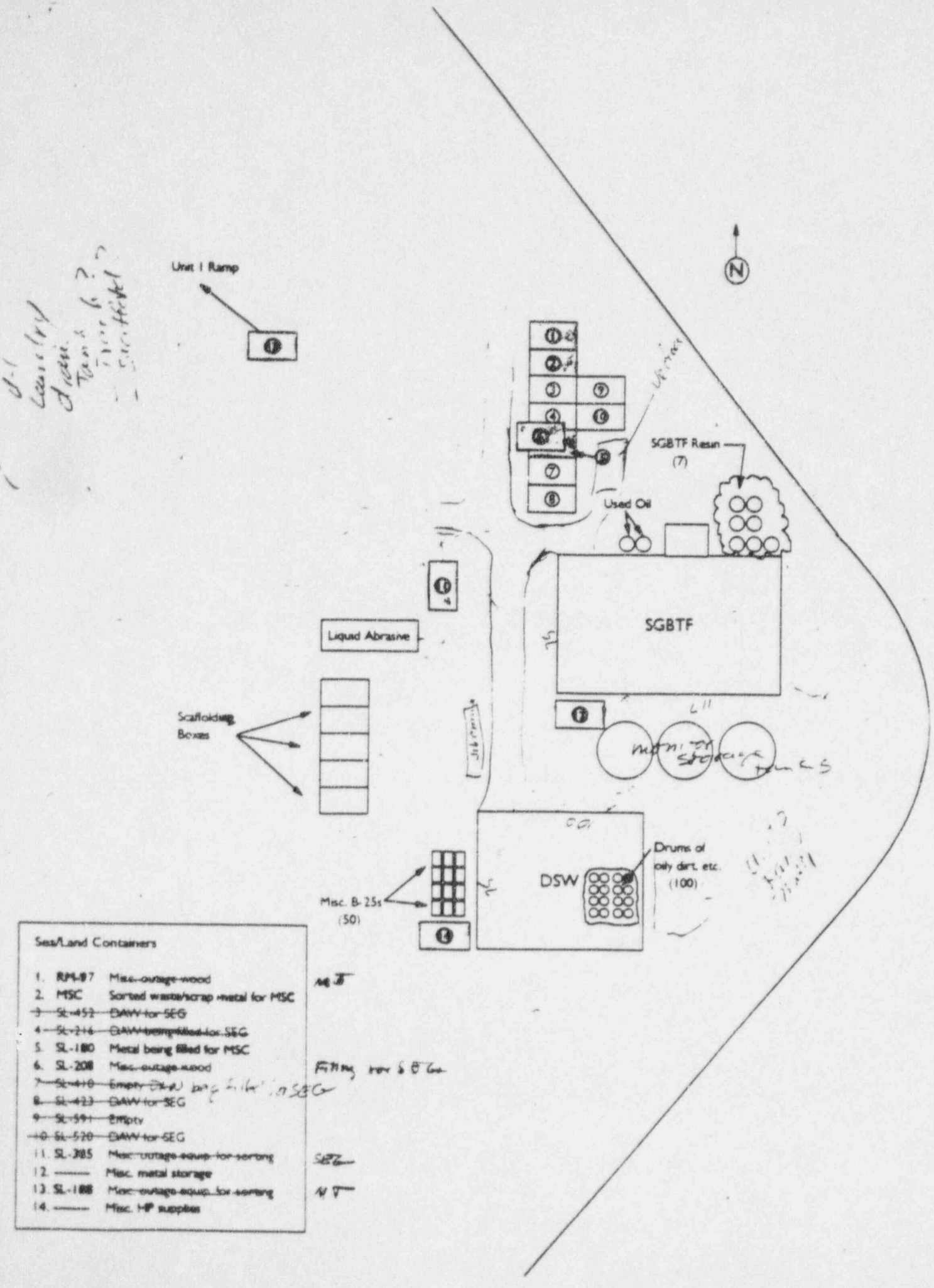
Planned to be Shipped:

21 LSA Boxes, Grit
(5 or 6 additional LSA boxes of grit are possible)
2 Conex Boxes, DAW
3 Liners, Blowdown Resin

Problems:

1. Frisking wood for release or radwaste
2. Transferring drums of grit to LSA boxes, sampling, and analysis
3. Frisking wood for release or radwaste
4. Completing segregation and grit blasting mat'l in conex boxes
5. Frisking wood for release or radwaste

December 2, 1996


Unit 1 Ramp
SGBTF Resin
(7)
Used Oil
SGBTF
Liquid Abrasive
Scaffolding
Boxes
DSW
Drums of
oily dirt, etc.
(100)
Misc. B-25s
(50)
Sea/Land Containers
1. RM-97 Misc. outage wood
2. MSC Sorted waste/scrap metal for MSC
3. SL-452 DAW for SEG
4. SL-216 DAW compacted for SEG
5. SL-180 Metal being filled for MSC
6. SL-208 Misc. outage wood
7. SL-410 Empty
8. SL-423 DAW for SEG
9. SL-591 Empty
10. SL-520 DAW for SEG
11. SL-385 Misc. outage equip. for sorting
12. ——— Misc. metal storage
13. SL-188 Misc. outage equip. for sorting
14. ——— Misc. HP supplies

TRANSPORTATION OF
RAD MATERIAL/WASTE

11/8

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NO. HP-40, REVISION 39
SHIPMENT OF RADIOACTIVE MATERIAL

As of 12/4/95

HP-40.4 RADIOACTIVE MATERIAL SHIPMENT WORKSHEET

FP&L Shipment Number	96-01	96-02	96-03	96-04	96-05	96-06
Shipment Type	Tools To Quad. Cities	ALM Trailer To ETI	U-1 Deboarding + S.R.T. Resin	U-1 S.R.T. Resin	Chem. Qt. Samples To Ventec Atomic	Chem Bld To Teledyne
Destination	Cordova, Ill.	Ashford, Al.	Barnwell, S.C.	Barnwell, S.C.	Westboro, Ma.	Westwood, N.J.
Container Type	Strong Tight	Strong Tight	NuPAC 14-210 H	NuPAC 14-210 H	Strong Tight	Strong Tight
Carrier Notification	NA	NA	Dave 1450 1-3-96	Dave 1450 1-3-96	NA	NA
Scheduled Arrival Date	1-3-96	1-5-96	1-19-96	1-30-96	↓	↓
Shipping Date	1-3-96	1-5-96	1-19-96	1-30-96	1-8-96	1-22-96
Allocation Number	NA	NA	0196-5542	0196-5569	NA	NA
Allocation Date			1-9-96 0855 Ileen	1-22-96 0950 Sybil		
Disposal Volume			202.1 ft^3	202.1 ft^3		
Liner Type			EL-210 FR HIC	EL-210 FR HIC		
Liner Serial Number			1699	1709		
FL. DHRS Notification			1-16-96 0925 Barb	1-22-96 1003 Barb		
FL. DHRS Report #			96002	96003		
FPL Notification			1-16-96 1000	1-23-96 1020		
Advance Notification			NA	NA		
NRWS Number			96000330	96 000330		
Driver	Thiel	Soden	Brown	Blake	Airborne Express	Airborne Express
Date Shipped	1-3-96	1-5-96	1-19-96	1-30-96	1-8-96	1-22-96
Destination Arrival	NA	NA	1-21-96 1132 Sybil / 1-22 0950	1-31-96 0831 Ileen @ 1350	1-12-96 Memo	NA
FL. DHRS Arrival Notification*			1-22-96 1003 Barb	1-31-96 1359 Barb	NA	
Return Manifest Received*			2-1-96	2-7-96		

* Required for Waste Shipments Only. Complete all others for plant info.

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NO. HP-40, REVISION 39
SHIPMENT OF RADIOACTIVE MATERIAL

HP-40.4 RADIOACTIVE MATERIAL SHIPMENT WORKSHEET

FP&L Shipment Number	96-07	96-08	96-09	96-10	96-11	96-12
Shipment Type	H^3 Samples To PTP-N	Chem. Samp. To Savannah Labs.	MT Fuel Casks; Siemens	Chem. Bio To Teledyne	MT Fuel Casks; Siemens	CNSI Equip.
Destination	Florida City, Fl.	Tampa, Fl.	Richland, Wa.	Westwood, N.J.	Richland, Wa.	Barnwell, S.C.
Container Type	Strong Tight	Strong Tight	Fuel Casks (MT)	Strong Tight	Fuel Casks	Strong Tight
Carrier Notification	NA	NA	NA	NA	NA	NA
Scheduled Arrival Date	↓	↓	↓	↓	↓	2-16-96
Shipping Date	1-29-96	1-31-96	2-9-96	2-12-96	2-12-96	2-16-96
Allocation Number *	NA	NA	NA	NA	NA	NA
Allocation Date *	↓	↓	↓	↓	↓	↓
Disposal Volume						
Liner Type						
Liner Serial Number						
FL DRRS Notification *						
FL DRRS Report # *						
Prior Notification						
Advance Notification *						
NPWO Number	↓	↓	↓	↓	↓	↓
Driver	FPL Carrier	E Meyer	Blancett	Airborne Express	Carter	Thompson
Date Shipped	1-29-96	1-31-96	2-9-96	2-12-96	2-12-96	2-16-96
Destination Arrival *	NA	NA	NA	NA	NA	2-17-96 2-19 Weber
FL DRRS Arrival Notification*	↓	↓	↓	↓	↓	NA
Return Manifest Received *	↓	↓	↓	↓	↓	↓

* - Required for Waste Shipments Only. Complete all others for plant info.

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NO. HP-40, REVISION 39
SHIPMENT OF RADIOACTIVE MATERIAL

HP-40.4 RADIOACTIVE MATERIAL SHIPMENT WORKSHEET

FP&L Shipment Number	96-13	96-14	96-15	96-16	96-17	96-18
Shipment Type	Samples To AERC	D.A.W. (2) To S.E.G.	D.A.W. (1) To S.E.G.	MT Fuel Casks To Siemens	MT Fuel Casks To Siemens	U-1 IBCVCS, IASFP, SRT Resin
Destination	Oak Ridge, Tenn.	Oak Ridge, Tenn.	Oak Ridge, Tenn.	Richland, Wa.	Richland, Wa.	Barnwell, S.C.
Container Type	~~Strong Tight~~	Strong Tight Sea-Lands	Strong Tight Sea-Land	Fuel Casks	Fuel Casks	NuPAC 10-142B
Carrier Notification	NA	2-21-96 0942 Steve	2-21-96 0942 Steve	NA	NA	2-8-96 Dave 1115
Scheduled Arrival Date	↓	2-29-96	3-1-96	2-26-96	2-26-96	3-4-96
Shipping Date	2-22-96	2-29-96	3-1-96	2-26-96	2-26-96	3-12-96
Allocation Number *	NA	NA	NA	NA	NA	0396-5740
Allocation Date *		↓	↓			3-6-96 1548 Ileen (Delay not Ileen 1537 3-8)
Disposal Volume		2080 ft³	1040 ft³			132.4 ft³
Liner Type		NA	NA			EL-142 Resin HIC
Liner Serial Number		↓	↓			575
FL DHRS Notification *		2-21-96 1015 Barb	2-21-96 1015 Barb			3-6-96 1548 Barb.
FL DHRS Report # *		96009	96010			96021
Prior Notification		2-29-96 1610	3-1-96 1410			3-8-96 1030 / (Delay not Sonya 1537 3-8)
Advance Notification *		NA	NA			NA
RPWO Number		96002136	96002136			96002356
Driver	Airborne Express	George	Tripp	Sutton	Blancett	Jones
Date Shipped	2-22-96	2-29-96	3-1-96	2-26-96	2-26-96	3-13-96
Destination Arrival *	NA	1050 3-4-96 Traci	1000 3-4-96 Traci	NA	NA	3-14-96 1338 Ileen
FL DHRS Arrival Notification*		3-4-96 1505 Barb	3-4-96 1505 Barb			3-15-96 0958 Barb
Return Manifest Received *		3-2-96	3-12-96			3-25-96

* - Required for Waste Shipments Only. Complete all others for plant info.

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NO. HP-40, REVISION 39
SHIPMENT OF RADIOACTIVE MATERIAL

HP-40.4 RADIOACTIVE MATERIAL SHIPMENT WORKSHEET

FP&L Shipment Number	96-19	96-20	96-21	96-22	96-23	96-24
Shipment Type	Cal. Blocks To SwRI.	MT Fuel Casks To SIEMENS	MT Fuel Casks To SIEMENS	Hi RAD DAW.	Chem Bio To Teledyne	Camera To PTP-N
Destination	San Antonio, TX.	RICHLAND, WA.	RICHLAND, WA.	Barnwell, S.C.	Westwood, N.J.	Florida City, FL.
Container Type	Strong Tight Steel Box	USA/6581	USA/6581	NuPAC 14-210 H	Strong Tight	Strong Tight
Carrier Notification	NA	NA	NA	1115 Dave 2-9-96	NA	NA
Scheduled Arrival Date	3-7-96	3-11-96	3-11-96	3-19-96	↓	↓
Shipping Date	3-7-96	3-11-96	3-11-96	3-19-96	3-20-96	3-20-96
Allocation Number *	NA	NA	NA	0396-5771	NA	NA
Allocation Date *				3-14-96 1502 Ileen		
Disposal Volume				202.1 ft^3		
Liner Type				EL-210 MT		
Liner Serial Number				1697		
FL DHRS Notification *				3-14-96 1505 Barb		
FL DHRS Report # *				96023		
NRC Notification				3-15-96 1000		
Advance Notification *				NA		
NRC Log #		↓		960002358	↓	↓
Driver	Fears	Blackett	Costa	Blake	Airborne Express	Robertson
Date Shipped	3-7-96	3-11-96	3-11-96	3-21-96	3-20-96	3-20-96
Destination Arrival *	NA	NA	NA	0915 3-22-96 ~~Howard 3-22~~	NA	NA
FL DHRS Arrival Notification*				3-25-96 0815 Barb	↓	
Return Manifest Received *				4-1-96		

* - Required for Waste Shipments Only. Complete all others for plant info.

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NO. HP-40, REVISION 39
SHIPMENT OF RADIOACTIVE MATERIAL

HP-40.4 RADIOACTIVE MATERIAL SHIPMENT WORKSHEET

FP&L Shipment Number	96-25	96-26	96-27	96-28	96-29	96-30
Shipment Type	Hi RAD D.A.W.	MT Fuel Casks	MT Fuel Casks	Unit-1 S.R.T. Resin	CHEM B-10	Chem. Ct. Samples To Y.A.
Destination	Barnwell, S.C.	Richland, Wa.	Richland, Wa.	Barnwell, S.C.	WESTWOOD NJ	Westboro, Ma.
Container Type	NUPAC 14-210H	USA/6581 MT	USA/6581 MT	NUPAC 14-210H	STRONG Tight	Strong Tight
Carrier Notification	3-20-96	NA	NA	3-29-96	NA	NA
Scheduled Arrival Date	4-2-96	↓	↓	4-11-96	↓	↓
Shipping Date	4-2-96	4-1-96	4-3-96	4-11-96	4-15-96	4-22-96
Allocation Number *	0496-5830	NA	NA	0496-5834	NA	NA
Allocation Date *	3-27-96 Ileen 1116			4-3-96 1540 Sybil		
Disposal Volume	202.1 ft^3			202.1 ft^3		
Liner Type	EL-210 MT HIC			EL-210 Resin HIC		
Liner Serial Number	1698			1674		
FL. DHRS Notification *	3-29-96 1138 Barb			4-4-96 0800 Barb		
FL. DHRS Report # *	96024			96026		
Prior Notification	3-28-96 0735			4-3-96 1553		
Advance Notification *	NA			NA		
NRWO Number	96002358			96002362		
Driver	Fritts	Ballinger	Blanchett	Miles	~~Ed~~ Airborne Express	
Date Shipped	4-2-96	4-1-96	4-3-96	4-11-96	4-15-96	4-22-96
Destination Arrival *	0927 4-3-96 Carver 1020 4-3	NA	NA	4-12 1250 Howard 4-12 1255	NA	4-26-96 1600 Sue
FL. DHRS Arrival Notification*	4-3-96 1144 Glendora			4-15-96 0920 Kay		NA
Return Manifest Received *	4-12-96			4-19-96		

* - Required for Waste Shipments Only. Complete all others for plant info.

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NO. HP-40, REVISION 39
SHIPMENT OF RADIOACTIVE MATERIAL

HP-40.4 RADIOACTIVE MATERIAL SHIPMENT WORKSHEET

FP&L Shipment Number	96-31	96-32	96-33	96-34	96-35	96-36
Shipment Type	Dosimetry Foils To Westinghouse	D.A.W. To SEG. (2)	Oil Samples To FPL Central Lab	I&C Reed Sw. Fibers To C.E.	S/G Crud Samples To Ledoux	Chem. Charcoal Samples To NCS
Destination	Pittsburgh, PA.	Oak Ridge, Tenn.	W. Palm Bch., Fl.	Windsor, Conn.	Teaneck, N.J.	Columbus, Ohio
Container Type	Strong Tight	Strong Tight	Plastic Bottle in Fiber Box	Strong Tight Wood Box	Strong Tight Fiber Box	Strong Tight Fiber Box
Carrier Notification	NA	4-22-96 Steve	NA	5-7-96 Debbie	NA	NA
Scheduled Arrival Date	↓	4-26-96	↓	5-8-96	↓	↓
Shipping Date	4-19-96	4-26-96	5-3-96	5-8-96	5-9-96	5-9-96
Allocation Number *	NA	NA	NA	NA	NA	NA
Allocation Date *	↓	↓	↓	↓	↓	↓
Disposal Volume		2194 ~~2080~~ ft³				
Liner Type		NA				
Liner Serial Number		↓				
FL. DHRS Notification *		4-22-96 1630 Barb				
FL. DHRS Report # *		96028				
Prior Notification		4-26-96 0850				
Advance Notification *		NA				
NPWO Number	↓		↓	↓	↓	↓
Driver	Airborne Express	Kindred	PLT. WT. WK.	Adams	Airborne Express	Airborne Express
Date Shipped	4-19-96	4-26-96	5-3-96	5-8-96	5-9-96	5-9-96
Destination Arrival *	NA	4-29-96 1110 Chuck	NA	NA	NA	NA
FL. DHRS Arrival Notification*		4-29-96 1115 Barb.				
Return Manifest Received *		5-7-96				

* - Required for Waste Shipments Only. Complete all others for plant info.

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NO. HP-40, REVISION 39
SHIPMENT OF RADIOACTIVE MATERIAL

HP-40.4 RADIOACTIVE MATERIAL SHIPMENT WORKSHEET

FP&L Shipment Number	96-37	96-38	96-39	96-40	96-41	96-42
Shipment Type	Code Safeties (3) To Wyle	D.A.W. To S.E.G. (2)	Framatome Equip.	S/G Samples To Yankee Atomics	SwRI Equip. To SwRI	D.A.W. To SEG (2)
Destination	Huntsville, Al.	Oak Ridge, Tenn.	Lynchburg, Va.	Westboro, Mass.	San Antonio, Tx	Oak Ridge, Tenn.
Container Type	Strong Tight Metal Box	Strong Tight Sea-Lands	Strong Tight Metal Boxes	Strong Tight Metal Drum	Strong Tight Boxes + Drums	Strong Tight Sea-Lands
Carrier Notification	NA	5-15-96 0958 Steve	NA	NA	NA	5-29-96 1335 Steve
Scheduled Arrival Date	5-13-96	5-21-96	5-20-96	↓	5-28-96	6-5-96
Shipping Date	5-13-96	5-21-96	5-2096	5-22-96	5-28-96	6-5-96
Allocation Number	NA	NA	NA	NA	NA	NA
Allocation Date		↓				↓
Disposal Volume		2194 ft³				2194 ft³
Liner Type		NA				↓
Liner Serial Number		↓				↓
FL DHRS Notification *		5-15-96 1645 Barb				5-30-96 0955 Barb
FL DHRS Report # *		96029				96042
Prior Notification		NA				NA
Advance Notification *		↓				↓
FPWO Number		96008932				96008932
Driver	Aker	Hawn	Wagner	Aker	Anthony	Hawn
Date Shipped	5-13-96	5-29-96	5-20-96	5-22-96	5-28-96	6-5-9
Destination Arrival *	NA	5-31-96 0830 ~~5-31~~ 1110 final	NA	NA	NA	1630 6-6-96 ~~6-7~~ 0945
FL DHRS Arrival Notification*		5-31-96 1118 Barb				6-7-96 1000 Barb
Return Manifest Received *		6-8-96				6-18-96

* - Required for Waste Shipments Only. Complete all others for plant info.

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NO. HP-40, REVISION 39
SHIPMENT OF RADIOACTIVE MATERIAL

HP-40.4 RADIOACTIVE MATERIAL SHIPMENT WORKSHEET

FP&L Shipment Number	96-43	96-44	96-45	96-46	96-47	96-48
Shipment Type	Valves To Wyle 3468 3483	DAW To S.E.G.	CE. Equip. To Windsor	CE Equip. To Chatt.	Chem. B10 Samples to Teledyne	INS ALM Trailer
Destination	Huntsville, Al.	Oak Ridge, Tenn.	Windsor, Conn.	Chattanooga, Tenn.	Westwood, N.J.	Columbia, S.C.
Container Type	Strong Tight	Sea-Land Boxes (2)	Strong Tight Boxes	Strong Tight Boxes	Strong Tight Box	Strong Tight
Carrier Notification	6-5-96	6-12-96 1533 7-12-96 1307 Steve	NA	NA	NA	7-24-96
Scheduled Arrival Date	6-6-96	7-17-96 ~~6-19-96~~	7-22-96	7-22-96	√	7-26-96
Shipping Date	6-6-96	7-17-96 ~~6-19-96~~	7-22-96	7-22-96	7-15-96	7-26-96
Allocation Number *	NA	NA	NA	NA	NA	NA
Allocation Date *		√				
Disposal Volume		2194 ft³				
Liner Type		NA				
Liner Serial Number		√				
FL. DHRS Notification *		6-12-96 7-12-96 1540 1318 Barb.				
FL. DHRS Report # *		96045				
Prior Notification		NA				
Advance Notification *		√				
NRWO Number		96009932				
Driver	Frase	Hann	Blackburn	Biddle	Airborne Express	Bruce Moore
Date Shipped	6-6-96	7-17-96	7-22-96	7-22-96	7-15-96	7-26-96
Destination Arrival *	NA	7-19-96 0800 Kirby	7-24-96 1030 Roberts	7-23-96 0900 Chuck	NA	NA
FL. DHRS Arrival Notification*		7-23-96 0828 Barb.	NA	NA		
Return Manifest Received *		7-25-96				

* - Required for Waste Shipments Only. Complete all others for plant info.

HP-40.4 RADIOACTIVE MATERIAL SHIPMENT WORKSHEET

FP&L Shipment Number	96-49	96-50	96-51	96-52	96 53	96-54
Shipment Type	INS Washer Trailer	INS Tank Trailer	Chem. Qt. Samples To Yankee	Chem. Lab [illegible] to DHRS	Chem. 3rd To Teledyne	INS R.C.'s To INS.
Destination	Columbia, S.C.	Columbia, S.C.	Westboro, Ma.	FLORIDA City, Fl.	Westwood, N.J.	Columbia, S.C.
Container Type	Strong Tight VAN	Strong Tight VAN	Strong Tight	STRONG Tight	Strong Tight	Strong Tight
Carrier Notification	7-24-96	7-24-96	NA	[illegible]	NA	8-16-96
Scheduled Arrival Date	7-26-96	7-26-96	↓	8-14	↓	8-22-96
Shipping Date	7-26-96	7-26-96	8-1-96	8-14-96	8-16-96	8-22-96
Allocation Number *	NA	NA	NA	NA	NA	NA
Allocation Date *						
Disposal Volume						
Liner Type						
Liner Serial Number						
FL. DHRS Notification *						
FL. DHRS Report # *						
Prior Notification						
Advance Notification *						
NFWD Number						
Driver	Foster	Hudson	Airborne Express	D&L Truck	Airborne Express	Wiggins
Date Shipped	7-26-96	7-26-96	8-1-96	8-14-96	8-16-96	8-22-96
Destination Arrival *	7-29-96 Brace	NA	8-5-96 Russ	NA	NA	1030 8-23-96
FL. DHRS Arrival Notification*	NA	NA	NA			NA
Return Manifest Received *						

* - Required for Waste Shipments Only. Complete all others for plant info.

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NO. HP-40, REVISION 40
SHIPMENT OF RADIOACTIVE MATERIAL

HP-40.4 RADIOACTIVE MATERIAL SHIPMENT WORKSHEET

FP&L Shipment Number	96-55	96-56	96-57	96-58	96-59	96-60
Shipment Type	D.A.W. To S.E.G. (2)	D.A.W. To S.E.G. (2)	Chem. Bio To Teledyne	Blowdn. Resin To S.E.G.	Chem. Qt. Samples to Yankee Atomic	Blowdown Resin to SEG (9) 10 55GAL
Destination	Oak Ridge, Tenn.	Oak Ridge, Tenn.	Westwood, N.J.	Oak Ridge, Tenn.	Westboro, Mass.	OAK RIDGE, TENN
Container Type	Strong Tight	Strong Tight	Strong Tight	Steel (3) Liners	4G Fiber Box	(3) 14-195 STEEL LINER
Carrier Notification	9-26-96 1321 Steve	9-26-96 1321 Steve	NA	10-16-96	NA	10/28/96
Scheduled Arrival Date	10-3-96	~~10-8-96~~ 10-15-96	↓	10-17-96	↓	10/31/96
Shipping Date	10-3-96	~~10-8-96~~ 10-15-96	10-21-96	10-17-96	10-21-96	10-31-96
Allocation Number *	NA	NA	NA	NA	NA	NA
Allocation Date *	↓	↓		↓		NA
Disposal Volume	2194 ft³	2194 ft³		503 ft³		515 ft³
Liner Type	NA	NA		(3) LI4-195 FR Steel		(3) LI4-195 FR Steel
Liner Serial Number	↓	↓		L485942-3 L486395-3 L485942-4		L486395-5 L486395-4 L485942-7
FL. DHRS Notification *	9-26-96 1405 Barb	9-26-96 1405 Barb		NA		NA
FL. DHRS Report # *	960600 1	96060				
Prior Notification	NA	NA				
Advance Notification *						
NPW8 Number	96015678	96015678	↓	96015679	↓	96015679
Driver	JP George	Price	Airborne Express	Roberts	Airborne Express	Zelenka
Date Shipped	10/9/96	10-15-96	10-21-96	10-17-96	10-21-96	10-31-96
Destination Arrival *	10/10/96 @ 10:00A	10-17-96 0950	NA	10-18-96 Fed ~~10-17-96~~ 1400	10-23-96 Russ	11-1-96 200
FL. DHRS Arrival Notification*	10-10-96 1225 Barb	10-17-96 1455 Glen	↓	NA	NA	NA
Manifest Received *	11-1-96	10-31-96	↓	10-31-96		11-5-96

* - Required for Waste Shipments Only. Complete all others for plant info.

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NO. HP-40, REVISION 40
SHIPMENT OF RADIOACTIVE MATERIAL

HP-40.4 RADIOACTIVE MATERIAL SHIPMENT WORKSHEET

FP&L Shipment Number	96-61	96-62	96-63	96-64	96-65	96-66
Shipment Type	VIDEO EQUIP	OIL	DAW. To SEG. (2)	Chem. Bio Samples To Teledyne	Well Sample To Bowman labs	Dive Gear To PTP-N
Destination	PTN Fl. City, Fl.	SEG Oak Ridge, Tenn.	Oak Ridge, Tenn.	Westwood, N.J.	Tampa, Fl.	Florida City Fl.
Container Type	STRONG TIGHT	STRONG TIGHT	Strong Tight	Strong Tight	Strong Tight	Strong Tight
Carrier Notification	NA	[illegible]	11-13-96 1258 Ben	NA	NA	11-25-96
Scheduled Arrival Date	NA	11/13/96	11-19-96	√	√	11-27-96
Shipping Date	11/12/96	11-13-96	11-19-96	11-25-96	11-20-96	11-27-96
Allocation Number •	NA	NA	NA	NA	NA	NA
Allocation Date •		NA	√			
Disposal Volume		336.4 ft^3	2194 ft^3			
Liner Type		NA	NA			
Liner Serial Number		NA	√			
FL DHRS Notification •	[illegible]		11-13-96 1255 Barb.			
FL DHRS Report # •		~~96061~~ NA	96067			
Prior Notification		NA	NA			
Advance Notification •		NA	√			
NPWO Number		NA	96018280			
Driver	B Roberts	Rollins	Jones, W	Airborne Express	Grunert ~~Nyhoff~~	Laymon
Date Shipped	11-12-96	11-13-96	11-19-96	11-25-96	11-20-96	11-27-96
Destination Arrival •	NA	11-15-96	1630 11-20-96 Powers	NA	NA	
FL DHRS Arrival Notification*	NA	NA	11-25-96 1008 Barb			NA
Return Manifest Received *	√	11-27-96	12-4-96		√	√

* - Required for Waste Shipments Only. Complete all others for plant info.

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NO. HP-40, REVISION 40
SHIPMENT OF RADIOACTIVE MATERIAL

HP-40.4 RADIOACTIVE MATERIAL SHIPMENT WORKSHEET

FPSL Shipment Number	96-67	96-68				
Shipment Type	B-25 Boxes To SEG.	B-25 Boxes To SEG				
Destination	Oak Ridge, Tenn.	Oak Ridge, Tenn.				
Container Type	Strong Tight	Strong Tight				
Carrier Notification	11-27-96	11-27-96				
Scheduled Arrival Date	12-3-96	12-4-96				
Shipping Date	12-3-96	12-3-96				
Allocation Number *	NA	NA				
Allocation Date *	✓	✓				
Disposal Volume	427.3 ft^3					
Liner Type	NA	NA				
Liner Serial Number	✓	✓				
FL DHRS Notification *	NA					
FL DHRS Report # *	✓					
Prior Notification	NA	NA				
Advance Notification *	✓	✓				
RPWC Number	96018282	96018282				
Driver	Hawn					
Date Shipped	12-3-96					
Destination Arrival *						
FL DHRS Arrival Notification*	NA					
Manifest Received *						

* - Required for Waste Shipments Only. Complete all others for plant info.

Florida Power & Light Company

St. Lucie Plant

RADIOACTIVE MATERIAL SHIPMENT RECORD (96-67)

HP - 8

SHIPPING INSTRUCTIONS

From FLORIDA POWER & LIGHT CO.
ST. LUCIE PLANT
6501 SOUTH HIGHWAY A1A
JENSEN BEACH, FL. 34957
NRC License No. DPR-67

To SCIENTIFIC ECOLOGY GROUP
1560 BEAR CREEK ROAD
OAKRIDGE, TN. 37830
ATTN: MR. FRED SCHULZ
NRC License No. R73008-H94, Timely renewal

Description USED blasting grit; NON-HAZARDOUS MATERIAL

Type of Container B-25 METAL BOXES (9)

Total Shipping Weight (Lbs.) 43,625

Isotopic Content Fe^{55}, Co^{60}, Cs^{137}, Cs^{134}

Quantity (Curies) 9.368E-5

Physical State SOLID

Chemical Form METAL OXIDE

Total Weight Uranium ∅ gms.

Fissile Class Excepted

Weight U235 ∅ gms. Percent U235 ∅

Weight Fissile Pu ∅ gms.

Method of Shipment FLAT BED TRUCK

DOT Permit No. NA

DOT Specification No. N/A

Transport Group NA

Identifying Container Markings "CLASS A WASTE" "UNSTABLE"

Have all liquids been drained from container? N/A

Is Shipment palleted? NO

Have all lugs, bolts, etc., been tightened for shipment? YES

Special Instructions: MATERIALS DO NOT MEET DOT DEFINITION of RADIOACTIVE, <2E-3 µCi/gram specific Activity.

Comments & explanations: FOR GREEN is clean PROCESSING

RADIATION SURVEY

1. External Radiation
   - 0.1 mrem/hr at surface of shipping container
   - <0.1 mrem/hr at 3 feet from outer surface of shipping container
   - <0.1 mrem/hr at 6 feet from outer surface of shipping container
2. Smear survey on outer surface of shipping containers:
   - <4.12 dpm beta-gamma per 100 cm²
   - <1000 dpm alpha per 100 cm²
3. Dose Rate in Cab/Sleeper: 0.1 mR/hr.
4. Remarks:

12.3.96 DATE — [signature] MONITOR LL19

Monitoring results, packaging and labeling checked for compliance with applicable regulations.

12-3-96 DATE — R. Bruce [signature] HEALTH PHYSICS

REL

This is to certify that the above named articles are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the regulations of the Department of Transportation.

12-3-96 DATE — R. Bruce [signature] HEALTH PHYSICS SUPERVISOR

SCIENTIFIC ECOLOGY GROUP
1560 BEAR CREEK ROAD
PO BOX 2530
OAK RIDGE, TN 37830

RADIOACTIVE SHIPMENT MANIFEST FORM

(1) GENERATOR NAME Florida Power & Light
FACILITY St. Lucie Plant
ADDRESS 6501 South Hwy A1A
CITY Jensen Beach STATE FL ZIP CODE 34957
CONTACT B. Jones PHONE (561) 461-7305
EMERGENCY RESPONSE CONTACT N/A PHONE ( ) N/A

(2) BILL TO FPL-PO# 16501
CONTRACT/P.O. NO. Release # 004

(3A) RADIOACTIVE WASTE TRANSPORTATON PERMIT NO. SC-0033-07-96-X, Tenn-FL003196

(4) USE THIS NUMBER ON ALL CONTINUATION PAGES — SHIPMENT I.D. NUMBER 96-67 — PAGE 1 OF 4

(3B) NUMBER OF GENERATORS ONE (1)

(5) CARRIER Kindrick Trucking Co. ADDRESS 2818 Kane State Hwy, Harriman, Tenn. 37748
TELEPHONE 423-882-0457 SHIPPING DATE 12-3-96
SHIPMENT TYPE Flt-Bed SHIPMENT SURFACE EXPOSURE 0.1 mR
CASK IDENTIFICATION NO. N/A USA
SHIPMENT NO. 96-67 LINER TYPE NA
LINER SERIAL NO. NA
DRIVER SIGNATURE Bobby Vance DATE 12-3-96

(6) TOTAL FOR EACH CLASS: NO. OF PACKAGES	WEIGHT (POUNDS)	PROPER SHIPPING NAME & HAZARD CLASS (PER 49 CFR 172.101)	I.D. NUMBER	Reportable Quantity of Fissile Excepted
		Radioactive Material, excepted package - empty packaging, 7	UN2910	
		Radioactive Material, fissile, n.o.s., 7	UN2918	
		Radioactive Material, LSA, n.o.s., 7	UN2912	
		Radioactive Material, n.o.s., 7	UN2982	
		Radioactive Material, excepted package - limited quantity of material, 7	UN2910	
		Radioactive Material, special form, n.o.s., 7	UN2974	
		Radioactive Material, surface contaminated object, 7	UN2913	
		Radioactive Material, excepted package - instruments or articles, 7	UN2910	
9	43625	Other (Specify) USED BLASTING GRIT		Fissile Excepted

(7) SHIPMENT TOTALS

Disposal Volume (ft.³)	Total No. of Packages	Activity (10CFR20.311) Millicuries: All Isotopes	Tritium	C-14	Tc-99	I-129	Source (Pounds)
427.3	9	9.37E-2	<1.562E-1	<1.134E-2	<3.613E-2	<1.37E-1	Ø

(8) TOTAL SNM

Isotope	Grams	No. Packages
U-233	Ø	Ø
U-235	Ø	
PU	Ø	
TOTAL	Ø	

(9) MINIMUM WASTE PACKAGE % FILL NA
(10) SOLIDIFICATION AGENT NONE
(11) NUMBER AND TYPE OF CONTAINERS 9

(12) WASTE DESCRIPTION USED BLASTING GRIT
(13) PHYSICAL FORM SOLID
(14) CHEMICAL FORM Metallic Oxide
(15) NAME AND % OF CHELATING AGENT(S) NA
(16) WASTE FORM CLASS ☑ AU ☐ AS ☐ B ☐ C

(17) ( ) Yes (X) No THIS VEHICLE IS CONSIGNED EXCLUSIVE USE. LOADING AND UNLOADING MUST BE ACCOMPLISHED BY CONSIGNOR OR CONSIGNEE OR HIS DESIGNATED AGENT.

(18) IMPORTANT: "This is to certify that the above named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation."

Signature B. Don Jones
Company FPL St. Lucie Plant Date 12-3-96

(19) "Certification is hereby made to the South Carolina Department of Health and Environmental Control that this shipment of low-level radioactive waste has been prepared in accordance with a radioactive waste management program which has been approved by the Nuclear Regulatory Commission or an Agreement State regulatory agency and has been inspected in accordance with the requirements of South Carolina Radioactive Material License No. 097 as amended, and the Nuclear Regulatory Commission's License No. 12-13536-01 as amended, and the effective Barnwell Site Disposal Criteria within 48 hours prior to shipment, and further certification is made that the inspection revealed no items of non-compliance with all applicable laws, rules and regulations."

Date ______ Signature ______
Title and Organization ______
Telephone No. ( ) ______

CUSTOMER'S COPY
Form No. CNS-201
(3/96)
SEE INSTRUCTIONS ON REVERSE SIDE FOR FILLING OUT THIS FORM

CNSI USE ONLY

☐ This material meets all license requirements
☐ This material was disposed of in accordance with license
☐ Discrepancy ______

Date ______

Crane ☐ Forklift ☐
Shielded ☐ Personnel Barrier ☐
Overpack S/N ______
Overpack Lid S/N ______
Other ______

Arrival Date ______ Arrival Survey No. ______
Date/Time Buried ______ H.P. Initial ______
Trench No. ______ Location Code ______
Waste Class Code ______
Trench No. ______ Location Code ______
Waste Class Code ______

BARNWELL WASTE MANAGEMENT FACILITY
Operated by: CHEM-NUCLEAR SYSTEMS, INC.

CONTINUATION SHEET

GENERATOR NAME [illegible]

USE THIS NUMBER ON ALL CONTINUATION PAGES

SHIPMENT I.D. NUMBER [illegible]

PAGE ___ OF 4

(20) ITEM NO	(21) RADIO NUCLIDE EACH CONTAINER	(22) PERCENT OF ACTIVITY OR (NCI) OF EACH NUCLIDE	(23) ACTIVITY EACH CONTAINER (mCi)	(24) PHYSICAL FORM	(25) CHEMICAL FORM AND NAME & % OF CHELATING AGENT	(26) WASTE DESCRIPTION	(27) WASTE FORM CLASS	(28) SPECIAL NUCLEAR MATERIAL (grams)	(29) SOURCE MATERIAL (pounds)	DISPOSAL CONTAINER (30) CONTAINER WEIGHT (pounds)	(31) CONTAINER VOLUME (Cu Ft)	(32) CONTAINER TYPE	(33) RADIATION LEVELS CONTAINER SURFACE R/hr	(33) (TI) 1 METER	(34) CONTAMINATION CONTAINER SURFACE (DPM/100cm2) Alpha Beta Gamma	(35) FISSILE CLASS	(36) LABELS & MARKINGS USED
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	AI	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Radioactive NA
	[illegible]	[illegible]															Radioactive
	[illegible]	[illegible]															Radioactive
	[illegible]	[illegible]															Radioactive
	[illegible]	[illegible]															Radioactive
																	Radioactive
																	Radioactive
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	AI	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	[illegible]	[illegible]	Radioactive
	[illegible]	[illegible]															Radioactive NA
	[illegible]	[illegible]															Radioactive
	[illegible]	[illegible]															Radioactive
	[illegible]	[illegible]															Radioactive
																	Radioactive
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	AI	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	[illegible]	[illegible]	Radioactive
	[illegible]	[illegible]															Radioactive
	[illegible]	[illegible]															Radioactive NA
	[illegible]	[illegible]															Radioactive
	[illegible]	[illegible]															Radioactive
	[illegible]	[illegible]															Radioactive
																	Radioactive
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	AI	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	[illegible]		Radioactive
	[illegible]	[illegible]															Radioactive
	[illegible]	[illegible]															Radioactive NA
	[illegible]	[illegible]															Radioactive
	[illegible]	[illegible]															Radioactive
																	Radioactive
																	Radioactive
																	Radioactive
PAGE TOTALS								[illegible]	[illegible]	[illegible]	[illegible]			NA			Radioactive

Form No. CNS 201
(5-87)

CUSTOMER'S COPY

LOT-2 1157

BARNWELL WASTE MANAGEMENT FACILITY

Operated by: CHEM-NUCLEAR SYSTEMS, INC.

CONTINUATION SHEET

SEG

GENERATOR NAME Florida Power Corp. Crystal River

USE THIS NUMBER ON ALL CONTINUATION PAGES

PAGE 3 OF 4

SHIPMENT I.D. NUMBER 96-67

(20) ITEM NO	(21) RADIO NUCLIDE EACH CONTAINER	(22) PERCENT OF ACTIVITY OR NO. OF EACH NUCLIDE	(23) ACTIVITY EACH CONTAINER (mCi)	(24) PHYSICAL FORM	(25) CHEMICAL FORM AND NAME & % OF CHELATING AGENT	(26) WASTE DESCRIPTION	(27) WASTE FORM CLASS	(28) SPECIAL NUCLEAR MATERIAL (grams)	(29) BY-PRODUCT MATERIAL (pounds)	(30) CONTAINER WEIGHT (pounds)	(31) CONTAINER VOLUME (Cu Ft)	(32) CONTAINER TYPE	(33) RADIATION LEVEL CONTAINER SURFACE	(33) 1 METER	(34) CONTAMINATION CONTAINER SURFACE (DPM / 100cm2)	(35) FISSILE CLASS	(36) LABELS & MARKINGS USED
[illegible]	Co60	2.5E-4	2.63E-3	Solid	Metal	Used blasting grit	AU	∅	∅	5150	42.63	B-25	0.1	NA	<412 <1Aw	Exempt	Radioactive AU
[illegible]	Fe55	.38E-3															Radioactive
	Cs137	1.35E-3															Radioactive
	Sr90	4.24E-3															Radioactive
	[illegible]	[illegible]															Radioactive
	H3	[illegible]															Radioactive
[illegible]	Co60	3.5E-4	3.4E-3	Solid	Metal	Used blasting grit	AU	∅	∅	3400	37.78	B-25	0.1	NA	<412 <1Aw	Exempt	Radioactive AU
1.5	Cs134	1.77E-4															Radioactive
	Fe55	3.3E-3															Radioactive
	C14	8.8E-4															Radioactive
	[illegible]	[illegible]															Radioactive
	I129	9.4E-3															Radioactive
	H3	<1.45E-2															Radioactive
[illegible]	Co60	1.45E-4	[illegible]	Solid	Metal	Used blasting grit	AU	∅	∅	6850	42.91	B-25	0.1	NA	<412 <1Aw	Exempt	Radioactive AU
136	Cs134	.27E-4															Radioactive
	Cs137	8.34E-4															Radioactive
	Fe55	4.94E-3															Radioactive
	C14	5.18E-3															Radioactive
	[illegible]	[illegible]															Radioactive
	[illegible]	[illegible]															Radioactive
	H3	[illegible]															Radioactive
3			1.7E-2			PAGE TOTALS		∅	∅	15,400	148.27		NA				

Form No. CNS-201
(5-87)

CUSTOMER'S COPY

DOE-EII-75

BARNWELL WASTE MANAGEMENT FACILITY

Operated by: CHEM-NUCLEAR SYSTEMS, INC.

CONTINUATION SHEET

SEG

GENERATOR NAME Florida Power & Light Co. St. Lucie

USE THIS NUMBER ON ALL CONTINUATION PAGES — SHIPMENT I.D. NUMBER 96-67

PAGE 4 OF 4

(20) ITEM NO	(21) RADIO NUCLIDE EACH CONTAINER	(22) PERCENT OF ACTIVITY OR mCi OF EACH NUCLIDE	(23) ACTIVITY EACH CONTAINER (mCi)	(24) PHYSICAL FORM	(25) CHEMICAL FORM AND NAME & % OF CHELATING AGENT	(26) WASTE DESCRIPTION	(27) WASTE FORM CLASS	(28) SPECIAL NUCLEAR MATERIAL (grams)	(29) SOURCE MATERIAL (pounds)	(30) CONTAINER WEIGHT (pounds)	(31) CONTAINER VOLUME (Cu Ft)	(32) CONTAINER TYPE	(33) RADIATION LEVELS CONTAINER SURFACE (mR/hr)	(33) RADIATION LEVELS 1 METER	(34) CONTAMINATION CONTAINER SURFACE (DPM/100cm2) Alpha Beta Gamma	(35) FISSILE CLASS	(36) LABELS & MARKINGS USED
82-	Co60	5.3E-4	5.78E 3	Solid	Metal	Used Blasting Grit	AU	Ø	Ø	5100	52.31	B-25	0.1	NA	<412 <1000	Exempt	Radioactive NA
157	Cs137	4.13E-4															Radioactive
	Fe55	5.04E 3															Radioactive
	C14	<1.39E 3															Radioactive
	Tc99	<9.51E-3															Radioactive
	Ni63	<1.66E 2															Radioactive
	H3	<2.92E 2															Radioactive
																	Radioactive
82-	Co60	1.49E 4	1.10E 2	Solid	Metal	Used Blasting Grit											Radioactive
158	Cs134	4.98E 4					AU	Ø	Ø	4225	54.25	B-25	0.1	NA	<412 <1000	Exempt	Radioactive NA
	Cs137	2.41E 4															Radioactive
	Fe55	1.16E 3															Radioactive
	C14	<1.68E 3															Radioactive
	Tc99	<5.16E 3															Radioactive
	Ni63	<2.05E 2															Radioactive
	H3	<2.16E 1															Radioactive
																	Radioactive
																	Radioactive
																	Radioactive
																	Radioactive
																	Radioactive
																	Radioactive
																	Radioactive
																	Radioactive
																	Radioactive
																	Radioactive
																	Radioactive
																	Radioactive
																	Radioactive
																	Radioactive
2			1.11E 2														Radioactive
PAGE TOTALS								Ø	Ø	11325	106.60			NA			Radioactive

Form No. CNS-201 (5-87)

CUSTOMER'S COPY

STRAIGHT BILL OF LADING-SHORT FORM- ORIGINAL-NON NEGOTIABLE

CARRIER: KINDRICK TRUCKING COMPANY TRACTOR/TRAILER: K9616/312144

ADDRESS: 2818 ROANE ST. HIGHWAY, HARRIMAN, TN 37748 PHONE: (423) 882-0457

RECEIVED, SUBJECT TO THE CLASSIFICATIONS AND TARIFFS IN EFFECT ON THE DATE OF ISSUE OF THIS ORIGINAL BILL OF LADING

AT FLORIDA POWER AND LIGHT COMPANY, ST. LUCIE PLANT

6501 SOUTH HIGHWAY A1A, JENSEN BEACH, FLORIDA 34957

The property described below, in apparent good order, except as noted, (Contents and condition of contents of packages unknown) marked, consigned, and destined as shown below, which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its own railroad, water line, highway routes, or within the territory of its highway operation, otherwise to deliver to another carrier on the route to said destinations. It is mutually agreed, as to each carrier of all or any of said property over any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all conditions not prohibited by law, whether printed or written, herein contained, including conditions on the back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

CONSIGNOR: Florida Power and Light Company, St. Lucie Plant, 6501 S. Highway A1A, Jensen Beach, Florida 34957

PHONE: (407) 467-7305 DOT HAZMAT REGISTRATION NUMBER: 04- 495 700 021D SHIPMENT # 96-67

CONSIGNEE: Scientific Ecology Group, 1560 Bear Creek Road, Oak Ridge, Tennessee, 37830 423-220-5814 Attn: Mr. Fred Schulz

NOS PKG	HM	DOT SHIPPING NAME, DESCRIPTION OF ARTICLES, SPECIAL MARKS AND LABELS, EXCEPTIONS, SPECIAL INFORMATION, ETC	WT. LBS
9		Metal boxes of used blasting grit	43625
		To be processed through Green is Clean Program, Special Quote SQ77	
		FPL Purchase Order: 16501, Release Number 004	

IMPORTANT: This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulation of the Department of Transportation.

SIGNATURE R. Bruce Kramer DATE/TIME 12-3-96 14:4 COMPANY Florida Power & Light Co.

Received the property described above in good condition, except as noted.

CARRIER: KINDRICK TRUCKING DRIVER: MS Bobby Hawn Bobby Hawn DATE/TIME 12-3-96 14:55

CARRIER ARRIVAL DATE/TIME: 12/3/96 0600 CARRIER DEPARTURE DATE/TIME 12/3/96 @ 1530

ADVANCE NOTIFICATION FORM

SEG
SCIENTIFIC ECOLOGY GROUP, INC.

SHIPMENT INFORMATION

Client: Florida Power & Light Co., St. Lucie Plant
Client Contact/Phone: Stan 467-7305 - B. SOMERS
Client Manifest #: 96-69
TN License #: TDHN FL003-L96
Burial Site Permit/Generator #: SC-0039-DP-96 R 1
Contract/Purchase Order #: 16501 RELEASE # 4
Scheduled ETA: Thursday 12-5-96 0900
Carrier: KINDRICK TRUCKING
(FLATBED) VAN RAGTOP DROPDECK
OTHER: _____

SEG SHIPMENT #: _____

Fax # 423-220-5850
Confirmation #'s
423-220-5814 or 423-220-5812
[illegible] must be made that load is acceptable.

☐ Advanced Notification Complete and Acceptable
☐ Advanced Notification Received after Shipment Returned
☐ Meets our License Requirements
☐ Meets WAC for _____ (Process/Package)
☐ Does not meet WAC
If not, Approved By: _____
*THIS BLOCK COMPLETED BY SEG

PACKAGE(S) & QUANTITY INFORMATION

QTY/CONTAINER TYPE	SEG CONTAINER #(S) (S/L, OIL BINS, REC., ETC.)
Other _____	GREEN IS CLEAN
_____ 30 gallon drums	Special quote SQ77
_____ 55 gallon drums	
9 metal bins (72 ft³)	
_____ wood boxes (__ ft³)	
_____ 20' sealands	
_____ 40' sealands	
_____ fuel rack	
_____ resin liner/HIC	
_____ oil bins	

HEAVIEST CONTAINER WT. (LBS) 6850 lbs

RADIOLOGICAL/ISOTOPE INFORMATION

U-233	0	grams
U-235	0	grams
U-238	0	mCi
PU	<3.89E-1	mCi
Am-241	<4.06E-3	mCi
Ra	0	mCi
Sr90	<3.04E-2	mCi
C14	<1.34E-2	mCi
H3	<1.62E-1	mCi
Total SNM grams	n/a	

Maximum On-Contact Radiation Levels (mR/hr):
External <0.1
Internal <0.1
Total Source Lbs. 0
TOTAL ACTIVITY (mCi) 9.368E-2

WASTE MATERIAL DESCRIPTION INFORMATION

Drums and/or boxes inside sealands? Yes _____ No ✓
If yes, # of each? Box _____ Drum _____
If yes, are separate isotopics enclosed? Yes _____ No _____
Is waste incinerable? Yes _____ No ✓ Mixed _____
Mix with other compact generators? Yes ✓ No _____
Is material for "Green is Clean" processing? Yes ✓ No _____
Is material for decontamination processing? Yes _____ No ✓

BURIAL SITE:
(SC) WA NTS HR P/R

WASTE CLASS:
(A) B C

* _____ Asbestos _____ ft³	_____ Rubber	_____ Ash	_____ Paper	* _____ Sources
* _____ Glass	_____ Soil	X Blasting Grit	_____ Cloth	_____ Animal Carcasses
* _____ Hot Particles	_____ Vermiculite	_____ Bldg. Rubble	_____ Plastic	* _____ Sludge
* _____ Lead ____ lbs ____ ft³	_____ Concrete	_____ HEPA Filters	_____ Wood	_____ Insulation
* _____ Aqueous Liquid (Bulk or Absorbed)**		_____ Oil**	_____ Metal	_____ Sewage Sludge(Treated)
* _____ Irradiated Metal		** _____ Grease		

* _____ Liquid Filters: Are filters segregated? Yes _____ No _____
Are separate isotopes enclosed? Yes _____ No _____
* _____ Resin: Bead _____ Powdex _____ Mixed powdex/bead _____; %anion _____ %cation _____
Manufacturer: _____

*ADDITIONAL INFORMATION MAY BE REQUESTED BY SEG
**SEPARATE ISOTOPIC ANALYSIS AND RCRA NON-HAZARDOUS CERTIFICATION REQUIRED

PROCESSING AND ANY SPECIAL OR ADDITIONAL INSTRUCTIONS NOTED ON REVERSE SIDE

PREPARED BY: B. Bruce Somers DATE: 12/3/96 TIME: 10:50 (am) pm

SCIENTIFIC ECOLOGY GROUP, INC.

Tom Kreinberg
Florida Power & Light
St. Lucie Plant
P.O. Box 1200
Jensen Beach, FL 34958

October 22, 1996

Subject: Special Quote (SQ) No. 77 for GIC Processing

Dear Tom:

Per my recent phone conversation with Bruce Somers of the St. Lucie Radwaste staff, SEG has been asked to quote the following waste for free release:

- Powdered Resin
- Blasting Grit
- Soil

SEG is pleased to submit this letter quote for $30 per cubic foot based on the actual waste volume being shipped into SEG for processing. This is a one time special quote for the waste being offered at this particular time.

For all waste that cannot be free release, SEG will process that waste either through the Envirocare option or through our Volume Reduction Facility at Bear Creek, based upon input from the St. Lucie radwaste staff. Please reference SQ77 the advance notification form and manifest.

Should you need further clarification don't hesitate to call.

Sincerely,

P Joseph Ferrell
P. Joseph Ferrell

cc: Al Johnson Jim Morrison Bill Carder Glenda Owens
B. Somer - FPL ST. Lucie

JF96L10.22

P.O. Box 2530
1560 Bear Creek Rd.
Oak Ridge, Tennessee 37831-2530
(423) 481-0222 Fax: (423) 482-7206

P.O. Box 2138
Carlsbad, New Mexico 88220
(505) 887-1673 Fax: (505) 885-4219

1234 Columbia Dr. S.E.
Richland, Washington 99352
(509) 736-0626 Fax: (509) 735-3085

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP-47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR LAND DISPOSAL

FORM HP 47.4
RADIONUCLIDE ANALYSIS REPORT

Shipment No. 96-67 Waste Description Sand Blast Grit

Allocation No. N/A Waste Volume 1.37 m³ (48.44 ft³)

Liner Serial No. Box 962-100 Total Activity 15.7 µCi

RADIONUCLIDE Non-Transuranic	ACTIVITY uCi/cm³
Co^{60}	1.02E-6
Cs^{137}	7.7E-7
Fe^{55}	9.69E-6
C14	< 6.65E-7
Tc^{99}	< 2.20E-6
I129	< 8.03E-6
H3	< 1.09E-5

RADIONUCLIDE Non-Transuranic	ACTIVITY uCi/cm³

RADIONUCLIDE Transuranic	ACTIVITY nCi/gm

Reference: South Carolina Department of Health and Environmental Control
RADIOACTIVE MATERIALS LICENSE NUMBER 097, Condition 37

Completed by P P Toner Date 12/2/96

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP-47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR LAND DISPOSAL

FORM HP 47.2
WASTE ACTIVITY WORKSHEET

Shipment Number 96-67 Waste Description Sand Blast Grit

Allocation Number N/A Date Packaged 12/2/96

Container Type B-25 Metal Box Date Shipped 12/3/96

1 Container Number	2 Empty Weight Lbs.	3 Full Weight Lbs.	4 Net Weight Lbs.	5 Volume FT³	6 Fraction Filled	7 Average Doserate 1' - 3'	8 Density of Material GM/CM³	9 Equivalent Vol FT³ ____ M³ ✓
962-100	700	3700	3000	48.44	N/A	N/A	0.992	1.37

10 Isotope	11 Activity	12 Fraction DAW	13 HP 46 Factor	14 Fraction Activity	15 Activity μCi*	16 Conc. Ci/m³	17 Decayed Activity Ci*	18 Decayed Conc. Ci/m³
Co^{60}	N/A	N/A	N/A	0.09	1.4E0	1.02E-6	N/A	N/A
Cs^{137}				0.07	1.06E0	7.7E-7		
C^{14}				N/A	<9.12E-1	<6.65E-7		
Tc^{99}					<3.83E-3	<2.78E-6		
I^{129}					<1.1E+1	<8.03E-6		
Pu^{238}					<1.1E-1	<8.03E-8		
$Pu^{239\&240}$					<3.54E-2	<2.58E-8		
Pu^{241}					<2.99E+1	<2.18E-5		
Am^{241}					<3.27E-2	<2.38E-8		
Cm^{242}					<1.1E-3	<8.03E-10		
$Cm^{243\&244}$					<7.48E-3	<5.46E-9		
Sr^{90}					<2.45E0	<1.79E-6		
Ni^{63}					<5.44E+1	<3.97E-5		
Fe^{55}				0.85	[illegible]	9.69E-6		
H^3	↓	↓	↓	N/A	<1.5DE+1	<1.09E-5	↓	↓
				1.0 Total	1.5BE+1 Total		N/A Total	

19 TOTAL ACTIVITY (7 ÷ 14) N/A mCi 20 = T.1/2 < 5 YEARS 9.69E-6 Ci/m³

* Units are millicuries for DAW

Completed by: R J Stone Date 12/2/96

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP-47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR LAND DISPOSAL

FORM HP-47.23
SCALING DATA WORKSHEET
SAND BLASTING GRIT

Shipment No. ~~962-100~~ 96-67
Allocation No. N/A
Container No. 962-100
Waste Description Sand Blast Grit

Scaled Isotope	Reference Isotope	Reference Isotope Conc.	X	Scaling Factor	=	Scaled Isotope uCi/gm	X	Container Waste Volume/ (Mass) gm	=	Scaled Isotope Act. uCi
C-14	N/A	N/A		N/A		<8.70E-7		1.36E6		<9.12E-1
Tc-99	N/A	N/A		N/A		<2.30E-6				<3.13E0
I-129	N/A	N/A		N/A		<8.10E-6				<1.1E1
Pu-238	N/A	N/A		N/A		<8.10E-8				<1.1E-1
Pu-239/ Pu-240	N/A	N/A		N/A		<2.60E-8				<3.54E-2
Pu-241	N/A	N/A		N/A		<2.20E-5				<2.99E1
Am-241	N/A	N/A		N/A		<2.40E-8				<3.27E-2
Cm-242	N/A	N/A		N/A		<8.10E-10				<1.1E-3
Cm-243/ Cm-244	N/A	N/A		N/A		<5.50E-9				<7.48E-3
Sr-90	N/A	N/A		N/A		<1.80E-6				<2.45E0
Ni-63	N/A	N/A		N/A		<4.00E-5				<5.44E1
Fe-55	Mn54	N/A		1.70E + 2		N/A				N/A
Fe-55	Co-60	1.08E-6		9.50E + 0		9.77E-6				1.33E+1
H-3	N/A	N/A		N/A		<1.10E-5		↓		<1.5E1

For units of uCi/cm³ of reference isotopes, multiplying by scaling factors results in units of Ci/m³.

* Required to be reported on Shipment Manifest.

S_LOPS
DATE 961202
DOCT
DOCN HP 47.23
SYS HP
COMP
ITM 96-67

Completed by: _____ Date 12/2/96

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP-47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR LAND DISPOSAL

FORM HP 47.3 N
CLASSIFICATION SHEET
NORMAL WASTE STREAMS

Shipment Number 96-67
Allocation Number N/A
Container Number 962-100
Waste Description Sand Blast Grit

I.

Radionuclide	Conc.	Units	Class A Limit	Class A Quotient	Class C Limit	Class C Quotient
C-14	<6.65E-7	Ci/m³	0.8	8.3E-7	8	NS
Tc-99	<2.28E-6	Ci/m³	0.3	7.6E-6	3	
I-129	<8.03E-6	Ci/m³	0.008	1.0E-3	0.08	
Pu-241	<2.2E-2	nCi/g	350	6.3E-5	3500	
Cm-242	<8.1E-7	nCi/g	2000	4.1E-10	20000	
*TRU	~~6.9E-4~~ <1.37	nCi/g	10	~~6.9E-5~~ 1.37E-4	100	

Sum of Quotients 1.13E-3 NS

Table I Classification: A

II.

Radionuclide	Conc.	Units	Class A Limit	Class A Quotient	Class B Limit	Class B Quotient	Class C Limit	Class C Quotient
H-3	<1.09E-5	Ci/m³	40	2.73E-7	X NS	X	X NS	X
Co-60	1.02E-6	Ci/m³	700	1.4E-9	X	X	X	X
Ni-63	<3.97E-5	Ci/m³	3.5	1.13E-5	70		700	
Sr-90	<1.79E-4	Ci/m³	0.04	~~4.5E-5~~	150		7000	
Cs-137	7.7E-7	Ci/m³	1	7.7E-7	44		4600	
Sum Nuclide with T 1/2 < 5 years	9.49E-6	Ci/m³	700	1.35E-8	X	X	X	X

Sum of Quotients 5.6E-5 NS NS

Table II Classification: A

III. Waste Form Classification: A/U

* - Alpha emitting TRU with T 1/2 > 5 Years
NS - Not Significant
X - No Limitation

Completed by: R J Stone Date 12/2/96

FORM HPP-10.1
GAMMA ISOTOPIC ANALYSIS FORM

Sample Number: 962-100

Sample Description: BLACK BEAUTY Box 962-100

Date: 10/2/96 Time: 0850 EST Volume (ml): — Weight (gm): 6075

Radionuclide	Activity µCi/gm (uCi/EA, uCi/ml, etc.)
Co^{60}	1.0282 E-6
Cs^{137}	7.7583 E-7

Sampled by: DE Cooper Counted by: DE Cooper

Logged by: DE Cooper Reviewed by:

Remarks:

FOR INFORMATION ONLY
This document is not controlled. Before use, verify information with a controlled document.
DATE VERIFIED 10/2/96 INITIAL

S2OPS
DATE 961002
DOCT HPP-10.1
DOCN 962-100
SYS HP
COMP
ITM 962-150

982-100		hpp-10.1	calc.					
Radionuclide	**scale factor**	**µCi/gram**	**µCi/gram**	**Grams**		**µCi**	**cm3**	**µCi/cm3**
C14			< 6.70E-07	1.36E+06	<	9.12E-01	1.37E+06	< 6.65E-07
Tc 99			< 2.30E-06	1.36E+06	<	3.13E+00	1.37E+06	< 2.28E-06
I 129			< 8.10E-06	1.36E+06	<	1.10E+01	1.37E+06	< 8.03E-06
Pu 238			< 8.10E-08	1.36E+06	<	1.10E-01	1.37E+06	< 8.03E-08
Pu239/240			< 2.60E-08	1.36E+06	<	3.54E-02	1.37E+06	< 2.58E-08
Pu 241			< 2.20E-05	1.36E+06	<	2.99E+01	1.37E+06	< 2.18E-05
Am 241			< 2.40E-08	1.36E+06	<	3.27E-02	1.37E+06	< 2.38E-08
Cm 242			< 8.10E-10	1.36E+06	<	1.10E-03	1.37E+06	< 8.03E-10
Cm 243/244			< 5.50E-09	1.36E+06	<	7.48E-03	1.37E+06	< 5.46E-09
Sr 90			< 1.80E-06	1.36E+06	<	2.45E+00	1.37E+06	< 1.79E-06
Ni 63			< 4.00E-05	1.36E+06	<	5.44E+01	1.37E+06	< 3.97E-05
Fe55 = Co 60 x	9.5	1.03E-06	9.77E-06	1.36E+06		1.33E+01	1.37E+06	9.69E-06
H3			< 1.10E-05	1.36E+06	<	1.50E+01	1.37E+06	< 1.09E-05
Co 60			1.03E-06	1.36E+06		1.40E+00	1.37E+06	1.02E-06
Cs 137			7.76E-07	1.36E+06		1.06E+00	1.37E+06	7.7E-07
Totals						1.57E+01		1.15E-05

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP-47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR LAND DISPOSAL

FORM HP 47.A
RADIONUCLIDE ANALYSIS REPORT

Shipment No. 96-67 Waste Description Sand Blast Grit

Allocation No. N/A Waste Volume 0.82 m^3 (29.06 ft^3)

Liner Serial No. 962-104 Total Activity 16.6 mCi

RADIONUCLIDE Non-Transuranic	ACTIVITY uCi/cm³
Co^{60}	1.83E-6
Cs^{137}	8.68E-7
Fe^{55}	1.74E-5
C^{14}	< 1.13E-6
Tc^{99}	< 3.87E-6
I^{129}	< 1.36E-5
H^3	< 1.85E-5

RADIONUCLIDE Non-Transuranic	ACTIVITY uCi/cm³

RADIONUCLIDE Transuranic	ACTIVITY nCi/gm

Reference: South Carolina Department of Health and Environmental Control
RADIOACTIVE MATERIALS LICENSE NUMBER 097, Condition 37

Completed by J. J. Stone Date 12/2/96

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP 47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR LAND DISPOSAL

FORM HP 47.2
WASTE ACTIVITY WORKSHEET

Shipment Number 96-67 Waste Description Sand Blast Grit

Allocation Number N/A Date Packaged 12/2/96

Container Type ~~962-IB-25 Metal Box~~ Date Shipped 12/3/96

1	2	3	4	5	6	7	8	9
Container Number	Empty Weight Lbs.	Full Weight Lbs.	Net Weight Lbs.	Volume FT³	Fraction Filled	Average Doserate 1' - 3'	Density of Material GM/CM³	Equivalent Vol FT³ / M³ V
962-104	700	3750	3050	29.06	N/A	N/A	1.68	0.82

10	11	12	13	14	15	16	17	18
Isotope	Activity	Fraction DAW	HP 48 Factor	Fraction Activity	Activity μCi*	Conc. Ci/m³	Decayed Activity Ci*	Decayed Conc. Ci/m³
Co^{60}	N/A	N/A	N/A	0.09	1.51E0	1.83E-6	N/A	N/A
Cs^{137}	↓	↓	↓	0.04	7.14E-1	8.68E-7	↓	↓
C^{14}				N/A	<9.27E-1	<1.13E-6		
Tc^{99}				↓	<3.18E0	<3.87E-6		
I^{129}					<1.12E1	<1.36E-5		
Pu^{238}					<1.12E-1	<1.36E-7		
$Pu^{239/240}$					<3.6E-2	<4.37E-8		
Pu^{241}					<3.04E1	<3.7E-5		
Am^{241}					<3.32E-2	<4.03E-8		
Cm^{242}					<1.12E-3	<1.36E-9		
$Cm^{243/244}$					<7.61E-3	<9.24E-9		
Sr^{90}					<2.49E+0	<3.03E-6		
Ni^{63}				↓	<5.53E1	<6.72E-5		
Fe^{55}				0.86	1.43E1	1.74E-5		
H^{3}	↓	↓	↓	N/A	<1.52E1	<1.85E-5	↓	↓
				1.0 Total	16.6 Total		N/A Total	

19 TOTAL ACTIVITY (7 ÷ 14) N/A mCi 20 = T.1/2 < 5 YEARS 1.74E-5 Ci/m³

* Units are millicuries for DAW

Completed by: _____ Date 12/2/96

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP-47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR LAND DISPOSAL

FORM HP-47.23
SCALING DATA WORKSHEET
SAND BLASTING GRIT

Shipment No. 96-67
Allocation No. N/A
Container No. 962-104
Waste Description Sand Blast Grit

Scaled Isotope	Reference Isotope	Reference Isotope Conc.	X	Scaling Factor	=	Scaled Isotope uCi/gm	X	Container Waste Volume/ (Mass) gm	=	Scaled Isotope Act. uCi
C-14	N/A	N/A		N/A		<8.70E-7		1.38E6		<9.27E-1
Tc-99	N/A	N/A		N/A		<2.30E-6				<3.18E0
I-129	N/A	N/A		N/A		<8.10E-6				<1.12E1
Pu-238	N/A	N/A		N/A		<8.10E-8				<1.12E-1
Pu-239/ Pu-240	N/A	N/A		N/A		<2.60E-8				<3.6E-2
Pu-241	N/A	N/A		N/A		<2.20E-5				<3.04E1
Am-241	N/A	N/A		N/A		<2.40E-8				<3.32E-2
Cm-242	N/A	N/A		N/A		<8.10E-10				<1.12E-3
Cm-243/ Cm-244	N/A	N/A		N/A		<5.50E-9				<7.61E-2
Sr-90	N/A	N/A		N/A		<1.80E-6				<2.49E0
Ni-63	N/A	N/A		N/A		<4.00E-5				<5.53E1
Fe-55	Mn54	N/A		1.70E + 2		N/A				N/A
Fe-55	Co-60	1.09E-6		9.50E + 0		1.04E-5				1.43E1
H-3	N/A	N/A		N/A		<1.10E-5		↓		<1.52E1

For units of uCi/cm³ of reference isotopes, multiplying by scaling factors results in units of Ci/m³.

* Required to be reported on Shipment Manifest.

S/L OPS
DATE 96 12 02
DOCT
DOCN HP.47.23
SYS HP
COMP
ITM 96-67

Completed by: [signature] Date 12/2/96

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP-47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR LAND DISPOSAL

FORM HP 47.3 N
CLASSIFICATION SHEET
NORMAL WASTE STREAMS

Shipment Number 96-67
Allocation Number N/A
Container Number 962-104
Waste Description Sand Blast Grit

I.

Radionuclide	Conc.	Units	Class A Limit	Class A Quotient	Class C Limit	Class C Quotient
C-14	<1.13E-6	Ci/m³	0.8	1.41E-6	8	NS
Tc-99	<3.87E-6	Ci/m³	0.3	1.29E-5	3	
I-129	<1.56E-5	Ci/m³	0.008	1.7E-3	0.08	
Pu-241	<2.2E-3	nCi/g	350	6.3E-6	3500	
Cm-242	<8.1E-7	nCi/g	2000	4.1E-10	20000	
*TRU	<6.8E-4	nCi/g	10	6.8E-5	100	
Sum of Quotients				1.84E-3		NS

Table I Classification: A

II.

Radionuclide	Conc.	Units	Class A Limit	Class A Quotient	Class B Limit	Class B Quotient	Class C Limit	Class C Quotient
H-3	<1.85E-5	Ci/m³	40	4.63E-7	X	X	X	X
Co-60	1.83E-6	Ci/m³	700	2.6E-9	X	X	X	X
Ni-63	<6.72E-5	Ci/m³	3.5	1.9E-5	70		700	
Sr-90	<3.03E-4	Ci/m³	0.14	7.6E-5	150		7000	
Cs-137	8.68E-7	Ci/m³	1	8.68E-7	44		4600	
Sum Nuclide with T 1/2 < 5 years	1.74E-5	Ci/m³	700	2.5E-8	X	X	X	X
Sum of Quotients				9.5E-5	NS		NS	

Table II Classification: A

III. Waste Form Classification: A/U

* - Alpha emitting TRU with T 1/2 > 5 Years
NS - Not Significant
X - No Limitation

Completed by: R J Stamen Date 12/2/96

FORM HPP-10.1
GAMMA ISOTOPIC ANALYSIS FORM

Sample Number: 962-104

Sample Description: BLACK BEAUTY Box 962-104

Date: 10 / 2 / 96 Time: 1425 MST Volume (ml): — Weight (gm): 6.171

Radionuclide	Activity μCi/gm (uCi/EA, uCi/ml, etc.)
Co^{60}	1.0908 E-6
Cs^{137}	5.1649 E-7

Sampled by: DE Cooper Counted by: DE Cooper

Logged by: DE Cooper Reviewed by:

Remarks:

FOR INFORMATION ONLY
This document is not controlled. Before use, verify information with a controlled document.
DATE VERIFIED 10/2/96 INITIAL DEC

S2-OPS
DATE 96OCT96 961002
DOCT HPP-10.1
DOCN 962-104
SYS HP
COMP
ITM 962-104

982-104		hpp-10.1	calc.					
Radionuclide	**scale factor**	**µCi/gram**	**µCi/gram**	**Grams**		**µCi**	**cm3**	**µCi/cm3**
C14			< 6.70E-07	1.38E+06	<	9.27E-01	8.23E+05	< 1.13E-06
Tc 99			< 2.30E-06	1.38E+06	<	3.18E+00	8.23E+05	< 3.87E-06
I 129			< 8.10E-06	1.38E+06	<	1.12E+01	8.23E+05	< 1.36E-05
Pu 238			< 8.10E-08	1.38E+06	<	1.12E-01	8.23E+05	< 1.36E-07
Pu239/240			< 2.60E-08	1.38E+06	<	3.60E-02	8.23E+05	< 4.37E-08
Pu 241			< 2.20E-05	1.38E+06	<	3.04E+01	8.23E+05	< 3.7E-05
Am 241			< 2.40E-08	1.38E+06	<	3.32E-02	8.23E+05	< 4.03E-08
Cm 242			< 8.10E-10	1.38E+06	<	1.12E-03	8.23E+05	< 1.36E-09
Cm 243/244			< 5.50E-09	1.38E+06	<	7.61E-03	8.23E+05	< 9.24E-09
Sr 90			< 1.80E-06	1.38E+06	<	2.49E+00	8.23E+05	< 3.03E-06
Ni 63			< 4.00E-05	1.38E+06	<	5.53E+01	8.23E+05	< 6.72E-05
Fe55 = Co 60 x	9.5	1.09E-06	1.04E-05	1.38E+06		1.43E+01	8.23E+05	1.74E-05
H3			< 1.10E-05	1.38E+06	<	1.52E+01	8.23E+05	< 1.85E-05
Co 60			1.09E-06	1.38E+06		1.51E+00	8.23E+05	1.83E-06
Cs 137			5.16E-07	1.38E+06		7.14E-01	8.23E+05	8.68E-07
Totals						1.66E+01		2.01E-05

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP-47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR LAND DISPOSAL

FORM HP 47.A
RADIONUCLIDE ANALYSIS REPORT

Shipment No. 96-67 Waste Description Blasting Grit 962-108

Allocation No. NA Waste Volume 42.63 ft³

Box
~~Liner~~ Serial No. ~~NA~~ 962-108 Total Activity 23.1 μCi

RADIONUCLIDE Non-Transuranic	ACTIVITY uCi/cm³
Co60	1.8E-6
Cs137	2.15E-7
Fe55	1.71E-5
C14	< 8.18E-7
Tc99	< 2.81E-6
I129	< 9.89E-6
H3	< 1.34E-5

RADIONUCLIDE Non-Transuranic	ACTIVITY uCi/cm³

RADIONUCLIDE Transuranic	ACTIVITY nCi/gm

Reference: South Carolina Department of Health and Environmental Control
RADIOACTIVE MATERIALS LICENSE NUMBER 097, Condition 37

Completed by A. Haithcock Date 12/2/96

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP-47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR LAND DISPOSAL

FORM HP 47.2
WASTE ACTIVITY WORKSHEET

Shipment Number 96-67 Waste Description Sand Blasting Grit
Allocation Number NA Date Packaged 12/2/96
Container Type B-25 Box Date Shipped 12/5/96

1 Container Number	2 Empty Weight Lbs.	3 Full Weight Lbs.	4 Net Weight Lbs.	5 Volume FT³	6 Fraction Filled	7 Average Doserate 1' - 3'	8 Density of Material GM/CM³	9 Equivalent V(x) FT³ ✓ M³
962-108	700	3950	3250	42.63	NA	NA	1.21	42.63

10 Isotope	11 Activity	12 Fraction DAW	13 HP 48 Factor	14 Fraction Activity	15 Activity μCi*	16 Conc. Ci/m³	17 Decayed Activity Ci*	18 Decayed Conc. Ci/m³
Co60	NA	NA	NA	.0942	2.18	1.8E-6	NA	NA
Cs137				.0112	2.60E-1	2.15E-7		
Fe55				.895	20.70	1.71E-5		
CN				NA	< 9.87E-1	< 8.18E-7		
Tc99					< 3.39	< 2.81E-6		
I129					< 11.90	< 9.87E-6		
Pu238					< 1.19E-1	< 9.89E-8		
Pu239/240					< 3.82E-2	< 3.17E-8		
Pu241					< 32.4	< 2.69E-5		
Am241					< 3.54E-2	< 2.93E-8		
Cm242					< 1.19E-3	< 9.89E-10		
Cm243/244					< 8.1E-3	< 6.72E-9		
Sr90					< 2.65	< 2.2E-6		
Ni63					< 59.0	< 4.88E-5		
H3					< 16.2	< 1.34E-5		
				1.00 Total	23.1 Total		NA Total	

19 TOTAL ACTIVITY (7 ÷ 14) NA mCi 20 = T.1/2 < 5 YEARS 1.71E-5 Ci/m³

* Units are millicuries for DAW

Completed by: D. Hinchcup Date 12/2/96

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP-47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR LAND DISPOSAL

FORM HP 47.3 N
CLASSIFICATION SHEET
NORMAL WASTE STREAMS

Shipment Number 96-67
Allocation Number NA
Container Number 962-68
Waste Description Sand Blasting Grit

I.

Radionuclide	Conc.	Units	Class A Limit	Class A Quotient	Class C Limit	Class C Quotient
C-14	< 8.18E-7	Ci/m³	0.8	< 1.02E-6	8	NS
Tc-99	< 2.81E-6	Ci/m³	0.3	< 9.37E-6	3	
I-129	< 9.89E-6	Ci/m³	0.008	< 1E-3	0.08	
Pu-241	< 2.20E-2	nCi/g	350	< 6.29E-5	3500	
Cm-242	< 8.10E-7	nCi/g	2000	< 4.05E-10	20000	
*TRU	< 1.37E-4	nCi/g	10	< 1.37E-5	100	

Sum of Quotients < 1.08E-3

Table I Classification: A

II.

Radionuclide	Conc.	Units	Class A Limit	Class A Quotient	Class B Limit	Class B Quotient	Class C Limit	Class C Quotient
H-3	< 1.34E-5	Ci/m³	40	< 3.35E-7	X	X	X	X
Co-60	1.8E-6	Ci/m³	700	2.57E-9	X	X	X	X
Ni-63	< 4.88E-5	Ci/m³	3.5	< 1.39E-5	70	NS	700	NS
Sr-90	< 2.2E-6	Ci/m³	0.04	< 5.5E-5	150		7000	
Cs-137	2.15E-7	Ci/m³	1	2.15E-7	44		4600	
Sum Nuclide with T 1/2 < 5 years	1.79E-5	Ci/m³	700	2.49E-8	X	X	X	X

Sum of Quotients < 2.49E-7

Table II Classification: A

III. Waste Form Classification: A/1

* - Alpha emitting TRU with T 1/2 > 5 Years
NS - Not Significant
X - No Limitation

Completed by: D Hatcher Date 12/2/96

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP-47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR LAND DISPOSAL

FORM HP-47.23
SCALING DATA WORKSHEET
SAND BLASTING GRIT

Shipment No. 96-67
Allocation No. 109
Container No. 962-108
Waste Description Sand Blasting Grit

Scaled Isotope	Reference Isotope	Reference Isotope Conc.	X	Scaling Factor	=	Scaled Isotope uCi/gm	X	Container Waste Volume/ Mass	=	Scaled Isotope Act. uCi
C-14	N/A	N/A		N/A		<8.70E-7		1.47E+6		<9.57E-1
Tc-99	N/A	N/A		N/A		<2.30E-6				< 3.39
I-129	N/A	N/A		N/A		<8.10E-8				<1.19E+1
Pu-238	N/A	N/A		N/A		<8.10E-8				<1.19E-1
Pu-239/ Pu-240	N/A	N/A		N/A		<2.60E-8				<3.83E-2
Pu-241	N/A	N/A		N/A		<2.20E-5				<3.24E+1
Am-241	N/A	N/A		N/A		<2.40E-8				<3.53E-2
Cm-242	N/A	N/A		N/A		<8.10E-10				<1.19E-3
Cm-243/ Cm-244	N/A	N/A		N/A		<5.50E-9				<8.11E-3
Sr-90	N/A	N/A		N/A		<1.80E-6				<2.65
Ni-63	N/A	N/A		N/A		<4.00E-5				<5.9E+1
Fe-55	Mn54			1.70E + 2						
Fe-55	Co-60			8.50E + 0		1.4E-6				20.70
H-3	N/A	N/A		N/A		<1.10E-5				<1.62E+1

For units of uCi/cm³ of reference isotopes, multiplying by scaling factors results in units of Ci/m³.

* Required to be reported on Shipment Manifest.

S_LOPS
DATE 961202-
DOCT
DOCN HP-47.23
SYS HP
COMP
ITM 96-67

Completed by: [signature] Date 12/2/96

982-108		hpp-10.1	calc.					
Radionuclide	**scale factor**	**µCi/gram**	**µCi/gram**	**Grams**	**µCi**	**cm3**	**µCi/cm3**
C14		<	6.70E-07	1.47E+06	< 9.87E-01	1207154	< 8.18E-07
Tc 99		<	2.30E-06	1.47E+06	< 3.39E+00	1207154	< 2.81E-06
I 129		<	8.10E-06	1.47E+06	< 1.19E+01	1207154	< 9.89E-06
Pu 238		<	8.10E-08	1.47E+06	< 1.19E-01	1207154	< 9.89E-08
Pu239/240		<	2.60E-08	1.47E+06	< 3.83E-02	1207154	< 3.17E-08
Pu 241		<	2.20E-05	1.47E+06	< 3.24E+01	1207154	< 2.69E-05
Am 241		<	2.40E-08	1.47E+06	< 3.54E-02	1207154	< 2.93E-08
Cm 242		<	8.10E-10	1.47E+06	< 1.19E-03	1207154	< 9.89E-10
Cm 243/244		<	5.50E-09	1.47E+06	< 8.11E-03	1207154	< 6.72E-09
Sr 90		<	1.80E-06	1.47E+06	< 2.65E+00	1207154	< 2.2E-06
Ni 63		<	4.00E-05	1.47E+06	< 5.90E+01	1207154	< 4.88E-05
Fe55 = Co 60 x	9.5	1.48E-06	1.4E-05	1.47E+06	2.07E+01	1207154	1.71E-05
H3		<	1.10E-05	1.47E+06	< 1.62E+01	1207154	< 1.34E-05
Co 60			1.48E-06	1.47E+06	2.18E+00	1207154	1.8E-06
Cs 137			1.76E-07	1.47E+06	2.60E-01	1207154	2.15E-07
Totals					2.31E+01		1.91E-05

FORM HPP-10.1
GAMMA ISOTOPIC ANALYSIS FORM

Sample Number: 962-108

Sample Description: BLACK BEAUTY Box 962-108

Date: 10/4/96 Time: 1015 HRS Volume (ml): — Weight (gm): 5,837

Radionuclide	Activity μCi/gm (uCi/EA, uCi/ml, etc.)
Co^{60}	1.4765 E-6
Cs^{137}	1.7616 E-7

Sampled by: DE Cooper Counted by: DE Cooper

Logged by: DE Cooper Reviewed by: GP

Remarks:

FOR INFORMATION ONLY
This document is not controlled. Before use, verify information with a controlled document.
DATE VERIFIED 10/4/96 INITIAL DEC

S 20PS
DATE 961004
DOCT HPP-10.1
DOCN 962-108
SYS HP
COMP
ITM

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP-47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR LAND DISPOSAL

FORM HP 47.4
RADIONUCLIDE ANALYSIS REPORT

Shipment No. ~~92-69~~ 96-67

Waste Description BLASTING GRIT

Allocation No. N-A

Waste Volume 52.31 ft³

~~Liner~~ Serial No. Box 962-110

Total Activity 3.29 μCi

RADIONUCLIDE Non-Transuranic	ACTIVITY uCi/cm³
Co60	2.12E-7
Fe55	2.01E-6
C^{14}	< 9.85E-7
Tc^{99}	< 3.38E-6
I^{129}	< 1.19E-5
H^3	~~< 1.12E-7~~
	< 1.62E-5

RADIONUCLIDE Transuranic	ACTIVITY nCi/gm

RADIONUCLIDE Non-Transuranic	ACTIVITY uCi/cm³

Reference: South Carolina Department of Health and Environmental Control RADIOACTIVE MATERIALS LICENSE NUMBER 097, Condition 37

Completed by [signature] Date 12/3/96

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP-47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR LAND DISPOSAL

FORM HP 47.2
WASTE ACTIVITY WORKSHEET

Shipment Number ~~97-67~~ 96-67 Waste Description SAND BLASTING GRIT

Allocation Number NA Date Packaged 12/2/96

Container Type B-25 METAL BOX Date Shipped 12/3/96

1 Container Number	2 Empty Weight Lbs.	3 Full Weight Lbs.	4 Net Weight Lbs.	5 Volume FT³	6 Fraction Filled	7 Average Dose/hr 1' - 3'	8 Density of Material GM/CM³	9 Equivalent Vol FT³ ____ M³ Y
962-110	700	5500	4800	52.51	NA	NA	1.4695	1.48E+6

10 Isotope	11 Activity	12 Fraction DAW	13 HP 4.8 Factor	14 Fraction Activity	15 Activity µCi*	16 Conc. Ci/m³	17 Decayed Activity Ci*	18 Decayed Conc. Ci/m³
Co^{60}	NA	NA	NA	.0953	3.14E-1	2.12E-7	NA	NA
Fe 55				.9047	2.98	2.01E-6		
C^{14}					<1.46	<9.85E-7		
Tc^{99}					<5.01	<3.38E-6		
I 129					<1.76E+1	<1.19E-5		
Pu 238					<1.76E-1	<1.19E-7		
Pu 239/240					<5.66E-2	<3.82E-8		
Am 241					<4.71E+1	<3.73E-5		
Cm 242					<5.22E-2	<3.52E-8		
Cm 243/244					<1.76E-3	<1.19E-9		
Sr 90					<1.20E-2	<8.08E-9		
Ni 63					<3.92	<2.65E-6		
~~Fe 55~~					<8.71E-1	<5.88E-7		
					~~2.98~~	~~2.01E-6~~		
H 3					<2.39E+1	<1.62E-5		
				1.00 Total	3.29 Total		NA Total	

19 TOTAL ACTIVITY (7 ÷ 14) NA mCi 20 = T.1/2 < 5 YEARS 8.61E-6 Ci/m³

* Units are millicuries for DAW

Completed by: R Brey Jones Date 12/3/96

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP-47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR LAND DISPOSAL

FORM HP 47.3 N
CLASSIFICATION SHEET
NORMAL WASTE STREAMS

Shipment Number 96-67
Allocation Number NA
Container Number 967-110
Waste Description BLASTING GRIT

I.

Radionuclide	Conc.	Units	Class A Limit	Class A Quotient	Class C Limit	Class C Quotient
C-14	< 9.85E-7	Ci/m³	0.8	1.23E-6	8	1.23E-7
Tc-99	< 3.33E-6	Ci/m³	0.3	1.13E-5	3	1.13E-5
I-129	< 1.4E-5	Ci/m³	0.008	1.49E-3	0.08	1.49E-4
Pu-241	< 2.20E-2	nCi/g	350	6.29E-5	3500	6.29E-6
Cm-242	< 8.10E-7*	nCi/g	2000	4.05E-10	20000	4.05E-11
*TRU	< 1.37E-4	nCi/g	10	1.37E-5	100	1.37E-6

Sum of Quotients < 1.58E-3 NS

Table I Classification: A

II.

Radionuclide	Conc.	Units	Class A Limit	Class A Quotient	Class B Limit	Class B Quotient	Class C Limit	Class C Quotient
H-3	< 1.62E-5	Ci/m³	40	< 4.05E-7	X	X	X	X
Co-60	2.12E-7	Ci/m³	700	3.03E-10	X	X	X	X
Ni-63	< 5.88E-5	Ci/m³	3.5	1.68E-5	70	8.40E-7	700	8.40E-8
Sr-90	< 2.65E-6	Ci/m³	0.04	6.63E-5	150	1.77E-8	7000	3.75E-10
Cs-137	< 3.1E-8	Ci/m³	1	3.1E-8	44	7.77E-10	4600	6.73E-12
Sum Nuclide with T 1/2 < 5 years	2.01E-6	Ci/m³	700	2.87E-9	X	X	X	X

Sum of Quotients < 8.35E-5 NS NS

Table II Classification: A

III. Waste Form Classification: A-UNSTABLE

* - Alpha emitting TRU with T 1/2 > 5 Years
NS - Not Significant
X - No Limitation

Completed by: [signature] Date 12/3/96

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP-47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR LAND DISPOSAL

FORM HP-47.23
SCALING DATA WORKSHEET
SAND BLASTING GRIT

Shipment No. 96-67
Allocation No. NA
Container No. 962-110
Waste Description BLASTING GRIT

Scaled Isotope	Reference Isotope	Reference Isotope Conc.	X	Scaling Factor	=	Scaled Isotope uCi/gm	X	Container Waste Volume/ Mass	=	Scaled Isotope Act. uCi
C-14	N/A	N/A		N/A		<8.70E-7		2.18E+6 g		< 1.46
Tc-99	N/A	N/A		N/A		<2.30E-6				< 5.01
I-129	N/A	N/A		N/A		<8.10E-6				< 1.76E+1
Pu-238	N/A	N/A		N/A		<2.10E-8				< 4.57E-2
Pu-239/ Pu-240	N/A	N/A		N/A		<2.60E-8				< 5.66E-2
Pu-241	N/A	N/A		N/A		<2.20E-5				< 4.79E+1
Am-241	N/A	N/A		N/A		<2.40E-8				< 5.22E-2
Cm-242	N/A	N/A		N/A		<8.10E-10				< 1.76E-3
Cm-243/ Cm-244	N/A	N/A		N/A		<5.50E-9				< 1.20E-2
Sr-90	N/A	N/A		N/A		<1.80E-6				< 3.92
Ni-63	N/A	N/A		N/A		<4.00E-5				< 8.71E+1
Fe-55	Mn54	—		1.70E + 2		—				—
Fe-55	Co-60	1.44E-7		9.50E + 0		1.37E-6				2.98
H-3	N/A	N/A		N/A		<1.10E-5				< 2.39E+1

For units of uCi/cm³ of reference isotopes, multiplying by scaling factors results in units of Ci/m³.

* Required to be reported on Shipment Manifest.

S/L OPS
DATE 961203
DOCT
DOCN HP-47.23
SYS LRP
COMP
ITM 96-67

Completed by: _____ Date 12/3/96

982-110		hpp-10.1	calc.					
Radionuclide	**scale factor**	**µCi/gram**	**µCi/gram**	**Grams**	**µCi**	**cm3**	**µCi/cm3**	
C14		<	6.70E-07	2.18E+06	< 1.46E+00	1.48E+06	<	9.85E-07
Tc 99		<	2.30E-06	2.18E+06	< 5.01E+00	1.48E+06	<	3.38E-06
I 129		<	8.10E-06	2.18E+06	< 1.76E+01	1.48E+06	<	1.19E-05
Pu 238		<	8.10E-08	2.18E+06	< 1.76E-01	1.48E+06	<	1.19E-07
Pu239/240		<	2.60E-08	2.18E+06	< 5.66E-02	1.48E+06	<	3.82E-08
Pu 241		<	2.20E-05	2.18E+06	< 4.79E+01	1.48E+06	<	3.23E-05
Am 241		<	2.40E-08	2.18E+06	< 5.22E-02	1.48E+06	<	3.53E-08
Cm 242		<	8.10E-10	2.18E+06	< 1.76E-03	1.48E+06	<	1.19E-09
Cm 243/244		<	5.50E-09	2.18E+06	< 1.20E-02	1.48E+06	<	8.08E-09
Sr 90		<	1.80E-06	2.18E+06	< 3.92E+00	1.48E+06	<	2.65E-06
Ni 63		<	4.00E-05	2.18E+06	< 8.71E+01	1.48E+06	<	5.88E-05
Fe55 = Co 60 x	9.5		1.44E-07	1.37E-06	2.18E+06	2.98E+00	1.48E+06	2.01E-06
H3		<	1.10E-05	2.18E+06	< 2.39E+01	1.48E+06	<	1.62E-05
Co 60				1.44E-07	2.18E+06	3.14E-01	1.48E+06	2.12E-07
							1.48E+06	0
Totals								2.23E-06

FORM HPP-10.1
GAMMA ISOTOPIC ANALYSIS FORM

Sample Number: 962-110

Sample Description: BLACK BEAUTY AND SAND Box 962-110

Date: 10/4/96 Time: 1110 MES Volume (ml): — Weight (gm): 5.329

Radionuclide	Activity µCi/gm (uCi/EA, uCi/ml, etc.)
Co^{60}	1.4422 E-7

Sampled by: DE Cooper Counted by: DE Cooper

Logged by: DE Cooper Reviewed by: [signature]

Remarks:

FOR INFORMATION ONLY
This document is not controlled. Before use, verify information with a controlled document.
DATE VERIFIED 10/4/96 INITIAL DEC

S2OPS
DATE 961004
DOCT HPP-10.1
DOCN 962-110
SYS HP
COMP
ITM

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP-47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR LAND DISPOSAL

FORM HP 47.4
RADIONUCLIDE ANALYSIS REPORT

Shipment No. 96-67 Waste Description BLASTING GRIT

Allocation No. NA Waste Volume 42.63 ft³

Liner Serial No. BOX 962-120 Total Activity 263 µCi

RADIONUCLIDE Non-Transuranic	ACTIVITY uCi/cm³
Co^{60}	2.07E-7
Fe^{55}	1.97E-6
C14	< 1.12E-4
Tc99	< 3.85E-6
I129	< 1.35E-5
H^3	< 1.84E-5

RADIONUCLIDE Non-Transuranic	ACTIVITY uCi/cm³

RADIONUCLIDE Transuranic	ACTIVITY nCi/gm

Reference: South Carolina Department of Health and Environmental Control
RADIOACTIVE MATERIALS LICENSE NUMBER 097, Condition 37

Completed by R Burton Date 12/3/96

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP-47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR LAND DISPOSAL

FORM HP 47.2
WASTE ACTIVITY WORKSHEET

Shipment Number 96-67 Waste Description BLASTING GRIT
Allocation Number NA Date Packaged 12/2/96
Container Type B-25 METAL BOX Date Shipped 12/3/96

1 Container Number	2 Empty Weight Lbs.	3 Full Weight Lbs.	4 Net Weight Lbs.	5 Volume FT³	6 Fraction Filled	7 Average Doserate 1' - 3'	8 Density of Material GM/CM³	9 Equivalent Vol FT³ ___ M³ X
962-120	700	5150	4450	42.63	NA	NA	1.67/96	1.21

10 Isotope	11 Activity	12 Fraction DAW	13 HP 48 Factor	14 Fraction Activity	15 Activity µCi*	16 Conc. Ci/m³	17 Decayed Activity Ci*	18 Decayed Conc. Ci/m³
Co60	NA	NA	NA	.0951	2.50E-1	2.07E-7	NA	NA
Fe55				.9049	2.38	1.97E-6		
C14					<1.35	<1.12E-6		
Tc99					<4.64	<3.85E-6		
I129					<1.68E+1	<1.35E-5		
Pu238					<1.63E-1	<1.35E-7		
Pu239/240					<5.25E-2	<4.35E-8		
Pu241					<4.44E+1	<3.68E-5		
Am241					<4.84E-2	<4.01E-8		
Cm242					<1.63E-3	<1.35E-9		
Cm243/244					<1.11E-2	<9.9E-9		
Sr90					<3.63	<3.01E-6		
Ni63					<8.08E+1	<6.69E-5		
H3					<2.22E+1	<1.84E-5		
				1.000 Total	2.63 Total		___ Total	

19 TOTAL ACTIVITY (7 + 14) N/A mCi 20 = T.1/2 < 5 YEARS 1.97E-6 Ci/m³

* Units are millicuries for DAW

Completed by: [signature] Date 12/3/96

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP-47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR LAND DISPOSAL

FORM HP-47.23
SCALING DATA WORKSHEET
SAND BLASTING GRIT

Shipment No. 96-67
Allocation No. NA
Container No. 96Z-120
Waste Description BLASTING GRIT

Scaled Isotope	Reference Isotope	Reference Isotope Conc.	X	Scaling Factor	=	Scaled Isotope uCi/gm	X	Container Waste Volume/ Mass	=	Scaled Isotope Act. uCi
C-14	N/A	N/A		N/A		<8.70E-7		2.02E+6gm		<1.35
Tc-99	N/A	N/A		N/A		<2.30E-6				<4.64
I-129	N/A	N/A		N/A		<8.10E-6				<1.63E+1
Pu-238	N/A	N/A		N/A		<8.10E-6				<1.63E-1
Pu-239/ Pu-240	N/A	N/A		N/A		<2.60E-6				<5.25E-2
Pu-241	N/A	N/A		N/A		<2.20E-5				<4.44E+1
Am-241	N/A	N/A		N/A		<2.40E-6				<4.84E-2
Cm-242	N/A	N/A		N/A		<8.10E-10				<1.63E-3
Cm-243/ Cm-244	N/A	N/A		N/A		<5.50E-9				<1.11E-2
Sr-90	N/A	N/A		N/A		<1.80E-6				<3.63
Ni-63	N/A	N/A		N/A		<4.00E-5				<8.07E+1
Fe-55	Mn54			1.70E + 2		—				—
Fe-55	Co-60	1.24E-7		9.50E + 0		1.18E-6				2.38
H-3	N/A	N/A		N/A		<1.10E-5				<2.22E+1

For units of uCi/cm³ of reference isotopes, multiplying by scaling factors results in units of Ci/m³.

* Required to be reported on Shipment Manifest.

S 1 OPS
DATE 961203
DOCT
DOCN HP-47.23
SYS LLP
COMP
ITM 96-67

Completed by: R Bryson Date 12/3/96

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP-47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR LAND DISPOSAL

FORM HP 47.3 N
CLASSIFICATION SHEET
NORMAL WASTE STREAMS

Shipment Number 96-67
Allocation Number NA
Container Number 962-120
Waste Description PLASTIC CUT

I.

Radionuclide	Conc.	Units	Class A Limit	Class A Quotient	Class C Limit	Class C Quotient
C-14	< 1.12E-6	Ci/m³	8	1.40E-6	8	1.40E-7
Tc-99	< 3.85E-6	Ci/m³	0.3	1.28E-5	3	1.28E-6
I-129	< 1.35E-5	Ci/m³	0.008	1.69E-3	0.08	1.69E-4
Pu-241	< 2.20E-2	nCi/g	350	6.29E-5	3500	6.29E-6
Cm-242	< 2.10E-7	nCi/g	2000	4.05E-10	20000	4.05E-11
*TRU	< 1.37E-4	nCi/g	10	1.37E-5	100	1.37E-6

Sum of Quotients 1.78E-3 1.78E-4

Table I Classification: A

II.

Radionuclide	Conc.	Units	Class A Limit	Class A Quotient	Class B Limit	Class B Quotient	Class C Limit	Class C Quotient
H-3	< 1.84E-5	Ci/m³	40	4.6E-7	X	X	X	X
Co-60	2.07E-7	Ci/m³	700	2.96E-10	X	X	X	X
Ni-63	< 4.69E-5	Ci/m³	3.5	1.91E-5	70	9.36E-7	700	9.36E-8
Sr-90	< 3.01E-6	Ci/m³	0.04	7.53E-5	150	2.01E-8	7000	4.30E-10
Cs-137	< 2.75E-8	Ci/m³	1	2.75E-8	44	7.96E-10	4600	7.6E-12
Sum Nuclide with T 1/2 < 5 years	1.97E-6	Ci/m³	700	7.45E-7	X	X	X	X

Sum of Quotients 9.37E-5 NS NS

Table II Classification: A

III. Waste Form Classification: A - UNSTABLE

* - Alpha emitting TRU with T 1/2 > 5 Years
NS - Not Significant
X - No Limitation

Completed by: [signature] Date 12/3/91

962-120		hpp-10.1	calc.					
Radionuclide	scale factor	µCi/gram	µCi/gram	Grams	µCi	cm3	µCi/cm3	
C14		<	6.70E-07	2.02E+06	< 1.35E+00	1.21E+06	<	1.12E-06
Tc 99		<	2.30E-06	2.02E+06	< 4.64E+00	1.21E+06	<	3.85E-06
I 129		<	8.10E-06	2.02E+06	< 1.63E+01	1.21E+06	<	1.35E-05
Pu 238		<	8.10E-08	2.02E+06	< 1.63E-01	1.21E+06	<	1.35E-07
Pu239/240		<	2.60E-06	2.02E+06	< 5.25E-02	1.21E+06	<	4.35E-06
Pu 241		<	2.20E-05	2.02E+06	< 4.44E+01	1.21E+06	<	3.68E-05
Am 241		<	2.40E-06	2.02E+06	< 4.84E-02	1.21E+06	<	4.01E-06
Cm 242		<	8.10E-10	2.02E+06	< 1.63E-03	1.21E+06	<	1.35E-09
Cm 243/244		<	5.50E-09	2.02E+06	< 1.11E-02	1.21E+06	<	9.19E-09
Sr 90		<	1.80E-06	2.02E+06	< 3.63E+00	1.21E+06	<	3.01E-06
Ni 63		<	4.00E-05	2.02E+06	< 8.07E+01	1.21E+06	<	6.69E-05
Fe55 = Co 60 x	9.5	1.24E-07	1.18E-06	2.02E+06	2.38E+00	1.21E+06		1.97E-06
H3		<	1.10E-05	2.02E+06	< 2.22E+01	1.21E+06	<	1.84E-05
Co 60			1.24E-07	2.02E+06	2.50E-01	1.21E+06		2.07E-07
								#DIV/0!
Totals						1.21E+06		
					2.63E+00			#DIV/0!

FORM HPP-10.1
GAMMA ISOTOPIC ANALYSIS FORM

Sample Number: 962-120

Sample Description: BLACK BEAUTY Box 962-120

Date: 10/14/96 Time: 1120 hrs. Volume (ml): — Weight (gm): 6.234

Radionuclide	Activity µCi/gm (uCi/EA, uCi/ml, etc.)
Co^{60}	1.2389 E-7

Sampled by DE Cooper Counted by DE Cooper

Logged by DE Cooper Reviewed by [signature]

Remarks:

FOR INFORMATION ONLY
This document is not controlled. Before use, verify information with a controlled document.
DATE VERIFIED 10/14/96 INITIAL DEC

S2OPS
DATE 961014
DOCT HPP-10.1
DOCN 962-120
SYS HP
COMP
ITM

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP-47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR LAND DISPOSAL

FORM HP 47.4
RADIONUCLIDE ANALYSIS REPORT

Shipment No. 96-167

Allocation No. N/A

~~Liner~~ Box Serial No. 962-125

Waste Description SAND BLASTING GRIT, BLACK BEAUTY

Waste Volume ~~19.5 ft³~~ 32.78 ft³

Total Activity 3.92 MICROCURIES

RADIONUCLIDE Non-Transuranic	ACTIVITY uCi/cm³
Co60	3.32E-7
Cs134	1.84E-7
Fe55	3.15E-6
H3	<1.26E-5
C14	<7.67E-7
Tc99	<2.63E-6
I129	<9.27E-6
Cs137	<2.4E-8

RADIONUCLIDE Transuranic	ACTIVITY nCi/gm

RADIONUCLIDE Non-Transuranic	ACTIVITY uCi/cm³

Reference: South Carolina Department of Health and Environmental Control RADIOACTIVE MATERIALS LICENSE NUMBER 097, Condition 37

Completed by [signature] Date 12/2/96

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP-47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR LAND DISPOSAL

FORM HP 47.2
WASTE ACTIVITY WORKSHEET

Shipment Number 96-67 Waste Description SAND BLASTING GRIT BLAST MEDIA

Allocation Number N/A Date Packaged 12/2/96

Container Type STRONG TIGHT B-25 Date Shipped 12/3/96

1 Container Number	2 Empty Weight Lbs.	3 Full Weight Lbs.	4 Net Weight Lbs.	5 Volume FT³	6 Fraction Filled	7 Average Doserate 1' - 3'	8 Density of Material GM/CM³	9 Equivalent Vol FT³ ____ M³ Y
962-129	700	3400	2700	~~49.5~~ 37.8	NA	NA	1.1445	1.07

10 Isotope	11 Activity	12 Fraction DAW	13 HP 48 Factor	14 Fraction Activity	15 Activity μCi*	16 Conc. Ci/m³	17 Decayed Activity Ci*	18 Decayed Conc. Ci/m³
Co 60	NA	NA	NA	.0906	3.55E-1	3.32E-7	NA	NA
Cs 134				.0503	1.97E-1	1.84E-7		
C 14				—	<8.20E-1	<7.67E-7		
Sr 99				—	<2.82	<2.63E-6		
Tc 99				—	<9.92	<9.27E-6		
Ra 228				—	<9.92E-2	<9.27E-8		
Pu 238/240				—	<3.18E-2	<2.98E-8		
Am 241				—	<2.69E+1	<2.52E-5		
Am 243				—	<2.96E-2	<2.75E-8		
Cm 242				—	<9.92E-4	<9.27E-10		
Cm 243/244				—	<6.73E-3	<6.29E-9		
Sr 90				—	<2.20	<2.06E-6		
Ni 63				—	<4.90E+1	<4.58E-5		
Fe 55				.860	3.37	3.15E-6		
H 3				—	<1.35E+1	<1.26E-5		
				1.00 Total	3.92 Total		NA Total	

19 TOTAL ACTIVITY (7 ÷ 14) N/A mCi 20 = T.1/2 < 5 YEARS 3.33E-6 Ci/m³

* Units are millicuries for DAW

Completed by: D. Hinthorn Date 12/2/96

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP-47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR LAND DISPOSAL

FORM HP-47.23
SCALING DATA WORKSHEET
SAND BLASTING GRIT

Shipment No. 96-67
Allocation No. N/A
Container No. 962-124
Waste Description SAND BLASTING GRIT

Scaled Isotope	Reference Isotope	Reference Isotope Conc.	X	Scaling Factor	=	Scaled Isotope uCi/gm	X	Container Waste Volume/ Mass	=	Scaled Isotope Act. uCi
C-14	N/A	N/A		N/A		<8.70E-7		1.77E+6 gm		<1.52E-1
Tc-99	N/A	N/A		N/A		<2.30E-6				<7.82
I-129	N/A	N/A		N/A		<8.10E-6				<9.92
Pu-238	N/A	N/A		N/A		<8.10E-8				<9.92E-2
Pu-239/ Pu-240	N/A	N/A		N/A		<2.60E-8				<3.18E-2
Pu-241	N/A	N/A		N/A		<2.20E-5				<2.69E+1
Am-241	N/A	N/A		N/A		<2.40E-8				<2.94E-2
Cm-242	N/A	N/A		N/A		<8.10E-10				<9.92E-4
Cm-243/ Cm-244	N/A	N/A		N/A		<5.50E-9				<6.73E-3
Sr-90	N/A	N/A		N/A		<1.80E-6				<2.20
Ni-63	N/A	N/A		N/A		<4.00E-5				<4.90E+1
Fe-55	Mn54			1.70E + 2						
Fe-55	Co-60	2.90E-7		9.50E + 0		2.75E-6				3.37
H-3	N/A	N/A		N/A		<1.10E-5				<1.35E+1

For units of uCi/cm³ of reference isotopes, multiplying by scaling factors results in units of Ci/m³.

* Required to be reported on Shipment Manifest.

S/L OPS
DATE 961202
DOCT
DOCN HP-47.23
SYS HP
COMP
ITM 96-67

Completed by: R. Bruce Sowers Date 12/2/96

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP-47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR LAND DISPOSAL

FORM HP 47.3 N
CLASSIFICATION SHEET
NORMAL WASTE STREAMS

Shipment Number 96-67
Allocation Number N/A
Container Number 96-129
Waste Description SAND BLASTING GRIT

I.

Radionuclide	Conc.	Units	Class A Limit	Class A Quotient	Class C Limit	Class C Quotient
C-14	< 7.67E-7	Ci/m³	0.8	< 9.59E-7	8	NS
Tc-99	< 2.63E-6	Ci/m³	0.3	< 8.77E-6	3	
I-129	< 9.27E-6	Ci/m³	0.008	< 1.16E-3	0.08	
Pu-241	< 2.20E-2	nCi/g	350	< 6.29E-5	3500	
Cm-242	< 8.10E-7	nCi/g	2000	< 4.05E-10	20000	
*TRU	< 1.37E-4	nCi/g	10	< 1.37E-5	100	

Sum of Quotients < 1.25E-3 NS

Table I Classification: A

II.

Radionuclide	Conc.	Units	Class A Limit	Class A Quotient	Class B Limit	Class B Quotient	Class C Limit	Class C Quotient
H-3	< 1.24E-5	Ci/m³	40	< 3.15E-7	X	X	X	X
Co-60	3.32E-7	Ci/m³	700	4.74E-10	X	X	X	X
Ni-63	< 4.58E-5	Ci/m³	3.5	< 1.31E-5	70	NS	700	NS
Sr-90	< 2.06E-6	Ci/m³	0.04	< 5.15E-5	150		7000	
Cs-137	< 2.74E-7	Ci/m³	1	< 2.74E-7	44		4600	
Sum Nuclide with T 1/2 < 5 years	3.33E-6	Ci/m³	700	4.76E-9	X	X	X	X

Sum of Quotients < 6.5E-5 Sr-90 + Ag NS NS

Table II Classification: A

III. Waste Form Classification: A/U

* - Alpha emitting TRU with T 1/2 > 5 Years
NS - Not Significant
X - No Limitation

Completed by: D. Hatchop Date 12/2/96

982-129 Radionuclide	scale factor	hpp-10.1 µCi/gram	calc. µCi/gram	Grams	µCi	cm3	µCi/cm3
C14		<	6.70E-07	1.22E+06	< 8.20E-01	1069816	< 7.67E-07
Tc 99		<	2.30E-06	1.22E+06	< 2.82E+00	1069816	< 2.63E-06
I 129		<	8.10E-06	1.22E+06	< 9.92E+00	1069816	< 9.27E-06
Pu 238		<	8.10E-08	1.22E+06	< 9.92E-02	1069816	< 9.27E-08
Pu239/240		<	2.60E-08	1.22E+06	< 3.18E-02	1069816	< 2.98E-08
Pu 241		<	2.20E-05	1.22E+06	< 2.69E+01	1069816	< 2.52E-05
Am 241		<	2.40E-08	1.22E+06	< 2.94E-02	1069816	< 2.75E-08
Cm 242		<	8.10E-10	1.22E+06	< 9.92E-04	1069816	< 9.27E-10
Cm 243/244		<	5.50E-09	1.22E+06	< 6.73E-03	1069816	< 6.29E-09
Sr 90		<	1.80E-06	1.22E+06	< 2.20E+00	1069816	< 2.06E-06
Ni 63		<	4.00E-05	1.22E+06	< 4.90E+01	1069816	< 4.58E-05
Fe55 = Co 60 x	9.5	2.90E-07	2.75E-06	1.22E+06	3.37E+00	1069816	3.15E-06
H3		<	1.10E-05	1.22E+06	< 1.35E+01	1069816	< 1.26E-05
Co 60			2.90E-07	1.22E+06	3.55E-01	1069816	3.32E-07
Cs 134			1.61E-07	1.22E+06	1.97E-01	1069816	1.84E-07
Totals					3.92E+00		3.67E-06

FORM HPP-10.1
GAMMA ISOTOPIC ANALYSIS FORM

Sample Number: 962-129

Sample Description: BLACK BEAUTY Ambit Box 962-129

Date: 10/22/96 Time: 0910 HRS. Volume (ml): — Weight (gm): 5.511

Radionuclide	Activity μCi/gm (uCi/EA, uCi/ml, etc.)
Co^{60}	2.8996 E-7
Cs^{134}	1.6056 E-7

Sampled by: DE Cooper Counted by: DE Cooper

Logged by: DE Cooper Reviewed by: [signature]

Remarks:

FOR INFORMATION ONLY
This document is not controlled. Before use, verify information with a controlled document.
DATE VERIFIED 10/22/96 INITIAL EBC

S 2 OPS
DATE 961022
DOCT HPP-10.1
DOCN 962-129
SYS HP
COMP
ITM

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP-47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR LAND DISPOSAL

FORM HP 47.A
RADIONUCLIDE ANALYSIS REPORT

Shipment No. 96-67 _____ Waste Description BLASTING GRIT

Allocation No. N/A _____ Waste Volume 67.81 ft^3

~~Liner~~ Box Serial No. 962-138 _____ Total Activity 11.29 μCi

RADIONUCLIDE Non-Transuranic	ACTIVITY uCi/cm³
Co^{60}	4.92E-7
Cs^{134}	2.7YE-7
Cs^{137}	4.3YE-7
Fe^{55}	4.68E-6
C^{14}	<9.73E-7
Tc^{99}	<3.3YE-6
I^{129}	<1.18E-5
H^3	<1.6E-5

RADIONUCLIDE Non-Transuranic	ACTIVITY uCi/cm³

RADIONUCLIDE Transuranic	ACTIVITY nCi/gm

Reference: South Carolina Department of Health and Environmental Control
RADIOACTIVE MATERIALS LICENSE NUMBER 097, Condition 37

Completed by R Glenn Lowe Date 12/13/96

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP-47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR LAND DISPOSAL

FORM HP 47.2
WASTE ACTIVITY WORKSHEET

Shipment Number 96-67 Waste Description Resin, Grit

Allocation Number N/A Date Packaged 12/2/96

Container Type B-25 METAL Box Date Shipped 12/3/96

1 Container Number	2 Empty Weight Lbs.	3 Full Weight Lbs.	4 Net Weight Lbs.	5 Volume FT³	6 Fraction Filled	7 Average Doserate 1' - 3'	8 Density of Material GM/CM³	9 Equivalent Vol FT³ ____ M³ 1
962-138	700	6850	6150	62.81	NA	NA	1.4124	1.92

10 Isotope	11 Activity	12 Fraction DAW	13 HP 48 Factor	14 Fraction Activity	15 Activity µCi*	16 Conc. Ci/m³	17 Decayed Activity Ci*	18 Decayed Conc. Ci/m³
Co^{60}	NA	NA	NA	.0837	9.45E-1	4.92E-7	NA	NA
Cs^{134}				.0467	5.27E-1	2.74E-7		
Cs^{137}				.6739	8.34E-1	4.34E-7		
Fe^{55}				.7957	8.98	4.68E-6		
C^{14}					< 1.87	< 9.73E-7		
Tc^{99}					< 6.41	< 3.34E-6		
I^{129}					< 2.26E+1	< 1.18E-5		
Am^{241}					< 2.26E-1	< 1.18E-7		
$Pu^{239/240}$					< 7.25E-2	< 3.78E-8		
Ag^{241}					< 6.14E+1	< 3.2E-5		
Am^{241}					< 6.68E-2	< 3.47E-8		
Cm^{242}					< 2.26E-3	< 1.18E-9		
$Cm^{243/244}$					< 1.53E-2	< 7.99E-9		
Sr^{90}					< 5.02	< 2.61E-6		
Ni^{63}					< 1.12E+2	< 5.81E-5		
H^3					< 3.07E+1	< 1.6E-5		
				1.000 Total	11.29 Total		Total	

19 TOTAL ACTIVITY (7 ÷ 14) N/A mCi 20 = T.1/2 < 5 YEARS 4.85E-6 Ci/m³

* Units are millicuries for DAW

Completed by: [signature] Date 12/3/96

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP-47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR LAND DISPOSAL

FORM HP-47.23
SCALING DATA WORKSHEET
SAND BLASTING GRIT

Shipment No. 96-67
Allocation No. A1
Container No. 962-138
Waste Description BLASTING Grit

Scaled Isotope	Reference Isotope	Reference Isotope Conc.	X	Scaling Factor	=	Scaled Isotope uCi/gm	X	Container Waste Volume/ Mass	=	Scaled Isotope Activity uCi
C-14	N/A	N/A		N/A		<8.70E-7		2.19E+6 gm		< 1.87
Tc-99	N/A	N/A		N/A		<2.30E-6				< 6.41
I-129	N/A	N/A		N/A		<8.10E-6				< 2.26E+1
Pu-238	N/A	N/A		N/A		<8.10E-8				< 2.26E-1
Pu-239/ Pu-240	N/A	N/A		N/A		<2.60E-8				< 7.25E-2
Pu-241	N/A	N/A		N/A		<2.20E-5				< 6.14E+1
Am-241	N/A	N/A		N/A		<2.40E-8				< 6.69E-2
Cm-242	N/A	N/A		N/A		<8.10E-10				< 2.26E-3
Cm-243/ Cm-244	N/A	N/A		N/A		<5.50E-9				< 1.53E-2
Sr-90	N/A	N/A		N/A		<1.80E-6				< 5.02
Ni-63	N/A	N/A		N/A		<4.00E-5				< 1.12E+2
Fe-55	Mn54			1.70E + 2		—				—
Fe-55	Co-60	3.39e-7		9.50E + 0		3.22E-6				8.98
H-3	N/A	N/A		N/A		<1.10E-5				< 3.07E+1

For units of uCi/cm³ of reference isotopes, multiplying by scaling factors results in units of Ci/m³.

* Required to be reported on Shipment Manifest.

S/LOPS
DATE 961203
DOCT
DOCN HP-47.23
SYS HP
COMP
ITM 96-67

Completed by: [signature] Date 12/3/96

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP-47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR LAND DISPOSAL

FORM HP 47.3 N
CLASSIFICATION SHEET
NORMAL WASTE STREAMS

Shipment Number 96-67
Allocation Number N/A
Container Number 962-138
Waste Description Plastic Bag

I.

Radionuclide	Conc.	Units	Class A Limit	Class A Quotient	Class C Limit	Class C Quotient
C-14	< 9.73E-7	Ci/m³	8	1.22E-6	8	1.22E-7
Tc-99	< 3.34E-6	Ci/m³	0.3	1.11E-5	3	1.11E-6
I-129	< 1.18E-5	Ci/m³	0.008	1.48E-3	0.08	1.48E-4
Pu-241	< 2.20E-2	nCi/g	350	6.29E-5	3500	6.29E-6
Cm-242	< 8.10E-7	nCi/g	2000	4.05E-10	20000	4.05E-11
*TRU	< 1.37E-4	nCi/g	10	1.37E-5	100	1.37E-6

Sum of Quotients 1.57E-3 1.57E-4

Table I Classification: A

II.

Radionuclide	Conc.	Units	Class A Limit	Class A Quotient	Class B Limit	Class B Quotient	Class C Limit	Class C Quotient
H-3	< 1.6E-5	Ci/m³	40	4E-7	X	X	X	X
Co-60	4.92E-7	Ci/m³	700	7.03E-10	X	X	X	X
Ni-63	< 5.81E-5	Ci/m³	3.5	1.66E-5	70	8.30E-7	700	8.30E-8
Sr-90	< 2.64E-6	Ci/m³	0.04	6.53E-5	150	1.76E-8	7000	3.73E-10
Cs-137	4.34E-7	Ci/m³	1	4.34E-7	44	9.86E-9	4600	9.43E-11
Sum Nuclide with T 1/2 < 5 years	4.95E-6	Ci/m³	700	7.07E-9	X	X	X	X

Sum of Quotients 8.27E-5 NS NS

Table II Classification: A

III. Waste Form Classification: A-UNSTABLE

* - Alpha emitting TRU with T 1/2 > 5 Years
NS - Not Significant
X - No Limitation

Completed by: [signature] Date 12/3/96

DD

962-138		hpp-10.1	calc.					
Radionuclide	**scale factor**	**µCi/gram**	**µCi/gram**	**Grams**	**µCi**	**cm3**	**µCi/cm3**	
C14			< 6.70E-07	2.79E+06	< 1.87E+00	1.92E+06	< 9.73E-07	
Tc 99			< 2.30E-06	2.79E+06	< 6.41E+00	1.92E+06	< 3.34E-06	
I 129			< 8.10E-06	2.79E+06	< 2.26E+01	1.92E+06	< 1.18E-05	
Pu 238			< 8.10E-08	2.79E+06	< 2.26E-01	1.92E+06	< 1.18E-07	
Pu239/240			< 2.60E-08	2.79E+06	< 7.25E-02	1.92E+06	< 3.78E-08	
Pu 241			< 2.20E-05	2.79E+06	< 6.14E+01	1.92E+06	< 3.2E-05	
Am 241			< 2.40E-08	2.79E+06	< 6.69E-02	1.92E+06	< 3.49E-08	
Cm 242			< 8.10E-10	2.79E+06	< 2.26E-03	1.92E+06	< 1.18E-09	
Cm 243/244			< 5.50E-09	2.79E+06	< 1.53E-02	1.92E+06	< 7.99E-09	
Sr 90			< 1.80E-06	2.79E+06	< 5.02E+00	1.92E+06	< 2.61E-06	
Ni 63			< 4.00E-05	2.79E+06	< 1.12E+02	1.92E+06	< 5.81E-05	
Fe55 = Co 60 x	9.5	3.39E-07	3.22E-06	2.79E+06	8.98E+00	1.92E+06	4.68E-06	
H3			< 1.10E-05	2.79E+06	< 3.07E+01	1.92E+06	< 1.6E-05	
Co 60			3.39E-07	2.79E+06	9.45E-01	1.92E+06	4.92E-07	
Cs 134			1.89E-07	2.79E+06	5.27E-01	1.92E+06	2.74E-07	
Cs 137			2.99E-07	2.79E+06	8.34E-01	1.92E+06	4.31E-7	
Totals					1.13E+01		~~5.44E-06~~	

FORM HPP-10.1
GAMMA ISOTOPIC ANALYSIS FORM

Sample Number: 962-138

Sample Description: BLACK BEAUTY Box 962-138

Date: 10/25/96 Time: 1045 HRS Volume (ml): --- Weight (gm): 7,020

Radionuclide	Activity uCi/gm (uCi/EA, uCi/ml, etc.)
Co^{60}	3.3887 E-7
Cs^{134}	1.8895 E-7
Cs^{137}	2.7886 E-7

Sampled by: DE Cooper Counted by: DE Cooper

Logged by: DE Cooper Reviewed by: PJ Stone

Remarks:

FOR INFORMATION ONLY
This document is not controlled. Before use, verify information with a controlled document.
DATE VERIFIED 10/25/96 INITIAL DEC

S&OPS
DATE 961025
DOCT HPP-10 1
DOCN 962-138
SYS HP
COMP
ITM

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP-47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR LAND DISPOSAL

FORM HP 47.A
RADIONUCLIDE ANALYSIS REPORT

Shipment No. 96-67

Allocation No. N/A

~~Liner~~ Box Serial No. 962-157

Waste Description Sand Blast Grit

Waste Volume 1.48 m³ (52.31 ft³)

Total Activity 5.98 mCi

RADIONUCLIDE Non-Transuranic	ACTIVITY uCi/cm³
Co^{60}	3.58E-7
Cs^{137}	2.[illegible]-7
Fe^{55}	3.4E-6
C14	< 9.03E-7
Tc^{99}	< 3.1E-6
I129	< 1.09E-5
H^3	< 1.48E-5

RADIONUCLIDE Transuranic	ACTIVITY nCi/gm

RADIONUCLIDE Non-Transuranic	ACTIVITY uCi/cm³

Reference: South Carolina Department of Health and Environmental Control
RADIOACTIVE MATERIALS LICENSE NUMBER 097, Condition 37

Completed by J. Stone Date 12/2/96

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP-47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR LAND DISPOSAL

FORM HP 47.2
WASTE ACTIVITY WORKSHEET

Shipment Number 96-67 Waste Description Sand Blast Grit
Allocation Number N/A Date Packaged 12/2/96
Container Type B-25 Metal Box Date Shipped 12/3/96

1 Container Number	2 Empty Weight Lbs.	3 Full Weight Lbs.	4 Net Weight Lbs.	5 Volume FT³	6 Fraction Filled	7 Average Doserate 1'-3'	8 Density of Material GM/CM³	9 Equivalent Vol FT³ ___ M³ ~
962-157	700	5100	4400	52.31	N/A	N/A	1.347	1.48

10 Isotope	11 Activity	12 Fraction DAW	13 HP 48 Factor	14 Fraction Activity	15 Activity μCi*	16 Conc. Ci/m³	17 Decayed Activity Ci*	18 Decayed Conc. Ci/m³
Co^{60}	N/A	N/A	N/A	0.09	5.3E-1	3.58E-7	N/A	N/A
Cs^{134}				0.07	4.13E-1	2.79E-7		
C^{14}				0.84	<1.34E0	<9.03E-7		
Tc^{99}				N/A	<4.59E0	<3.1E-6		
I^{129}					<1.62E1	<1.09E-5		
Pa^{238}					<1.62E-1	<1.09E-7		
$Pa^{239/240}$					<5.19E-2	<3.5E-8		
Pu^{241}					<4.59E1	<2.96E-5		
Am^{241}					<4.79E-2	<3.23E-8		
Cm^{242}					<1.62E-3	<1.09E-9		
$Cm^{243/244}$					<1.1E-2	<7.41E-9		
Sr^{90}					<3.59E0	<2.42E-6		
Ni^{63}					<7.99E1	<5.39E-5		
Fe^{55}				0.84	5.04E0	3.4E-6		
H^{3}	↓	↓	↓	N/A	<2.19E1	<1.48E-5	↓	↓
				1.0 Total	5.98 Total		N/A Total	

19 TOTAL ACTIVITY (7 ÷ 14) N/A mCi 20 = T.1/2 < 5 YEARS 3.68E-6 Ci/m³

* Units are millicuries for DAW

Completed by: [signature] Date 12/2/96

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP-47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR LAND DISPOSAL

FORM HP 47.3 N
CLASSIFICATION SHEET
NORMAL WASTE STREAMS

Shipment Number 96-67
Allocation Number N/A
Container Number 962-157
Waste Description Sand Blast Grit

I.

Radionuclide	Conc.	Units	Class A Limit	Class A Quotient	Class C Limit	Class C Quotient
C-14	<9.03E-7	Ci/m³	0.8	1.13E-6	8	NS
Tc-99	<9.1E-6	Ci/m³	0.3	1.03E-5	3	
I-129	<1.09E-5	Ci/m³	0.008	1.36E-3	0.08	
Pu-241	<2.2E-2	nCi/g	350	6.29E-5	3500	
Cm-242	<3.1E-7	nCi/g	2000	4.05E-10	20000	
*TRU	~~4.8E-4~~ 4.37E-4	nCi/g	10	4.37E-5 ~~4.8E-5~~	100	

Sum of Quotients ~~1.3E-2~~ 1.5E-3 pp N/A

Table I Classification: A

II.

Radionuclide	Conc.	Units	Class A Limit	Class A Quotient	Class B Limit	Class B Quotient	Class C Limit	Class C Quotient
H-3	<1.48E-5	Ci/m³	40	3.7E-7	X	X	X	X
Co-60	3.58E-7	Ci/m³	700	5.1E-10	X	X	X	X
Ni-63	<5.59E-5	Ci/m³	3.5	1.5E-5	70	NS	700	NS
Sr-90	<2.42E-6	Ci/m³	0.04	6.1E-5	150		7000	
Cs-137	N/A	Ci/m³	1	N/A	44		4600	
Sum Nuclide with T 1/2 < 5 years	3.68E-6	Ci/m³	700	5.3E-9	X	X	X	X

Sum of Quotients 7.6E-5 N/A NA

Table II Classification: A

III. Waste Form Classification: A/U

* - Alpha emitting TRU with T 1/2 > 5 Years
NS - Not Significant
X - No Limitation

Completed by: [signature] Date 12/2/96

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP-47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR LAND DISPOSAL

FORM HP-47.23
SCALING DATA WORKSHEET
SAND BLASTING GRIT

Shipment No. 96-67
Allocation No N/A
Container No. 962-157
Waste Description Sand Blast Grit

Scaled Isotope	Reference Isotope	Reference Isotope Conc.	X	Scaling Factor	=	Scaled Isotope uCi/gm	X	Container Waste Volume/ (Mass) gm	=	Scaled Isotope Act. uCi
C-14	N/A	N/A		N/A		<8.70E-7		2.0E+6		<1.340
Tc-99	N/A	N/A		N/A		<2.30E-6				<4.59E0
I-129	N/A	N/A		N/A		<8.10E-8				<1.62E1
Pu-238	N/A	N/A		N/A		<8.10E-8				<1.62E-1
Pu-239/ Pu-240	N/A	N/A		N/A		<2.60E-8				<5.19E-2
Pu-241	N/A	N/A		N/A		<2.20E-6				<4.39E1
Am-241	N/A	N/A		N/A		<2.40E-8				<4.79E-2
Cm-242	N/A	N/A		N/A		<8.10E-10				<1.62E-3
Cm-243/ Cm-244	N/A	N/A		N/A		<5.50E-9				<1.1E-2
Sr-90	N/A	N/A		N/A		<1.80E-6				<3.59E0
Ni-63	N/A	N/A		N/A		<4.00E-5				<7.98E1
Fe-55	Mn54	N/A		1.70E+2		N/A				N/A
Fe-55	Co-60	2.66E-7		9.50E+0		2.52E-6				5.04E0
H-3	N/A	N/A		N/A		<1.10E-5		↓		<2.19E+1

For units of uCi/cm³ of reference isotopes, multiplying by scaling factors results in units of Ci/m³.

* Required to be reported on Shipment Manifest.

SL OPS
DATE 961202
DOCT
DOCN HP-47.23
SYS HP
COMP
ITM 96-67

Completed by: [signature] Date 12/2/96

FORM HPP-10.1
GAMMA ISOTOPIC ANALYSIS FORM

Sample Number: 962-157

Sample Description: BLACK BEAUTY Box no. 962-157

Date: 11 / 6 / 96 Time: 1010 HRS. Volume (ml): — Weight (gm): 5.697

Radionuclide	Activity uCi/gm (uCi/EA, uCi/ml, etc.)
Co^{60}	2.6574 E-7
Cs^{134}	2.0710 E-7

Sampled by DE Cooper Counted by DE Cooper

Logged by DE Cooper Reviewed by [signature]

Remarks:

FOR INFORMATION ONLY
This document is not controlled. Before use, verify information with a controlled document.
DATE VERIFIED 11/6/96 INITIAL DEC

S2OPS
DATE 961106
DOCT HPP-10 1
DOCN 962-157
SYS HP
COMP
ITM

X10³

982-157		hpp-10.1	calc.					
Radionuclide	**scale factor**	**µCi/gram**	**µCi/gram**	**Grams**		**µCi**	**cm3**	**µCi/cm3**
C14			< 6.70E-07	2E+06	<	1.34E+00	1481262	< 9.03E-07
Tc 99			< 2.30E-08	2E+06	<	4.59E+00	1481262	< 3.1E-06
I 129			< 8.10E-08	2E+06	<	1.62E+01	1481262	< 1.09E-05
Pu 238			< 8.10E-08	2E+06	<	1.62E-01	1481262	< 1.09E-07
Pu239/240			< 2.60E-08	2E+06	<	5.19E-02	1481262	< 3.5E-08
Pu 241			< 2.20E-05	2E+06	<	4.39E+01	1481262	< 2.96E-05
Am 241			< 2.40E-08	2E+06	<	4.79E-02	1481262	< 3.23E-08
Cm 242			< 8.10E-10	2E+06	<	1.62E-03	1481262	< 1.09E-09
Cm 243/244			< 5.50E-09	2E+06	<	1.10E-02	1481262	< 7.41E-09
Sr 90			< 1.80E-06	2E+06	<	3.59E+00	1481262	< 2.42E-06
Ni 63			< 4.00E-05	2E+06	<	7.98E+01	1481262	< 5.39E-05
Fe55 = Co 60 x	9.5	2.66E-07	2.52E-06	2E+06		5.04E+00	1481262	3.4E-06
H3			< 1.10E-05	2E+06	<	2.19E+01	1481262	< 1.48E-05
Co 60			2.66E-07	2E+06		5.30E-01	1481262	3.58E-07
Cs 134			2.07E-07	2E+06		4.13E-01	1481262	2.79E-07
Totals						5.98E+00		4.04E-06

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP-47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR LAND DISPOSAL

FORM HP 47.4
RADIONUCLIDE ANALYSIS REPORT

Shipment No. 96-67 Waste Description FKA Mg Cl2

Allocation No. N/A Waste Volume 5425 ft3

Box
Liner Serial No. 962-158 Total Activity 11.09 Microcuries

RADIONUCLIDE Non-Transuranic	ACTIVITY uCi/cm³
Co^{60}	6.17E-7
Cs^{134}	3.24E-7
Cs^{137}	4.20E-7
Fe^{55}	5.96E-6
C^{14}	<1.89E-6
Tc^{99}	<3.75E-6
I^{129}	<1.32E-5
H3	<1.79E-5

RADIONUCLIDE Transuranic	ACTIVITY nCi/gm

RADIONUCLIDE Non-Transuranic	ACTIVITY uCi/cm³

Reference: South Carolina Department of Health and Environmental Control
RADIOACTIVE MATERIALS LICENSE NUMBER 097, Condition 37

Completed by [signature] Date 12/3/96

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP-47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR LAND DISPOSAL

FORM HP 47.2
WASTE ACTIVITY WORKSHEET

Shipment Number 96-67 Waste Description PLASTIC CRIT

Allocation Number NA Date Packaged 12/2/96

Container Type B25, METAL BOX Date Shipped 12/3/96

1 Container Number	2 Empty Weight Lbs.	3 Full Weight Lbs.	4 Net Weight Lbs.	5 Volume FT³	6 Fraction Filled	7 Average Doserate 1' - 3'	8 Density of Material GM/CM³	9 Equivalent Vol FT³ ____ M³ X
96Z-158	700	6225	5525	54.25	NA	NA	1.630	1.54

10 Isotope	11 Activity	12 Fraction DAW	13 HP 48 Factor	14 Fraction Activity	15 Activity µCi*	16 Conc. Ci/m³	17 Decayed Activity Ci*	18 Decayed Conc. Ci/m³
Co^{60}	NA	NA	NA	.0855	.948	6.17E-7	NA	NA
Cs^{134}				.0449	.498	3.24E-7		
Cs^{137}				.0582	.645	4.20E-7		
Fe^{55}				.8115	9.00	5.86E-6		
C^{14}					< 1.68	< 1.09E-6		
Tc^{99}					< 5.76	< 3.75E-6		
I^{129}					< 2.03E+1	< 1.32E-5		
Pu^{238}					< 2.03E-1	< 1.32E-7		
$Pu^{239/240}$					6.51E-2	< 4.24E-8		
Pu^{241}					< 5.47E+1	< 3.59E-5		
Am^{241}					< 6.01E-2	< 3.91E-8		
Cm^{242}					< 2.03E-3	< 1.32E-9		
$Cm^{243/244}$					< 1.38E-2	< 8.97E-9		
Sr^{90}					< 4.51E0	< 2.94E-6		
Ni^{63}					< 1.00E+2	< 6.52E-5		
H^3					< 2.76E+1	< 1.79E-5		
				1.0001 Total	11.09 Total		NA Total	

19 TOTAL ACTIVITY (7 ÷ 14) NA mCi 20 = T.1/2 < 5 YEARS 6.18E-6 Ci/m³

* Units are millicuries for DAW

Completed by: [signature] Date 12/3/96

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP-47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR [illegible] AND DISPOSAL

FORM HP-47.23
SCALING DATA WORKSHEET
SAND BLASTING GRIT

Shipment No. 96-67
Allocation No. N/A
Container No. 96Z-15B
Waste Description BLASTING GRIT

Scaled Isotope	Reference Isotope	Reference Isotope Conc.	X	Scaling Factor	=	Scaled Isotope uCi/gm	X	Container Waste Volume/ Mass	=	Scaled Isotope Activity uCi
C-14	N/A	N/A		N/A		<6.70E-7		2.51E+6 g		<1.68
Tc-99	N/A	N/A		N/A		<2.30E-6				<5.76
I-129	N/A	N/A		N/A		<8.10E-6				<2.03E+1
Pu-238	N/A	N/A		N/A		<8.10E-8				<2.03E-1
Pu-239/ Pu-240	N/A	N/A		N/A		<2.80E-8				<6.51E-2
Pu-241	N/A	N/A		N/A		<2.20E-5				<5.51E+1
Am-241	N/A	N/A		N/A		<2.40E-8				<6.01E-2
Cm-242	N/A	N/A		N/A		<8.10E-10				<2.03E-3
Cm-243/ Cm-244	N/A	N/A		N/A		<5.50E-9				<1.38E-2
Sr-90	N/A	N/A		N/A		<1.80E-6				<4.51E0
Ni-63	N/A	N/A		N/A		<4.00E-5				<1.00E+2
Fe-55	Mn54	—		1.70E + 2		—				—
Fe-55	Co-60	3.78E-7		9.50E + 0		3.57E-6				9.00
H-3	N/A	N/A		N/A		<1.10E-5				<2.76E+1

For units of uCi/cm³ of reference isotopes, multiplying by scaling factors results in units of Ci/m³.

* Required to be reported on Shipment Manifest.

S/L OPS
DATE 961203
DOCT
DOCN HP-47.23
SYS HP
COMP
ITM 96-67

Completed by: [signature] Date 12/3/96

ST. LUCIE PLANT
HEALTH PHYSICS PROCEDURE NUMBER HP-47, REVISION 17
CLASSIFICATION OF RADIOACTIVE WASTE MATERIAL FOR LAND DISPOSAL

FORM HP 47.3 N
CLASSIFICATION SHEET
NORMAL WASTE STREAMS

Shipment Number 96-67
Allocation Number N/A
Container Number 96Z-15B
Waste Description BLASTING GRIT

I.

Radionuclide	Conc.	Units	Class A Limit	Class A Quotient	Class C Limit	Class C Quotient
C-14	< 1.09E-6	Ci/m³	0.8	1.36E-6	8	1.36E-7
Tc-99	< 3.75E-6	Ci/m³	0.3	1.25E-5	3	1.25E-6
I-129	< 1.37E-5	Ci/m³	0.008	1.65E-3	0.08	1.65E-4
Pu-241	< 2.2E-2	nCi/g	350	6.29E-5	3500	6.29E-6
Cm-242	< 8.1E-7	nCi/g	2000	4.05E-10	20000	4.05E-11
*TRU	< 1.37E-4	nCi/g	10	1.37E-5	100	1.37E-6

Sum of Quotients 1.74E-3 ~~1.74E-4~~

Table I Classification: A

II.

Radionuclide	Conc.	Units	Class A Limit	Class A Quotient	Class B Limit	Class B Quotient	Class C Limit	Class C Quotient
H-3	< 1.79E-5	Ci/m³	40	4.48E-7	X	X	X	X
Co-60	6.18E-7	Ci/m³	700	8.83E-10	X	X	X	X
Ni-63	< 6.52E-5	Ci/m³	3.5	1.86E-5	70	9.31E-7	700	9.31E-8
Sr-90	< 2.54E-6	Ci/m³	0.04	7.35E-5	150	NS	7000	NS
Cs-137	< 4.2E-7	Ci/m³	1	4.2E-7	44		4600	
Sum Nuclide with T 1/2 < 5 years	6.18E-6	Ci/m³	700	8.83E-9	X	X	X	X

Sum of Quotients 9.36E-5 NS NS

Table II Classification: A

III. Waste Form Classification: A-UNSTABLE

* - Alpha emitting TRU with T 1/2 > 5 Years
NS - Not Significant
X - No Limitation

Completed by: [signature] Date 12/3/96

66

982-158		hpp-10.1	calc.					
Radionuclide	**scale factor**	**µCi/gram**	**µCi/gram**	**Grams**		**µCi**	**cm3**	**µCi/cm3**
C14		<	6.70E-07	2.51E+06	<	1.68E+00	1.54E+06	< 1.09E-06
Tc 99		<	2.30E-06	2.51E+06	<	5.76E+00	1.54E+06	< 3.75E-06
I 129		<	8.10E-06	2.51E+06	<	2.03E+01	1.54E+06	< 1.32E-05
Pu 238		<	8.10E-08	2.51E+06	<	2.03E-01	1.54E+06	< 1.32E-07
Pu239/240		<	2.60E-08	2.51E+06	<	6.51E-02	1.54E+06	< 4.24E-08
Pu 241		<	2.20E-05	2.51E+06	<	5.51E+01	1.54E+06	< 3.59E-05
Am 241		<	2.40E-08	2.51E+06	<	6.01E-02	1.54E+06	< 3.91E-08
Cm 242		<	8.10E-10	2.51E+06	<	2.03E-03	1.54E+06	< 1.32E-09
Cm 243/244		<	5.50E-09	2.51E+06	<	1.38E-02	1.54E+06	< 8.97E-09
Sr 90		<	1.80E-06	2.51E+06	<	4.51E+00	1.54E+06	< 2.94E-06
Ni 63		<	4.00E-05	2.51E+06	<	1.00E+02	1.54E+06	< 6.52E-05
Fe55 = Co 60 x	9.5		3.78E-07	3.59E-06	2.51E+06		9.00E+00	1.54E+06	5.86E-06
H3		<	1.10E-05	2.51E+06	<	2.76E+01	1.54E+06	< 1.79E-05
Co 60				3.78E-07	2.51E+06		9.48E-01	1.54E+06	6.17E-07
Cs 134				1.99E-07	2.51E+06		4.98E-01	1.54E+06	3.24E-07
Cs 137				2.58E-07	2.51E+06		6.45E-01	1.54E+06	
Totals							~~4.04E+01~~		~~6.8E-06~~

FORM HPP-10.1
GAMMA ISOTOPIC ANALYSIS FORM

Sample Number: 962-158

Sample Description: BLACK BEAUTY Box No. 962-158

Date: 11 / 6 / 96 Time: 1020 1995 Volume (ml): — Weight (gm): 5.079

Radionuclide	Activity µCi/gm (uCi/EA, uCi/ml, etc.)
Co^{60}	3.7826 E-7
Cs^{134}	1.9878 E-7
Cs^{137}	2.5761 E-7

Sampled by DE Cooper Counted by DE Cooper

Logged by DE Cooper Reviewed by [signature]

Remarks:

S. COPS
DATE 961106
DOCT HPP.10.1
DOCN 962-158
SYS HP
COMP
ITM

St. Lucie Plant Unit 1
HPS - 64
Miscellaneous Survey Sheet

Date 12-2-96
Time 1400
Monitor B. Horrocks

SMEARS (dpm/100 cm²)

1 See at Right
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

Remarks

Reviewed D. Hoothoof

AREA POSTINGS (key)

(C) Contaminated Area
(H) High Radiation Area
(M) Radioactive Material Area
(A) Airborne Radioactivity Area
(X) Exclusion Area
(R) Radiation Area
(E) RWP Required for Entry
(L) Gate Locked
(N) Neutron TLD Required
(P) Hot Particle Area
(O) Contaminated in Overhead
(S) Survey Meter Required

INST.	NUMBER	CAL. DUE	BKG (cpm)	MDA (dpm)
L-14c	19862	2-8-97	–	–
L-177	21804	4-23-97	100	1000
L-2000	16594	3-4-97	.1	4.12

All radiation readings in mR/hr unless otherwise noted
★ = on contact reading / 12" reading

S1OPS
DATE 961202
DOCT HPS-84
DOCN
SYS HP
COMP
ITM 96-67

Box #

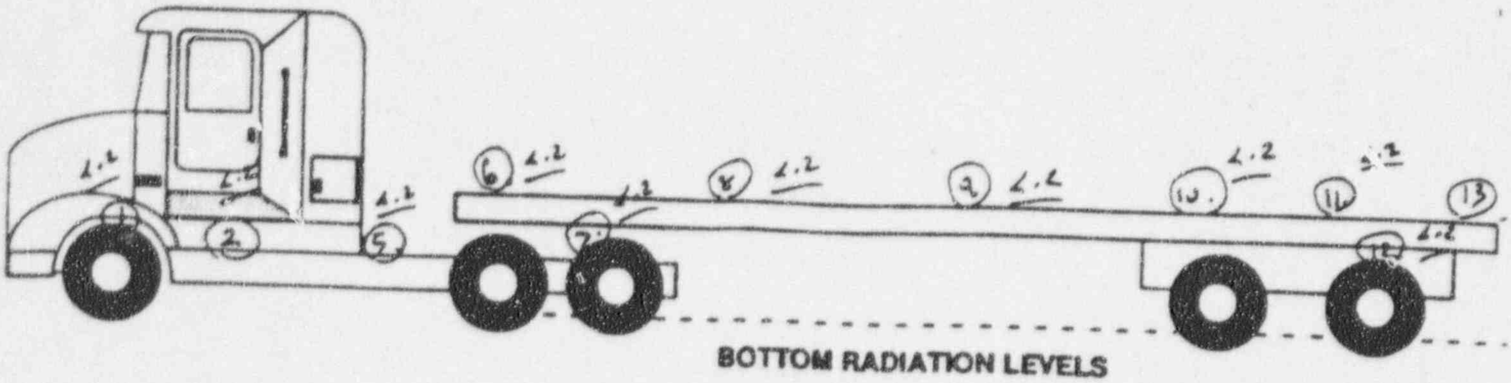
962-100
962-104
962-108
962-129
962-157
962-110
962-158
962-138
962-120

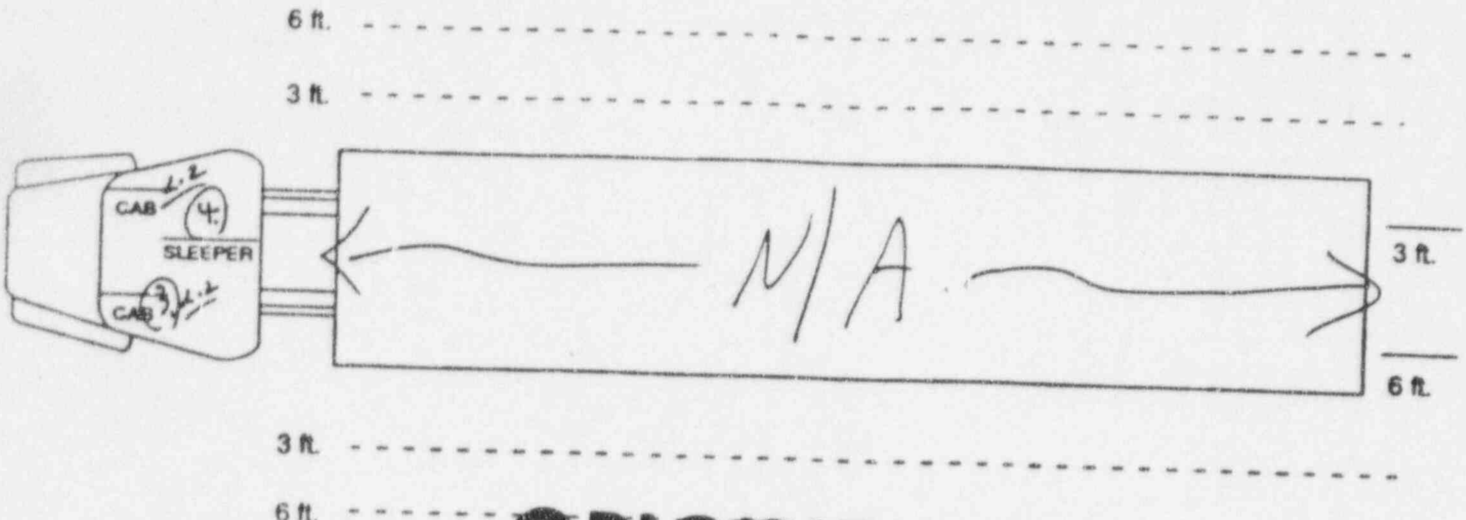
.1 mR/hr CONTACT ON ALL SIDES, TOP, BOTTOM

< 1000 DPM/100 cm² β⁻ γ

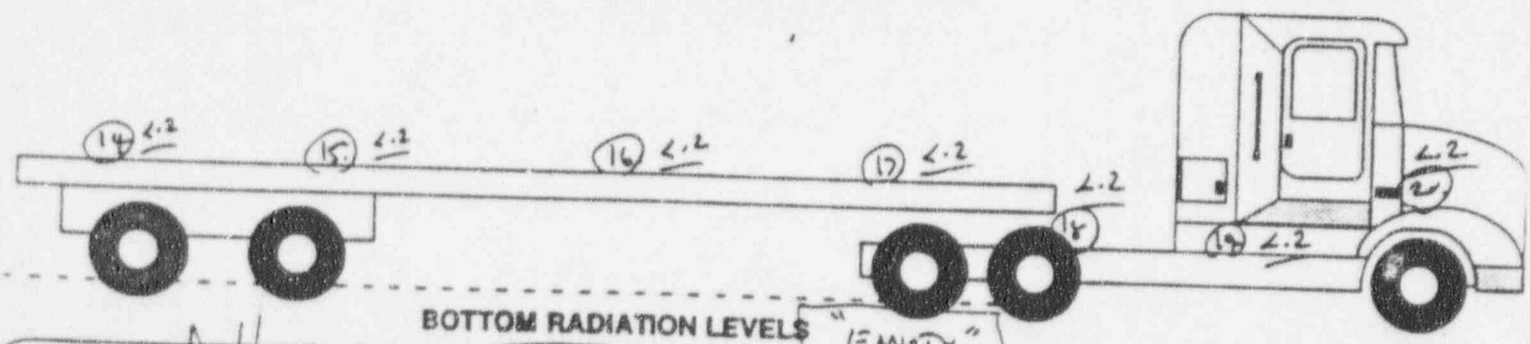
< 4.12 DPM/100 cm² α

HPS-265.2
VEHICLE SURVEY FORM





ORIGINAL



REVIEWED BY: [signature]
TIME: 0605
DATE: 12-3-96
CARRIER: Kinsmick
TRUCK #: K-9610
TRAILER #: 312146

HIGHEST RAD. READING
ON CONTACT: <.2 mr/hr
AT 3 ft.: ↓
AT 6 ft.: ↓
CAB/SLEEPER: ↓

INCOMMING OR OUTGOING (CIRCLE)

SMEAR RESULTS βδ/α (dpm/100cm² / dpm)

#	Result	#	Result	#	Result
1	<1K / <MDA	9	<1K / <MDA	17	<1K / <MDA
2	↓ / ↓	10	↓ / ↓	18	↓ / ↓
3	/	11	/	19	/
4	/	12	/	20	↓ / ↓
5	/	13	/	21	/
6	/	14	/	22	/
7	/	15	/	23	/
8	↓ / ↓	16	↓ / ↓	24	/

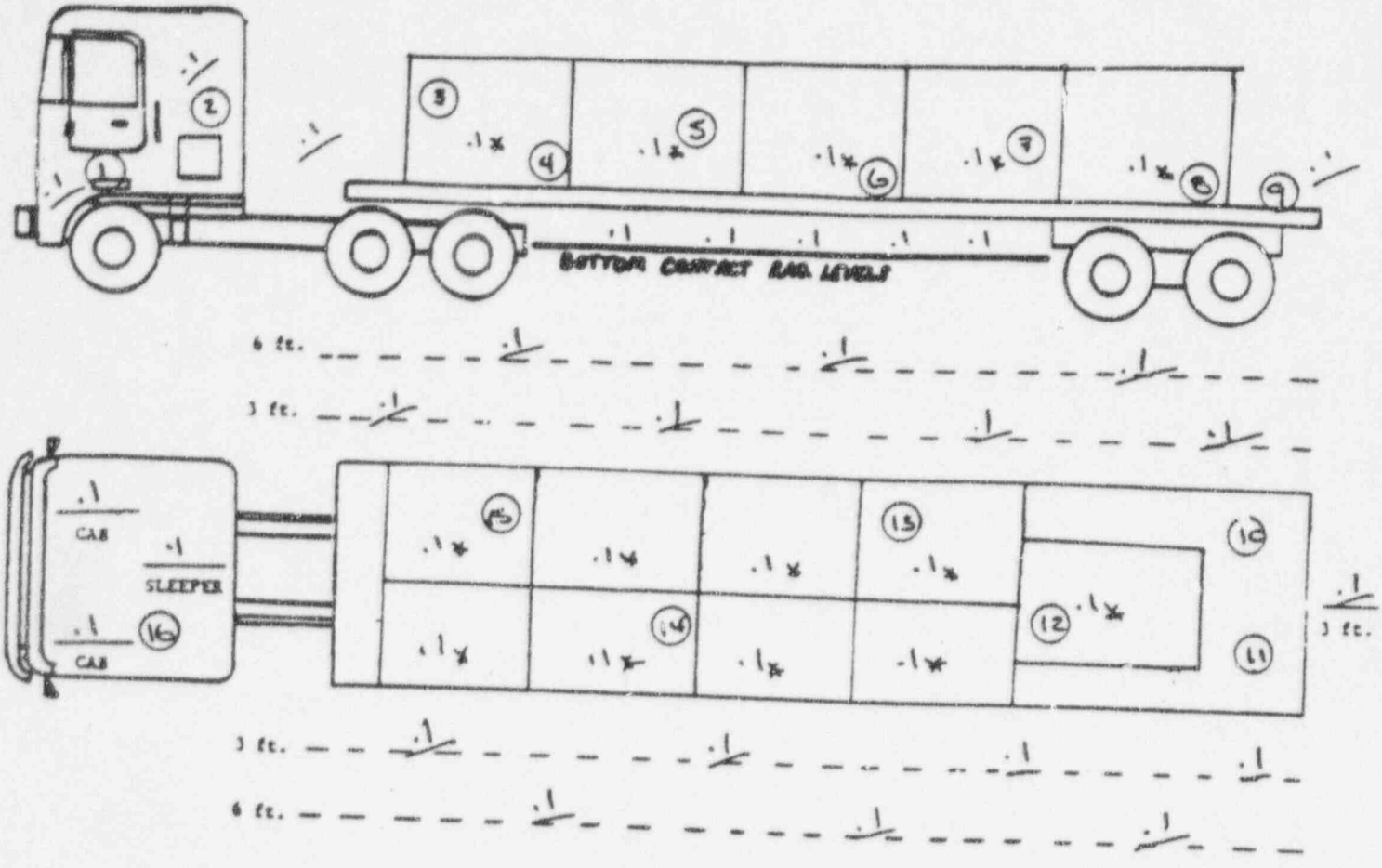
INST.	#	BKG:	MDA:	CAL DUE:
L5	57780	NA	NA	3-27-97
L177	40283	100 cpm	1000 cpm	3-16-97
L2000	87565	.1 cpm	7.8 mm	[illegible]

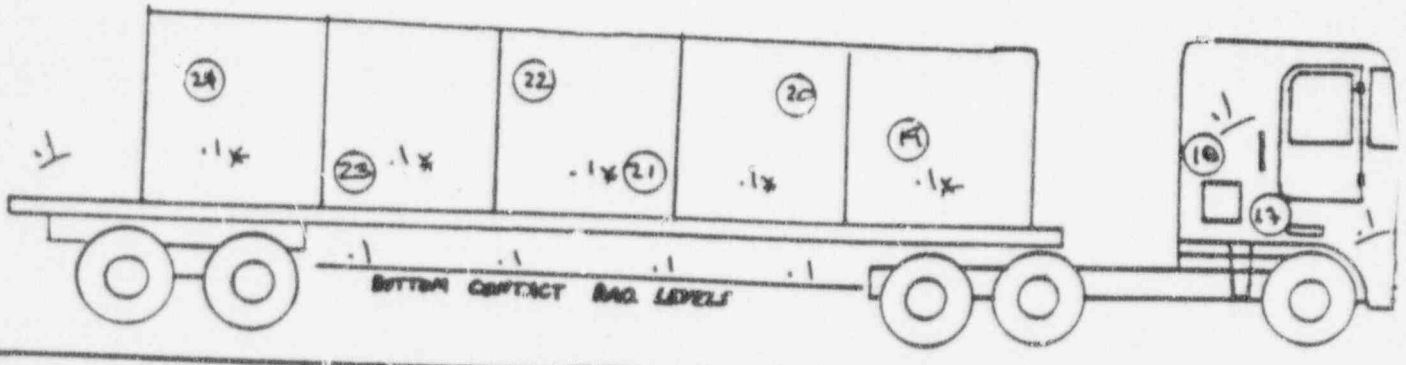
SURVEY BY: M. Simoul

S 2 OPS

DATE 961203
DOCT HFS-265.2
DOCN
SYS HP
COMP
ITM 96-67

HPS-65.2
VEHICLE SURVEY





TIME: 1100
DATE: 12-3-96
CARRIER: KINDRICK
TRUCK #: K-9610
TRAILER #: 312146

HIGHEST RAD. READING
ON CONTACT: .1 mr/hr
AT 3 ft.: .1
AT 6 ft.: .1
CAB/SLEEPER: .1

INCOMMING OR OUTGOING? Reviewed: [illegible]

SMEAR RESULTS (dpm)

	<1K	/KMDA		<1K	/KMDA		<1K	/KMDA
1		/	9		/	17		/
2		/	10		/	18		/
3		/	11		/	19		/
4		/	12		/	20		/
5		/	13		/	21		/
6		/	14		/	22		/
7		/	15		/	23		/
8		/	16		/	24		/

INST.: L-14c #: 19862 BKG: — MDA: — CAL DUE: 2-8-97
INST.: L-177 #: 21804 BKG: 100 MDA: 1000 CAL DUE: 4-23-97
INST. L-2000 #: 16594 BKG: .1 MDA: 4.12 CAL DUE: 3-4-97

SURVEY BY: B. HORRELL

S 1 OPS

DATE 961203
DOCT HPS-65.2
DOCN
SYS HP
CORP
ITM 9667

RECORDS
MONITOR RESPONSE
CHECKS

4/10

LIQUID RELEASE PERMIT
UNIT 1

SIOPS
DATE 9/20/96
DOCT
DOCN 0510022
SYS
COMP Completed
IIM 43

I. TANK DATA

A. LRP Permit #	B. Date And Time	C. Tank Name	D. Discharge Volume (Gallons)
1-96-3	6-JAN-1996 01:05	1B WMT	4.0000E+04

II. PRERELEASE DATA (uCi/ml = micro curies per milliliter)

A. Total Concentration Of Solids			1.824E-05	uCi/ml
B. Total Activity Of Solids			2.761E+03	uCi
C. Tank Recirced As Per C-70.			V-V	Initials
D. Minimum Pumps During Release	3	CWP's	1	ICWP's
E. Maximum Release Rate During Release			1.7000E+02	GPM
F. Fraction Of 10 CFR 20 Limits At Canal Canal (Solids) (Admin Limit < 0.8)			1.293E-02	Fl
G. Total Noble Gas Activity After Dilution (Gases) (Admin Limit < 1.60E-04)			2.127E-10	Fg

H. Liquid Radwaste Monitor Settings
Alert Setting 4.500E-03 uCi/ml High Setting 6.000E-03 uCi/ml
I Have Verified These Settings Are Entered On The Monitors Control Module In The Control Room. VS Initials
I. Liquid Rad Waste Monitor Source Check Performed By: VS Initials
J. LRP LIMS Number 72247 Monitor Source Check LIMS Number 72249

III. AUTHORIZATION

A. Permit Preparer Verifies Release Will Not Exceed Admin Limits	Signature
B. Release Approved By Permit Preparer If II.B Is <= 25000 uCi	Signature
C. Release Approved By Chemistry Supv. If II.B Is > 25000 uCi	Signature
D. Release Conditions Approved By ANPS	Signature

IV. ACTUAL RELEASE DATA

A. Number Of Pumps Running	3	CWP's	1	ICWP's
B. Tank Level At Start Of Release				
C. Date And Time At Start Of Release				
D. Date And Time At End Of Release				
E. Tank Level At End Of Release				

F. Reviewed By ANPS Signature

V. POST RELEASE DATA

A. Total Volume This Release		Gallons
B. Total Activity Of Solids Released	2.180 E+03	uCi
C. Post Release Review By Chemistry Supervisor		Signature

* REPLICATE SAMPLE TAKEN DUE TO ANALYTICAL QCS
See attached BSC

LIQUID RELEASE PERMIT
UNIT 1

S1OPS	
DATE	
DOCT	
DOCN	
SYS	
COMP	
ITM	

I. TANK DATA

A. LRP Permit #	B. Date And Time	C. Tank Name	D. Discharge Volume (Gallons)
1-96-3	6-JAN-1996 06:15	1B WMT	4.0000E+04

II. PRERELEASE DATA (uCi/ml = micro curies per milliliter)

A.	Total Concentration Of Solids		1.898E-05	uCi/ml
B.	Total Activity Of Solids		2.874E+03	uCi
C.	Tank Recirced As Per C-70.		VS	Initials
D.	Minimum Pumps During Release	3 CWP's	1	ICWP's
E.	Maximum Release Rate During Release		1.7000E+02	GPM
F.	Fraction Of 10 CFR 20 Limits At Canal Canal (Solids) (Admin Limit < 0.8)		1.289E-02	Fl
G.	Total Noble Gas Activity After Dilution (Gases) (Admin Limit < 1.60E-04)		2.094E-10	Fg

H. Liquid Radwaste Monitor Settings
Alert Setting 4.500E-03 uCi/ml High Setting 6.000E-03 uCi/ml
I Have Verified These Settings Are Entered On The Monitors Control Module In The Control Room. VS Initials

I. Liquid Rad Waste Monitor Source Check Performed By: VS Initials

J. LRP LIMS Number 72259 Monitor Source Check LIMS Number _____ * MONITUROUS

III. AUTHORIZATION

A.	Permit Preparer Verifies Release Will Not Exceed Admin Limits	Signature
B.	Release Approved By Permit Preparer If II.B Is <= 25000 uCi	Signature
C.	Release Approved By Chemistry Supv. If II.B Is > 25000 uCi	Signature
D.	Release Conditions Approved By ANPS	Signature

IV. ACTUAL RELEASE DATA

A.	Number Of Pumps Running	_____ CWP's	_____	ICWP's
B.	Tank Level At Start Of Release		_____	
C.	Date And Time At Start Of Release		_____	
D.	Date And Time At End Of Release		_____	
E.	Tank Level At End Of Release		_____	
F.	Reviewed By ANPS		_____	Signature

V. POST RELEASE DATA

A.	Total Volume This Release	_____	Gallons
B.	Total Activity Of Solids Released	_____	uCi
C.	Post Release Review By Chemistry Supervisor	_____	Signature

Duplicate Analysis Calculations for Monitor 005.
BEE

FLORIDA POWER & LIGHT CO. ST. LUCIE PLANT CHEMISTRY DEPARTMENT
LIQUID RELEASE PERMIT 1-96- 3
FINAL ACTIVITY REPORT FOR POSTRELEASE CALCULATIONS

SAMPLE I.D. : 1B WMT FILE: LRP.DAT SAMPLE # 2
SAMPLE TIME : 1- 6-1996 @ 1: 5 RELEASE VOLUME: 3.1588E+04 gal.
GEOMETRY FILE: GI71.CNF RELEASE RATE : 4.9512E+01 GPM
COUNT TIME : 2.0000E+03 sec. DILUTION PUMPS: 4 ICW 8 CW
SAMPLE VOLUME: 4.0000E+03 mls. DILUTION RATE : 1.0260E+06 GPM
RELEASE START: 1- 6-1996 @ 11: 5 RELEASE END : 1- 6-1996 @ 21:43
RELEASE MIN : 6.3800E+02 min.

** POST LRP PROGRAM Q.C. O.K. **

NUCLIDE SYMBOL		SAMPLE UCI/ML	E.C.L. UCI/ML	E.C.L. FRACTION	TANK UCI PRERELEAS	TANK UCI POSTRELEA	NUCLIDE SYMBOL
CR-51		1.693E-06	5.E-04	1.634E-07	2.563E+02	2.024E+02	CR-51
MN-54		2.073E-07	3.E-05	3.334E-07	3.138E+01	2.478E+01	MN-54
CO-58		8.630E-06	2.E-05	2.082E-05	1.307E+03	1.032E+03	CO-58
FE-59		2.188E-07	1.E-05	1.056E-06	3.312E+01	2.616E+01	FE-59
CO-60		1.003E-06	3.E-06	1.614E-05	1.519E+02	1.200E+02	CO-60
NB-95		9.501E-07	3.E-05	1.528E-06	1.438E+02	1.136E+02	NB-95
ZR-95		6.129E-07	2.E-05	1.479E-06	9.279E+01	7.328E+01	ZR-95
SB-124		6.500E-07	7.E-06	4.481E-06	9.840E+01	7.771E+01	SB-124
SB-125		4.035E-06	3.E-05	6.491E-06	6.110E+02	4.825E+02	SB-125
CS-134		1.131E-07	9.E-07	6.067E-06	1.713E+01	1.353E+01	CS-134
CS-137		1.233E-07	1.E-06	5.951E-06	1.867E+01	1.475E+01	CS-137
H-3	C	8.200E-02	3.E-03	1.319E-03			
FE-55	C	4.100E-06	8.E-04	2.473E-07			
SR-89	C	2.700E-08	3.E-06	4.343E-07			
SR-90	C	7.500E-09	3.E-07	1.206E-06			
Y-90	C	7.500E-09	2.E-05	1.810E-08			
TOTALS:		1.824E-05		1.385E-03	2.761E+03	2.180E+03	
		LRP II.A.		F SUB L	LRP II.B.	LRP V.B.	

C - denotes composite - only used for F SUB L

NUCLIDE SYMBOL	SAMPLE UCI/ML	DIL. CONC @ CANAL	TANK UCI PRERELEAS	TANK UCI POSTRELEA	NUCLIDE SYMBOL	
~~AR-41~~	~~1.004E-07~~	~~4.843E-12~~	~~1.519E+01~~	~~1.200E+01~~	~~AR-41~~	Not present 5-F C
XE-133	3.719E-07	1.795E-11	5.631E+01	4.447E+01	XE-133	
TOTALS:	4.723E-07	2.279E-11	7.151E+01	5.647E+01		
		F SUB G				

VS

Duplicate analysis
Monitor 005 · BEC

SIOPS
DATE 960612
DOCT
DCN 5530021
SYS
COMP Completed
ITM 20

GASEOUS RELEASE PERMIT
UNIT 2

I.	GASEOUS PERMIT NUMBER	SAMPLE DATE AND TIME	GDT NAME OR PURGE
	2-96-34	12-JUN-1996 16:18	2A GDT

II.	LIMITS	ACTUAL CONCENTRATION
	GDT = 20 uCi/cc	1.969E-03 uCi/cc
	Containment Purge = 4.76E-03 uCi/cc	NA uCi/cc
	Containment Mini-Purge = 0.01 uCi/cc	NA uCi/cc

Maximum Discharge Flow Rate
GDT _____ #/hr GDT Decreases or 1.000E+01 C.F.M. Flow Setting

Waste Gas Monitor Setpoints: Alert 1.000E+01 uCi/cc High: 2.000E+01 uCi/cc
Waste Gas Monitor Source Check Performed By: _____ Signature

GRP LIMS # 82127 MONITOR SOURCE CHECK LIMS # 82128

PRERELEASE REMARKS: _____

III.	REVIEW - APPROVAL (PRIOR TO RELEASE)		
	Main Purge, or Mini-Purge >= 5.00E-03 uCi/cc	Chemistry Supervisor NA	Signature
	Mini-Purge < 5.00E-03 uCi/cc and meets the requirements of STS 3.6.1.7.b.	Permit Preparer NA	Signature
	GDT >= 25% of Section II.	Chemistry Supervisor NA	Signature
	GDT < 25% of Section II.	Permit Preparer _____	Signature
		Assistant Nuclear Plant Supervisor _____	Signature

IV.				
	Start Date 6/12/96	Start Time 1600	Stop Date 6/12/96	Stop Time 1645
	Start GDT Pressure 150		Stop GDT Pressure 10	

Channel Check Of Plant Vent Monitors During Release.
PIG A (423) _____ Initial PIG B (433) _____ Initial WRGM (621) _____ Initial

V.	REVIEW - APPROVAL (POST RELEASE)	
		Assistant Nuclear Plant Supervisor _____ Signature
		Chemistry Supervisor _____ Signature

FLORIDA POWER & LIGHT CO. ST. LUCIE PLANT CHEMISTRY DEPARTMENT
GASEOUS RELEASE PERMIT 2-96- 34 FOR GAS DECAY TANK
FINAL ACTIVITY REPORT FOR POSTRELEASE CALCULATIONS

REACTOR UNIT#: 2		FILE GDT2.DAT	SAMPLE # 16
SAMPLE I.D. : 2A GDT		SAMPLE TYPE :	GAS
SAMPLE TIME : 6-12-1996 @ 16:18		SAMPLE VOLUME :	3.0200E+01 cc.s
ACQUIRE TIME : 6-12-1996 @ 16:26		LIVE TIME :	1.0000E+03 sec.
EFF.FILE NAME: GT21.CNF		ACT MULT FACTOR :	1.0000E+00
RELEASE START: 6-13-1996 @ 10:25		RELEASE VOLUME :	3.8835E+07 cc.s
RELEASE END : 6-13-1996 @ 14:50		RELEASE MINUTES :	2.6500E+02 min
START PRESS : 150 psig		STOP PRESS :	10 psig

** POST GRP Program Q.C. O.K. **

NUCLIDE SYMBOL	SAMPLE uCi/cc	milli-Ci RELEASED	KEYLINE KEV.	NET PEAK AREA	PEAK % EFF	PEAK % ABUND
XE-133	1.970E-03	7.650E+01	81.00	4104.	4.97E-01	37.60

TOTALS : 1.970E-03 7.650E+01

TOPIC	RESULTS	UNITS	PERCENT LIMIT	REACTOR LIMIT
TOTAL BODY DOSE RATE:	2.26329E-03	mRem/Yr	0.00159	142.5 mRem/Yr
SKIN DOSE RATE :	5.34492E-03	mRem/Yr	0.00063	855.0 mRem/Yr
GAMMA AIR DOSE :	1.36970E-06	mRad	0.00003	5.0 mRad/Qtr
BETA AIR DOSE :	4.07417E-06	mRad	0.00004	10.0 mRad/Qtr
EQUIVALENT XE-133 :	8.99988E-02	Curies	0.00003	285000. Curies
CHI OVER Q :	1.60000E-06	sec/M3	N.A.	per O.D.C.M.
EST. RELEASE VOLUME :	3.88347E+07	cc.s	N.A.	N.A.
RELEASE RATE :	5.17520E+00	SCFM	N.A.	N.A.
RELEASE RATE :	3.16981E+01	#/Hour	N.A.	N.A.

JECot

SIOPS
DATE 960817
DOCT
DOCN 0530021
SYS
COMP Completed
TIM 45

GASEOUS RELEASE PERMIT
UNIT 1

I.	GASEOUS PERMIT NUMBER	SAMPLE DATE AND TIME	GDT NAME OR PURGE
	1-96-9	17-AUG-1996 04:05	1A GDT
II.	LIMITS		ACTUAL CONCENTRATION
	GDT = 20 uCi/cc		4.412E-05 uCi/cc
	Containment Purge = 4.76E-03 uCi/cc		NA uCi/cc
	Containment Mini-Purge = 0.01 uCi/cc		NA uCi/cc
	Maximum Discharge Flow Rate GDT N/A #/hr	GDT Decreases or 1.000E+01 C.F.M. Flow Setting	
	Waste Gas Monitor Setpoints: Alert 1.000E+02 CPM	High: 4.310E+06 CPM	
	Waste Gas Monitor Source Check Performed By: [signature] Signature		
	GRP LIMS # 86442	MONITOR SOURCE CHECK LIMS # 86443	
	PRERELEASE REMARKS: AFTER RELEASE, FILL W/ N_2 AND RELEASE AGAIN		
III.	REVIEW - APPROVAL (PRIOR TO RELEASE)		
	Main Purge, or Mini-Purge >= 5.00E-03 uCi/cc	Chemistry Supervisor NA Signature	
	Mini-Purge < 5.00E-03 uCi/cc and meets the requirements of STS 3.6.1.7.b	Permit Preparer NA Signature	
	GDT >= 25% of Section II.	Chemistry Supervisor NA Signature	
	GDT < 25% of Section II.	Permit Preparer [signature] Signature	
		Assistant Nuclear Plant Supervisor [signature] Signature	

IV.				
	Start Date 8/17/96	Start Time 0433	Stop Date	Stop Time
	Start GDT Pressure 150		Stop GDT Pressure	
	Channel Check Of Plant Vent Monitor During Release. Plant Vent SPING Channel 01-05			Initial

V.		
	REVIEW - APPROVAL (POST RELEASE)	8/12
	Assistant Nuclear Plant Supervisor [signature]	Signature
	Chemistry Supervisor [signature]	Signature

FLORIDA POWER & LIGHT CO. ST. LUCIE PLANT CHEMISTRY DEPARTMENT
GASEOUS RELEASE PERMIT 1-96- 9 FOR GAS DECAY TANK
FINAL ACTIVITY REPORT FOR POSTRELEASE CALCULATIONS

REACTOR UNIT#: 1		FILE GDT1.DAT	SAMPLE # 51
SAMPLE I.D. : 1A GDT		SAMPLE TYPE	: GAS
SAMPLE TIME : 8-17-1996 @ 4: 5		SAMPLE VOLUME	: 2.8900E+01 cc.s
ACQUIRE TIME : 8-17-1996 @ 4:15		LIVE TIME	: 1.0000E+03 sec.
EFF.FILE NAME: GE22.CNF		ACT MULT FACTOR	: 1.0000E+00
RELEASE START: 8-17-1996 @ 5:33		RELEASE VOLUME	: 4.5770E+07 cc.s
RELEASE END : 8-17-1996 @ 13:56		RELEASE MINUTES	: 5.0300E+02 min
START PRESS : 165 psig (A)		STOP PRESS	: 0 psig

** POST GRP Program Q.C. O.K. **

NUCLIDE SYMBOL	SAMPLE uCi/cc	milli-Ci RELEASED	KEYLINE KEV.	NET PEAK AREA	PEAK % EFF	PEAK % ABUND
XE-133	4.412E-05	2.019E+00	81.00	92.	5.19E-01	37.60

TOTALS : 4.412E-05 2.019E+00

TOPIC	RESULTS	UNITS	PERCENT LIMIT	REACTOR LIMIT
TOTAL BODY DOSE RATE:	2.86898E-05	mRem/Yr	0.00002	142.5 mRem/Yr
SKIN DOSE RATE :	6.77527E-05	mRem/Yr	0.00001	855.0 mRem/Yr
GAMMA AIR DOSE :	3.61566E-08	mRad	0.00000	5.0 mRad/Qtr
BETA AIR DOSE :	1.07548E-07	mRad	0.00000	10.0 mRad/Qtr
EQUIVALENT XE-133 :	1.83587E-03	Curies	0.00000	285000. Curies
CHI OVER Q :	1.60000E-06	sec/M3	N.A.	per O.D.C.M.
EST. RELEASE VOLUME :	4.57695E+07	cc.s	N.A.	N.A.
RELEASE RATE :	2.92891E+00	SCFM	N.A.	N.A.
RELEASE RATE :	1.79396E+01	#/Hour	N.A.	N.A.

(A) - Denotes 150 → 10 psi
then recharge with Nitrogen
10 → 15 psi + 1 atmosphere

PREVIOUS SAMPLE RESULTS

DATE: 20-NOV-1996

Source Checks M1_S_R6627 Channel the Liquid Discharge Monitor

SAMPLE PT.	DATE/TIME	Date Of Last Source Check	Date Of This Source Check	Was Source Check OK?	
Channel #					
M1_S_R6627	21-MAY-1996 08:55	19-MAY-1996	21-MAY-1996	Yes	
M1_S_R6627	19-MAY-1996 15:00	17-MAY-1996	19-MAY-1996	Yes	
M1_S_R6627	17-MAY-1996 09:50	15-MAY-1996	17-MAY-1996	Yes	
M1_S_R6627	15-MAY-1996 13:40	11-MAY-1996	15-MAY-1996	Yes	
M1_S_R6627	11-MAY-1996 10:40	9-MAY-1996	11-MAY-1996	Yes	
M1_S_R6627	9-MAY-1996 18:02	7-MAY-1996	9-MAY-1996	Yes	
M1_S_R6627	7-MAY-1996 18:20	3-MAY-1996	7-MAY-1996	Yes	
M1_S_R6627	3-MAY-1996 16:35	1-MAY-1996	3-MAY-1996	Yes	
M1_S_R6627	1-MAY-1996 16:20	30-APR-1996	1-MAY-1996	Yes	
M1_S_R6627	30-APR-1996 18:41	29-APR-1996	30-APR-1996	Yes	
M1_S_R6627	29-APR-1996 09:15	28-APR-1996	29-APR-1996	Yes	
M1_S_R6627	28-APR-1996 17:57	26-APR-1996	28-APR-1996	Yes	
M1_S_R6627	26-APR-1996 10:14	23-APR-1996	26-APR-1996	Yes	
M1_S_R6627	23-APR-1996 09:15	22-APR-1996	23-APR-1996	Yes	
M1_S_R6627	22-APR-1996 12:35	11-APR-1996	22-APR-1996	Yes	
M1_S_R6627	11-APR-1996 10:35	9-APR-1996	11-APR-1996	Yes	
M1_S_R6627	9-APR-1996 12:40	1-APR-1996	9-APR-1996	Yes	
M1_S_R6627	1-APR-1996 13:55	21-MAR-1996	1-APR-1996	Yes	
M1_S_R6627	21-MAR-1996 14:35	14-MAR-1996	21-MAR-1996	Yes	
M1_S_R6627	14-MAR-1996 10:30	10-MAR-1996	14-MAR-1996	Yes	
M1_S_R6627	10-MAR-1996 13:09	7-MAR-1996	10-MAR-1996	Yes	
M1_S_R6627	7-MAR-1996 09:35	4-MAR-1996	7-MAR-1996	Yes	
M1_S_R6627	4-MAR-1996 09:45	3-MAR-1996	4-MAR-1996	Yes	
M1_S_R6627	3-MAR-1996 04:00	29-FEB-1996	3-MAR-1996	Yes	
M1_S_R6627	29-FEB-1996 08:20	24-FEB-1996	29-FEB-1996	Yes	
M1_S_R6627	24-FEB-1996 08:20	21-FEB-1996	24-FEB-1996	Yes	
M1_S_R6627	21-FEB-1996 09:55	15-FEB-1996	21-FEB-1996	Yes	
M1_S_R6627	15-FEB-1996 10:20	6-FEB-1996	15-FEB-1996	Yes	
M1_S_R6627	6-FEB-1996 13:20	31-JAN-1996	6-FEB-1996	Yes	
M1_S_R6627	31-JAN-1996 03:15	26-JAN-1996	31-JAN-1996	Yes	
M1_S_R6627	26-JAN-1996 09:35	18-JAN-1996	26-JAN-1996	Yes	
M1_S_R6627	18-JAN-1996 09:00	16-JAN-1996	18-JAN-1996	Yes	
M1_S_R6627	16-JAN-1996 12:35	4-JAN-1996	16-JAN-1996	Yes	
M1_S_R6627	6-JAN-1996 01:05	4-JAN-1996	6-JAN-1996	No	72247
M1_S_R6627	4-JAN-1996 16:30	3-JAN-1996	4-JAN-1996	Yes	
M1_S_R6627	3-JAN-1996 02:15	31-DEC-1995	3-JAN-1996	Yes	

4113

PREVIOUS SAMPLE RESULTS

DATE: 20-NOV-1996 Liquid Permits

SAMPLE PT.	DATE/TIME	LRP Permit Number	Sample Date/Time	Actual Release Volume
	Sample Date Time	Permit No	Log Date	Release Volume
E1_LRP	19-MAY-1996 15:00	1-96-35	19-MAY-1996	32277.0
E1_LRP	17-MAY-1996 09:50	1-96-34	17-MAY-1996	23492.0
E1_LRP	15-MAY-1996 13:40	1-96-33	15-MAY-1996	33544.0
E1_LRP	11-MAY-1996 10:40	1-96-32	11-MAY-1996	17213.0
E1_LRP	9-MAY-1996 17:00	1-96-31	9-MAY-1996	17515.0
E1_LRP	7-MAY-1996 18:20	1-96-30	7-MAY-1996	30239.0
E1_LRP	3-MAY-1996 16:35	1-96-29	3-MAY-1996	19884.0
E1_LRP	1-MAY-1996 16:20	1-96-28	1-MAY-1996	27981.0
E1_LRP	30-APR-1996 17:37	1-96-27	30-APR-1996	30239.0
E1_LRP	29-APR-1996 09:15	1-96-26	29-APR-1996	32552.0
E1_LRP	28-APR-1996 17:00	1-96-25	28-APR-1996	30239.0
E1_LRP	26-APR-1996 10:14	1-96-24	26-APR-1996	29110.0
E1_LRP	23-APR-1996 09:15	1-96-23	23-APR-1996	31754.0
E1_LRP	22-APR-1996 12:35	1-96-22	22-APR-1996	31616.0
E1_LRP	11-APR-1996 10:35	1-96-21	11-APR-1996	26796.0
E1_LRP	9-APR-1996 10:15	1-96-20	9-APR-1996	30211.0
E1_LRP	1-APR-1996 13:55	1-96-19	1-APR-1996	29936.0
E1_LRP	21-MAR-1996 11:00	1-96-18	21-MAR-1996	29908.0
E1_LRP	14-MAR-1996 09:05	1-96-17	14-MAR-1996	29413.0
E1_LRP	10-MAR-1996 12:12	1-96-16	10-MAR-1996	22280.0
E1_LRP	7-MAR-1996 09:35	1-96-15	7-MAR-1996	23134.0
E1_LRP	4-MAR-1996 09:45	1-96-14	4-MAR-1996	29385.0
E1_LRP	3-MAR-1996 04:00	1-96-13	3-MAR-1996	29964.0
E1_LRP	29-FEB-1996 08:20	1-96-12	29-FEB-1996	30184.0
E1_LRP	24-FEB-1996 08:20	1-96-11	24-FEB-1996	30101.0
E1_LRP	21-FEB-1996 09:55	1-96-10	21-FEB-1996	36904.0
E1_LRP	15-FEB-1996 10:20	1-96-9	15-FEB-1996	31478.0
E1_LRP	6-FEB-1996 13:20	1-96-8	6-FEB-1996	31313.0
E1_LRP	31-JAN-1996 03:15	1-96-7	31-JAN-1996	27072.0
E1_LRP	26-JAN-1996 09:35	1-96-6	26-JAN-1996	30817.0
E1_LRP	18-JAN-1996 09:00	1-96-5	18-JAN-1996	33874.0
E1_LRP	16-JAN-1996 12:35	1-96-4	16-JAN-1996	31230.0
E1_LRP	6-JAN-1996 01:05	1-96-3	6-JAN-1996	31588.0
E1_LRP	4-JAN-1996 16:30	1-96-2	4-JAN-1996	32442.0
E1_LRP	3-JAN-1996 02:15	1-96-1	3-JAN-1996	31506.0

PREVIOUS SAMPLE RESULTS

DATE: 20-NOV-1996 Unit 1

Gas Release Permits

SAMPLE PT.	DATE/TIME	Sample Date/Time	GDT Permit Number	Actual Release Volume
E1_GDT	7-NOV-1996 08:38	7-NOV-1996	1-96-10	4.438E+07
E1_GDT	17-AUG-1996 04:05	17-AUG-1996	1-96-9	4.577E+07
E1_GDT	14-AUG-1996 17:50	14-AUG-1996	1-96-8	3.606E+06
E1_GDT	10-AUG-1996 04:19	10-AUG-1996	1-96-7	4.632E+07
E1_GDT	9-AUG-1996 03:20	9-AUG-1996	1-96-6	4.077E+07
E1_GDT	28-FEB-1996 18:45	28-FEB-1996	1-96-3	2.385E+07
E1_GDT	25-JAN-1996 13:50	25-JAN-1996	1-96-2	4.577E+07
E1_GDT	23-JAN-1996 20:53	23-JAN-1996	1-96-1	2.080E+07

There was no source check involved with this release due to this Permit number being assigned to an Unplanned Release from Gas Decay Tanks 1A on this date. JECT

L414

PREVIOUS SAMPLE RESULTS

DATE: 20-NOV-1996

Source Checks

SAMPLE PT.	DATE/TIME	Date Of Last Source Check	Date Of This Source Check	Was Source Check OK?
M1_S_42	7-NOV-1996 09:01	17-AUG-1996	7-NOV-1996	Yes
M1_S_42	17-AUG-1996 04:40	10-AUG-1996	17-AUG-1996	Yes
M1_S_42	10-AUG-1996 04:15	9-AUG-1996	10-AUG-1996	Yes
M1_S_42	9-AUG-1996 03:15	28-FEB-1996	9-AUG-1996	Yes
M1_S_42	28-FEB-1996 18:40	25-JAN-1996	28-FEB-1996	Yes
M1_S_42	25-JAN-1996 13:50	23-JAN-1996	25-JAN-1996	Yes
M1_S_42	23-JAN-1996 21:22	7-DEC-1995	23-JAN-1996	Yes

P R E V I O U S S A M P L E R E S U L T S

DATE: 20-NOV-1996

Source Check

SAMPLE PT.	DATE/TIME	Date Of Last Source Check	Date Of This Source Check	Was Source Check OK?
M2_S_203	6-NOV-1996 12:42	10-JUL-1996	6-NOV-1996	Yes
M2_S_203	10-JUL-1996 01:24	12-JUN-1996	10-JUL-1996	Yes
M2_S_203	12-JUN-1996 16:59	12-JUN-1996	12-JUN-1996	Yes
M2_S_203	12-JUN-1996 16:18	12-JUN-1996	12-JUN-1996	Yes
M2_S_203	12-JUN-1996 10:00		12-JUN-1996	Yes

L415

P R E V I O U S S A M P L E R E S U L T S

DATE: 20-NOV-1996

Unit 2 Gas Release Permits

SAMPLE PT.	DATE/TIME	Sample Date/Time	GDT Permit Number	Actual Release Volume
E2_GDT	6-NOV-1996 10:50	6-NOV-1996	2-96-68	3.744E+07
E2_GDT	10-JUL-1996 01:00	10-JUL-1996	2-96-40	3.689E+07
E2_GDT	12-JUN-1996 16:18	12-JUN-1996	2-96-34	3.88[illegible]E+07
E2_GDT	12-JUN-1996 10:00	12-JUN-1996	2-96-33	3.661[illegible]+07

Unit 1 & 2 Common Batch Release Pt.

PREVIOUS SAMPLE RESULTS

DATE: 20-NOV-1996

SAMPLE PT.	DATE/TIME	Date Of Last Source Check	Date Of This Source Check	Was Source Check OK?
M1_S_R6627	8-NOV-1996 14:00	25-OCT-1996	8-NOV-1996	Yes
M1_S_R6627	25-OCT-1996 03:50	18-OCT-1996	25-OCT-1996	Yes
M1_S_R6627	18-OCT-1996 10:05	17-OCT-1996	18-OCT-1996	Yes
M1_S_R6627	17-OCT-1996 12:35	11-OCT-1996	17-OCT-1996	Yes
M1_S_R6627	11-OCT-1996 09:30	4-OCT-1996	11-OCT-1996	Yes
M1_S_R6627	4-OCT-1996 10:20	21-SEP-1996	4-OCT-1996	Yes
M1_S_R6627	21-SEP-1996 04:40	12-SEP-1996	21-SEP-1996	Yes
M1_S_R6627	12-SEP-1996 09:55	5-SEP-1996	12-SEP-1996	Yes
M1_S_R6627	10-SEP-1996 16:25	5-SEP-1996	10-SEP-1996	Yes
M1_S_R6627	5-SEP-1996 10:35	2-SEP-1996	5-SEP-1996	Yes
M1_S_R6627	2-SEP-1996 22:15	26-AUG-1996	2-SEP-1996	Yes
M1_S_R6627	26-AUG-1996 10:45	25-AUG-1996	26-AUG-1996	Yes
M1_S_R6627	25-AUG-1996 12:00	20-AUG-1996	25-AUG-1996	Yes
M1_S_R6627	20-AUG-1996 13:55	15-AUG-1996	20-AUG-1996	Yes
M1_S_R6627	15-AUG-1996 10:50	14-AUG-1996	15-AUG-1996	Yes
M1_S_R6627	14-AUG-1996 11:05	6-AUG-1996	14-AUG-1996	Yes
M1_S_R6627	6-AUG-1996 11:00	27-JUL-1996	6-AUG-1996	Yes
M1_S_R6627	27-JUL-1996 10:35	25-JUL-1996	27-JUL-1996	Yes
M1_S_R6627	25-JUL-1996 18:05	23-JUL-1996	25-JUL-1996	Yes
M1_S_R6627	23-JUL-1996 17:05	19-JUL-1996	23-JUL-1996	Yes
M1_S_R6627	19-JUL-1996 02:47	16-JUL-1996	19-JUL-1996	Yes
M1_S_R6627	16-JUL-1996 13:45	11-JUL-1996	16-JUL-1996	Yes
M1_S_R6627	11-JUL-1996 22:15	9-JUL-1996	11-JUL-1996	Yes
M1_S_R6627	9-JUL-1996 11:51	1-JUL-1996	9-JUL-1996	Yes
M1_S_R6627	1-JUL-1996 10:14	28-JUN-1996	1-JUL-1996	Yes
M1_S_R6627	28-JUN-1996 12:19	27-JUN-1996	28-JUN-1996	Yes
M1_S_R6627	27-JUN-1996 08:35	25-JUN-1996	27-JUN-1996	Yes
M1_S_R6627	25-JUN-1996 10:30	23-JUN-1996	25-JUN-1996	Yes
M1_S_R6627	23-JUN-1996 16:30	22-JUN-1996	23-JUN-1996	Yes
M1_S_R6627	22-JUN-1996 19:17	22-JUN-1996	22-JUN-1996	Yes
M1_S_R6627	22-JUN-1996 05:14	18-JUN-1996	22-JUN-1996	Yes
M1_S_R6627	18-JUN-1996 17:13	17-JUN-1996	18-JUN-1996	Yes
M1_S_R6627	17-JUN-1996 19:47	15-JUN-1996	17-JUN-1996	Yes
M1_S_R6627	15-JUN-1996 22:00	13-JUN-1996	15-JUN-1996	Yes
M1_S_R6627	14-JUN-1996 14:30	13-JUN-1996	14-JUN-1996	Yes
M1_S_R6627	13-JUN-1996 17:35	12-JUN-1996	13-JUN-1996	Yes
M1_S_R6627	12-JUN-1996 19:05	9-JUN-1996	12-JUN-1996	Yes
M1_S_R6627	9-JUN-1996 18:05	5-JUN-1996	9-JUN-1996	Yes
M1_S_R6627	5-JUN-1996 11:20	3-JUN-1996	5-JUN-1996	Yes
M1_S_R6627	3-JUN-1996 14:30	25-MAY-1996	3-JUN-1996	Yes
M1_S_R6627	25-MAY-1996 10:50	22-MAY-1996	25-MAY-1996	Yes
M1_S_R6627	22-MAY-1996 05:00	21-MAY-1996	22-MAY-1996	Yes

LL116

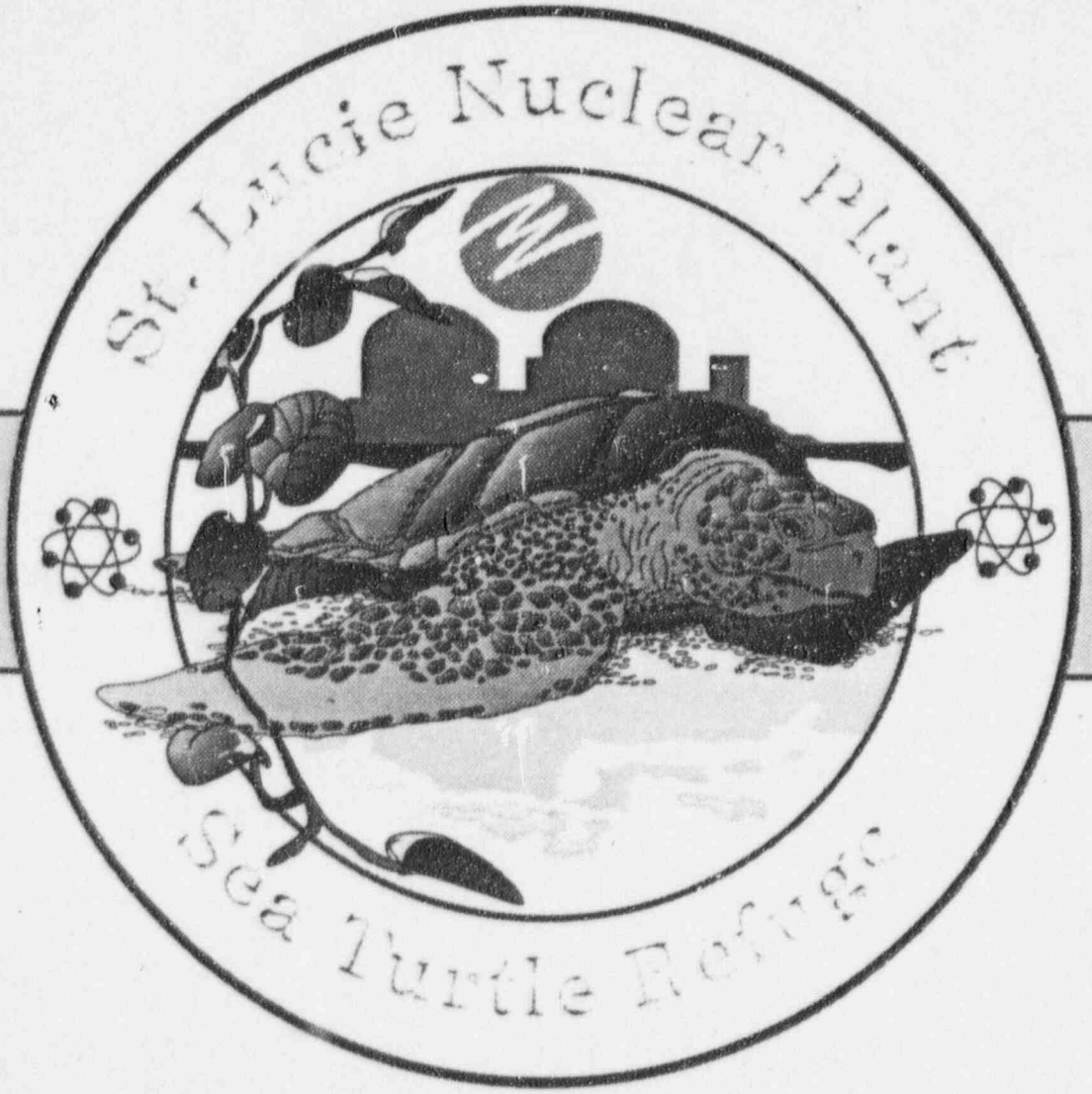
P R E V I O U S S A M P L E R E S U L T S

DATE: 20-NOV-1996

Liquid Release Permits

SAMPLE PT.	DATE/TIME	LRP Permit Number	Sample Date/Time	Actual Release Volume
	Sample Date Time	Permit No	Log Date	Release Vol gal
E1_LRP	8-NOV-1996 14:00	1-96-79	8-NOV-1996	25530.0
E1_LRP	25-OCT-1996 02:30	1-96-78	25-OCT-1996	29468.0
E1_LRP	18-OCT-1996 10:05	1-96-76	18-OCT-1996	23464.0
E1_LRP	17-OCT-1996 12:35	1-96-75	17-OCT-1996	25282.0
E1_LRP	11-OCT-1996 09:30	1-96-74	11-OCT-1996	21233.0
E1_LRP	4-OCT-1996 10:20	1-96-73	4-OCT-1996	24290.0
E1_LRP	21-SEP-1996 04:40	1-96-72	21-SEP-1996	30886.0
E1_LRP	12-SEP-1996 09:55	1-96-71	12-SEP-1996	34742.0
E1_LRP	10-SEP-1996 16:25	1-96-70	10-SEP-1996	26135.0
E1_LRP	5-SEP-1996 10:35	1-96-69	5-SEP-1996	30129.0
E1_LRP	2-SEP-1996 22:15	1-96-68	2-SEP-1996	30996.0
E1_LRP	26-AUG-1996 10:45	1-96-67	26-AUG-1996	28752.0
E1_LRP	25-AUG-1996 04:10	1-96-66	25-AUG-1996	29908.0
E1_LRP	20-AUG-1996 13:55	1-96-65	20-AUG-1996	20407.0
E1_LRP	15-AUG-1996 10:50	1-96-64	15-AUG-1996	31836.0
E1_LRP	14-AUG-1996 11:05	1-96-63	14-AUG-1996	24373.0
E1_LRP	6-AUG-1996 11:00	1-96-62	6-AUG-1996	20407.0
E1_LRP	27-JUL-1996 10:35	1-96-61	27-JUL-1996	32387.0
E1_LRP	25-JUL-1996 18:05	1-96-60	25-JUL-1996	33654.0
E1_LRP	23-JUL-1996 17:05	1-96-59	23-JUL-1996	37193.0
E1_LRP	16-JUL-1996 09:10	1-96-57	16-JUL-1996	32208.0
E1_LRP	11-JUL-1996 22:15	1-96-56	11-JUL-1996	32497.0
E1_LRP	9-JUL-1996 11:50	1-96-55	9-JUL-1996	31809.0
E1_LRP	1-JUL-1996 09:15	1-96-54	1-JUL-1996	31065.0
E1_LRP	28-JUN-1996 10:52	1-96-53	28-JUN-1996	29633.0
E1_LRP	27-JUN-1996 08:35	1-96-52	27-JUN-1996	33489.0
E1_LRP	25-JUN-1996 10:30	1-96-51	25-JUN-1996	28284.0
E1_LRP	23-JUN-1996 16:30	1-96-50	23-JUN-1996	29853.0
E1_LRP	22-JUN-1996 17:35	1-96-49	22-JUN-1996	31230.0
E1_LRP	22-JUN-1996 05:14	1-96-48	22-JUN-1996	29358.0
E1_LRP	18-JUN-1996 16:15	1-96-47	18-JUN-1996	31451.0
E1_LRP	17-JUN-1996 18:15	1-96-46	17-JUN-1996	30514.0
E1_LRP	15-JUN-1996 21:10	1-96-45	15-JUN-1996	33268.0
E1_LRP	14-JUN-1996 12:25	1-96-44	14-JUN-1996	33709.0
E1_LRP	13-JUN-1996 17:35	1-96-43	13-JUN-1996	27981.0
E1_LRP	12-JUN-1996 19:05	1-96-42	12-JUN-1996	28834.0
E1_LRP	9-JUN-1996 18:05	1-96-41	9-JUN-1996	22776.0
E1_LRP	5-JUN-1996 11:20	1-96-40	5-JUN-1996	14679.0
E1_LRP	3-JUN-1996 14:30	1-96-39	3-JUN-1996	30184.0
E1_LRP	25-MAY-1996 10:50	1-96-38	25-MAY-1996	23051.0
E1_LRP	22-MAY-1996 05:00	1-96-37	22-MAY-1996	34205.0
E1_LRP	21-MAY-1996 08:55	1-96-36	21-MAY-1996	28201.0

CHAIRMAN SELIN VISIT



March 22, 1993

mm/1

Umpire analogy – [illegible] support or oppose new [illegible]

S G replacement potential problem

Standard design ⇒ if one problem = all have problem.

Large No. of minor design flats doesn't change prob. of problem

but incr. ↑ prob. will find prob. & fix on common basis.

also ↑ ability to amortize cost of good Eng. design in first place.

100% fee recovery

Vendors are paying cost of our review $ of std. design.

123 $/hr

20 tons of spent fuel:

~~↑~~ Telescoping [illegible] /

[illegible]

NRC CHAIRMAN SELIN VISIT
AGENDA
MARCH 22, 1993

ENTRANCE	NRC & FPL MANAGEMENT
PLANT TOUR	THE CHAIRMAN J.T. SHEDLOSKY J.H. GOLDBERG D.A. SAGER G.J. BOISSY REGION II REPRESENTATIVES
PRESENTATIONS & DISCUSSIONS	
ST. LUCIE DESCRIPTION	D.A. SAGER
PLANT PERFORMANCE	G.J. BOISSY
FINANCIAL REVIEW OF FPL	PAUL J. EVANSON
LONG-TERM CONSIDERATIONS	J.H. GOLDBERG
CLOSING REMARKS	THE CHAIRMAN
PRESS CONFERENCE	THE CHAIRMAN
DEPART SITE	

PLANT TOUR

PLANT TOUR ROUTE

- Energy Encounter
- Simulator
- Maintenance Training Lab
- Turbine Building (Unit 1)
- Unit 1 Control Room
- Technical Support Center
- Electrical Switchgear Room (Unit 1)
- Alternate Shutdown Panel
- Chemistry Lab
- Auxiliary Feedwater (Unit 2)
- Safeguards Room (Unit 2)
- CCW Building (Unit 2)
- Diesel Generators (Unit 1)
- Turbine Lube Oil Filter

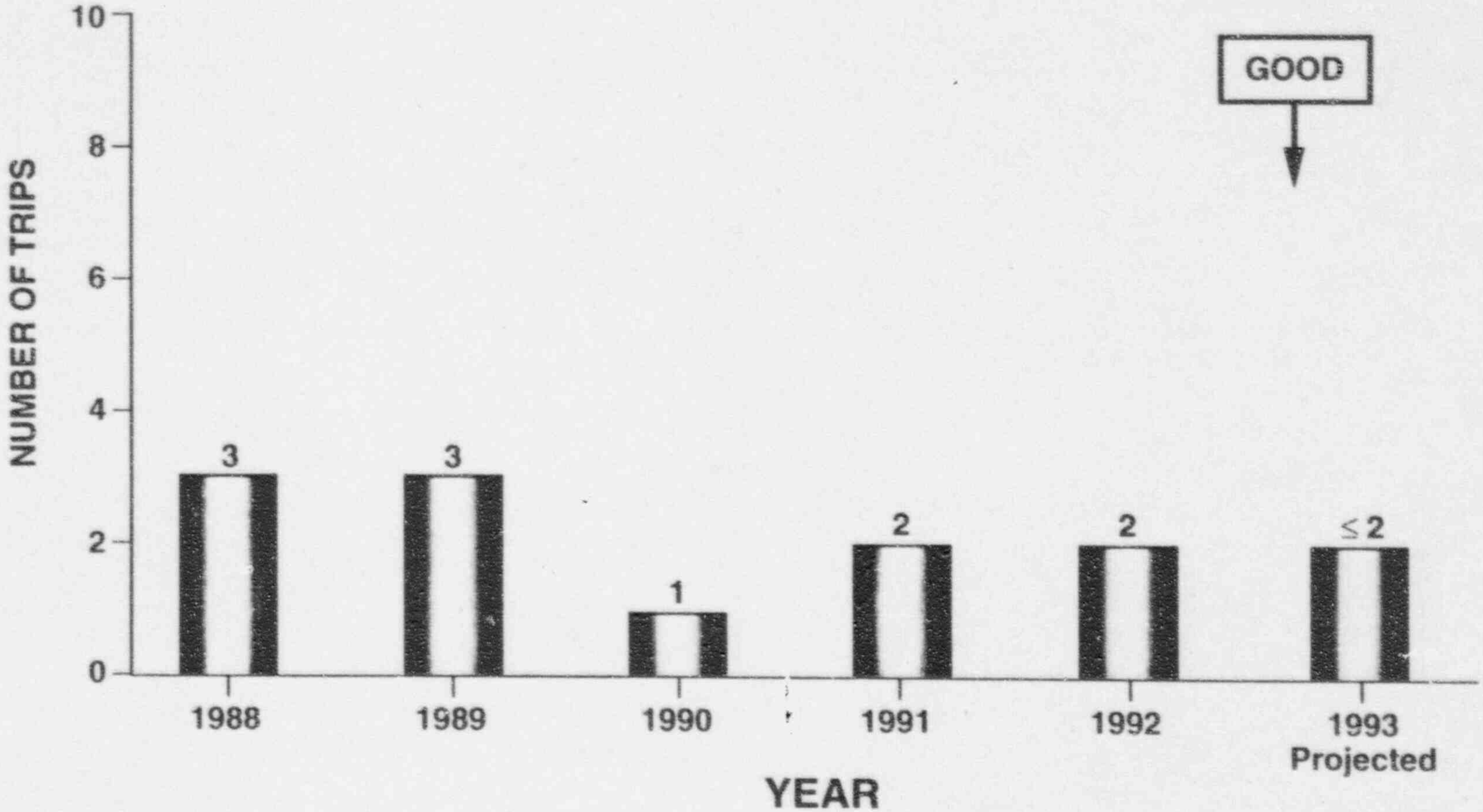
ST. LUCIE PLANT DESCRIPTION

D.A. Sager

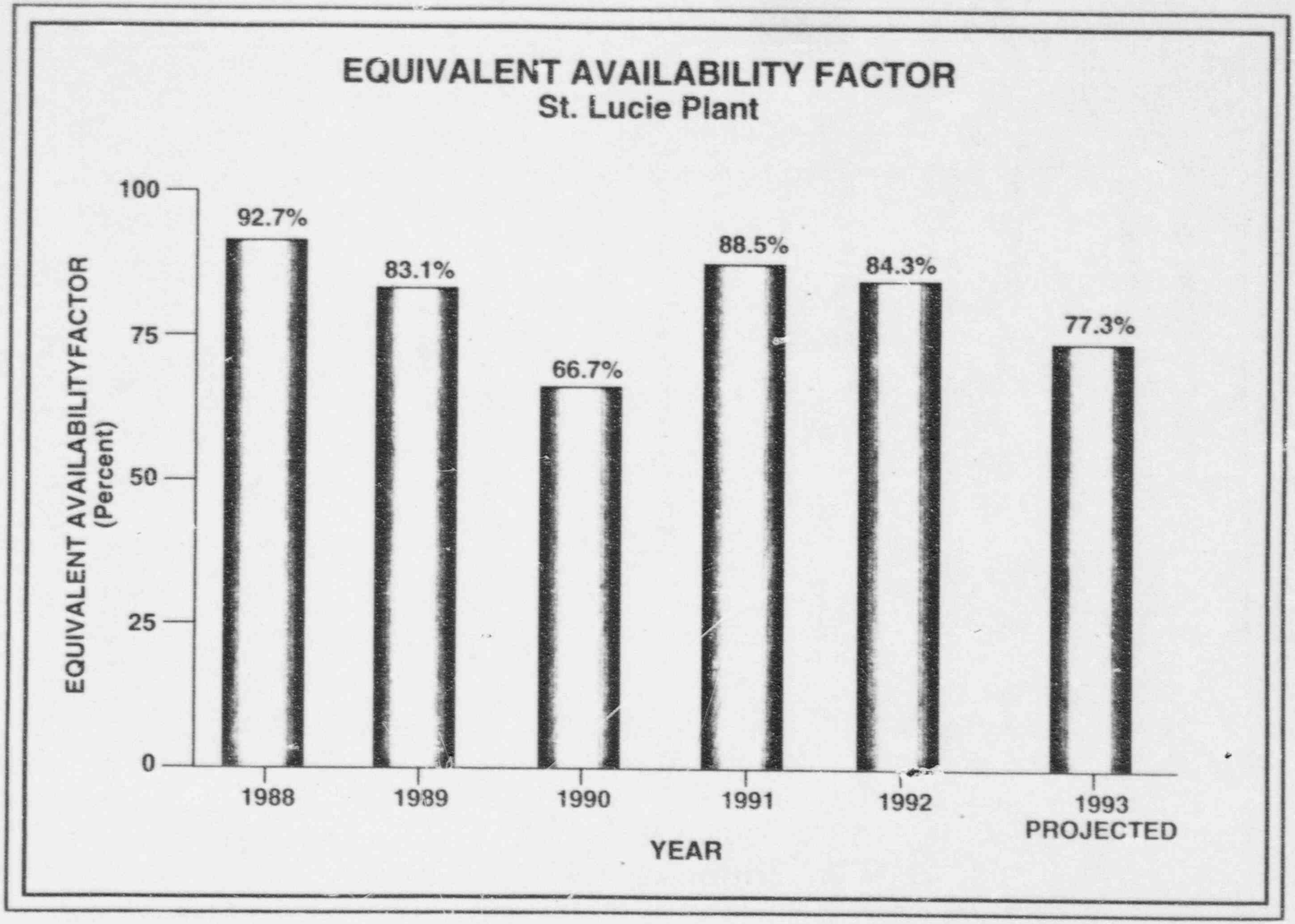
PLANT PERFORMANCE

G.J. Boissy

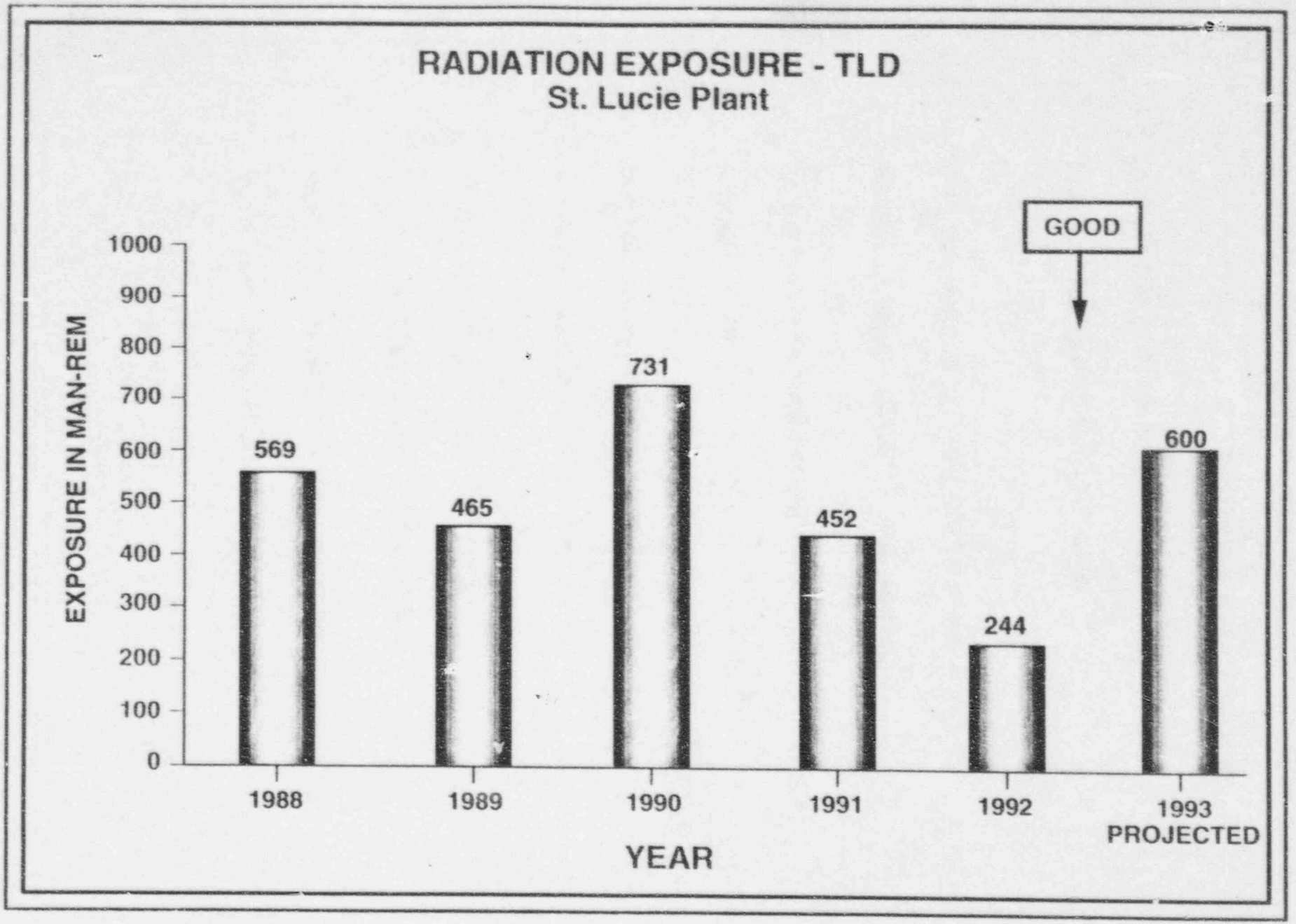
AUTOMATIC REACTOR TRIPS
St. Lucie Plant

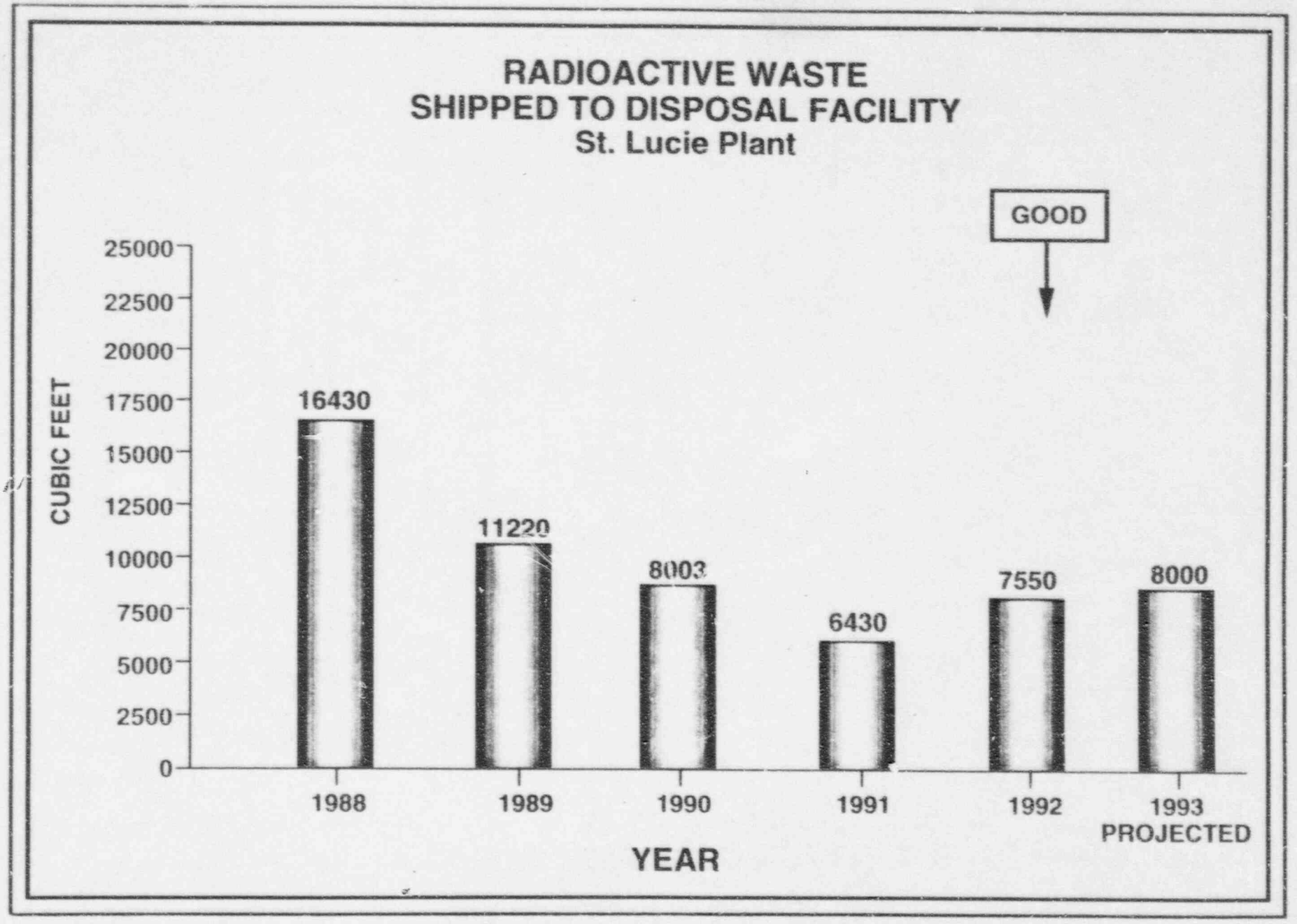


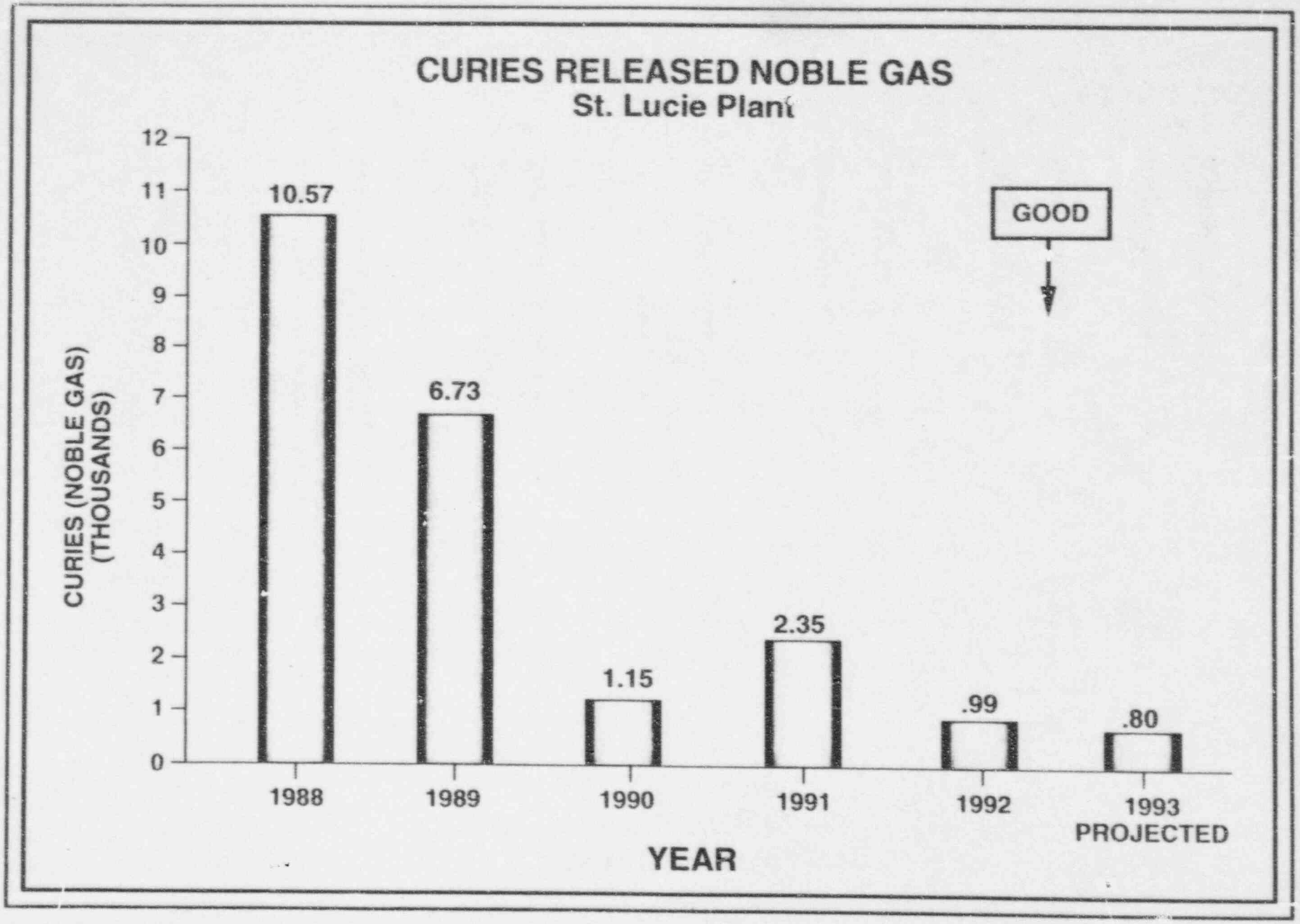
(PRES930142-REV SP 3/17/93)



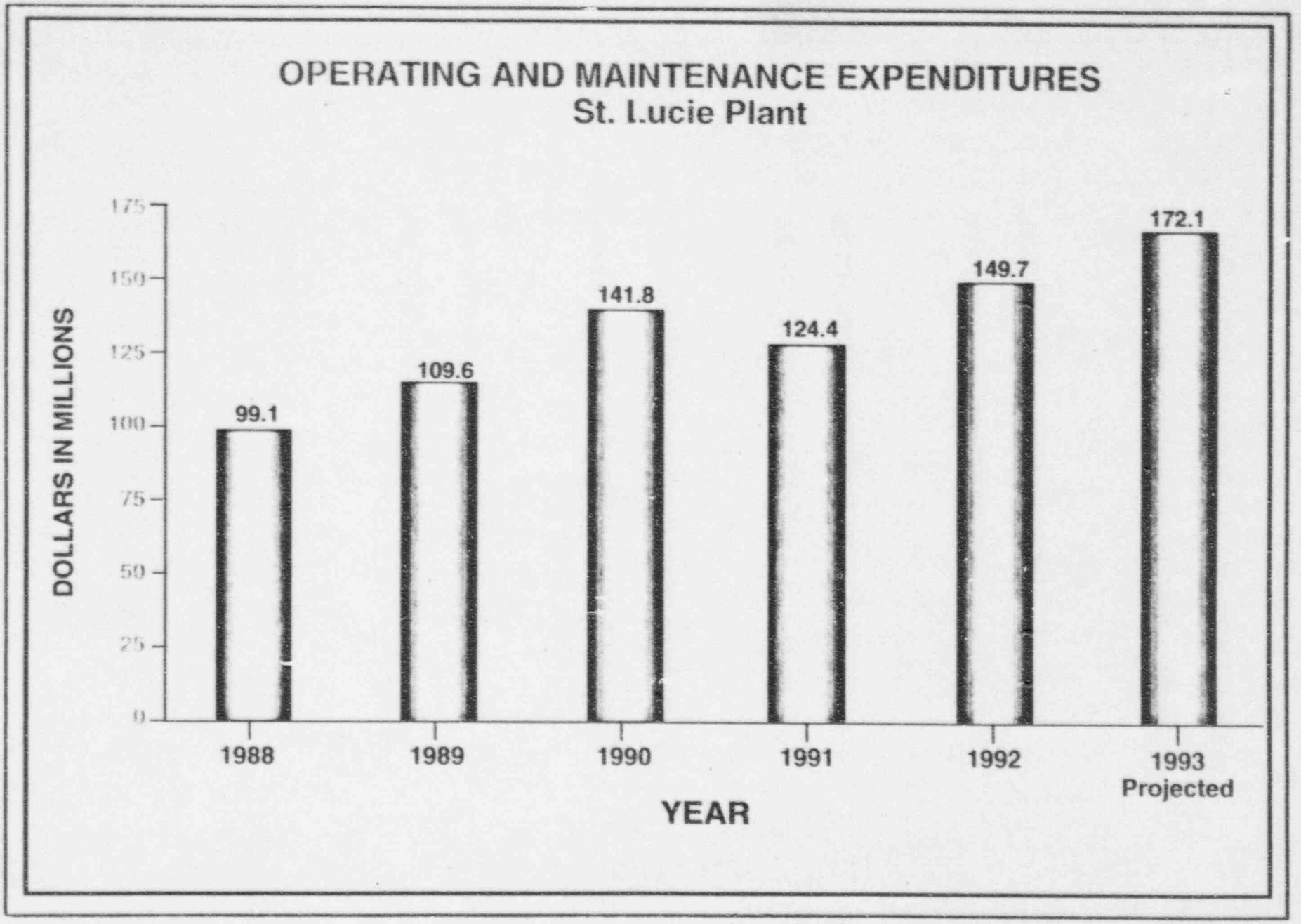
(PRES.930142-REV 5P 3/17/93)

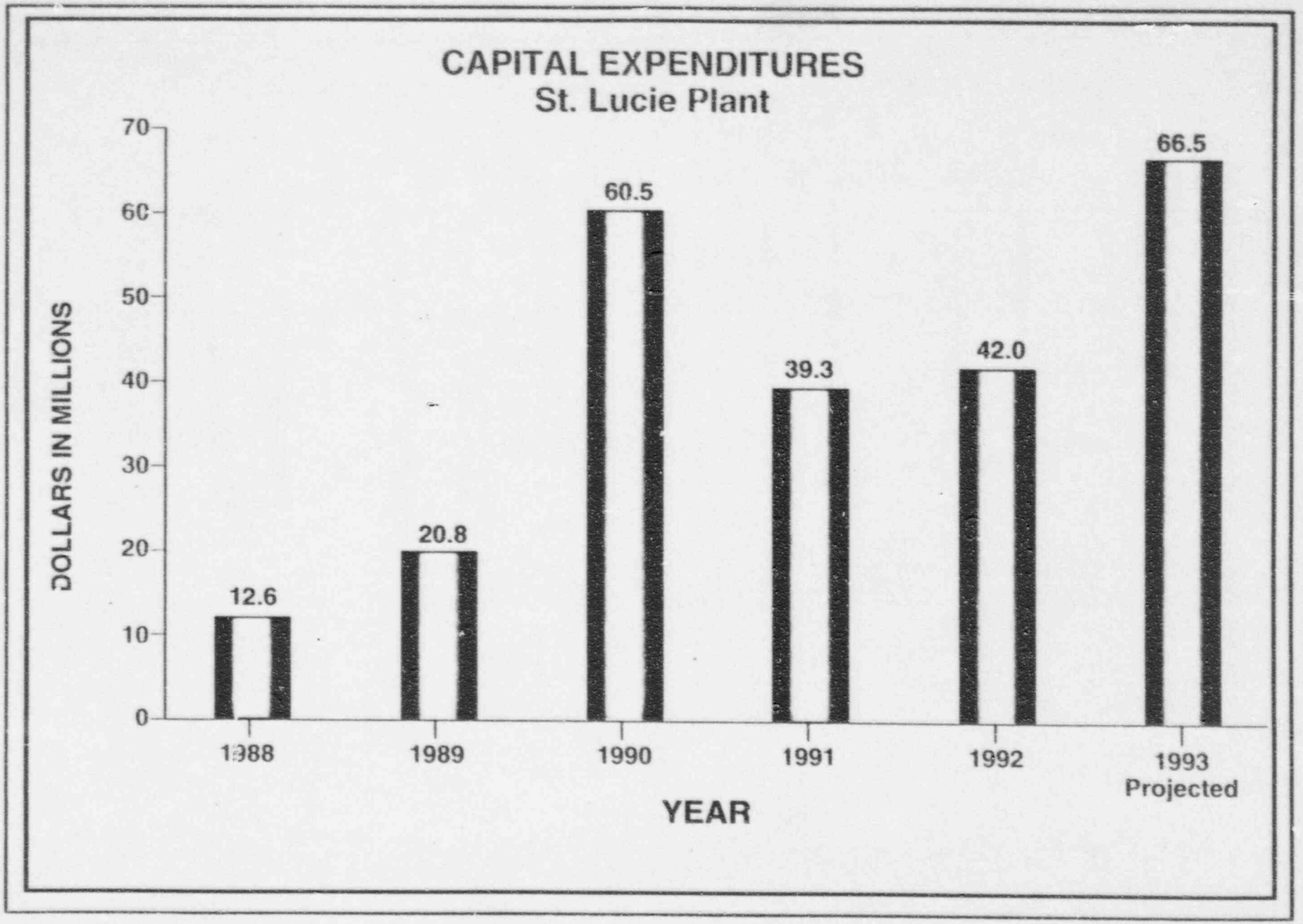






(PRES930142-REV 5P 3/17/93)

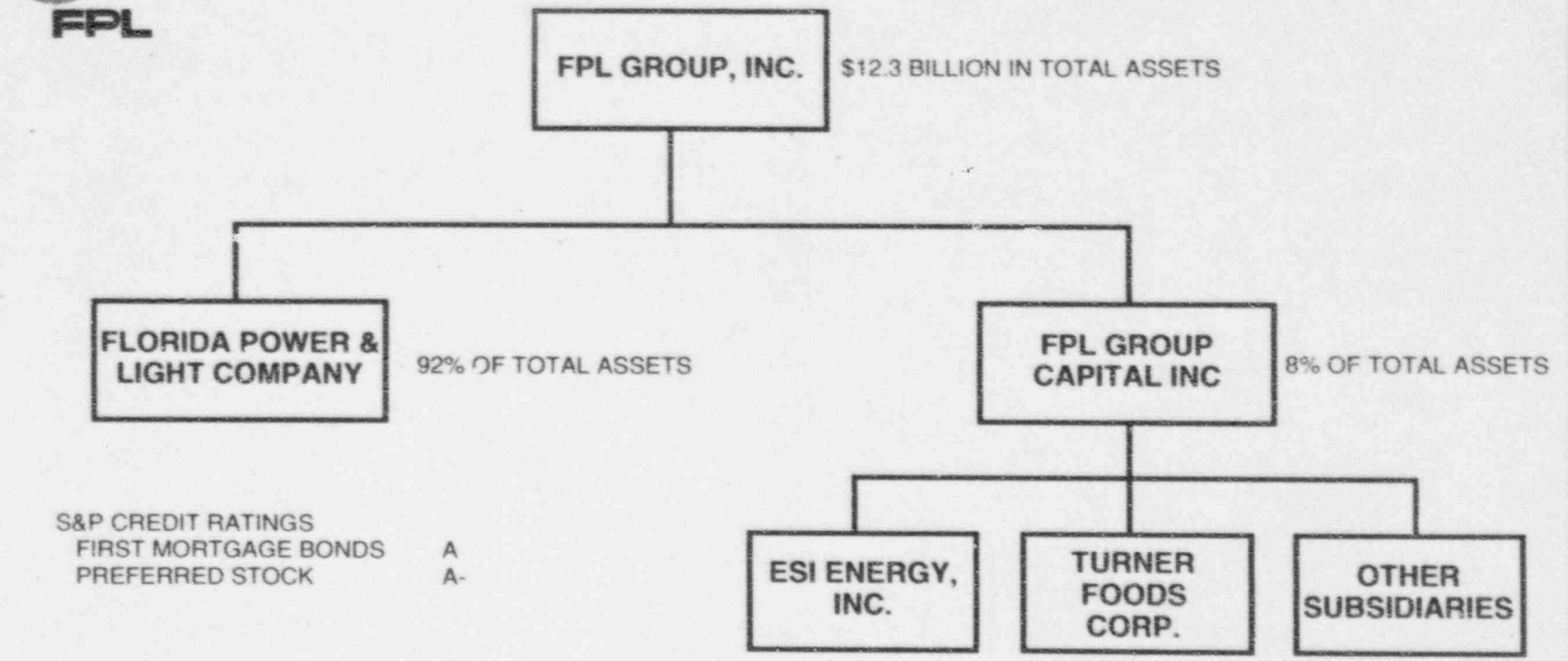




FINANCIAL REVIEW OF FPL

Paul J. Evanson

CORPORATE PROFILE



S&P CREDIT RATINGS

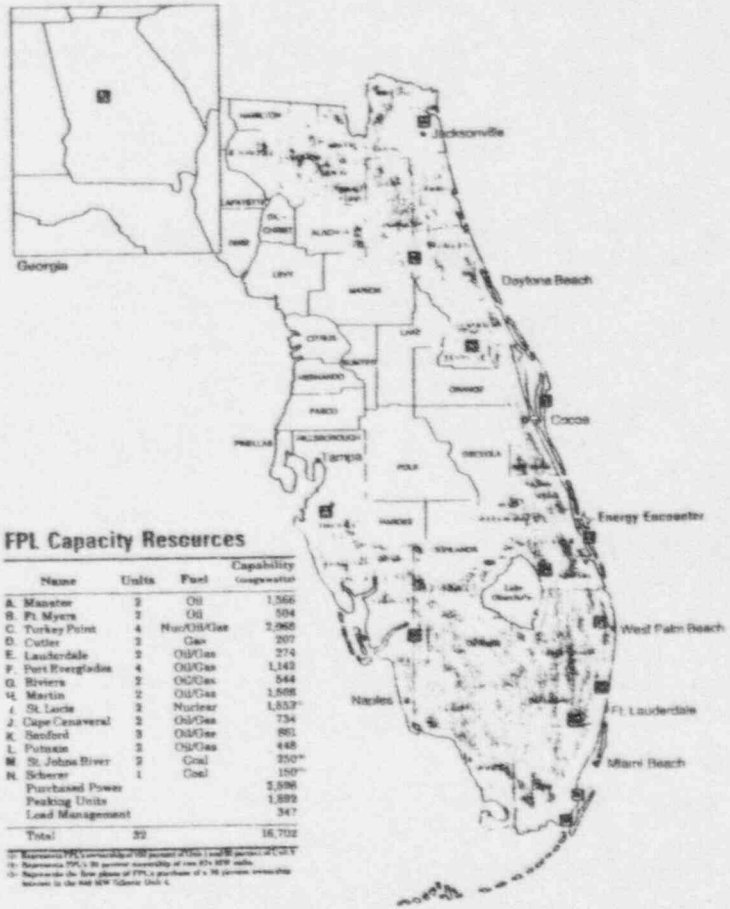
FIRST MORTGAGE BONDS	A
PREFERRED STOCK	A-

(PRES930142-REV 5P 3/17/93)

CORPORATE PROFILE

FPL

3,315,995	customer accounts
27,650	sq. miles of service territory
14,000	employees
16,282	mw of system capability
2,885	mw Nuclear
14,661	mw all time record peak



FPL Capacity Resources

Name	Units	Fuel	Capability (megawatts)
A. Manatee	2	Oil	1,566
B. Ft. Myers	2	Oil	504
C. Turkey Point	4	Nuc/Oil/Gas	2,968
D. Cutler	3	Gas	207
E. Lauderdale	2	Oil/Gas	274
F. Port Everglades	4	Oil/Gas	1,143
G. Riviera	2	Oil/Gas	544
H. Martin	2	Oil/Gas	1,508
I. St. Lucie	2	Nuclear	1,853*
J. Cape Canaveral	2	Oil/Gas	734
K. Sanford	3	Oil/Gas	861
L. Putnam	2	Oil/Gas	448
M. St. Johns River	2	Coal	250**
N. Scherer	1	Coal	150**
Purchased Power			3,598
Peaking Units			1,889
Load Management			347
Total	32		16,702

* Represents FPL's ownership of 700 percent of Unit 1 and 85 percent of Unit 2.
** Represents FPL's 76 percent ownership of two 475+ MW units.
*** Represents the base phase of FPL's purchase of a 76 percent ownership interest in the 848 MW Scherer Unit 4.

(PRES/93014)-REV 4P 3/16/93)

MILESTONES

- National Energy Policy Act
- FPL Group restructuring (1989 - 1991)

FPL RESTRUCTURING

- Reduced management layers and bureaucracy:
  - eliminated 2,300 positions
  - eliminated 4,300 procedures
  - empowered employees
- Negotiated changes in union work rules

NON-UTILITY RESTRUCTURING

- Sold Colonial Penn: August 1991
- Sold two Qualtec divisions: June 1991
- Telesat:
  - several sales agreements pending
  - represents majority of subscribers

1992 FINANCIAL PERFORMANCE

- Record net income: $467 million
  - flat energy sales
  - lower revenues
  - $70 million reduction in O&M
- Earnings per share: $2.65
- Regulatory ROE (FPL):
  - actual: 12.4%
  - allowed: 12.8%

(PRES90142-REV 5P 3/17/93)

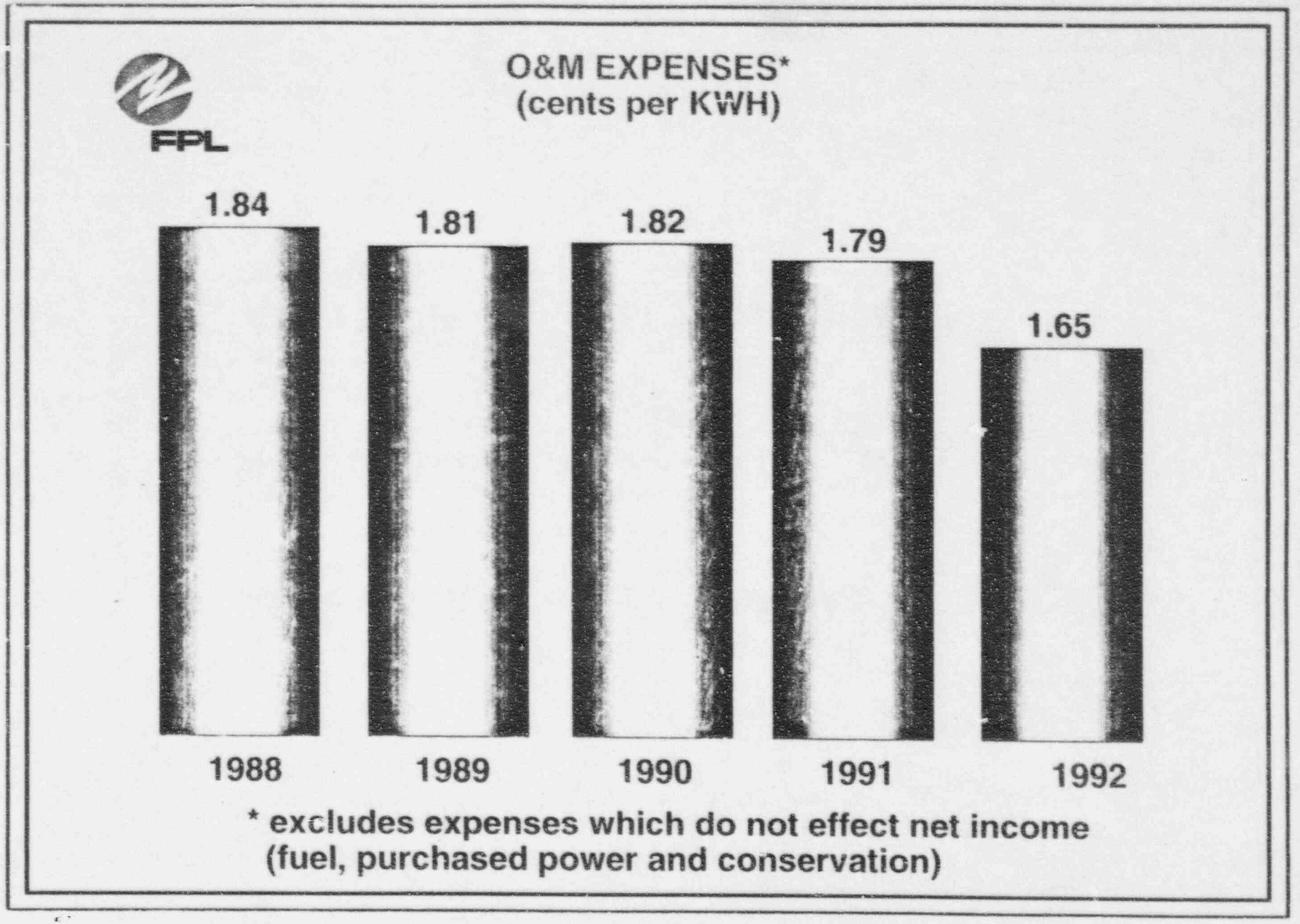
EARNINGS RECONCILIATION

1991 Earnings per Share: (excluding charges)	$2.65
1992 Factors:	
● lower O&M	.27
● customer growth	.17
● weather / usage	(.16)
● Increase in shares	(.17)
● Other	(.11)
1992 Earnings per Share:	$2.65

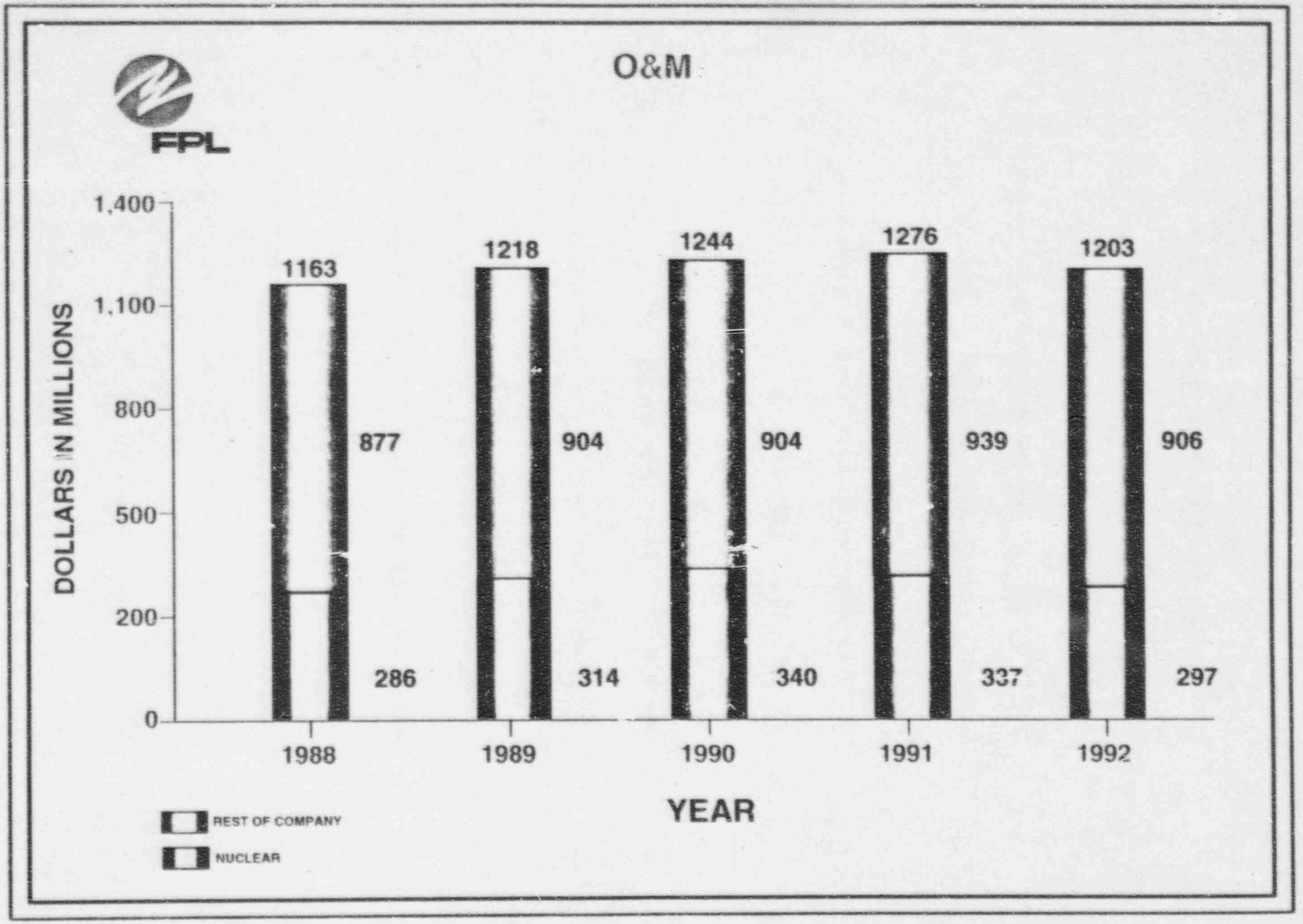
(PRES/930142-REV SP 9/17/93)

HURRICANE ANDREW

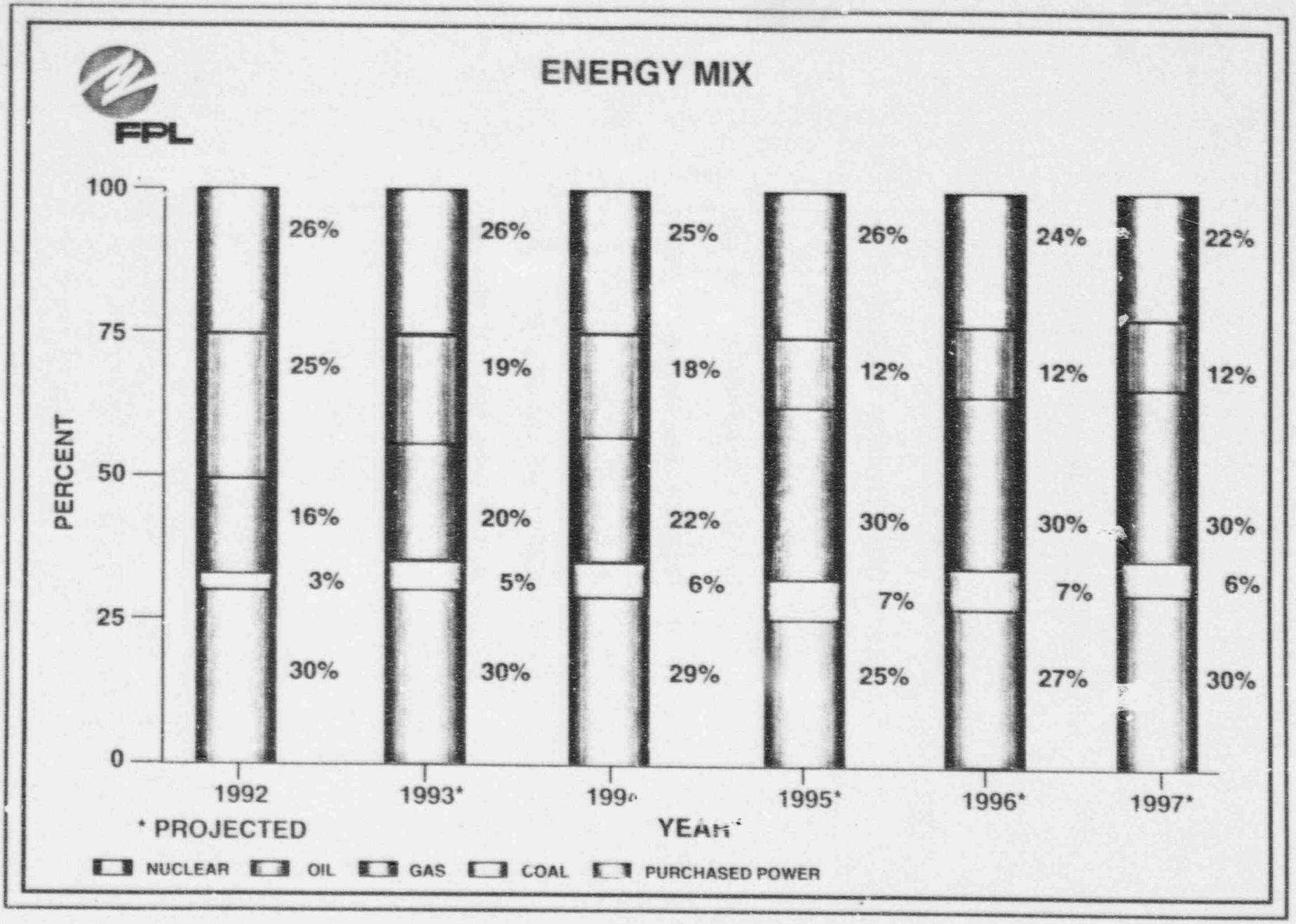
- Affected third quarter results
- No significant impact in future
- May result in higher insurance premiums



(PRES/93014)-REV SP 3/17/93



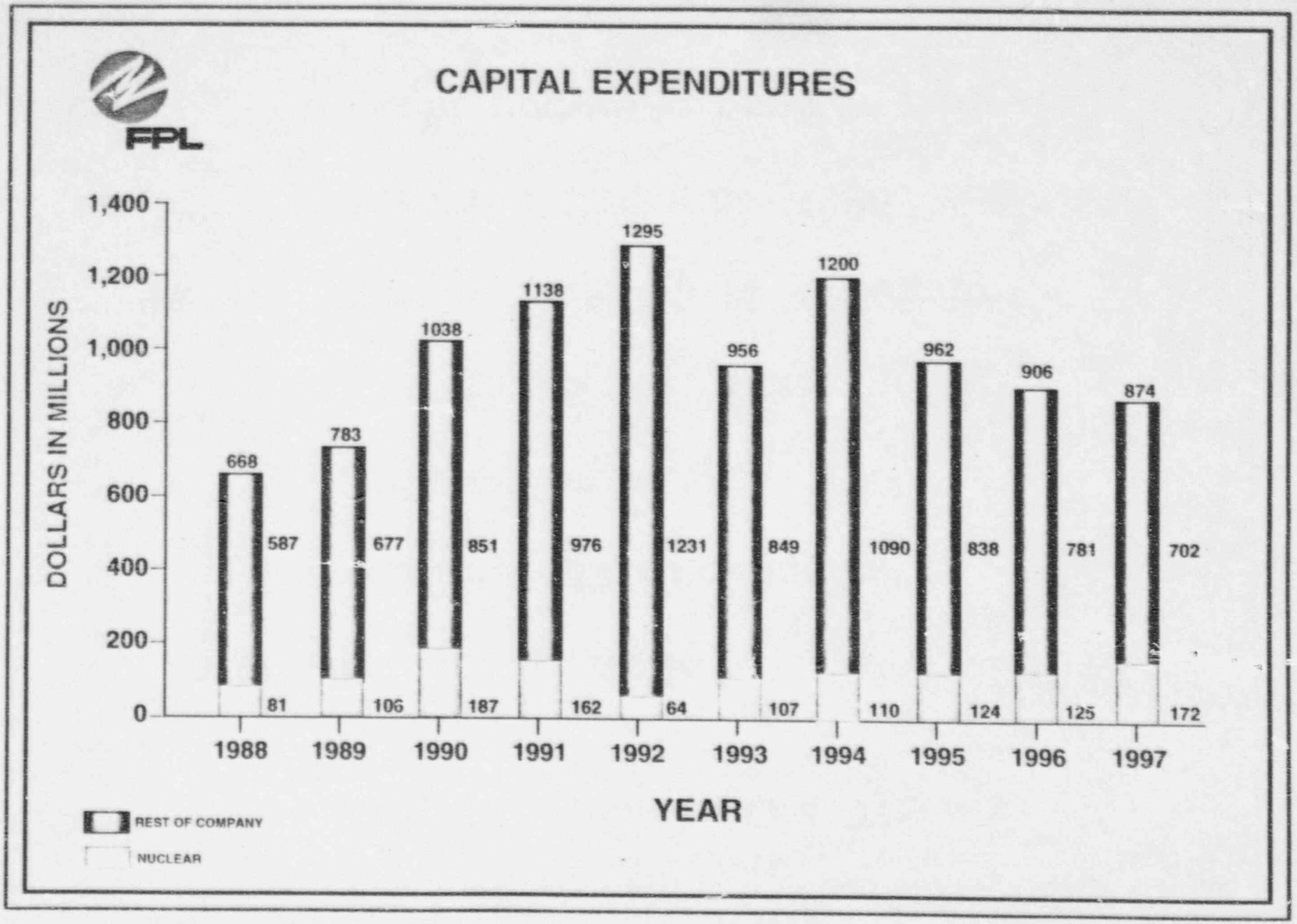
(PRES/930142-REV 5P 3/17/93)



(PRES/930142-REV 5P 3-17/93)

CONSTRUCTION PROJECTS

- Lauderdale repowering
  - adds 572 MW of capacity
  - $460 million budget
  - in service Spring 1993
- Martin Units 3 and 4 (416 MW each)
  - in service December 1993 / May 1994
  - will be under $660 million budget



(PRES930142-REV 5P 3/17/93)

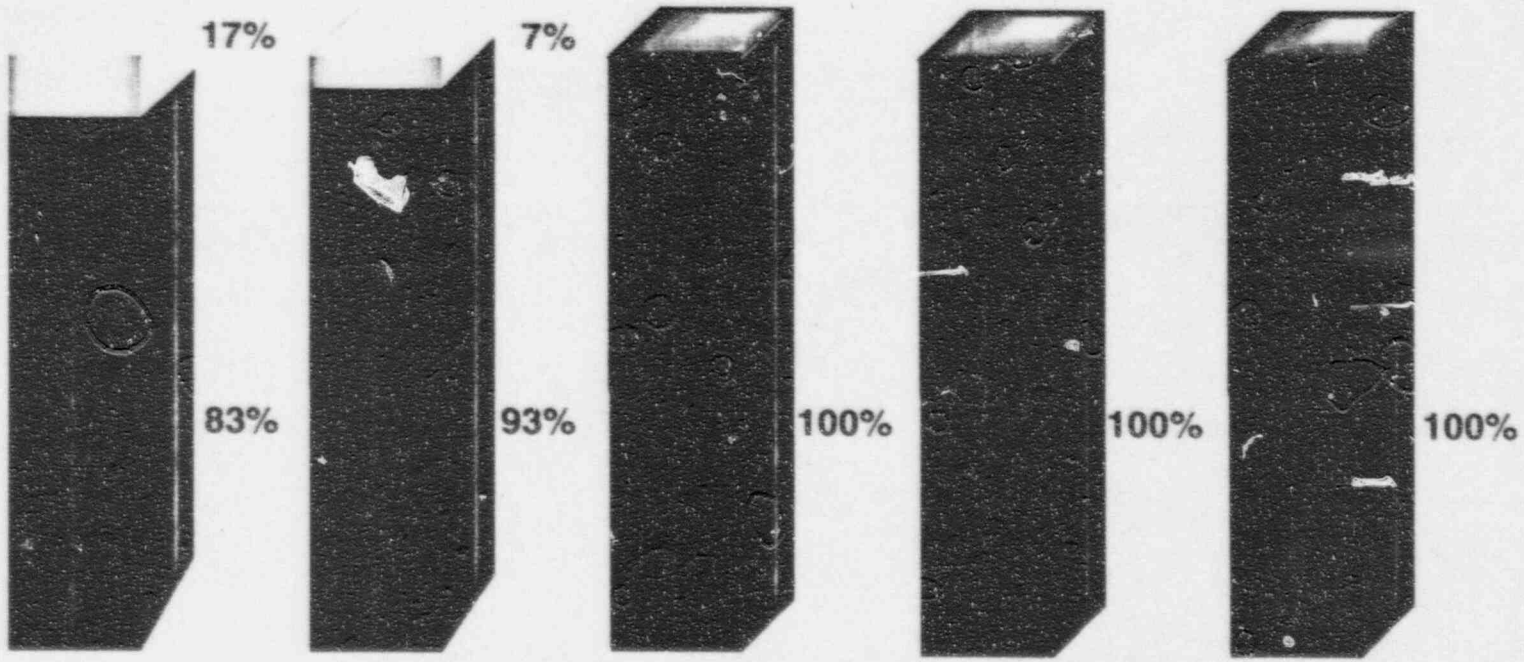
FLORIDA POWER & LIGHT COMPANY
1993 CAPITAL EXPENDITURES

- Budget: $1.2 billion

- $230 million less than prior forecast
  - permanent decreases
  - deferral of expenditures

Internally Generated Funds

(% of capital expenditures)



(PRES93014z.REV 5P 3/17/93)

FPL GROUP
1993 FINANCING PLANS

- **Common stock: up to 8 million shares**
- **Debt: $200 million (new money)**

ANNUAL GROWTH IN CUSTOMERS AND SALES 1993 - 97

Customer accounts	2.7%
Sales	3.0%

FPL GROUP
1993 OUTLOOK

- Potential for higher costs:
  - customer growth
  - O&M, depreciation
  - additional nuclear outage
  - FASB 106
  - payroll / benefits
- Sales growth: 5% in 1993
- Increase in shares outstanding
- Clinton Tax Proposals

FPL GROUP
1993 OUTLOOK

Goals

- Earn reasonable return on equity
- Continue aggressive cost control

(PRES/930142-REV 5P 3/17/93)

PRESIDENT CLINTON'S PROPOSED BTU TAX
(IF EFFECTIVE 1/1/92)

FPL

	INCREASED FUEL COSTS (In Millions)	PERCENT
NUCLEAR	$55	44%
OIL	$111	25%
NATURAL GAS	$33	11%
COAL (OWNED & PURCHASED)	$31	7%
TOTAL COSTS	**$230**	**13%**

LONG-TERM CONSIDERATIONS

J.H. Goldberg

LONG-TERM CONSIDERATIONS

- Steam Generator Replacement (Unit 1) Norman Knutson 5/6
- High Level Waste Issue
- Environmental Issues
- Outage Management
- Implementation of Maintenance Rule
- O&M Cost Control
- License Renewal / Decommissioning

ST. LUCIE UNIT 1
STEAM GENERATOR REPLACEMENT PROJECT

Morrison Knudsen Canada - constructing 5/6

- **Major Milestones**
  - **Ordered Steam Generators - 6/92**
  - **Selected Implementation Contractor - 11/92**
  - **Complete Engineering - 4/95**
  - **Commence Onsite Contractor Staffing - 11/95**
  - **Receive New Steam Generators - 11/96**
  - **Commence Steam Generator Replacement - 11/97**
  - **Restart Unit - 3/98**
- **Estimated Cost: Approximately $205 Million**

HIGH LEVEL WASTE ISSUE

- **Alternate Means of Storing Spent Fuel Must be In Place by 2001**

SC-2 just to run out of spent fuel space
Indian - dual purpose - dry cask on site storage
U-1 Dual Racking designed
U-2 is not Dual Rack designed
can't move fm U-2 to U-1 - legal interpretation

ENVIRONMENTAL ISSUES

- **County Sewage Treatment Plant**

OUTAGE MANAGEMENT

- Objective: Steadily Reduce Refueling Outage Durations from Current 63 Day Schedule to ≤ 50 Days by 1996.

- Actions:

  - Visit Industry Best Performers; Replicate Appropriate Good Practices

  - Review Outage Activities to Determine which Activities can be Performed During Non-Outage Periods

  - Identify Improvement Opportunities Through Post-Outage Critiques

IMPLEMENTATION OF MAINTENANCE RU[illegible]

- Program Required to be In Place by July, 1996
- FPL Involved with NUMARC on Developing Implementation Guidelines
- Workshops Scheduled in June, 1993
- FPL Expects to have Program Consistent with Requirements in Place by July, 1995

O&M COST CONTROL

- **Objective:** To Control O&M Costs such that FPL is in Top Quartile of Low Cost Industry Benchmark Group by 1995.

(In Millions)	1988	1989	1990	1991	1992	1993	1994	1995
Industry Benchmark Group Top Quartile	177.9	217.9	236.6	278.2	285*	292*	310*	329*
FPL's Nuclear Division	234.1	313	349.4	342.4	295.2	318*	315*	315*

* Forecast

LICENSE RENEWAL / DECOMMISSIONING

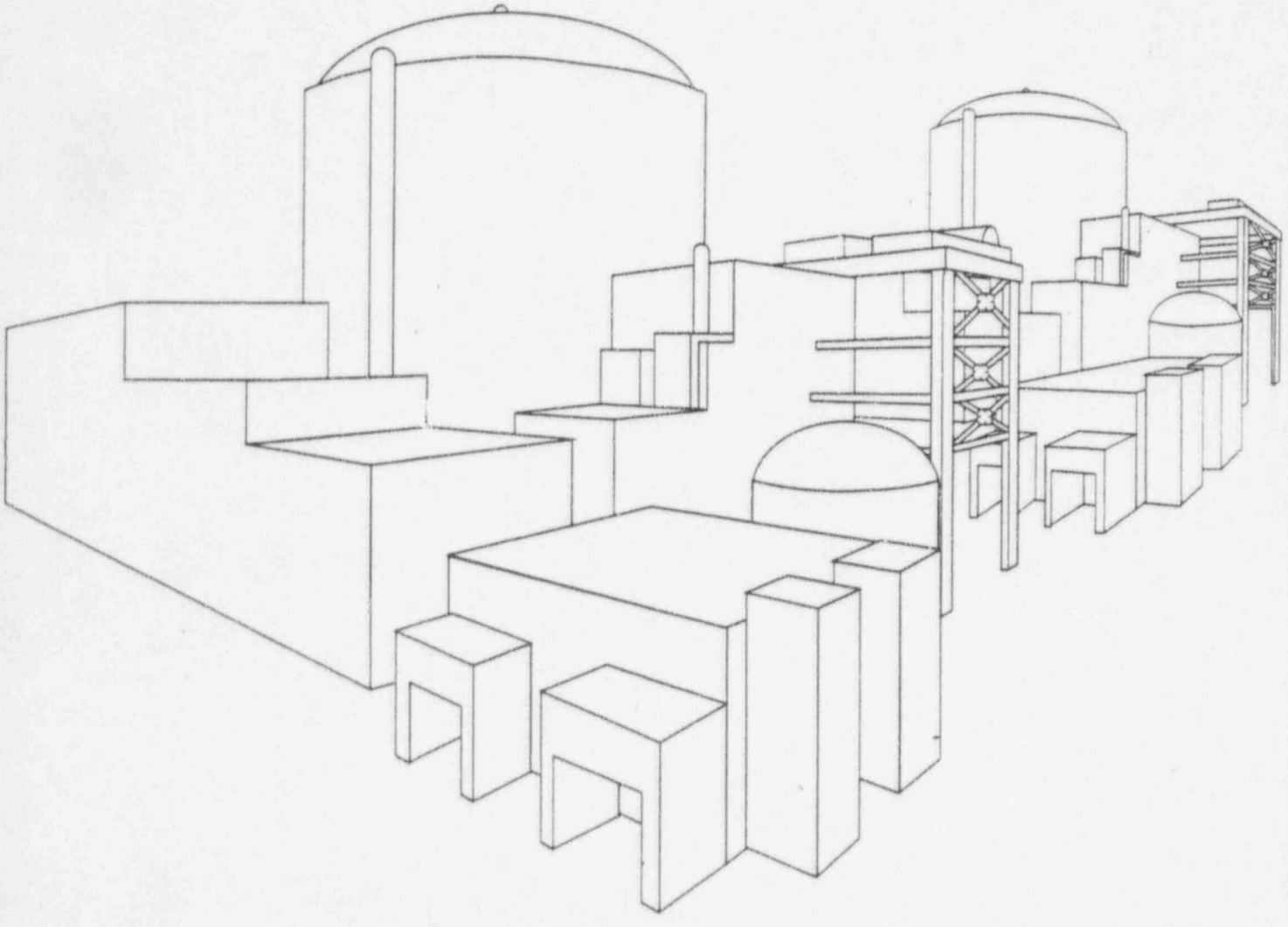
- License Renewal
  - Decision to Extend License will be Based on Comparative Economic Analysis
  - FPL Strongly Supports Integration of Maintenance Rule and License Renewal Rule
- Decommissioning

	St. Lucie	
	Unit 1	Unit 2
License Expiration	3/1/16	4/6/23

  - Florida Public Service Commission Requires Financial Study Every Five Years

ST. LUCIE

Management Review Meeting



1/24/96

mm/2

ST. LUCIE
MANAGEMENT REVIEW MEETING
1/24/96

OPERATING REPORT	J. Scarola

DEPARTMENT REPORTS

OUTAGE MANAGEMENT	A. Pell
OPERATIONS	J. West
MAINTENANCE	J. Marchese
SYSTEMS/COMPONENTS	L. Rogers
ENGINEERING	D. Denver
QUALITY ASSURANCE	W. Bladow
CORRECTIVE ACTION PROGRAM	B. Dawson
NUCLEAR MATERIALS MANAGEMENT	T. Kreinberg
SERVICES	C. Burton
LICENSING	E. Weinkam
HUMAN RESOURCES	A. DeSoiza

OPERATING REPORT

ST. LUCIE UNIT STATUS

December 15, 1995 through January 15, 1996

AVAILABILITY SUMMARY

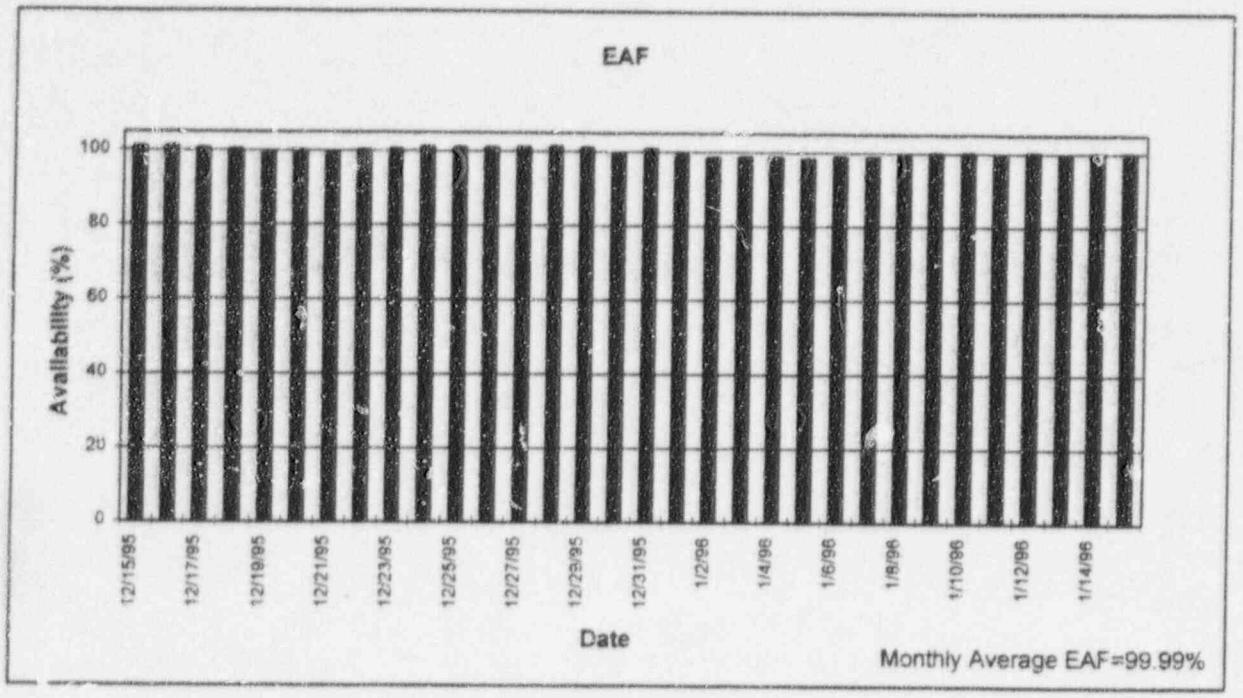
UNIT 1

100% Power 68 Days On-line

UNIT 2

100% Power 17 Days On-line

Unit 1
Daily EAF

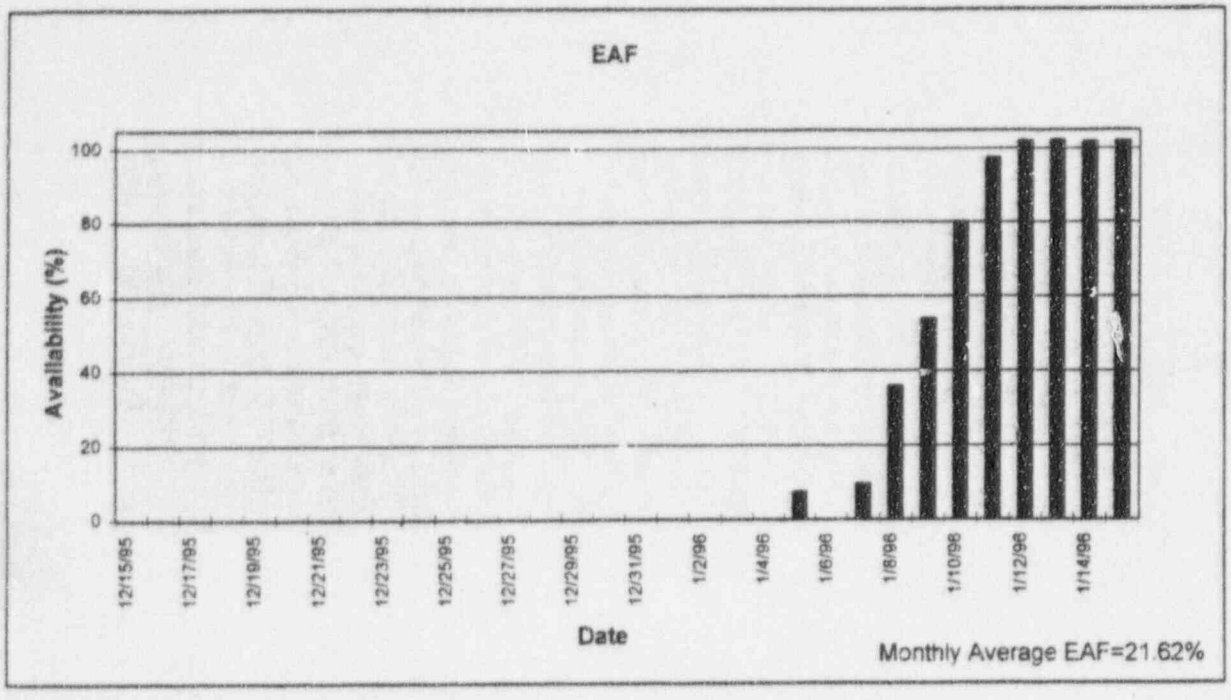


Lost Generation

Date	WMH Loss	Reason

Unit at essentially full power all month. No appreciable lost generation.

Unit 2
Daily EAF

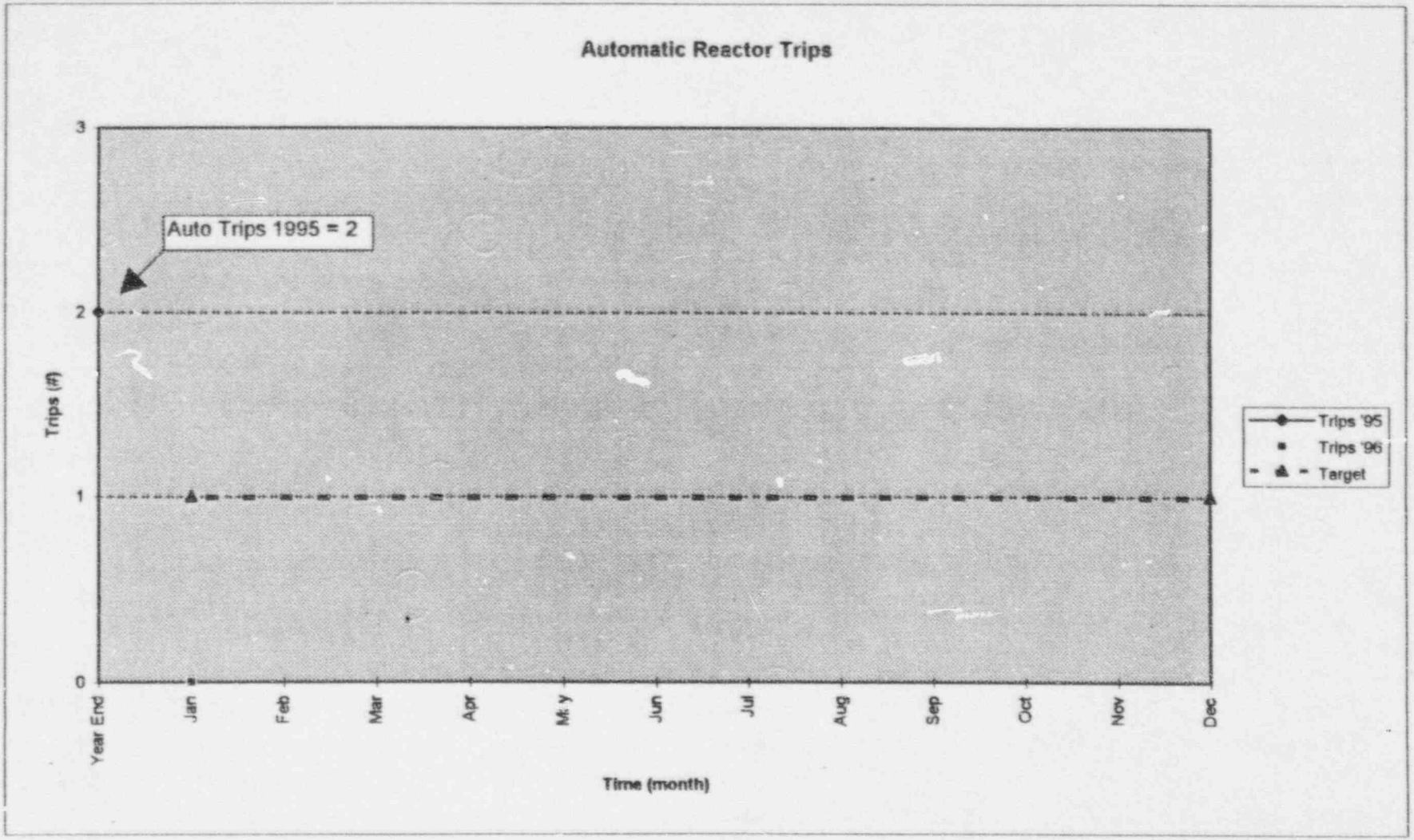


Lost Generation

Date	WMH Loss	Reason
1/5/96	-18670	Power Ascension following refueling
1/6/96	-20136	Main generator hydrogen cooling Steam Generator Level Transmitters
1/7/96	-18217	Power Ascension following refueling
1/8/96	-12927	Power Ascension following refueling
1/9/96	-9275	Power Ascension following refueling
1/10/96	-4017	Power Ascension following refueling
1/11/96	-520	Power Ascension following refueling

AUTOMATIC REACTOR TRIPS

	Year End	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Trips '95	2												
Trips '96		0											
Target		1											1



OUTAGE MANAGEMENT

IMPROVEMENTS/ACTIONS

OUTAGE MANAGEMENT

Major Improvement Areas

Complete Unit 2 Refueling Outage Self-Assessment/Critique and identify additional improvement actions.	February 9, 1996
Establish contingency plans for significant outage activities:	April 23, 1996
• Core Barrel Examination	
• Westinghouse SG Tube Plugs	
• Pressurizer Code Safety Valves	
• Reactor Vessel O-Ring Replacements	
Issue Operations and Maintenance procedure upgrades	March 29, 1996

Improve Outage Management:

• Complete the addition of Schedulers for future outage planning.	February 3, 1996
• Re-establish use of Critical Maintenance Management Process (on-line maintenance).	February 26, 1996
• Institute outage work scope controls for Unit 1 1996 outage.	February 28, 1996
• Assess other plants' OM processes.	April 20, 1996
• Upgrade site-wide scheduling system.	August 30, 1996

ST. LUCIE UNIT 1 REFUELING OUTAGE SCOPE

Refueling Outage Start Date: April 29, 1996
Duration: 54 Days

PRIMARY:

Full Core Offload

10 Year Reactor Vessel and Core Barrel Inspections

Pressurizer Code Safety Valve Replacements

RPS NIS Upgrade

Westinghouse SG Tube Plug Repairs

RWT Tank Bottom Inspection

RCGVS Valve Replacements and Piping Modification

Incore Instrument Assembly Replacements (8)

Thermolag Upgrades

SECONDARY:

HP Turbine Seal Ring Replacement

Condenser Tube Cleaning System and Debris Filter Installation

LEFM Installation

Atmospheric Steam Dump Valves Seat Repair

ST. LUCIE 1996 SPRING REFUELING
PRE-OUTAGE MILESTONES

January 23	Basic Work Scope Identified
January 25	Plant Reorganization Initiated
February 2	Unit 2 Outage Critique Complete
February 16	Project Leads Assignments Fixed
February 26	Manager/Department Head Approval of Outage Work Scope
February 28	Non-Emergent Work Engineering Packages Delivered
	Surveillances, Inspections & Testing Scope Identified
	Resource & Crew Sizes Finalized
	Parts Identified (Original Scope PWOs)
	Work Scope Frozen/Emergent Work Controls Implemented
March 29	Original Scope PWO Planning Complete
	Materials Delivered On Site - Original Scope
	Clearance Requests Submitted to OPS - Original Scope
	Outage Procedure Revisions Reviewed by FRG
	Original Scope Activities Submitted/Schedule Freeze
April 29	Unit 1 Outage Begins

OPERATIONS

IMPROVEMENTS/ACTIONS

OPERATIONS

Major Improvement Areas

Reduce the Number of Operator Work Arounds:

- Reduce the number of OWAs that existed on August 1, 1995, to less than 42 by December 31, 1995

  Status: Complete. Number was reduced to 40.

- Establish and implement criteria to distinguish OWAs from Operator inconveniences.

  Status: Complete. All existing OWAs were reviewed against the definition of and OWA and 45 were identified as true OWAs. Operator inconveniences are also tracked and worked on a priority basis.

- Reduce the number of Operator Work Arounds to less than 15 by December 31, 1996.

  Status: OWA work down curve has been established for 1996.

Improve Operator Log Keeping:

- Improve the content and consistency in the Operator Chronological Log.

  Status:
  - RCO Chronological Log was computerized with access to this log by site management available by remote access.
  - Expectations in content and consistency of log was communicated and reinforced by Operations Manager.
  - Site Management reviews log on a routine basis.

IMPROVEMENTS/ACTIONS

OPERATIONS
(continued)

Major Improvement Areas

Improve Operator Log Keeping: (continued)

- Improve administration of routine operator log keeping.

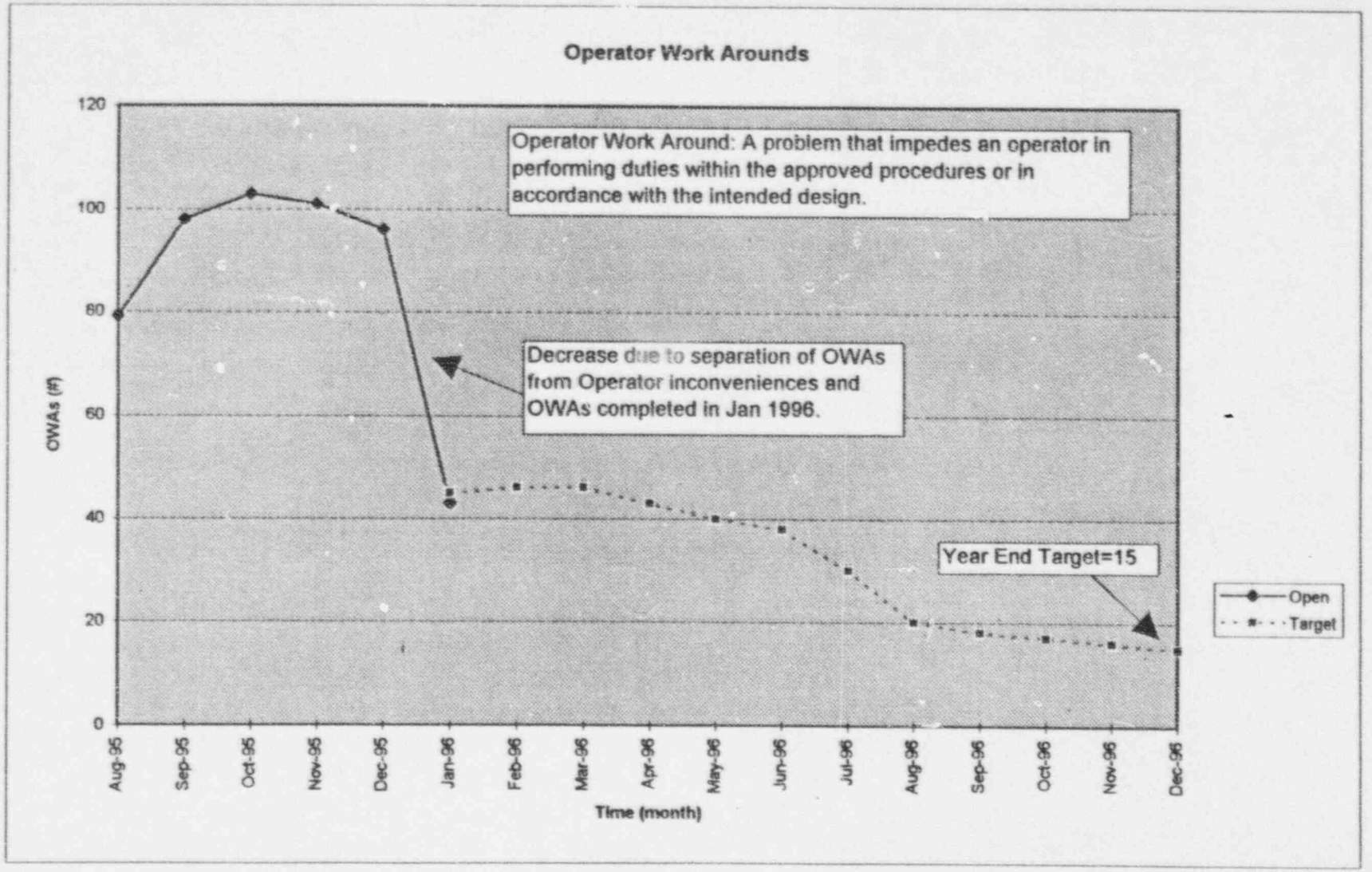
  Status:
  - Review of routine administrative operator logs is now conducted on a periodic basis by shift supervision and the Shift Technical Advisor.
  - Heighten expectations have been given to shift supervision on attention to detail in operator logs.
  - Operations management conducts reviews of operator logs and communicates expectations based on deficiencies.
  - All operator administrative logs are under review to ensure they are necessary and to strengthen logs where required. Due: February 28, 1996.

Improve Operating Procedures to ensure technical accuracy and ensure they can support operation under verbatim procedural compliance:

Status:
- Procedures for upgrade process have been identified based on their criticality to plant operations and frequency of use.
- Schedule has been developed in two phases for completion of project.
- Phase I of project (16 procedures) due: May 1, 1996
- Phase II of project due: March 17, 1997

Operator Work Arounds

Month	Aug-95	Sep-95	Oct-95	Nov-95	Dec-95	Jan-96	Feb-96	Mar-96	Apr-96	May-96	Jun-96	Jul-96	Aug-96	Sep-96	Oct-96	Nov-96	Dec-96
Open	79	98	103	101	96	43											
Target						45	46	46	43	40	38	30	20	18	17	16	15



ST. LUCIE NUCLEAR PLANT
OPERATOR WORKAROUNDS - EVALUATIONS

STATUS UPDATE: 22 JAN 1996

Testing was delayed by plant conditions.
Testing is complete.
Interim procedure change implemented.
PCM working.

Sensitive System
Evaluation delayed to work Off-Line
Will be rescheduled for Unit 1 outage.

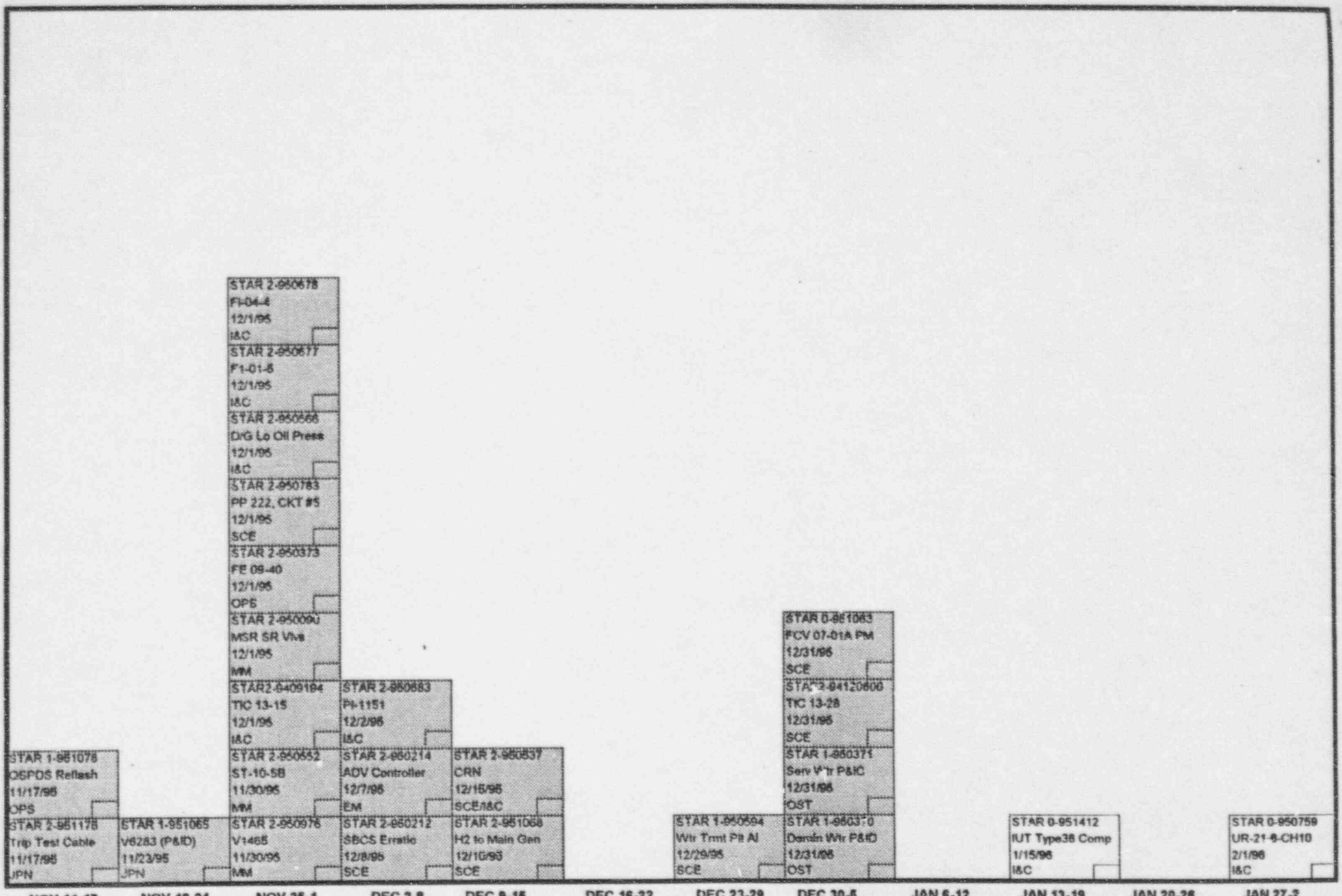
NOV 11-17	NOV 18-24	NOV 25-1	DEC 2-8	DEC 9-15	DEC 16-22	DEC 23-29	DEC 30-5	JAN 6-12	JAN 13-19	JAN 20-26	JAN 27-2
STAR 0-950549 FS 44-1A,B,C 11/17/95 SCE	STAR 2-94100245 AC Cable Spd Rm 11/20/95 JPN	STAR0-94110473 Pull to Lock 11/25/05 JPN	STAR 2-950435 SBCS (Auto) 12/8/95 SCE	STAR 2-951339 Cntl Rm Noise 12/9/95 SCE	STAR 1-951265 PCV 12-50 12/22/95 JPN		STAR 1-951413 DEH Auto Sync 12/31/95 EM	STAR 0-950998 LCV-15-6 1/12/96 SCE	STAR 2-950210 HVS-1D no alrm 1-13-96 JPN		STAR 1-951884 Pp starts-vltg spk 1/31/96 JPN
	STAR 2-951004 PS-09-9A1 11/20/95 JPN	STAR 2-950344 Tave/Tref Ctl 11/30/95 JPN	STAR 2-950167 SR 14350 Lifted 12/8/95 JPN	STAR 2-951435 Swap AuxFrm SU 12/15/95 JPN			STAR1-940086 HVA-3A/ACC-3A 12/31/95 JPN				STAR 2-951799 D/G pyrometers 1/31/96 JPN
	STAR 2-951177 2A Laundry Dr Tk 11/20/95 JPN	STAR 2-951273 Reach Rod/V2813 11/30/95 JPN		STAR 2-950926 2A MFW Aux Pp 12/15/95 SCE			STAR 2-950712 2B D/G Fuel Tk 1/1/96 CHEM				
	STAR 2-951008 2A,B,C Cnd Pp Gg 11/20/95 JPN	STAR 0-951006 SB21185,SB21211 12/1/95 JPN		STAR 2-951779 V4111 fuel trans tube 12/15/95 JPN							
	STAR 2-950639 PDIS 12-53 ABC 11/20/95 JPN	STAR 2-950276 GDT Press Drp 12/1/95 SCE									
	STAR 2-950689 FCV 23-3,4,5,6 11/21/95 SCE/OST	STAR 0-951943 1A Main xfrmr 12/195 OST									

ST. LUCIE NUCLEAR PLANT
OPERATOR WORKAROUNDS - EVALUATIONS

WORKAROUNDS NOT SCHEDULED:

STAR 1-951784 CEA ADS indicati I&C ☐	STAR 2-950325 ECCS Pp Air SCE ☐	STAR 0-950579 Pzr Prop Htrs OST ☐
STAR 1-952142 Ebertline SCE ☐	STAR 2-951945 MV21-5A1 pos ind EM ☐	
STAR 1-951889 CST loop seal SCE ☐	STAR 2-950252B Rotate LCV11-24 JPN ☐	
STAR 1-951986 Fire Pp - Annun SCE ☐	STAR 2-950685 ASI Swings 9/11/95 OPS ☐	
STAR 1-952143 Rad Mntr pwr fail SCE ☐		
STAR 1-952221 Gland stm press swings SCE ☐		
☐		

ST. LUCIE NUCLEAR PLANT
OPERATOR WORKAROUNDS - IMPLEMENTATION COMPLETE



OPERATOR WORKAROUNDS - IMPLEMENTATION COMPLETE

WORKAROUNDS NOT SCHEDULED:

STAR 0-951005 SB21165/21211 MM I	STAR 2-951779 V4111 fuel transf tb MM I
STAR 1-951265 PCV 12-50 MM I	

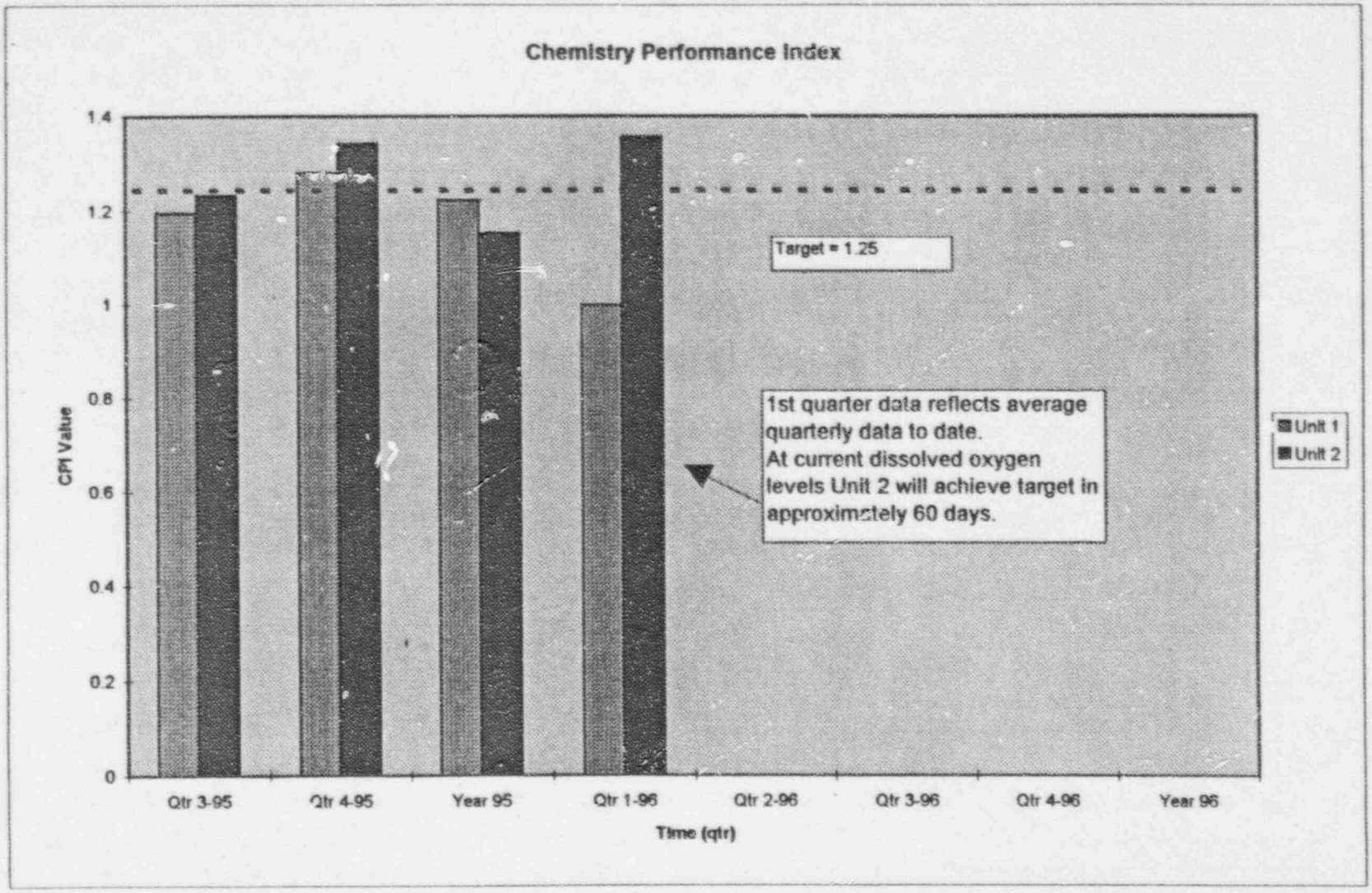
St. Lucie Plant
Procedure Upgrade Project

Procedure Title	Unit	Procedure Status				
		Draft	Operations Subcommittee	Cross Functional Review	FRG	Distribution
Reactor Startup	1	Complete	In Progress			
Reactor Startup	2	Complete	In Progress			
Reactor Shutdown	1	Complete	Complete	In Progress		
Reactor Shutdown	2	Complete	Complete	In Progress		
Reactor Plant Heatup	1	Complete	In Progress			
Reactor Plant Heatup	2	Complete	In Progress			
Reactor Plant Cooldown	1	Complete	In Progress			
Reactor Plant Cooldown	2	Complete	In Progress			
Turbine Startup	1	Complete	In Progress			
Turbine Startup	2	Complete	In Progress			
Turbine Shutdown	1	Complete	In Progress			
Turbine Shutdown	2	Complete	In Progress			
Pre-Start Checkoff	1	Complete	In Progress			
Pre-Start Checkoff	2	Complete	In Progress			
Reactor Operating Guidelines	1	Complete	In Progress			
Rreactor Operating Guidelines	2	Complete	In Progress			

1. Completion Date for Phase I of project is **17 May 1996**.
2. Project highlights:
   - Procedure enhancements for Unit 2 startup
   - Upgrade is being accomplished with in-house resources
3. Competing for resources:
   - Procedure to Departmental Guideline project
   - Procedure 3 year reviews
   - Conversion of large number of temporary changes to procedures
   - Unit 1 procedure enhancements to support Unit 1 outage
   - Procedure support emerging issues

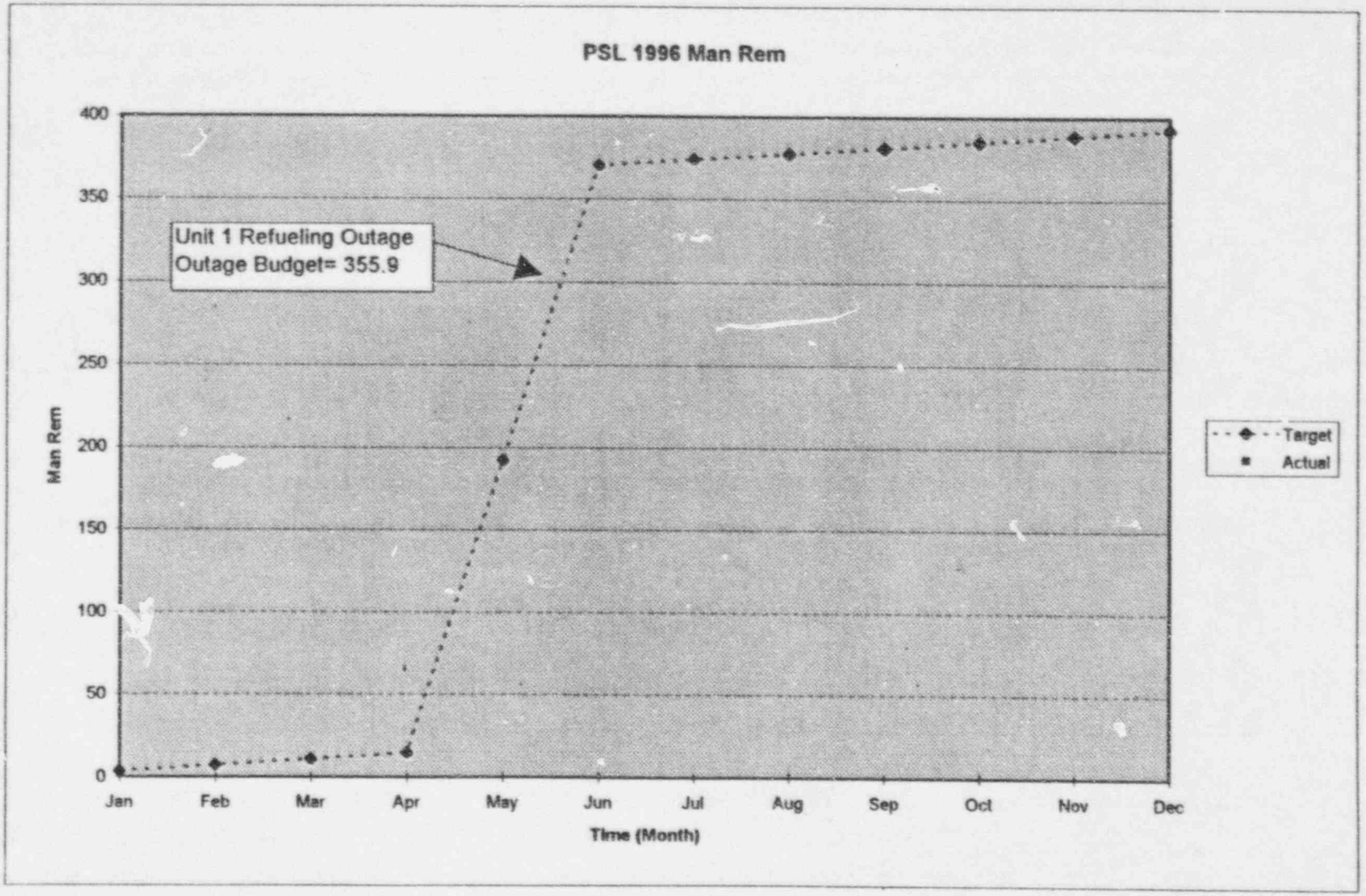
Chemistry Performance Index
St. Lucie Plant
Units 1 and 2

Time	Qtr 3-95	Qtr 4-95	Year 95	Qtr 1-96	Qtr 2-96	Qtr 3-96	Qtr 4-96	Year 96
Unit 1	1.195	1.281	1.223	1.000				
Unit 2	1.233	1.343	1.151	1.356				



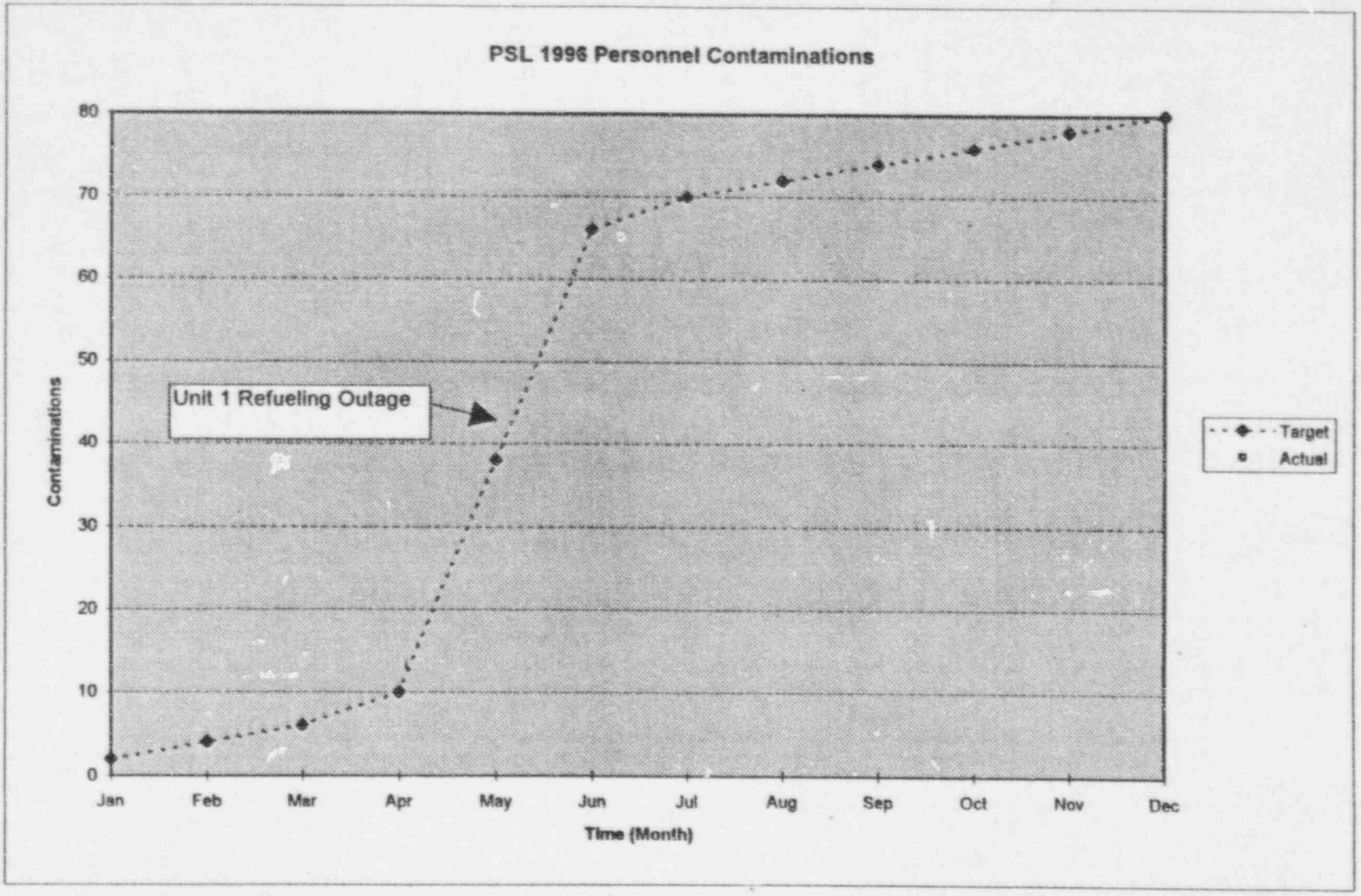
1996 Man Rem Target

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Target	3.67	7.34	11.01	14.68	192.63	370.58	374.25	377.92	381.59	385.26	388.93	392.6
Actual												



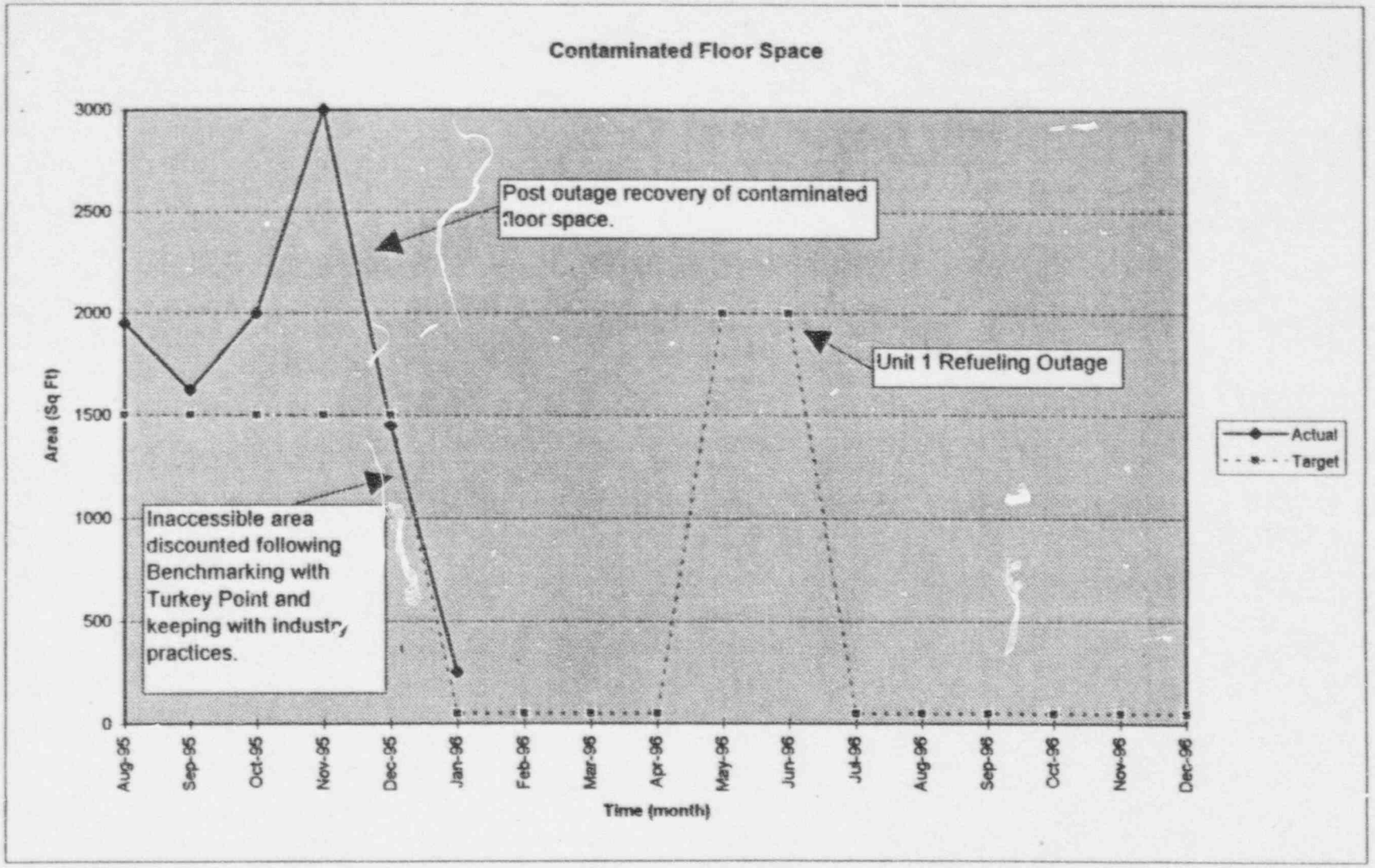
1996 Personnel Contaminations Target

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Target	2	4	6	10	38	66	70	72	74	76	78	80
Actual												



St. Lucie Plant
Contaminated Floor Space

Time	Aug-95	Sep-95	Oct-95	Nov-95	Dec-95	Jan-96	Feb-96	Mar-96	Apr-96	May-96	Jun-96	Jul-96	Aug-96	Sep-96	Oct-96	Nov-96	Dec-96
Actual	1950	1625	2000	3000	1450	250											
Target	1500	1500	1500	1500	1500	50	50	50	50	2000	2000	50	50	50	50	50	50



MAINTENANCE

IMPROVEMENTS/ACTIONS

MAINTENANCE

Major Improvement Areas

Program/Procedures:

- Maintenance Procedure Upgrade Project
- Programs/Procedures Group
- Work Process

Plant Material Condition (Key Performance Indicator):

- PWO Backlog
- Control Room Green Tags (C-Tags)
- Aged PWOs (>12 months - Golden Oldies)
- Leaks (Primary/Secondary)
- Temporary Leak Repairs

Quality of Work:

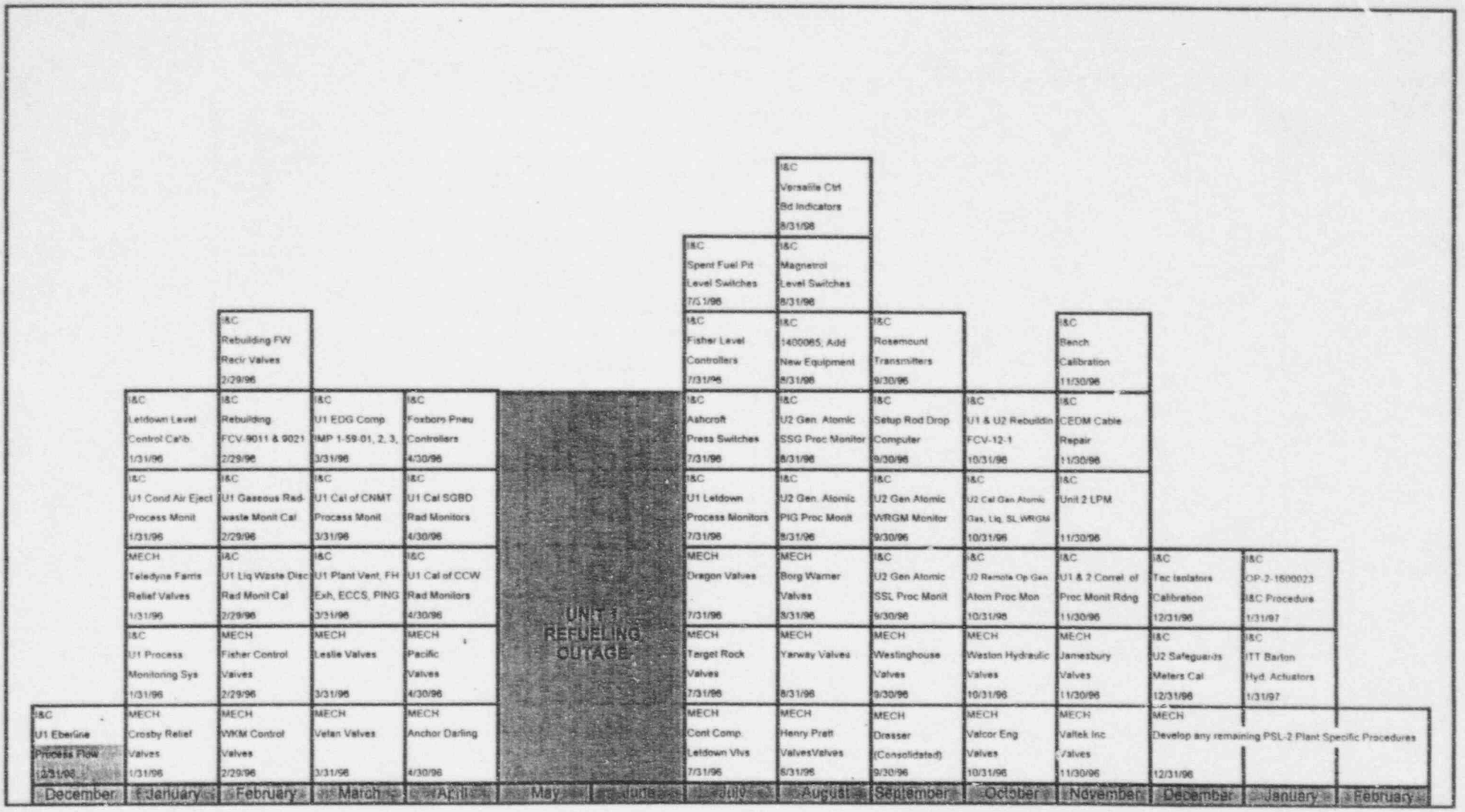
- Rework Indicator
  - PMT
  - STARs for Repetitive Work on Equipment
  - Outage Rework Analysis
- Testing Group Testing and Procedure Revision
- Personnel Performance

Ownership/Accountability:

- Reorganization for Functional Accountability
- Job Coordination Turnover Process
- Conduct of Maintenance

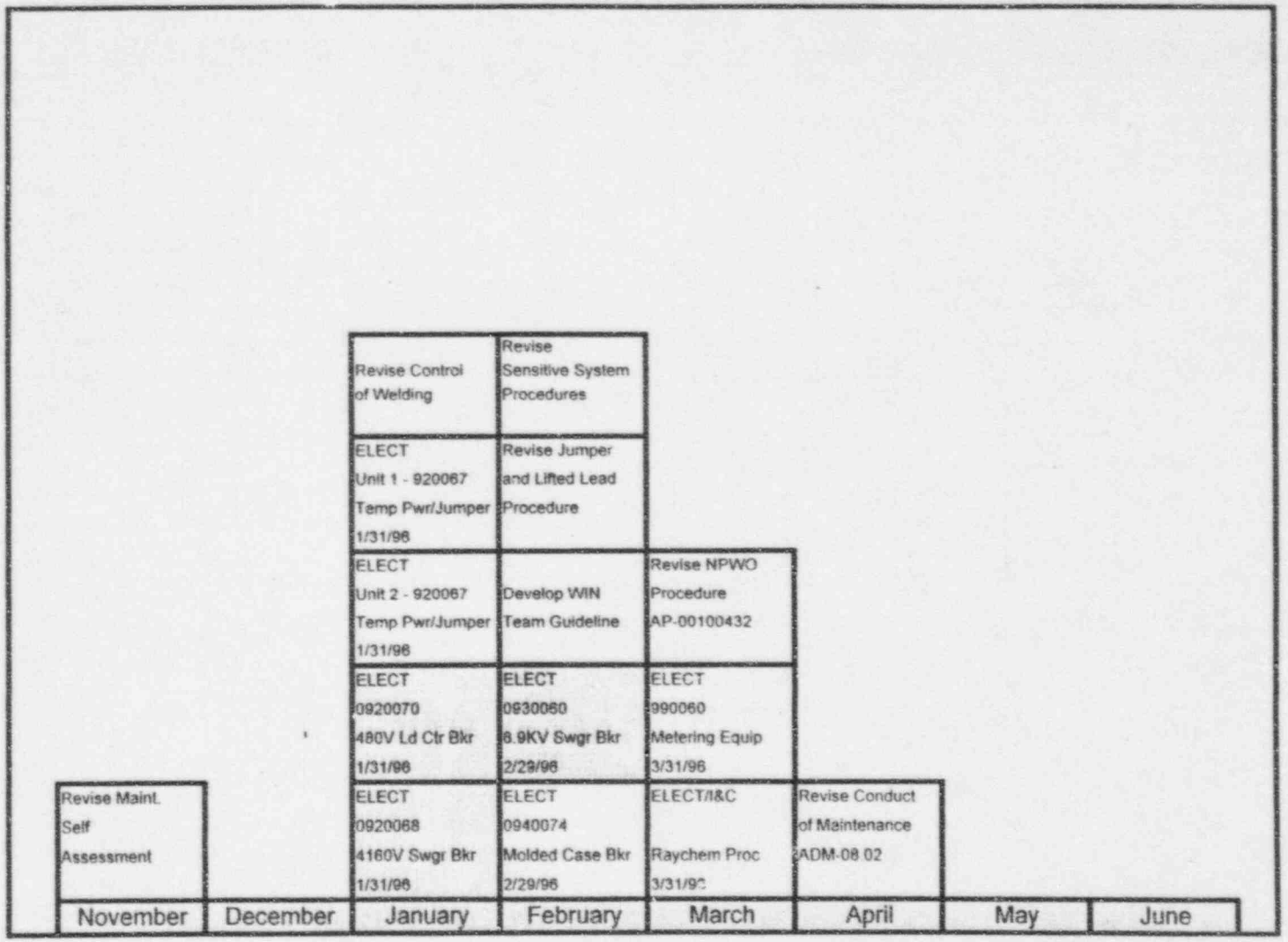
ST. LUCIE PLANT
MAINTENANCE PROCEDURE UPGRADE PROJECT

TASK #1: DEVELOP PROCEDURES/GUIDELINES FOR FREQUENTLY PERFORMED MAINTENANCE ACTIVITIES WHICH CURRENTLY EMPLOY THE USE OF VENDOR TECHNICAL MANUALS



ST. LUCIE PLANT
MAINTENANCE PROCEDURE UPGRADE PROJECT

TASK #2: REVISE AND ENHANCE EXISTING MAINTENANCE PROGRAM AND EQUIPMENT PROCEDUREs KNOWN TO REQUIRE IMPROVEMENTS



ST. LUCIE PLANT

MAINTENANCE PROCEDURE UPGRADE PROJECT

TASK #3: CONVERT NON-SAFETY RELATED PROCEDURES INTO MAINTENANCE GUIDELINES

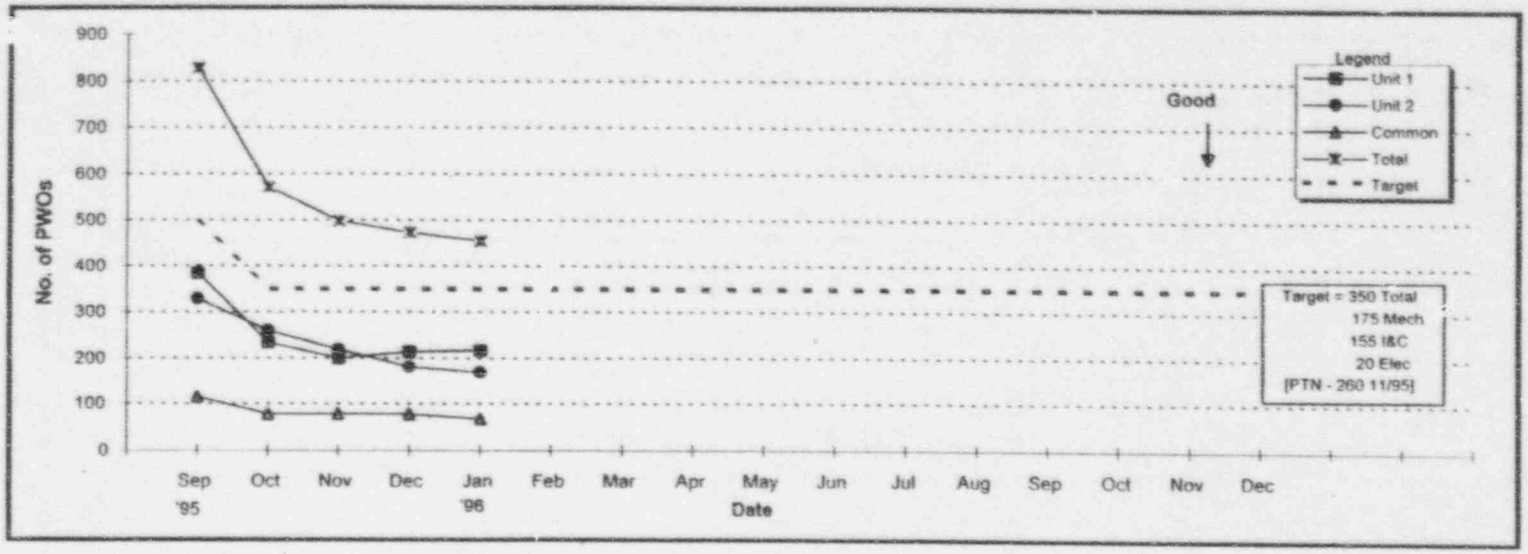
		2-EMG-75.01 PM of Cath Prot EM 2-0610069 1/31/96	EMG-50.02 BOP 125 VDC O 960089 1/31/96				
		EMG-50.03 BOP 125VDC Wk 960088 1/31/96	EMG-50.04 BOP 125VDC Per. MP-0960074 1/31/96				
		Units 1 & 2 Screen Wash Pump MMP-21.02 1/31/96	MFRV Actuator FCV-9011 & 9021 I&C 14000195 1/31/96	Preventive Maint Cathodic Prot E/M 1-0810069 1/31/96		Units 1 & 2 LP Turbine MMP-22.02 2/29/96	
		Units 1 & 2 Service Air Comp MMP-18.02 1/31/96	MFRV Positioner FCV-9011 & 9021 I&C 1400196 1/31/96	MN Gen. Volt. Reg & Exciter SWGR E/M 2100068 1/31/96	Units 1 & 2 MFW Pumps MMP-09.04 2/29/96	Steam Trap Insp Program GMP-11 2/29/96	Portable Elect Cord Program 0950069 2/29/96
TCW Sys Lvl Calibration 1-IMP-13.12 11/30/95	Ext. STM Sys Pressure Cal. 1-IMP-10.14 12/31/95	Reheater Control Calibration 2-IMP-08.03 1/31/96	Unit 1 Condensate Pump Insp. 1-MMP-12.01 1/31/96	MN Generator & Exc. Maint Guide E/M 2100067 1/31/96	Unit 2 Condensate Pump Insp. 2-MMP-12.01 2/29/96	Dis., Insp, Repair o Turb Bypass Vlv 2-MMP-08.02 2/29/96	2D Battery Perf. Test 2-0960076 2/29/96
TCW Sys Flow Calibration 1-IMP-13.11 11/30/95	Aux STM Pres. Calibration 1-IMP-16.14 12/31/95	Main Condenser Tube Sheet M-0922 1/31/96	HDP 1A & 1B Repair 1-MMP-11.01 1/31/96	Generator Cond. Monitor E/M 2100066 1/31/96	Circ. Water Pump Repair 20MMP-21.02 2/29/96	Jerguson Flat Gage Glasses 1-MMP-81.02 2/29/96	BOP 125 VDC Sys Batt. Chg 18 m 2-0960073 2/29/96
TCW Sys Temp Calibration 1-IMP-08.02 11/30/95	Aux STM Temp Calibration 1-IMP-1.13 12/31/95	HP Turbine Inspection M-0110 1/31/96	Dis, Insp, Repair Turb Bypass Vlv 1-MMP-08.02 1/31/96	Generator Shaft Volt & GND Verif E/M 2100065 1/31/96	Inst Air Comp 2A & 2B 2-MMP-18.01 2/29/96	Circ Water Pump Repair 1-MMP-21.01 2/29/96	BOP Batttery 18 Mo. Maint 2-0960070 2/29/96
SBCS Loop Calibration 1-IMP-08.02 11/30/95	Aux STM Level Calibration 1-IMP-16.12 12/31/95	Brushless Exciter M-0063 1/31/96	Jerguson Magnetic Gages MMP-18.01 1/31/96	Generator GND and Testing E/M 2100064 1/31/96	TCW PP 2A & 2B Inspection 2-MMP-13.01 2/29/96	Inst. Air Comp. 1A & 1B 1 MMP-18.01 2/29/96	BOP 125 VDC Sys Batt. Chg 18 mo 1-0960073 2/29/96
SBCS Chkout 1-1400028 11/30/95	Aux STM Flow Calibration 1-IMP-16.11 12/31/95	MFRV Repair FCV-9011, 9021 M-0047 1/31/96	Main Generator Dis, Insp, Repair MMP-53.01 1/31/96	Periodic Maint of Isophase E/M 0950178 1/31/96	HDP 2A & 2B Repair 2-MMP-11.01 2/29/96	TCW PP 1A & 1B Inspection 1-MMP-13.01 2/29/96	BOP Battery 18 Mo Maint 1-090070 2/29/96
November	December	January	January	January	February	February	February

PWO BACKLOG: NON-OUTAGE CORRECTIVE

Joe Marchese - Maintenance

PWO Backlog:

- PWO backlog is PWO's that are non-outage corrective work orders (Work Type 5 status 22-48) on components/equipment in the power block.



Data Source: Passport

SUMMARY STATUS

Discipline	Unit 1	Unit 2	Common	Total
Mechanical	127	89	36	252
Electrical	7	7	5	19
I&C	83	73	27	183
Projects	0	0	0	0
Total	217	169	68	454

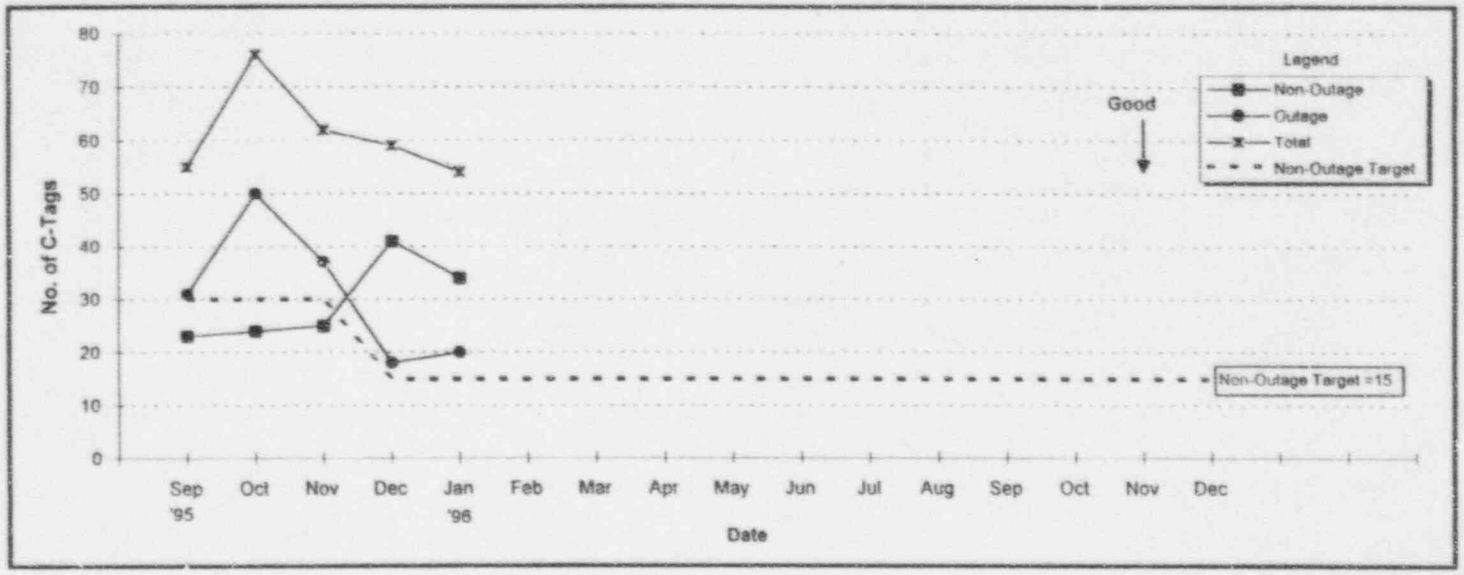
Oldest PWO	2/11/94	1/26/94	8/20/94
Discipline	MM	Engr	MM

CONTROL ROOM DEFICIENCIES (C-TAGS)

Randy Olson - I&C

C-Tags:

- The number of Control Room/Board Green Tags. It provides an indication of the attention given to maintaining control room instruments in an operable condition.



Data: M. Willis

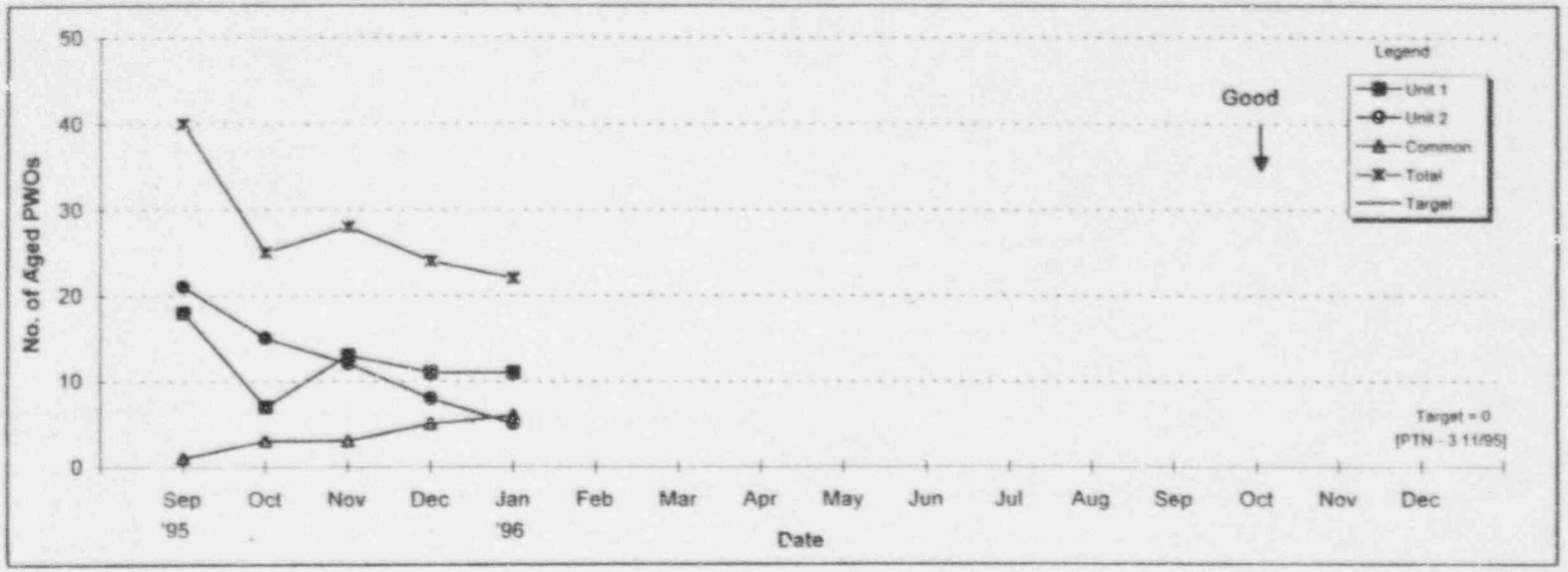
SUMMARY STATUS

	Non-Outage	Outage	Total
Ready to Work or Working	6	5	11
Engineering/RTA	13	5	18
AWP	4	1	5
Outage	11	9	20
Total	34	20	54

Oldest	4/4/95	5/4/94
Discipline	EM (Outage)	I&C

Aged PWOs:

- Non-outage corrective maintenance work type 5 PWOs older than 12 months.



Data Source: Passport

SUMMARY STATUS

	Unit 1	Unit 2	Common	Total
Mechanical	6	3	1	10
Electrical	0	1	0	1
I&C	3	1	5	9
Construction	2	0	0	2
Total	11	5	6	22

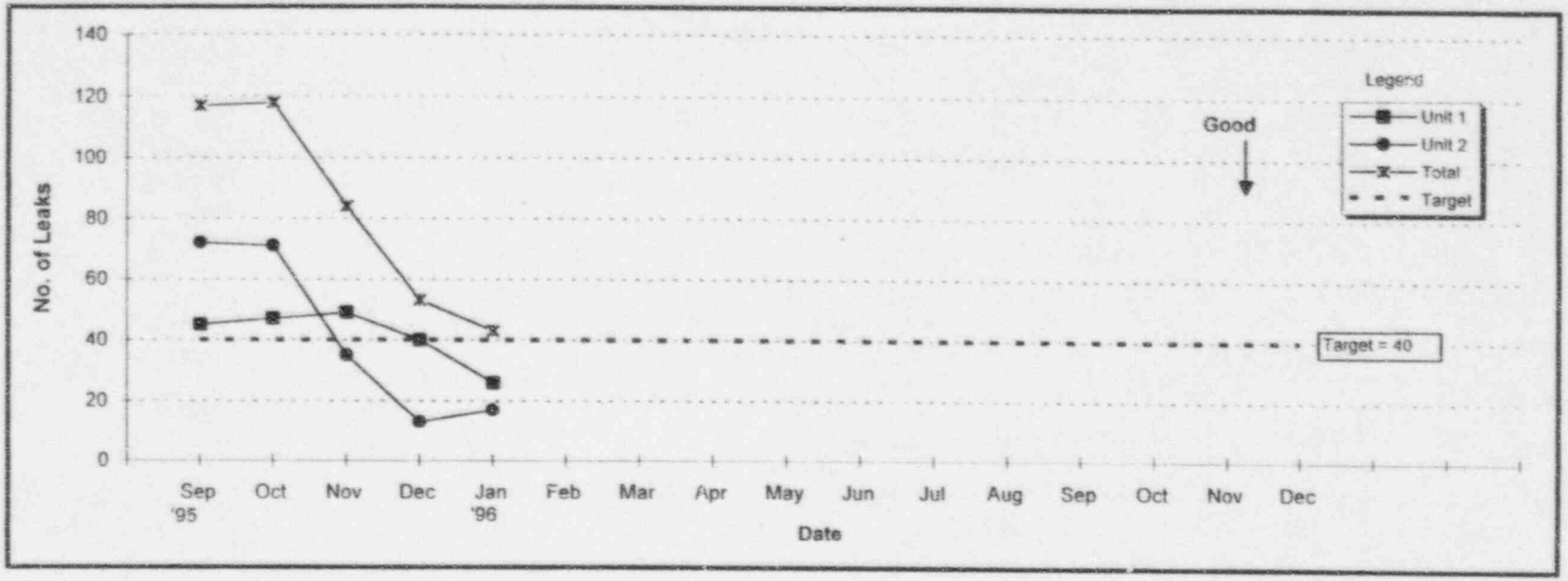
Oldest	2/11/94	11/1/93	8/20/94
Discipline	MM (1/27/96)	CONST	MM (2/12/96)

LEAKS

R. Ball - Mechanical Maintenance

Leaks:

- Active leaks (primary and secondary)



Data Source: Passport

SUMMARY STATUS

	Unit 1	Unit 2	Total
Primary - Outage	16	3	19
Primary - Non-Outage	6	6	12
Secondary	4	8	12
Total	26	17	43

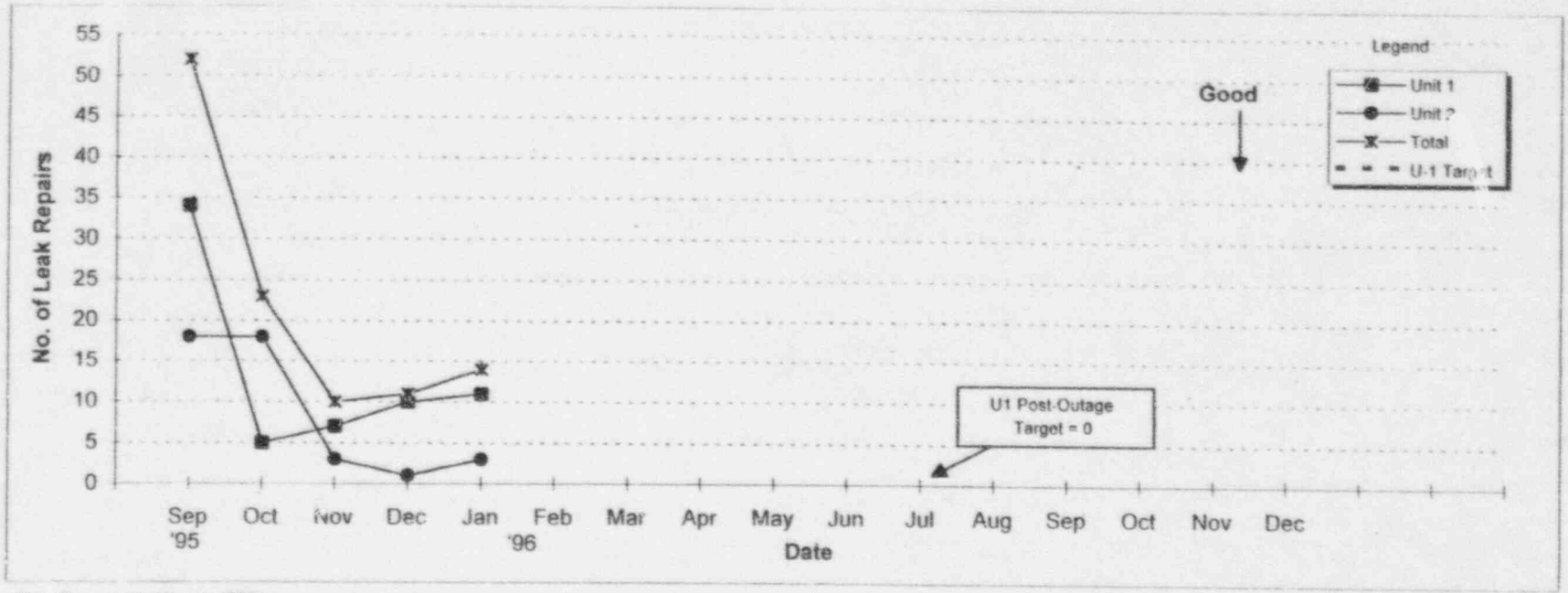
Oldest (Non-Outage)	12/10/94	6/14/95
Status	AWP	AWP

LEAK REPAIRS (FITTINGS)

Greg Pustover - Programs

Leak Repairs:

- Leaks that have been temporarily repaired.



Data Source: Joel Kagan (SCE)

SUMMARY STATUS

	Unit 1	Unit 2	Total
Total	11	3	14

SYSTEMS & COMPONENTS

ENGINEERING

IMPROVEMENTS/ACTIONS

SYSTEMS & COMPONENTS ENGINEERING

Major Improvement Areas

Improve Equipment Reliability:

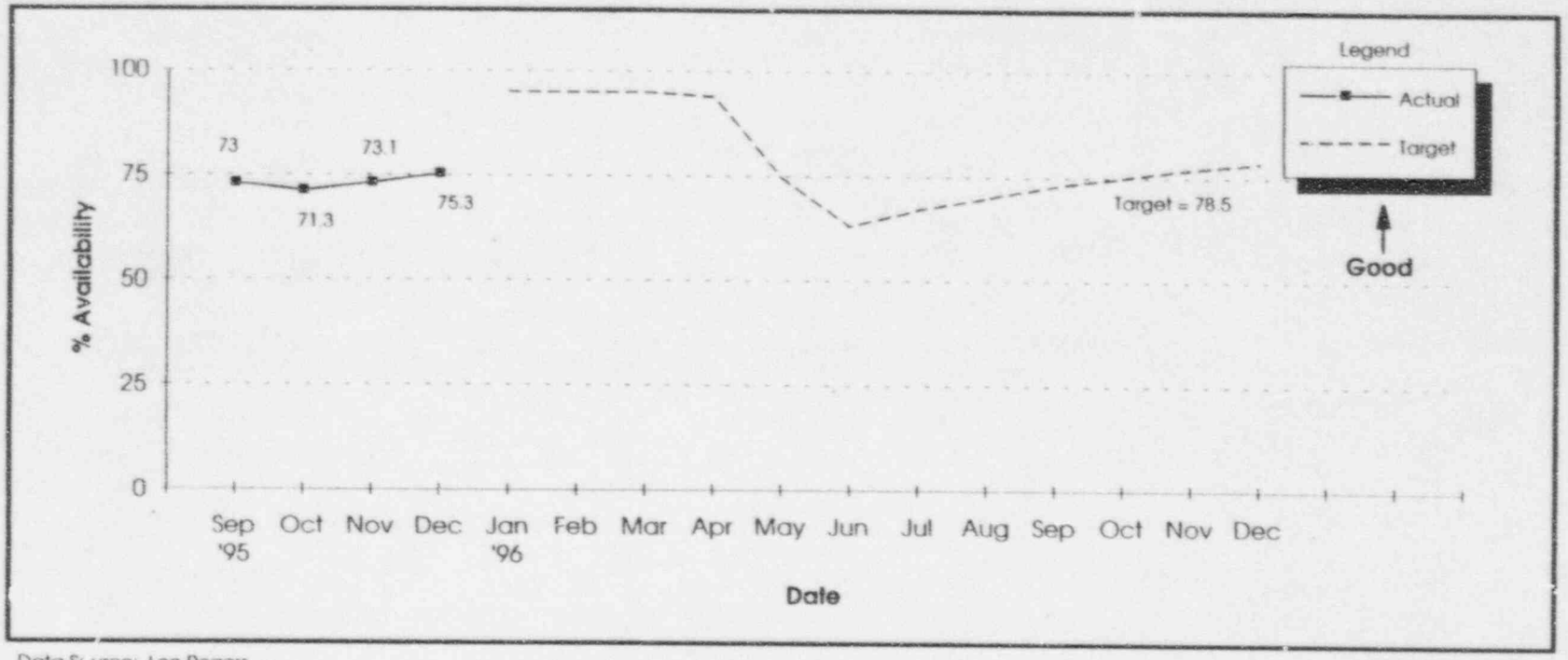
•	Emergency Diesel Generators	(Unit 1/Unit 2)	2/96
•	Reactor Coolant Gas Vent Valves	(Unit 1)	6/96
•	Pressurizer Code Safeties	(Unit 1)	6/96

Strengthen System Performance Monitoring:

•	Complete Maintenance Rule Implementation	4/96
•	Complete PM Basis Program	12/96

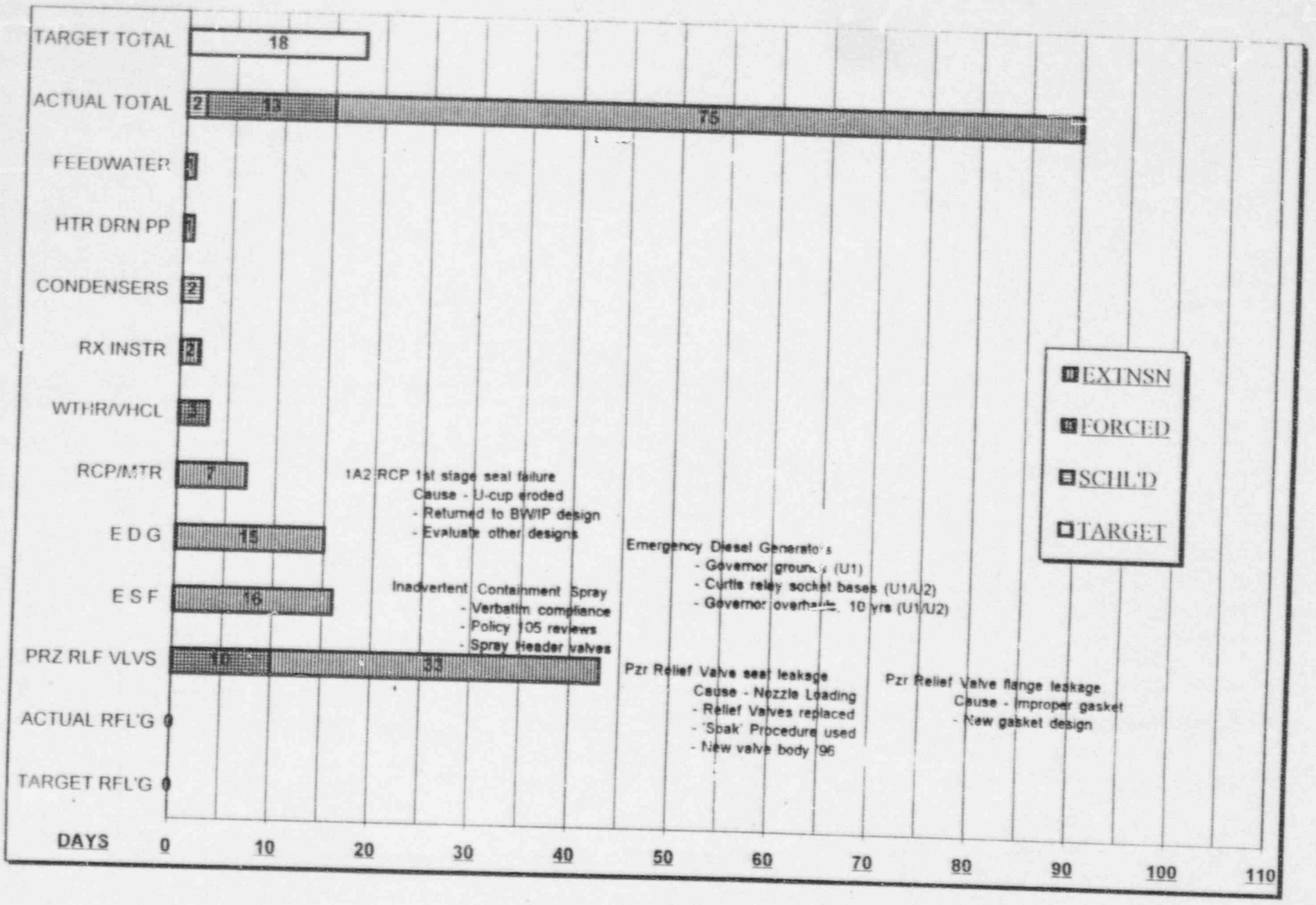
EQUIVALENT AVAILABILITY FACTOR - UNIT 1

Lee Rogers - Systems & Components Engineering



Data Source: Lee Rogers

PSL-1, LOST AVAILABILITY DAYS, PRIOR 12 MONTHS



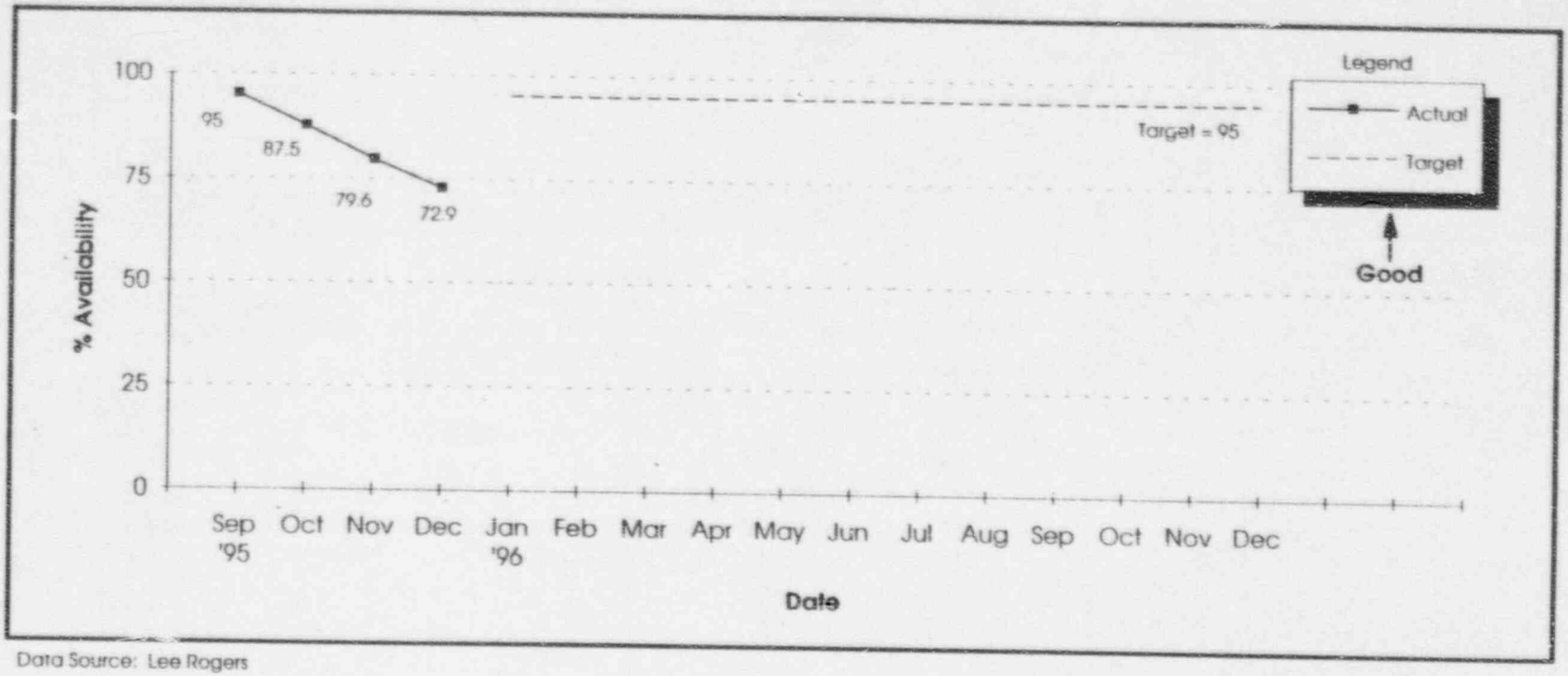
1/23/96

SCE Dept. / Tech. Prgm's

J.A.Cimm

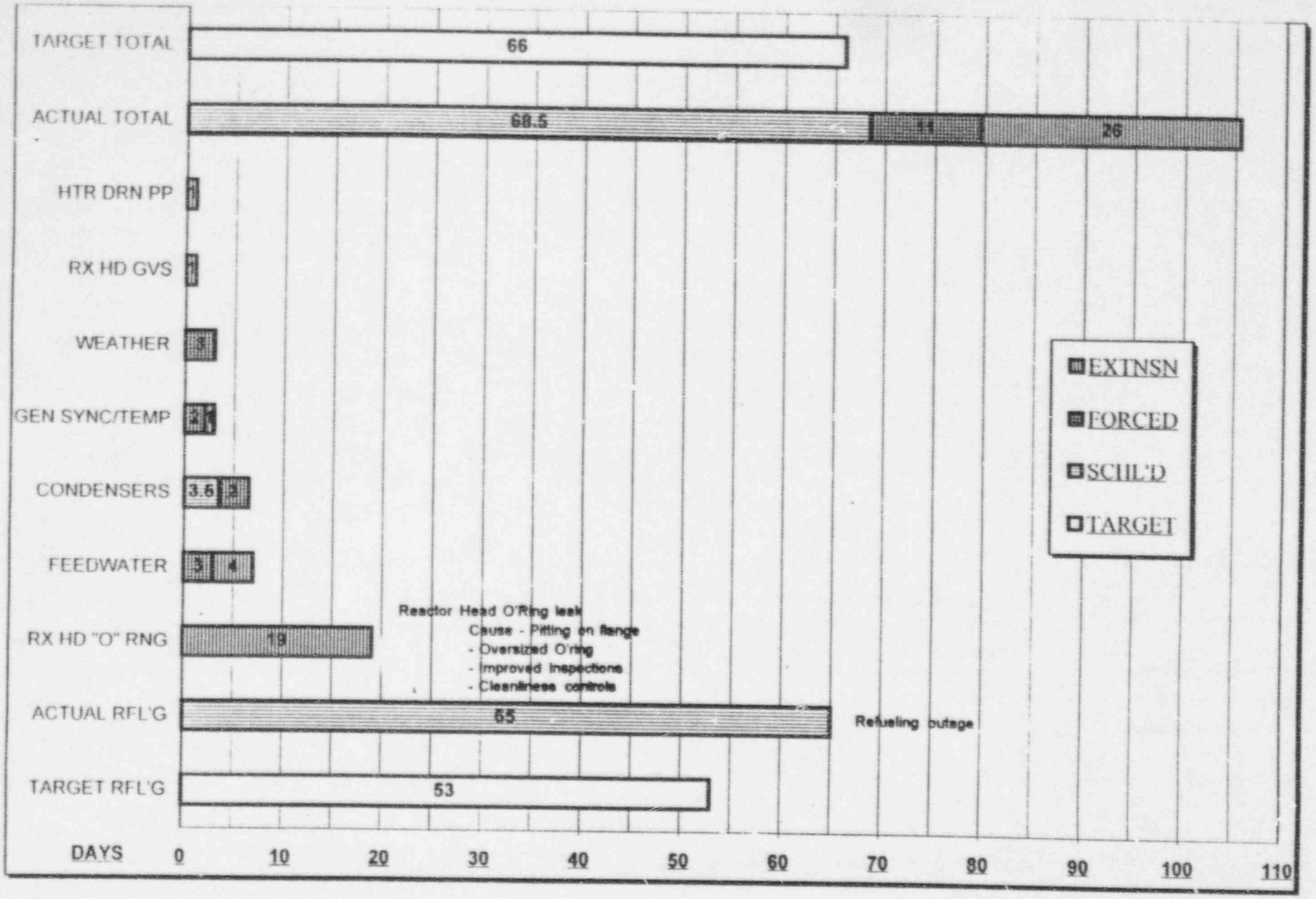
EQUIVALENT AVAILABILITY FACTOR - UNIT 2

Lee Rogers - Systems & Components Engineering



Data Source: Lee Rogers

PSL-2, LOST AVAILABILITY DAYS, PRIOR 12 MONTHS



1/25/96

SCE Dept. / Tech. Prgm's

J.A.Cimino

ENGINEERING

IMPROVEMENTS/ACTIONS

ENGINEERING

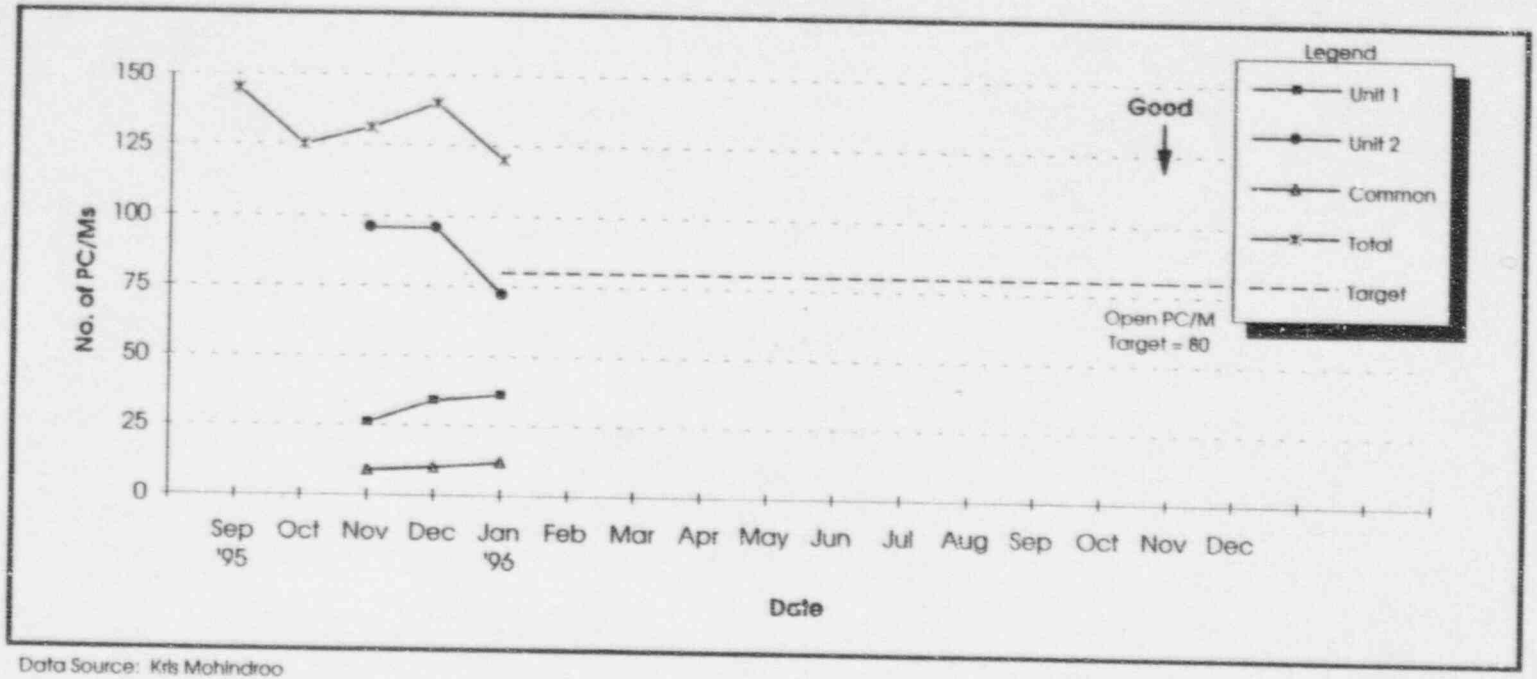
Major Improvement Areas

Improve Configuration Management Controls:

• Reduce Open PCMs	1/31/96
• Implement Temporary System Alteration	3/31/96
• Reduce Open TSAs	6/30/96
• Reduce Age of Oldest PCMs	12/31/96

PLANT CHANGE/MODIFICATIONS

Kris Mohindroo - Engineering



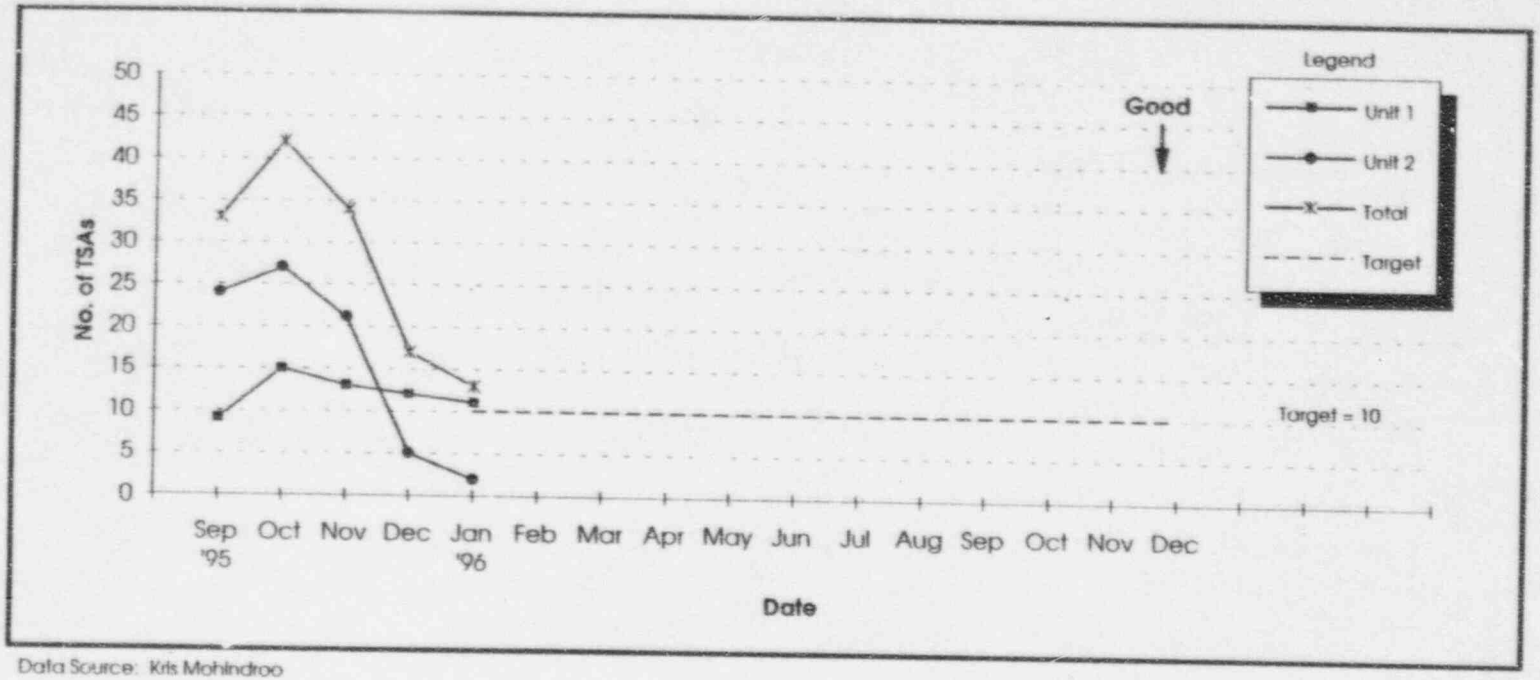
Data Source: Kris Mohindroo

SUMMARY STATUS

Discipline	Unit 1	Unit 2	Common	Total
Open PC/M	36	72	12	120
PC/Ms >24 Mo.	11	12	4	27

TEMPORARY SYSTEM ALTERATIONS (TSA)

Kris Mohindroo - Engineering



Data Source: Kris Mohindroo

SUMMARY STATUS

Discipline	Unit 1	Unit 2	Total
Mechanical	1	0	1
Electrical	2	0	2
I&C	8	3	11
Engineering	0	0	0
Operations	0	0	0
Health Physics	0	0	0
Construction	1	0	1
SCE	0	0	0
Total	12	3	15

Oldest TSA	12/13/94	5/10/94
Discipline	I&C	I&C

ST. LUCIE PLANT - 10 OLDEST OPEN PC/M's

PC/M NUMBER	DESCRIPTION	DATE ISSUED	DATE FRG'D	SCH CLOSE DATE	STATUS AND ACTIONS REQUIRED TO CLOSE
103-182	Removal of old Unit 1 Security System Equipment which is not performing any useful service	9/12/84	7/9/85	2/2/96	PC/M approximately 40% implemented. Significant effort required to as-build completed activities with little benefit. JPN developing an action plan for closure.
021-184	RAB High Pressure Sodium Lamp Replacement	2/23/84	3/23/84	6/30/96	As-fail PC/M. Completed scope needs to be documented, then closure paper can be processed.
144-286	PASS Dissolved Hydrogen Analyzer	2/1/89	2/23/89	2/16/96	PC/M implemented 11/30/89 and drawings as-built 11/13/90. PC/M tied to completion of PC/M 125-292 which is now ready for closure. ICM needs to process PWO (w/o 93012296 01) for closure of PC/M 125-192. Both PC/M's can then be closed.
193-189	Open Blowdown Cooling Water Heat Exchanger Vacuum Breaker Valve Changeout	2/11/89	12/11/89	2/23/96	PC/M implemented. Action plan to resolve slight periodic leakage problems with valves needs to be developed prior to closure.
375-189	Control Room Air Conditioning Refrigerant Line Coupling	12/19/89	12/20/89	1/26/96	PC/M implemented 2/3/91 and drawings as-built 3/29/91. Need to reconstruct Section XI paperwork to close.
335-190	Check Valve Hinge Pin and Bonnet Modifications on CCW pump discharge check valves V14143, V14147 and V14151	7/18/91-Sup 0 3/25/93-Sup 1	4/13/93-Sup 0 4/13/93-Sup 1	UNIT 1 OUTAGE	PC/M implemented on valves V14147 and V14151. Modifications to V14143 planned for next refueling outage. Will close PC/M upon completion of the work activity
171-191	Resizing and replacement of MOV Thermal Overload Devices on 137 MOV's	7/17/91	9/19/91	UNIT 1 OUTAGE	PC/M implemented on 122 valves. 15 valves remaining to be modified. EM needs to schedule remaining work. Will close PC/M upon completion of the work activity
186-191	Intake Cooling Water Support Modifications	7/1/92-Sup 1	Not FRG'd	2/19/96	Sup 0 Complete. Sup. 1 requires outage and budget to implement. Recommend cancellation of the PC/M and reissue as new PC/M once activity is budgeted.
086-292	Radiation Monitoring Computer Replabement	4/22/92	5/7/92	2/23/96	PC/M implemented. ICM has one PWO associated with two remaining CRN's which is required to be worked to close the PC/M. Will close PC/M upon completion of the work activity.
203-192	Replacement of 95 Sigma Meters in the Control Room and Hot Shutdown Panel do to obsolesence issues.	12/2[illegible]92	4/6/93	2/23/96	PC/M partially implemented with 15 instruments installed. Recommend as-building what work has been completed and close PC/M. New PC/M's can then be generated based on planned work activities.

ST. LUCIE NUCLEAR ENGINEERING

UNIT 1 1996 OUTAGE SCHEDULE

BASELINE SCHEDULE JAN. 2, 1996

UPDATE AS OF JAN 22, 1996

ENGINEERING DELIVERABLES TO BE SCHEDULED

SLN 94-029-10 GRAF GASKETS SITE MEC	STAR 94120536 CODE SFTY WK SITE MEC	STAR 950961 MFRV SITE MEC	SLN 93-101-10 RX HD VENTS PEG ELE	STAR 94110473 SIAS ICW/CCW PEG ELE
SLN 91-227-91 SEIS EQMT DEL PEG I&C	SLN 93-088-10 CEA MG SET SITE ELE	SLN 92-149-12 RX CAV SL RNG PEG MEC	STAR 94110376 HCV 08-2A&B PEG MEC	

JAN	FEB			MAR	APR
SLN 94-011-10 COND FOULING 1-31-96 PEG MEC	SPSL 95-042-10 RX TRIP RLY 2-29-96 SITE ELE	3" VAC BKR 2-28-96 SITE MEC	SLN 90-008-10 TLO MIST ELIM 2-28-96 PEG MEC	STAR 94100260 RCS LOW NOISE 3-29-96 SITE I&C	SPSL 95-043-10 B QSPDS #8 4-12-96 SITE I&C
STAR 950721 D/G FIRE ALRM 1-30-96 SITE I&C	SLN 95-001-10 CONT A/C 2-15-96 PEG MEC	STAR 94120549 DEH FILTER 2-28-96 SITE MEC	SLN 95-051-10 ICW BY PASS 2-28-96 PEG MEC	SPEG 95-014-10 CME PG-57 3-22-96 PEG ELE	STAR 94110486 RWT LINER 4-12-96 PEG CIV
STAR 950590 SI/CS REST 1-30-96 SITE CIV	SLN 86-058-1A S/G PLUGGING 2-15-96 PEG MEC	STAR 952202 ED/G RELAYS 2-26-96 PEG ELE	SLN 91-266-12 FW LVL GLASS 2-28-96 PEG MEC	SLN 95-008-10 STM BY PASS 3-22-96 SITE MEC	SLN 94-012-10 AOV DESIGN 4-15-96 PEG MEC
	GESL 88-010-10 SWYRD BKR 2-16-96 PEG ELE	SLN 94-010-10 BK UP AIR SUPP 2-28-96 PEG MEC	STAR 951037 HCV-25-1 ACTU 2-28-96 SITE MEC	SLN 91-295-10 HP TURB BRNG 3-15-96 SITE MEC	SLN 94-034-10 FW VENT FOUL 4-15-96 PEG I&C
		SLN 95-048-11 CONT PRG VLV 2-23-96 SITE MEC	SLN 94-011-12 CCW BASE A/C 2-28-96 PEG MEC	SPSL 95-048-10 MAIN XFMR CAB 3-15-96 SITE ELE	SLN 94-025-11 RPS NI REPL 4-8-96 PEG I&C
		SLN 94-048-10 CONT PRG VLV 2-23-96 SITE MEC	SLN 94-045-10 BEACON CORE 2-28-96 SITE ELE	U1 RELOAD 3-15-96 PEG FUELS	

G:\COMMON\DRE\SKYLINES\199?\1A PRE

QUALITY ASSURANCE

IMPROVEMENTS/ACTIONS

QUALITY ASSURANCE

Major Improvement Areas

Strengthen QA Line Experience and Technical Assessment Capabilities:

•	Establish rotation plan for line/QA employees.	Complete
•	Participate in QA Technical Specialist Exchange Program with other utilities.	Complete

PSL QUALITY DEPARTMENT

QUALITY CONTROL INSPECTION RESULTS

- The results of QC Inspections and Surveillances during the fourth quarter indicate that the plant continues to exhibit a low deficiency rate (0.63%) for inspected items.

- Plant Work Order documentation reviews (10% sampling) resulted in a deficiency rate of 4.1% indicating a need for increased attention to detail.

QUALITY ASSURANCE OVERSIGHT

- Operations

  - Satisfactory as demonstrated by U/1 Operations, U/2 Refueling and Startup.

  - Unsatisfactory in the area of Control Room Administrative Practices. Increased attention to detail is warrented as exhibited by QA STARs/NRC issues.

- Maintenance

  - Satisfactory as demonstrated by quality repair of pressurizer and RCS nozzles, valves & welding during U/2 outage.

  - Unsatisfactory based on QA assessment that concluded procedures do not support verbatim compliance, need additional detail and in some cases, are difficult to follow. Increased management attention is warranted.

PSL QUALITY DEPARTMENT, CONT'D.

- Quality Assurance Focus
  - Control Room Surveillance
  - PSL Operations Improvement Plan
    - FRG Assessment
    - Assessment of Site Awareness of PSL Plan to Improve Operational Performance
    - Contractor Oversight (Atlantic Group, BWNT)
  - Independent Technical Review (ITR) on operator personnel error corrective action implementation.
  - Use of outside technical specialists on audits/assessments
  - Maintenance Rule Impiementation ITR

PROGRAMMATIC ISSUES/OPPORTUNITIES

- Fourth Quarter Summary - 13 QA Findings / 29 ITR Recommendations
  - Comprehensive Program Reviews
    - Control of Temporary Changes to Procedures
    - Maintenance Computer Software Controls
    - Construction Work Controls
  - Special Nuclear Material Control Repeat Finding
  - Maintenance Rule Program Development

IMPROVED AREAS

- Control of Contractors
  - Increased Training
  - Increased Oversight
  - Improved Procedures

QUALITY CULTURE

- Management expectations are high
- Continue to drive down accountability
- Improve procedures/follow procedures
- Attention to detail

CORRECTIVE ACTION

PROGRAM

IMPROVEMENTS/ACTIONS

CORRECTIVE ACTION PROGRAM

Major Improvement Areas

Improve Analysis Capability:

• Obtain 1995 data from other plant departments to combine with STARs	Complete
• Obtain analysis methodology from industry best plants (Turkey Point/Callaway).	1/31/96
• Produce 1995 Summary Report.	2/20/96

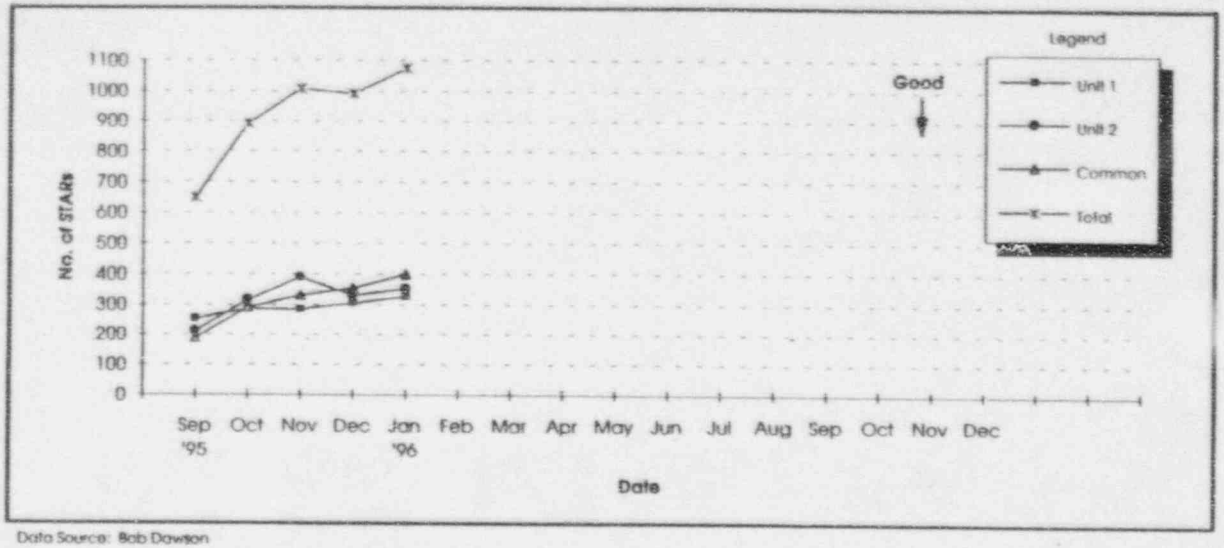
Standardize Corrective Action Process with Nuclear Division.

Upgrade Self-Assessment Activities to include Outside Perspective:

• Implement a Manager/Peer Observer Program (based on Brunswick Program).	2/1/96
• Review each department to ensure a program to perform self-assessments is in place and that the program contains plans to utilize outside assistance.	2/20/96

OPEN STARs

Bob Dawson - Corrective Action Program



Data Source: Bob Dawson

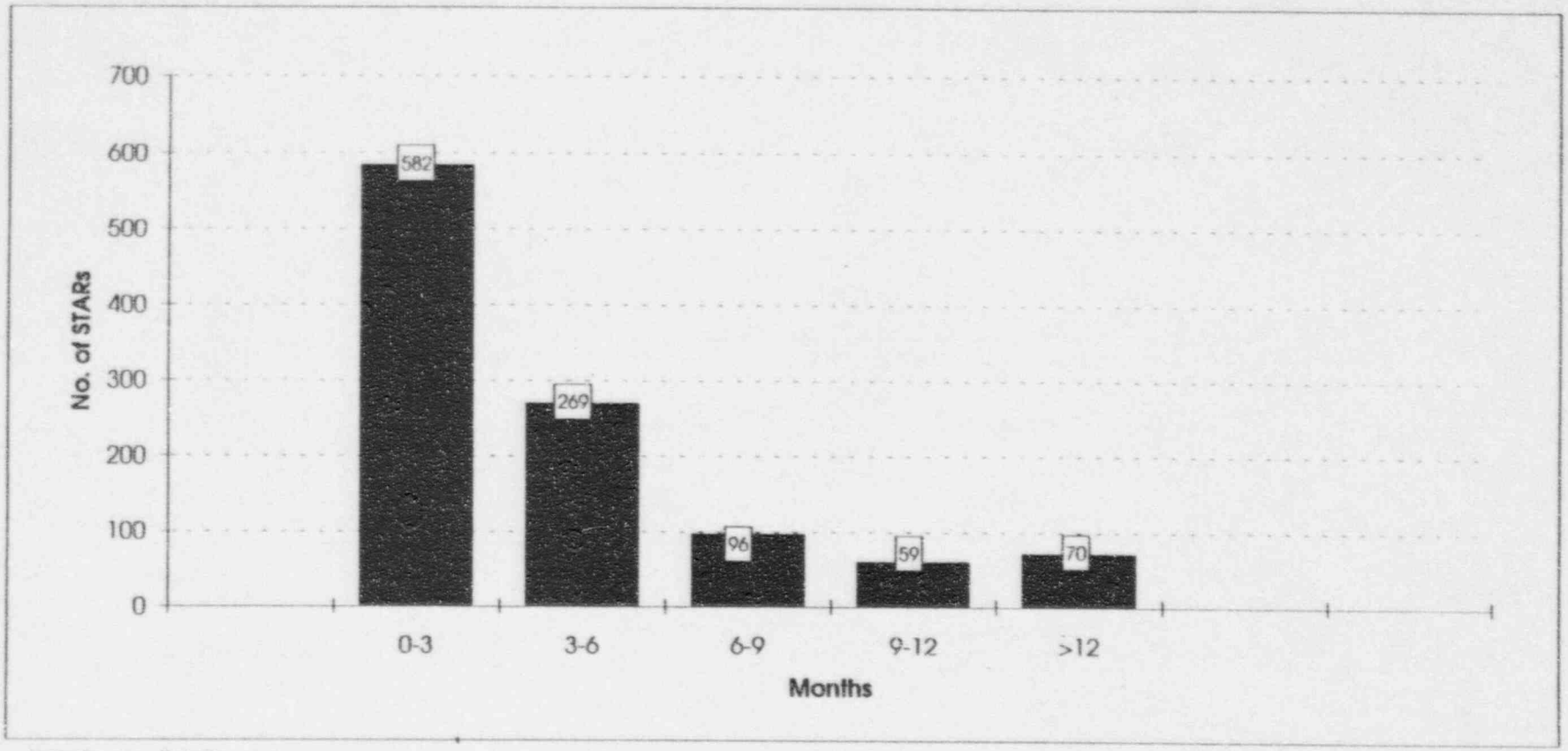
SUMMARY STATUS

Discipline	Unit 1	Unit 2	Common	Total
Operations	11	20	43	74
OST	7	9	36	52
Mechanical	42	23	18	83
Electrical	8	15	16	39
I&C	36	56	30	122
Const Services	4	12	6	22
Reactor Eng	4	3	3	10
SCE	48	55	44	147
Engineering	140	129	96	365
Health Physics	0	3	8	11
Licensing	0	3	9	12
Maint Program	3	3	12	18
Outage Mgmt	0	0	4	4
QA/QC	0	3	4	7
Plant Mgmt	6	7	16	29
Training	6	0	23	29
Other	11	11	30	52
Total	326	352	398	1076

Oldest STAR	7/26/94	7/19/94	7/20/94
Discipline	ENG	I&C	OST

AGE OF OPEN STARs

Bob Dawson - Corrective Action Program



Data Source: Bob Dawson

ST. LUCIE PLANT - 10 OLDEST OPEN STARs

STAR #	DESCRIPTION	ACTION	DATE ISSUED	STATUS AND ACTIONS REQUIRED
94070011	There is a high number of Corrective Maintenance NPWOs on the Radiation Monitoring System. Most problems are a loss of indication or communication or false response.	IC	07/19/95	NPWO 5670/64 issued to replace relays. Relays are AWP. Relays were the problem with communications.
94070015	Undetected accumulation of gas in Reactor Coolant System at Sequoyah in 1993 and Salem in 1994.	OST	07/20/94	PCR to procedure in process.
94070023	Unit 1 and Unit 2 Turbine Lube Oil areas are full of oil and need to be cleaned up.	ENG	07/22/94	Engineering to issue PC/M for the Unit 1 Refueling Outage work to be completed. Unit 2 completed.
94070030	FI-21-8A has had 3 Corrective Maintenance Work Orders in the last 12 months. All indicate a need for calibration. Also, the B side has 4 failures in 12 months last year (1993).	ENG	07/26/95	PC/M requested from Engineering.
94080049	FI-21-8B had 4 Corrective Maintenance Work Orders in the last 12 months.	ENG	08/03/94	PC/M requested from Engineering.
94080058	G.A. Process Monitor RM-80 database inconsistent with controlled written database. Master database disk is not current. When download to RM-80 happens the database is incorrect.	IC	08/05/94	NPWO 5766/64 issued.
94080086	HVA-3A/ACC-3A cannot be used when weather is hot - an identified problem with fans and louvers compressor trips on high pressure due to second fan not auto starting.	EM	08/10/94	Changing out 3C 2/1/96. Takes 6 days to change. Will be doing 3B next and 3A last. To be completed by 3/25/96.
94080096	Velan, Inc. Quality Alert regarding 6" Motor Operated Globe Valves. Valve stem anti-rotation keys - Part 21 Notification.	MM	08/19/94	NPWO in planning process. To be worked Unit 1 Refueling Outage.
94080115	10CFR73.55: by 2/29/96 fully implement the required vehicle control measures, including site-specific alternative measures as approved by the NRC.	SEC	08/29/94	Installation of Vehicle Barrier System complete. The development of the Physical Security Plan change and procedures and instructions regarding the operation of the VBS are in process. Will be completed by 2/29/96.
94090149	LP Turbine Gland Steam Regulating valves chronically fail to open properly. Frequent alarms in control room regulators are frequently bypassed and manual valves throttled to ensure steam seals are established.	SCE	09/02/94	Actions to be completed Unit 1 Refueling Outage: Gland Steam orifices will be removed and checked, actuator springs will be replaced, and a PM has been initiated to disassemble, maintain and reassemble the Y-strainers.

NUCLEAR MATERIALS

MANAGEMENT

IMPROVEMENTS/ACTIONS

MATERIALS MANAGEMENT

Major Improvement Areas

Ensure the Availability of Spare Parts:

- Reduce the number of "Below Minimum" items. 4/1/96
- Reduce number and age of work order waiting for parts (AWP). 4/1/96

Reduce the Cost of Carried Inventory:

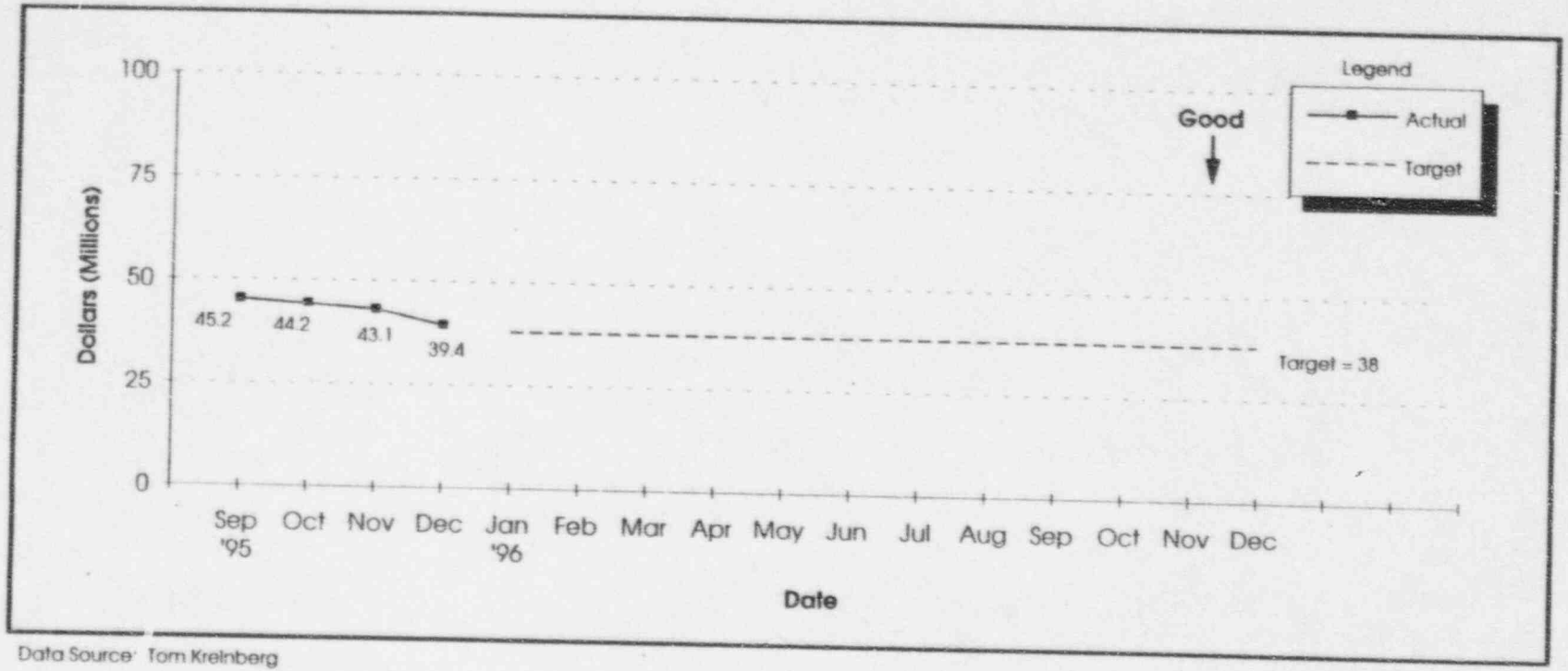
- Reduce value of inventory. 12/31/96
- Reduce overmax inventory. 12/31/96

Outage Material Availability:

- Have all identified material available prior to the outage. 3/29/96

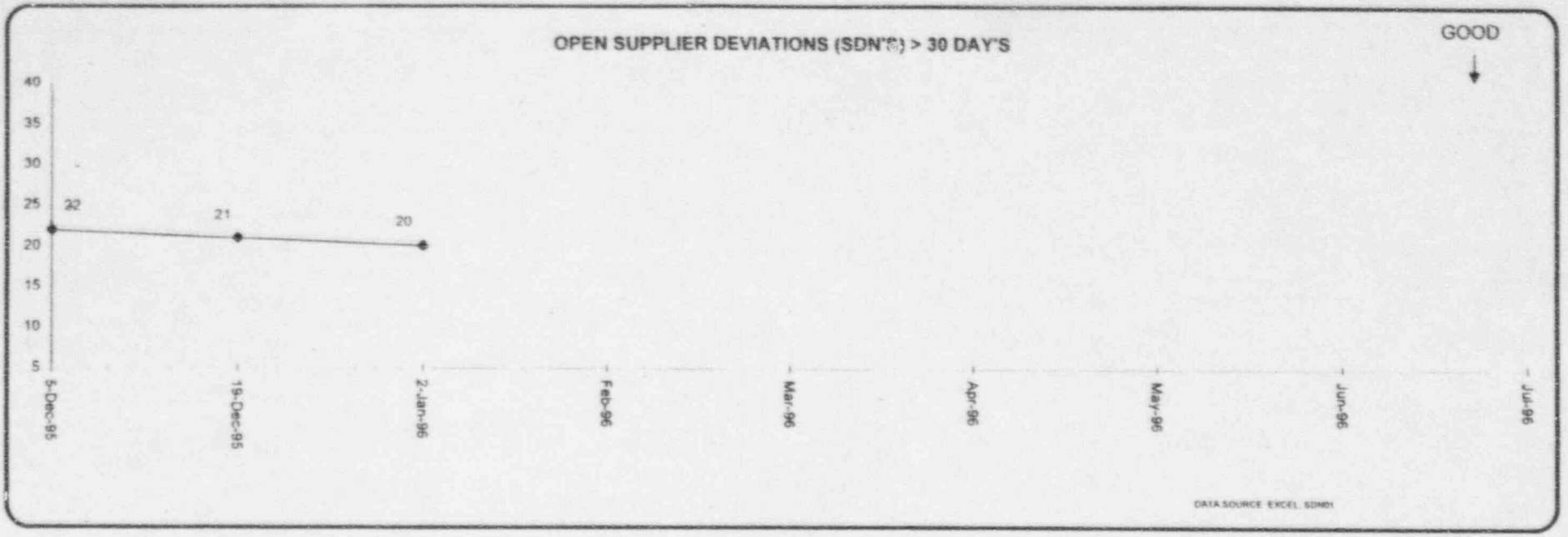
INVENTORY VALUE

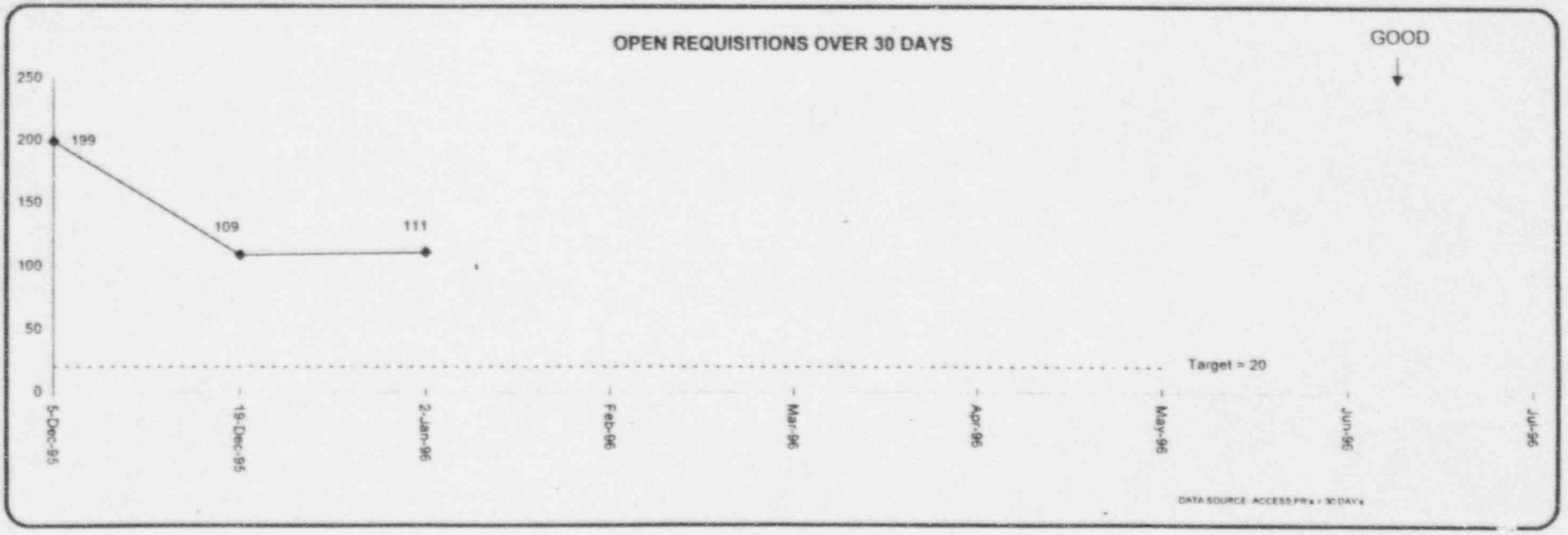
Tom Kreinberg - Nuclear Materials Management



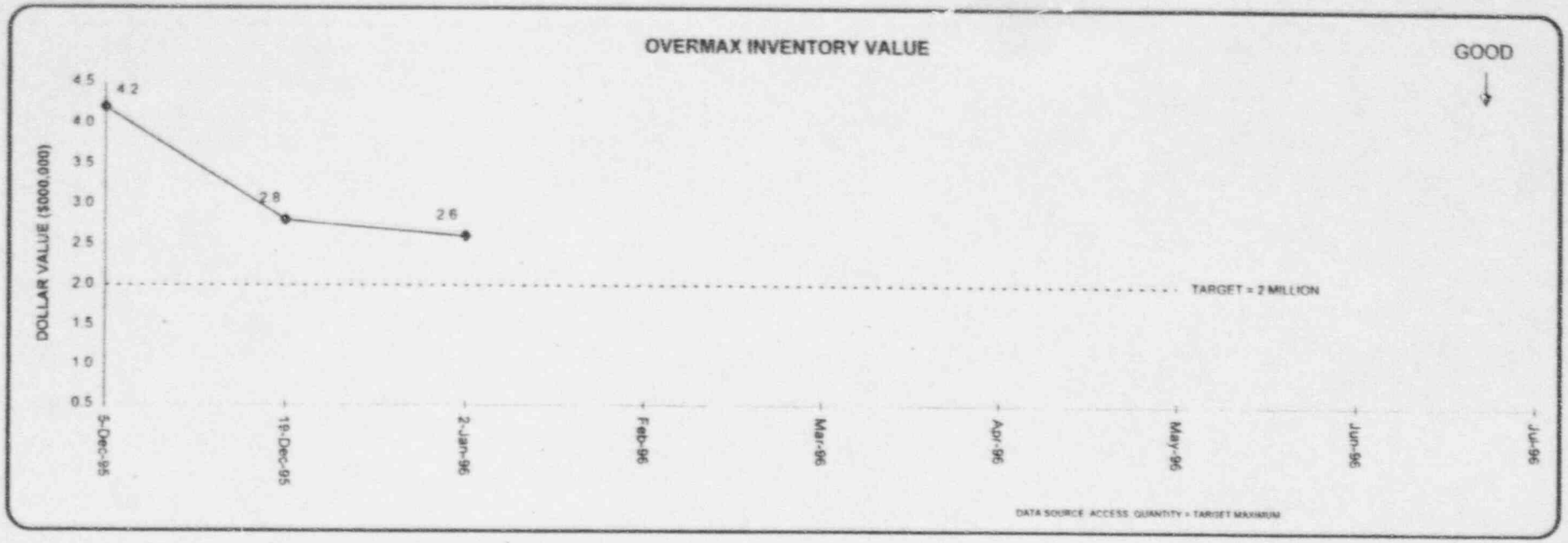
Data Source: Tom Kreinberg

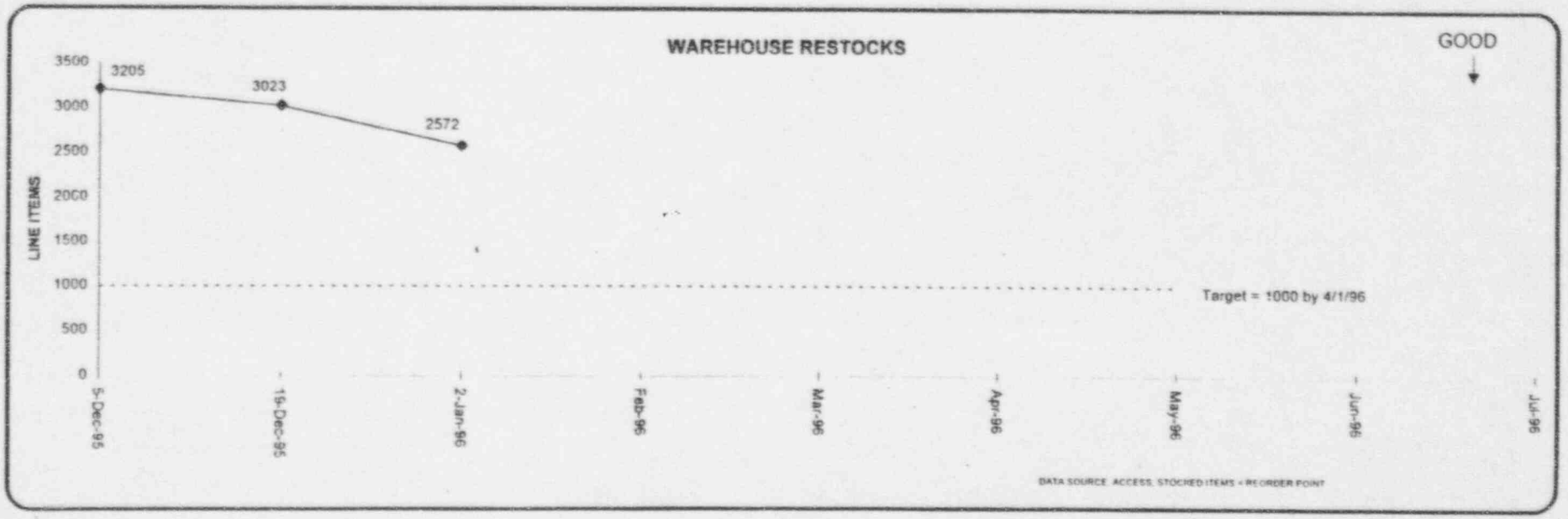
NMM MONTHLY INDICATORS





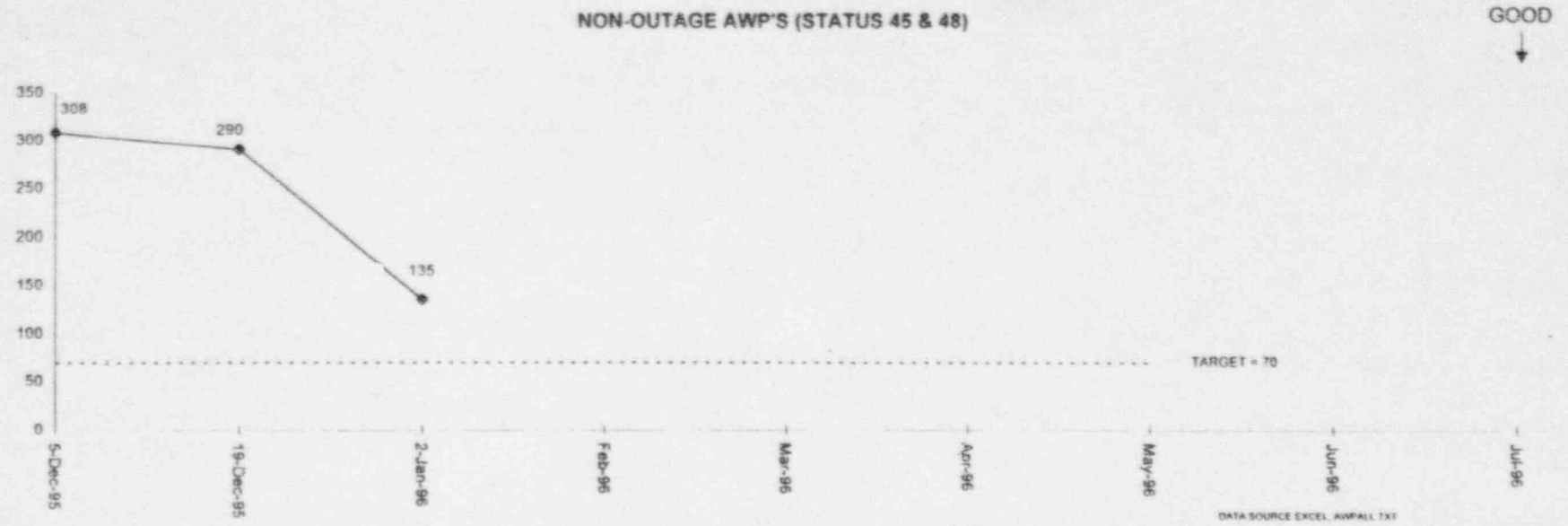
NMM MONTHLY INDICATORS



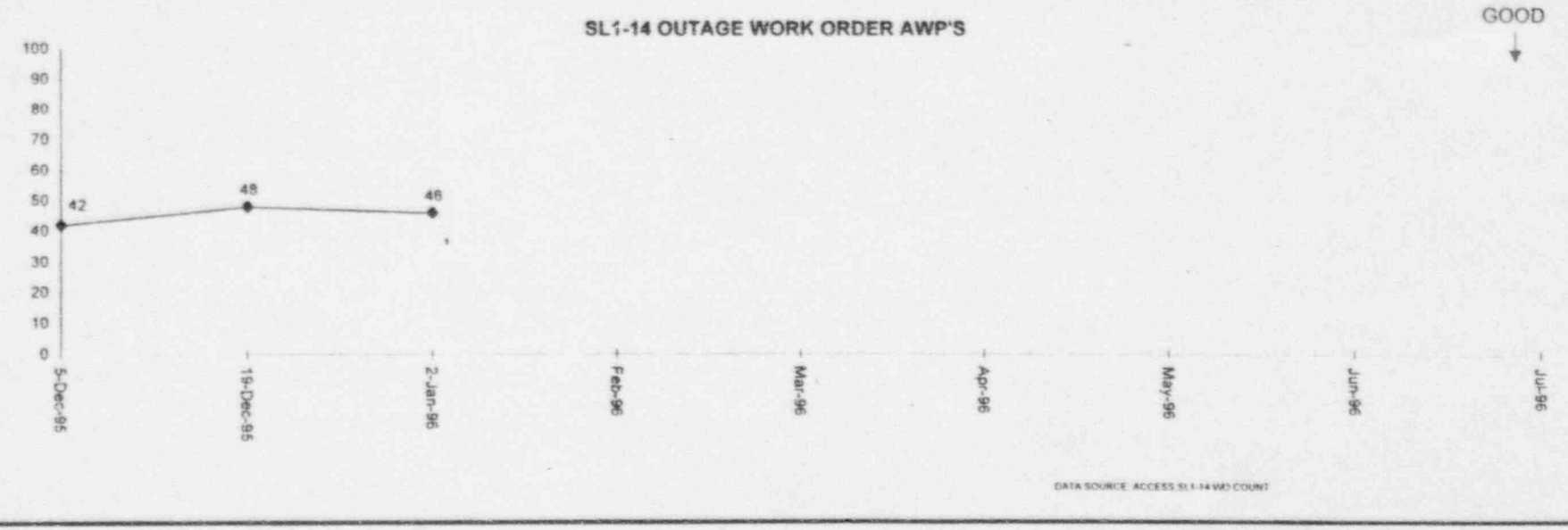


NMM MONTHLY INDICATORS

NON-OUTAGE AWP'S (STATUS 45 & 48)



SL1-14 OUTAGE WORK ORDER AWP'S



UN	ORIGINATION DATE	WORK ORDER	COMPONENT/ASSOCIATE NAME	TITLE	SCHEDULE	P.O./P.R.	STOCK CODE	ACTION	COMMENTS
1	7/7/92	9204068701	V17211/DRAIN VALVE FOR DIESEL OIL STORAGE TANK 1B	V17211 DOST 1B DRAIN REPLACE VALVE	SL1-14		053123-1	PE	PENDING PE REVIEW
1	10/23/92	9205298901	PP-101/PANEL/120/208V POWER DISTRIBUTION PANEL ESS-SA	U-1 REPLACE 3 MISSING PANEL LATCHES ON PP-101			0182090-3	EM	OBSOLETE. EVAL REJECTED AND RETURNED TO J. CAMPBELL FOR REVIEW 12/19/94
2	9/24/94	9402434701	FE-21-8B/FLOW ELEMENT FOR ICW TCW HEAT EXCHANGER 1B OUTLET	THE INST. TAPS ARE NOT PER PLANT DRAWIN	SL1-14	P.R #21410	0027859-4	PUR	PENDING P.O. & DUE DATE
2	4/13/94	9400856501	LCV-9005/VALVE/LEVEL CONTROL VALVE FOR FW REG STATION (FCV-9011) 15% BYPASS	BODY EROSION/FLOW CAGE GASKET LEAKAGE	SL2-10	P.O.# 12576	0019160-3	PUR	DUE 7/2/96
1	6/6/94	9401426101	V08277/UPSTREAM ISOLATION VALVE FOR PCV-8804	LEAKS BY SEAT	SL1-14		0054381-4, 0054933-4, 0055109-4	NMM / MM	PENDING OUTAGE ROLL-UP REVIEW
2	6/23/94	9401581901	LIS-07-2C/LEVEL INDICATING SWITCH FOR REFUELING WATER TANK LEVEL	REPLACE LIS-07-2C AND PIS 07-2C WITH NEW INDICATING SWITCH			0090581-1	PE	PENDING EVAL. #040786 DISPOSITION
1	7/13/94	9401736201	RV-3/FAN/ROOF VENTILATOR FOR ELECTRICAL EQUIPMENT ROOM 1A EXHAUST	REPLACE BEARINGS AND SHAFT.		P.O. #94930-91732	017906-2	PUR	PENDING SDN.
2	10/28/94	9402701701	V3707/VENT VALVE FOR CHARGING PUMP FEED TO HP SAFETY INJ HEADER A	REPAIR LEAK-REMOVE DRIP PAN	SL2-9	P.R. #0020155	0052472-1	PUR	PENDING P.O. AND DUE DATE.
1	9/26/94	9402439601	FCV-24-107/VALVE/CONTROL VALVE FOR ES DRAIN TO CNDSR 1A FROM HP EXHAUST TO MSR 1C	DISASSEMBLE AND INSPECT REPAIR AS NEEDE			0194732-4	NMM	PENDING NMM REVIEW
1	11/16/94	9402860801	V09107/CHECK VALVE FOR AUXILIARY FEEDWATER PUMP 1A DISCHARGE	570-13043-5 VALVE IN STORES HAS BEEN CANNIBALIZED, REPAIR WHEN NEW PARTS ARE RECEIVED	SL1-14	P.R #14658-02	177393-1	PE	PENDING EVAL #040639 DISPOSITION

SERVICES

IMPROVEMENTS/ACTIONS

SERVICES

Major Improvement Areas

Improve the Procedure Administration Process to Ensure Quality Procedures:

Temporary Change Action Plan

• Reduce the number of active TCs prior to placing Unit 2 in service - 90% reduction accomplished.	Complete
• Clarify definition of TC versus PCR.	1/31/96
• Consolidate TC and PCR process.	1/31/96
• Revise QI 5-1 to clarify process and accountabilities.	1/31/96
• Benchmark process against other utilities.	1/31/96

Convert Procedures are not required by TS 6.8.1 to Department Guidelines

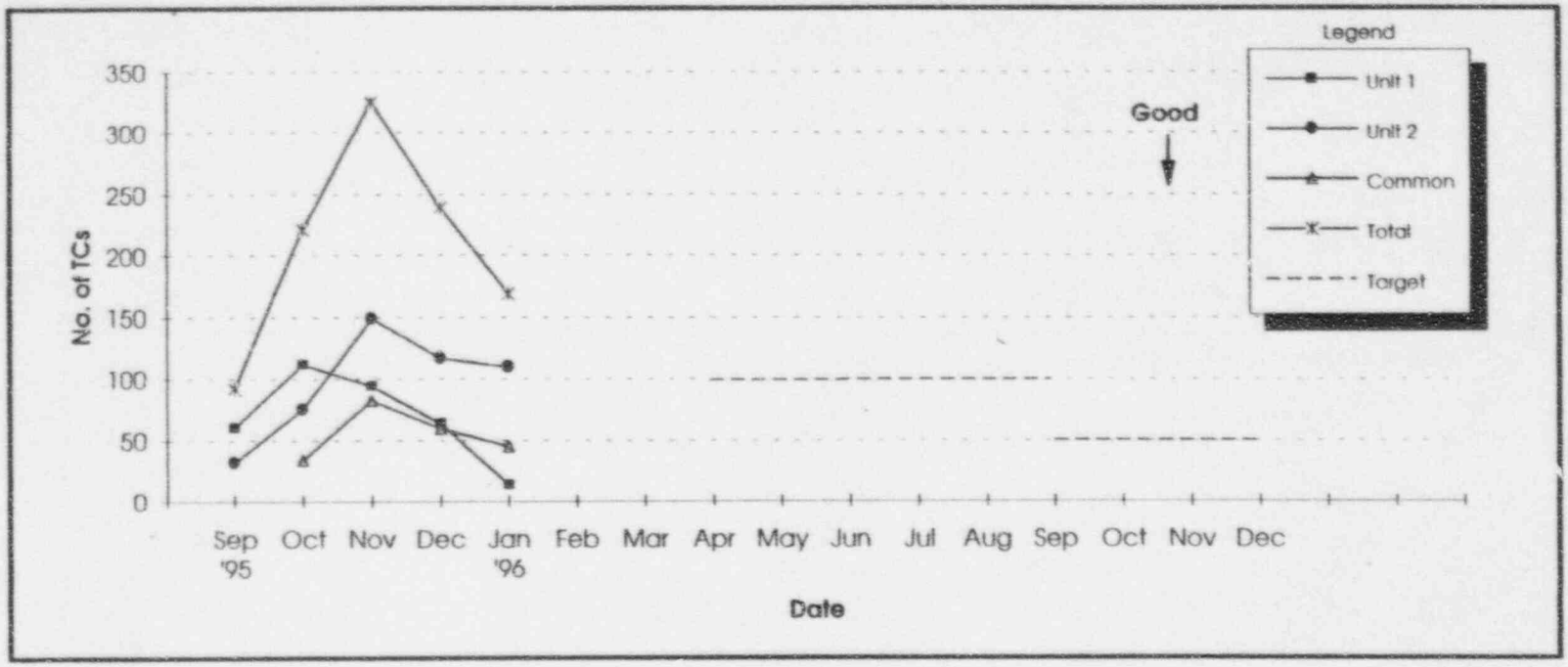
• Each department head has an identified scope of procedures to address.	2/29/96

Improve the Safety Focus of FRG and Thoroughness of Review:

• Submit Tech Spec amendment to delete need for FRG to see non-nuclear safety procedures.	3/15/96
• Review need for detailed agendas and meeting minutes.	2/15/96
• Benchmark process against other utilities.	4/1/96
• Achieve routine Operations participation in FRG.	2/15/96
• Require sponsorship of non-routine items.	2/15/96
• Establish FRG subcommittee to pre-screen submittals and reduce FRG volume.	Complete
• Revise FRG process and procedure IAW new Tech Spec.	10/1/96

TEMPORARY CHANGES TO PROCEDURES

Jim Holt - Information Services



Data Source: Jim Holt

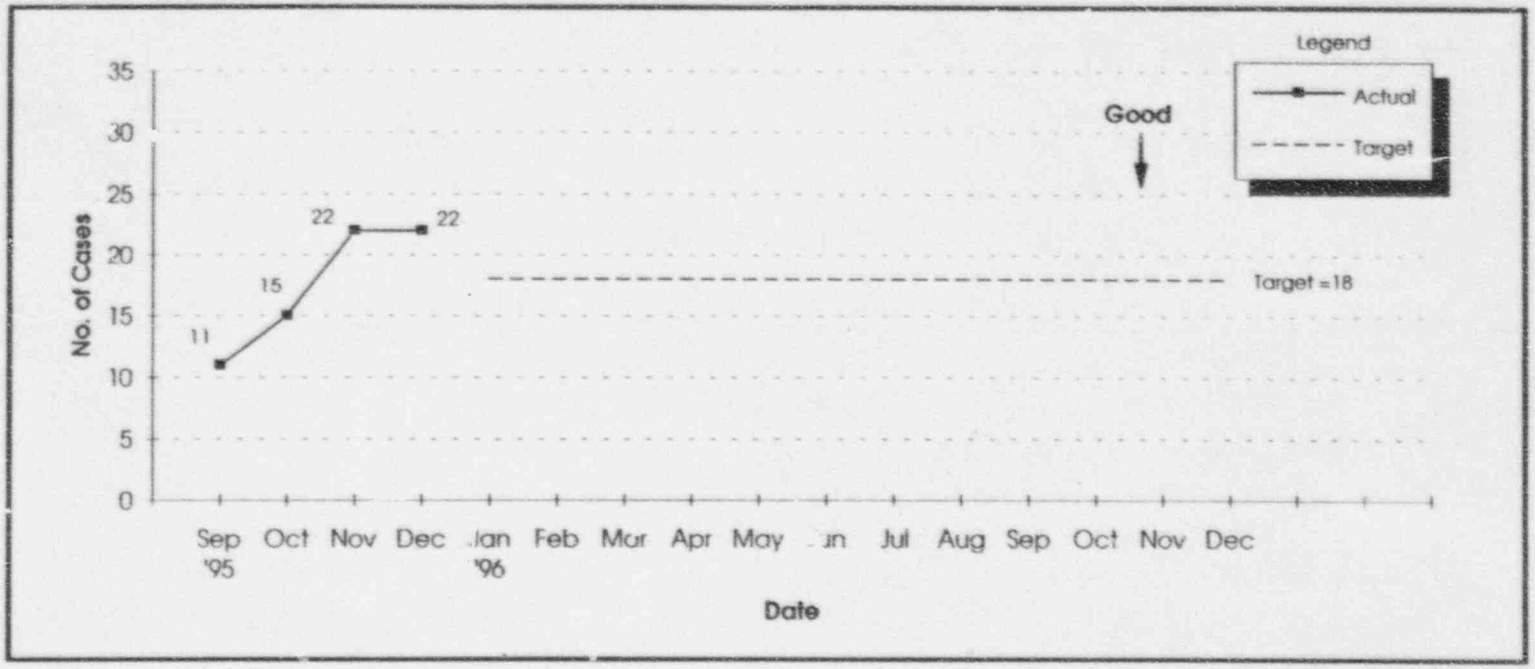
SUMMARY STATUS

Oldest TC (days)
80
89
89
89
13
28

Discipline	Unit 1	Unit 2	Common	Total
Operations	12	47	4	63
Mechanical	1	6	7	14
Electrical	0	18	25	43
I&C	1	33	5	39
Reactor Eng.	0	2	3	5
SCE	0	4	1	5
Total	14	110	45	169

INDUSTRIAL SAFETY - RECORDABLE DOCTOR CASES

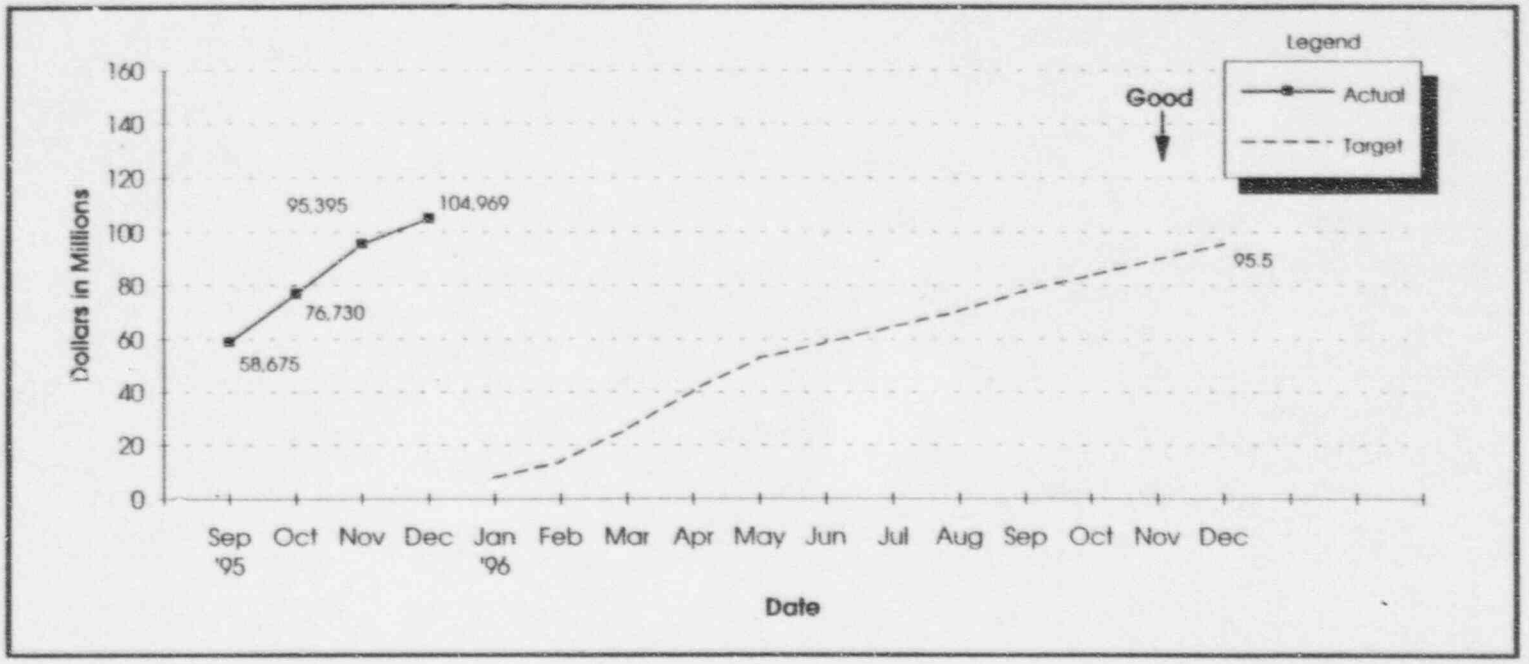
Kim Heffelfinger - Protection Services



Data Source: Kim Heffelfinger

O&M BUDGET

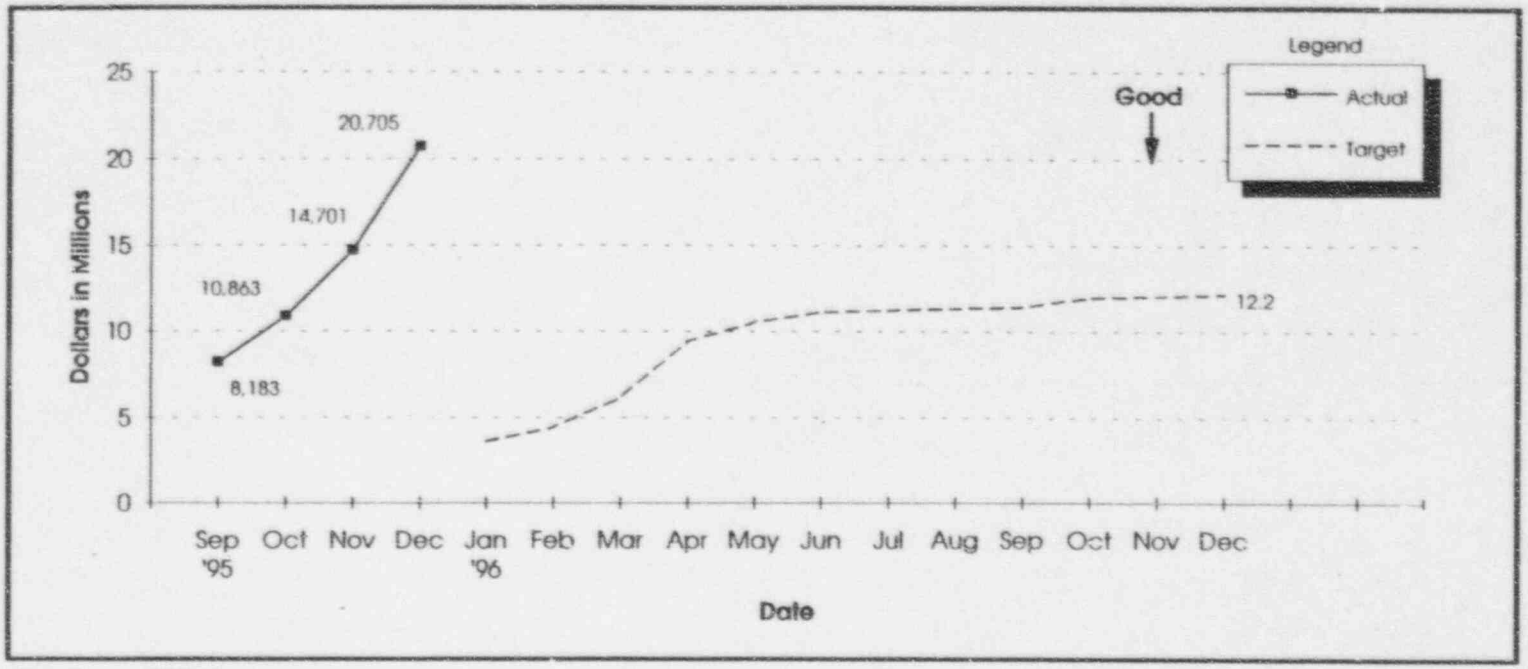
Bill Walker - Resource Control



Data Source: Bill Walker

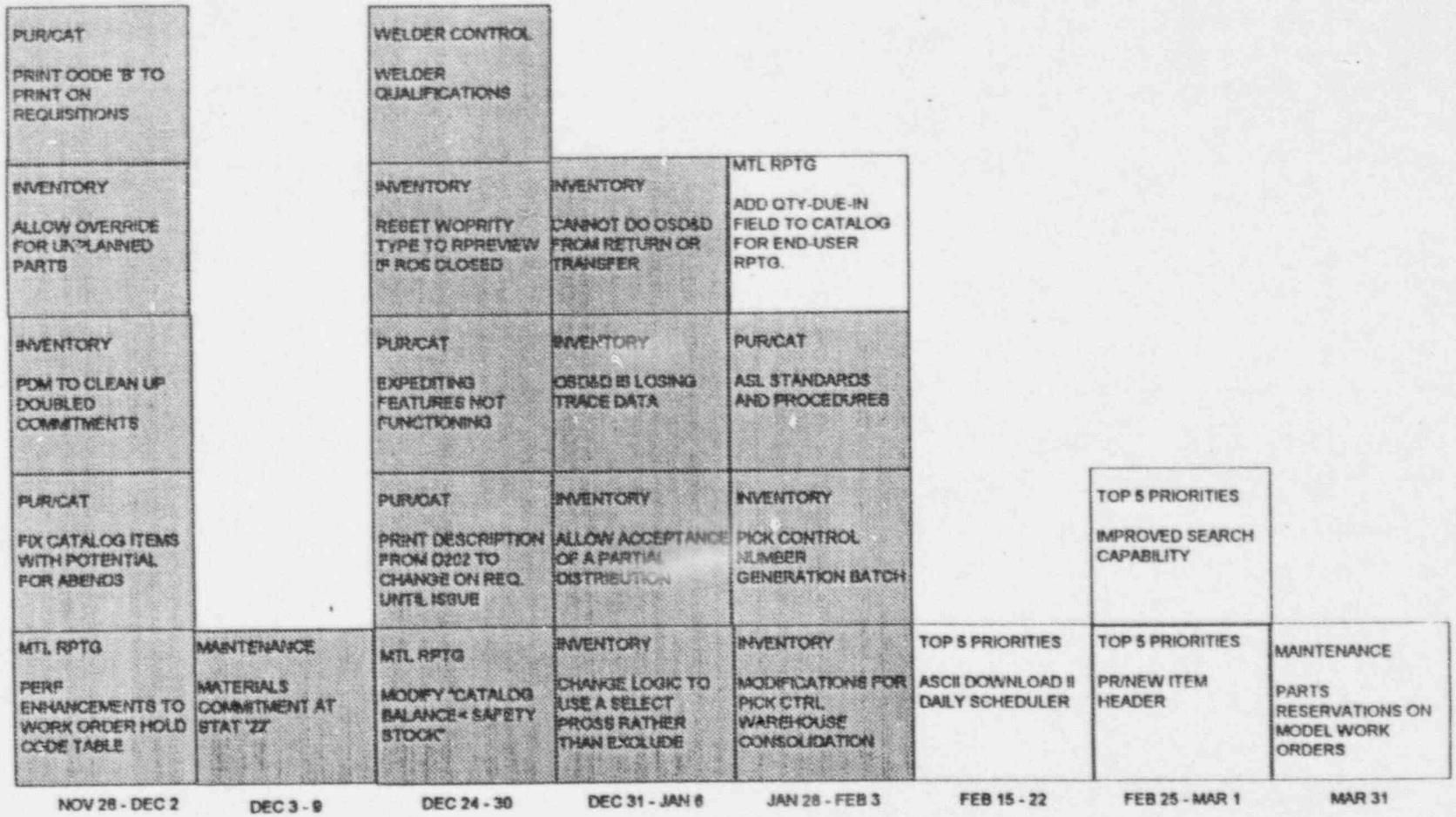
CAPITAL BUDGET

Bill Walker - Resource Control



Data Source: Bill Walker

ST. LUCIE PLANT - PASSPORT ISSUES



LICENSING

IMPROVEMENTS/ACTIONS

LICENSING

Major Improvement Areas

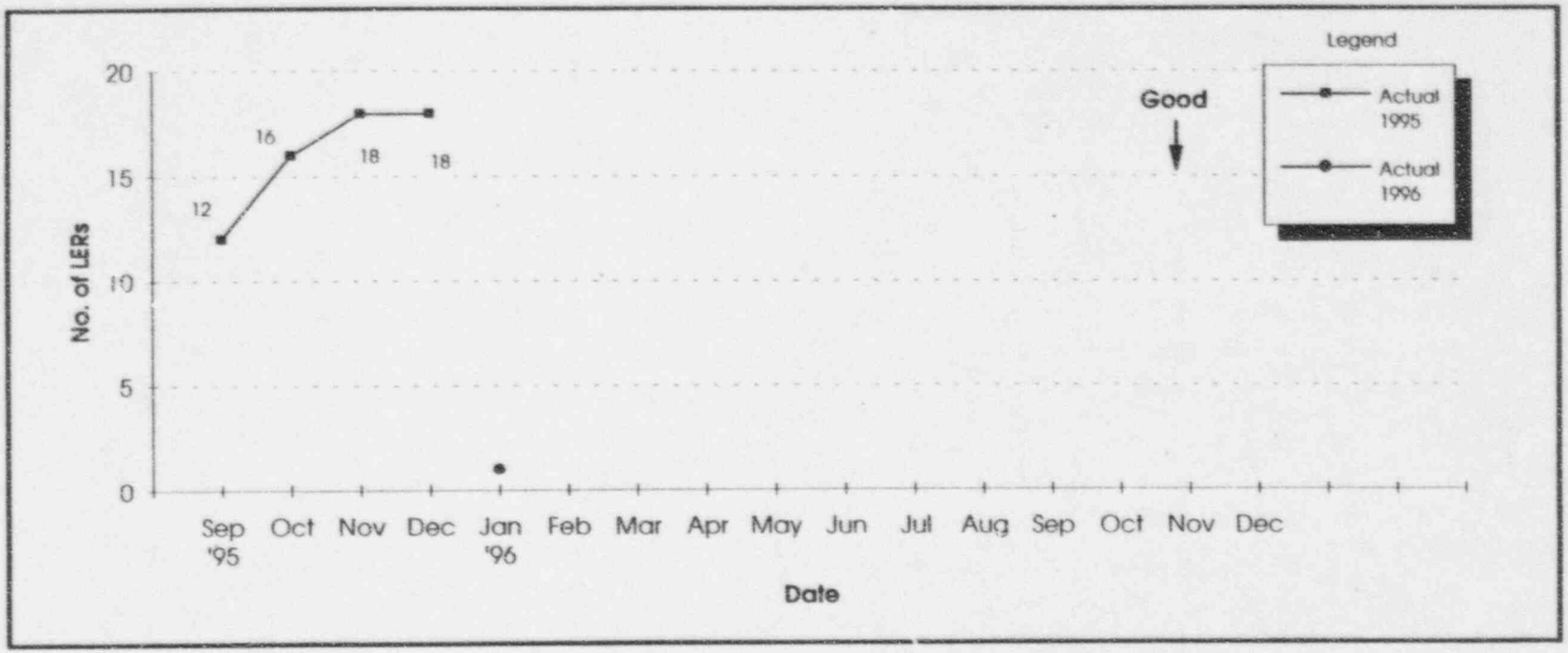
Improve Support to Operations in the Use and Interpretation of the PSL Technical Specifications:

• Further evaluate cost/benefit of implementation of Improved Standard Technical Specifications (ISTS).	6/30/96
• Improve the Technical Specifications BASES:	
- Submit PLAs to remove the BASES from the PSL Technical Specifications Index	6/30/96
- Use the ISTS BASES for PSL BASES improvements.	On-going (post-PLA approval)
• Evaluate the need for Technical Specifications position statements.	6/30/96

Address and improve the implementation of the Operating Experience Feedback (OEF) Program.	3/31/96
Determine the need to track both 10 CFR §50.72 and 10 CFR §50.73. Reportable Event notifications.	3/31/96

LICENSEE EVENT REPORTS

Ed Weinkam - Licensing



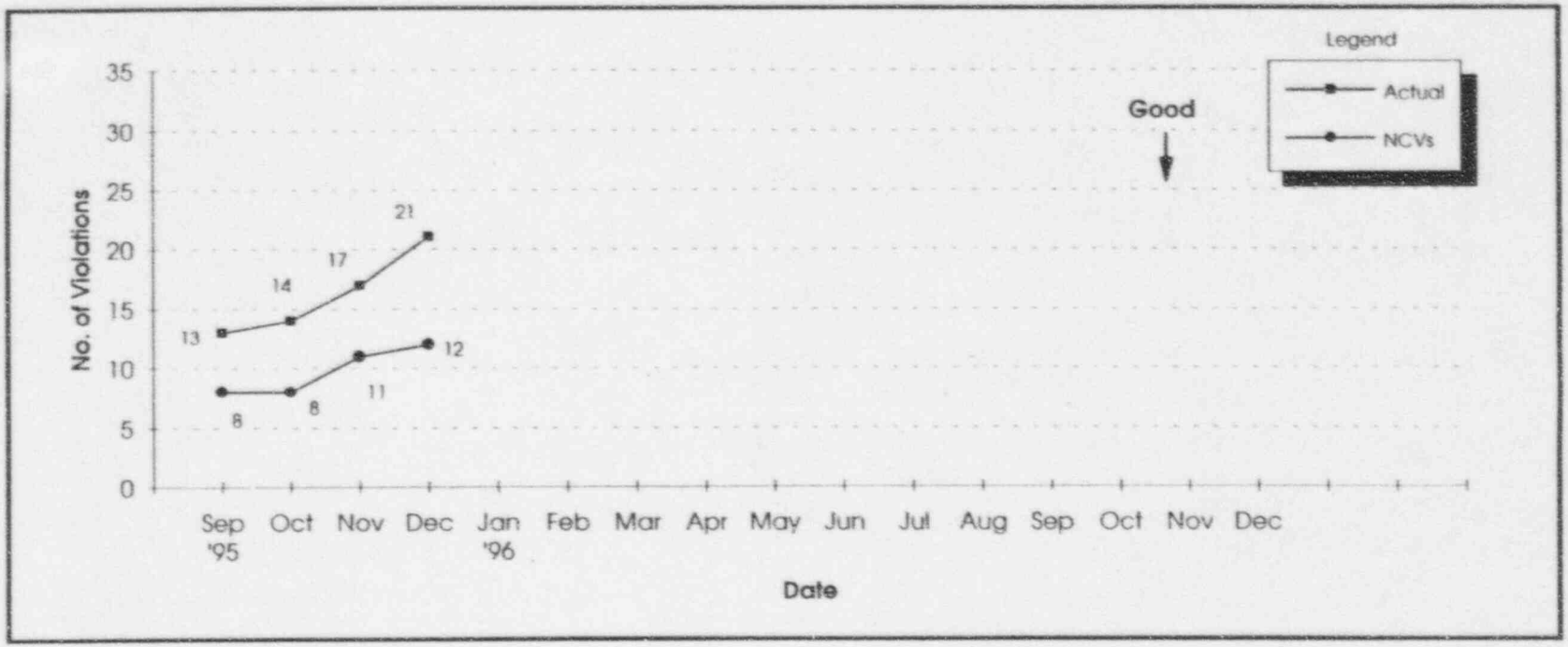
Data Source: Ed Weinkam

SUMMARY STATUS

Date	Event
1/5/96	Unit 2 Manual Reactor Trip Due to High Generator Cold Gas Temperature

NRC VIOLATIONS

Ed Woinkam - Licensing



Data Source: Ed Weinkam

HUMAN RESOURCES

IMPROVEMENTS/ACTIONS

HUMAN RESOURCES

Major Improvement Areas

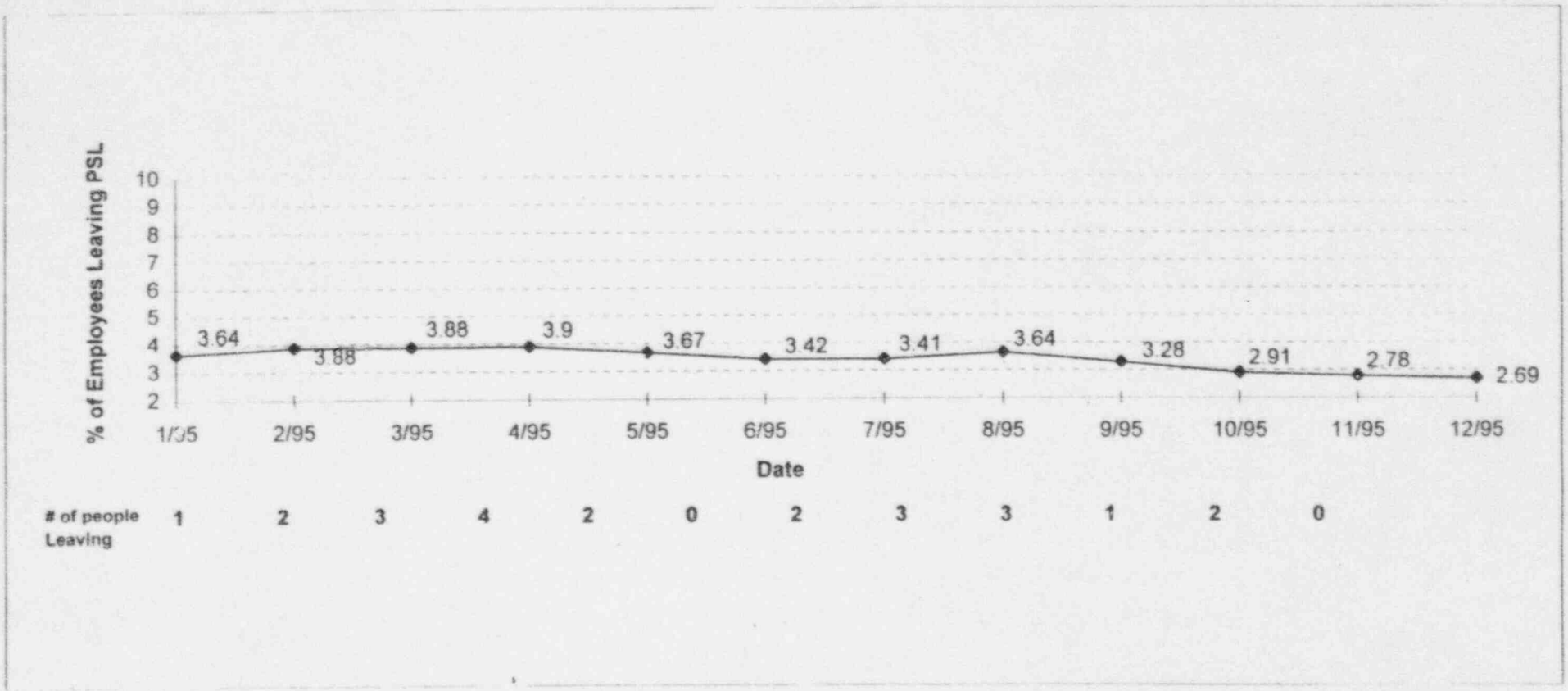
Strengthen the Management Skills of our Supervision:

• Include the following attributes in personnel performance appraisals: - Adherence to procedures - Compliance with Industrial Safety Program	Complete
• Develop and issue guidelines to foreman and supervisory personnel on assessing employee performance.	Complete
• Evaluate and modify, if necessary, accountabilities of foremen/ supervisors to ensure handling employee performance is a key responsibility. Ensure these accountabilities are clearly identified in the foreman/ supervisor selection process.	3/15/96
• Interview foreman and supervisor incumbents to ensure they are willing to meet the expectations of the position in handling employee performance issues.	6/30/96

Improve Labor Relations:

• Reduce number of union grievances not handled within 10 days. Include indicator for review.	Tracking Implemented Process On-going

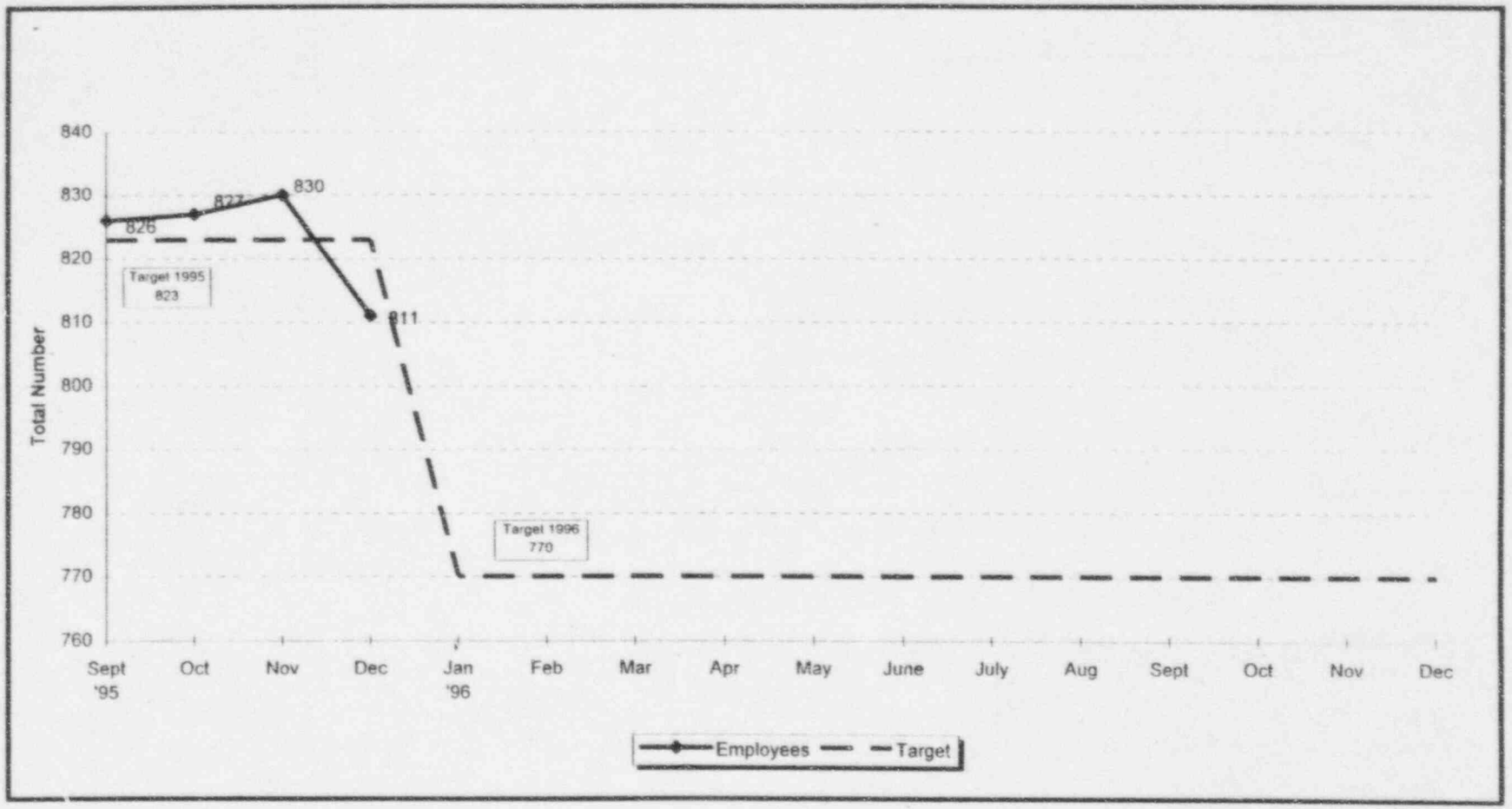
ANNUALIZED VOLUNTARY EXTERNAL TURNOVER
ST. LUCIE PLANT
Andy DeSoiza - Human Resources



DEFINITION: Turnover - the total number of people leaving site. (direct reports to Site VP)

Percentage calculated by number of people leaving site over the total number of FPL, St. Lucie, employees on site.

ST LUCIE PLANT
Total Employees
Andy DeSolza - Human Resources

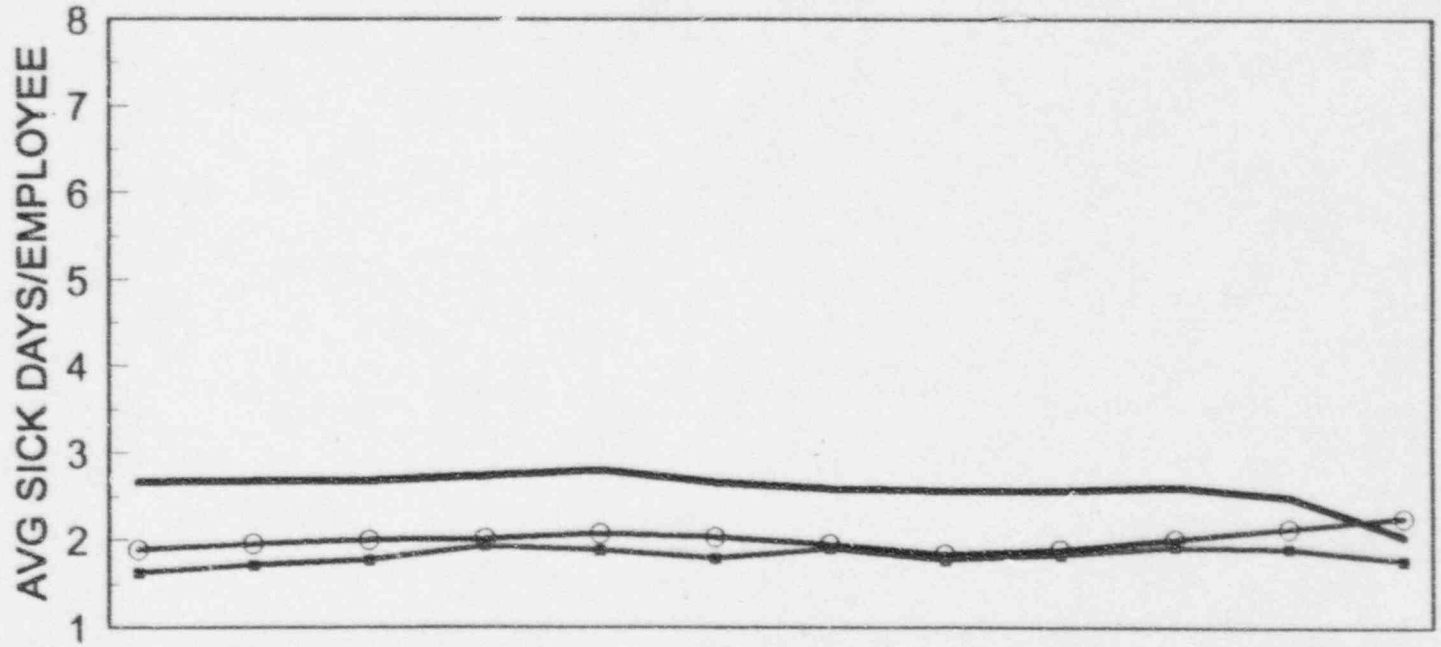


1/22/96

NUCLEAR DIVISION
EXEMPT ABSENTEEISM

DECEMBER, 1995

12 Month Average

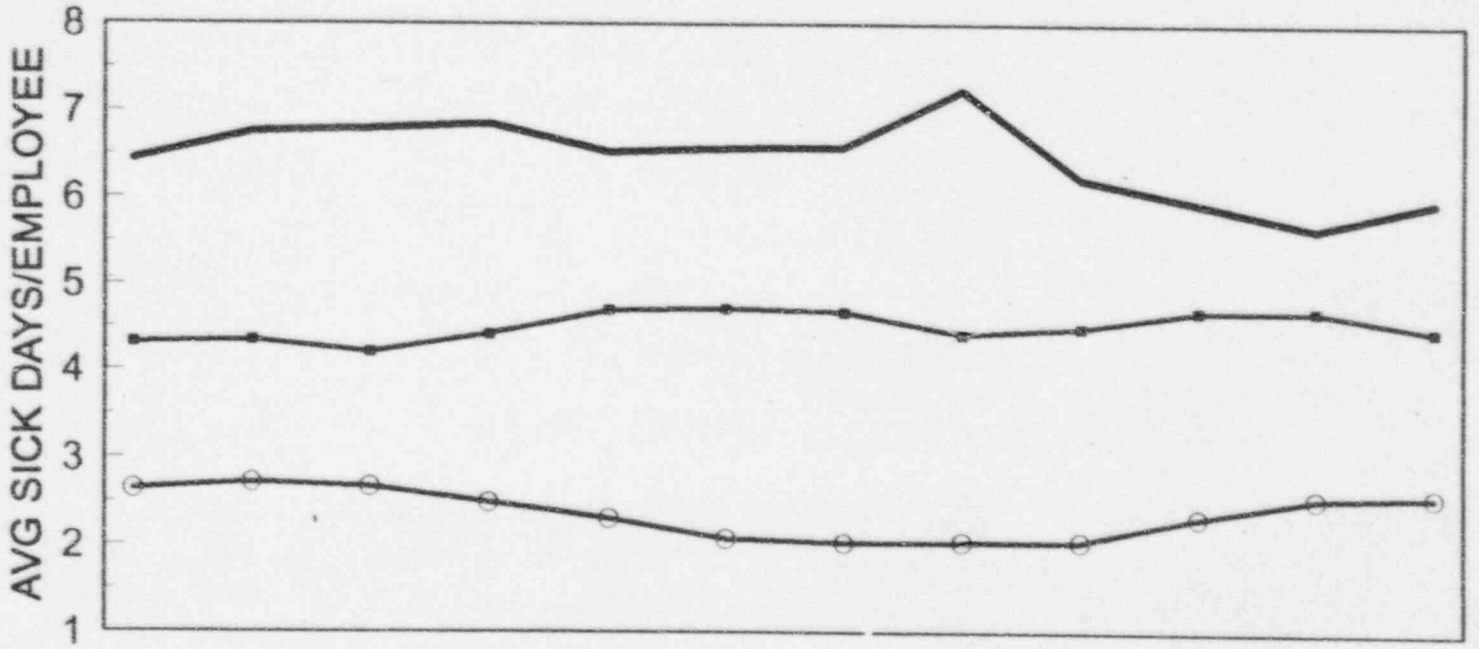


12 months ending	J	F	M	A	M	J	J	A	S	O	N	D
JB STAFF	2.66	2.68	2.68	2.74	2.80	2.66	2.59	2.57	2.57	2.61	2.49	2.04
PSL	1.88	1.95	1.99	2.01	2.07	2.03	1.95	1.84	1.89	2.01	2.13	2.25
PTN	1.62	1.71	1.77	1.93	1.88	1.79	1.90	1.77	1.83	1.92	1.90	1.77

NUCLEAR DIVISION
NON-EXEMPT ABSENTEEISM

DECEMBER , 1995

12 Month Average

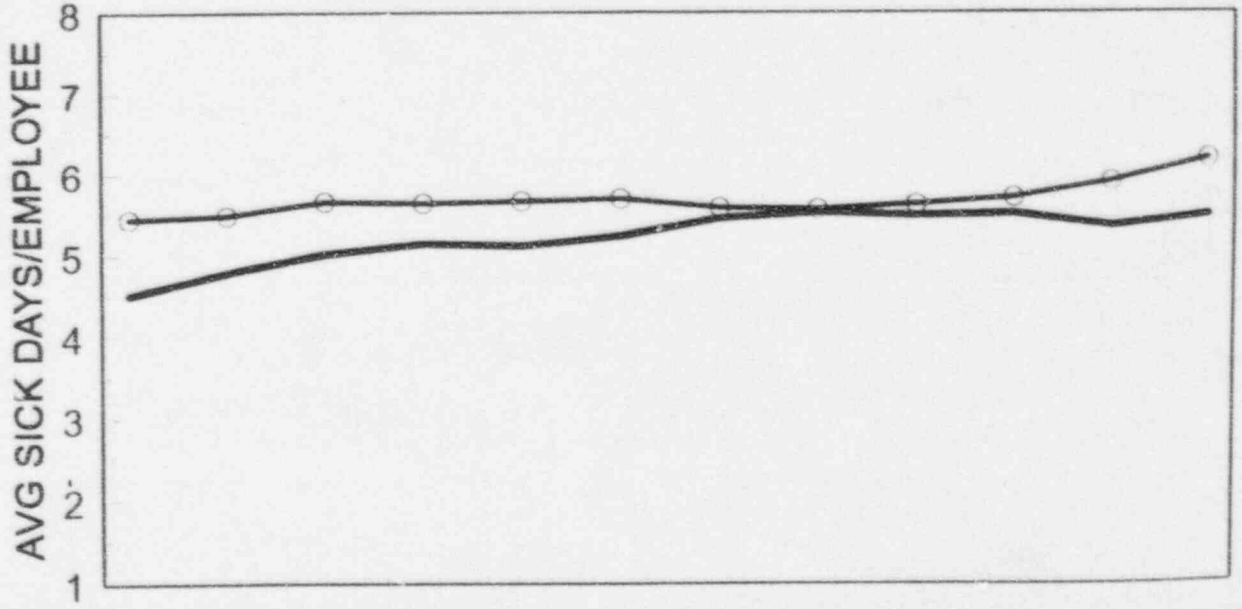


12 months ending	J	F	M	A	M	J	J	A	S	O	N	D
JB STAFF	6.43	6.75	6.79	6.85	6.51	6.56	6.57	7.24	6.21	5.93	5.64	5.95
PSL	2.64	2.71	2.66	2.48	2.30	2.07	2.02	2.03	2.04	2.32	2.54	2.57
PTN	4.31	4.34	4.20	4.41	4.69	4.71	4.67	4.41	4.49	4.68	4.69	4.46

NUCLEAR DIVISION
BARGAINING UNIT
ABSENTEEISM

DECEMBER , 1995

12 Month Average



12 months ending	J	F	M	A	M	J	J	A	S	O	N	D
PTN	4.51	4.79	5.02	5.14	5.11	5.23	5.45	5.52	5.48	5.50	5.35	5.49
PSL	5.45	5.49	5.66	5.64	5.66	5.69	5.58	5.56	5.62	5.70	5.90	6.19

FACSIMILE TRANSMITTAL

UNITED STATES NUCLEAR REGULATORY COMMISSION

PRIORITY

__ HAND CARRY

__ CALL EXT. ______

__ ROUTINE MAIL

TO: Ellis Merschoff

FROM: ST. LUCIE -

SUBJECT: ____________________

NO. OF PAGES: ______________ + TRANSMITTAL SHEET

FAX NO. 407-461-4622

REMARKS:

mm/3

FPL

To: R. J. Acosta Date: Sept. 7, 1996

From: R. G. Leckey Dept: JA-JB

Subject: **Nuclear Safety SPEAKOUT Action Items**

Ref: (1) T. F. Plunkett Memo to NRC L-96-160, dated June 20, 1996
(2) NRC Inspection Report 96-05, dated May 31, 1996
(3) Morgan, Lewis & Bokius LLP Assessment, dated May 31, 1996

A Self-Assessment of the actions taken by Nuclear Assurance to address commitments, recommendations, and comments contained in the referenced documents has been completed.

Attached is a copy of the Self-Assessment which indicates that all issues identified have been adequately addressed.

This Self-Assessment also documents actions necessary to close-out JB AIT #'s 960304, 960302, and 960301. Action Item # 960303, due June 1, 1997; was opened to track the latest date to complete the next Self-Assessment.

R. G. Leckey
Supervisor SPEAKOUT
RGL/rgl
Enclosure

cc:
M. S. Dryden, J. Luchka, J. Gallagher, G. Wiles, J. DeAngelis

SELF-ASSESSMENT OF ACTIONS TAKEN TO ADDRESS NUCLEAR SAFETY SPEAKOUT NRC INSPECTION AND INDEPENDENT ASSESSMENT ACTION ITEMS (Completed Sept. 6, 1996)

ITEM DESCRIPTION (C=Commitment, R=Recommendation, O=Observation)	SOURCE	REQUIRED DATE	ACTION TAKEN/REQUIRED	DATE COMPLETE
1. Increase SPEAKOUT staffing(C).	TFP L-96-160	Early Sept. 96	(a)Appointed Supervisor responsible for SPEAKOUT at all locations. (b)Added one full-time investigator at PTN and PSL(Total of two at each location).Investigations at JB will draw resources as needed.	(a)July 1, 1996 (b)Sept. 3, 1996
2. Improve feedback to concernees by providing more detailed response letters(C).	TFP L-96-160	Early Sept. 96	(a)NSS-1 revised to provide additional guidance on content of response letters(par. 5.9.2). (b)NSS-1 revised to require new supervisor to review and approve all concern response letters prior to SRC review and transmittal(pars.5.9.1, 5.9.2). (c)NSS-1 revised to clarify SRC responsibility to review most response letters prior to transmittal(pars.3.4, 5.9.3). (d)NSS-1 revised to provide for a verbal debrief with the concernee in addition to the response letter when warranted(par.5.9.6).	Sept. 3, 1996
3. Perform approx. annual Self-assessments of SPEAKOUT to determine program effectiveness(C).	TFP L-96-160	Early Sept. 96	(a)An independent assessment of SPEAKOUT was performed by Morgan, Lewis, & Bockius LLP. (b)This Self-assessment completed 9/6/96. (c)The next Self-assessment of SPEAKOUT will be completed by May 31,1997. (d)SPEAKOUT personnel attended a Self-Assessment Workshop August 21, 1996. (e)NSS-1 was revised to provide for periodic Self-Assessment(par. 7.1) including the use of scheduled interviews for the purpose of Self-Assessment(par. 5.3.2).	(a)May 31, 1996 (b)Sept. 6, 1996 (c)May 31, 1997 (d)Aug. 21, 1996 (e)Sept. 3, 1996
4. SPEAKOUT recommendations will be tracked through final disposition(C).	TFP L-96-160	Early Sept. 96	(a)NSS-1 revised to require tracking of all SPEAKOUT recommendations to final disposition(pars. 3.2.10, 3.3.21, 5.10). (b)NSS-1 revised to provide for processing SPEAKOUT recommendations via Condition Reports(CRs) when confidentiality will not be compromised. (c)NSS-1 revised to provide management follow-up when recommendations late or not implemented(pars.5.10.3, 5.10.4).	Sept. 3, 1996

ITEM DESCRIPTION (C=Commitment, R=Recommendation, O=Observation)	SOURCE	REQUIRED DATE	ACTION TAKEN/REQUIRED	DATE COMPLETE
5. Investigative techniques and methods have the potential to inadvertently reveal the identity of the concernee(O)	NRC IR PTN 96-05, PSL 96-07	Early Sept. 96	(a)NSS-1 has been completely re-written to update and clarify SPEAKOUT procedures including those to protect concernee confidentiality(pars. 3.2.11, 3.3.20, 5.2.1, 5.4.2). (b)Training was attended by all SPEAKOUT investigators on investigative techniques. (c)Investigation Plans will be developed when special considerations are appropriate to protect confidentiality (par.5.6.2).	Sept. 3, 1996
6. Perceived concern resolution timeliness(O).	NRC IR PTN 96-05, PSL 96-07	Early Sept. 96	(a) The additional staffing and full time supervision noted in Item No. 1 above will address this issue. (b)The indicator for concern aging will receive additional management attention to ensure the intended results are achieved. (c)Timeliness will be an item evaluated in future self-assessments. (d)The additional staffing will allow some investigations previously assigned to line departments for investigation to be accomplished by SPEAKOUT investigators. (e)Tracking of concerns not resolved in a timely manner will be facilitated by the additional staffing and a notification of status will be sent to the concernee after 45 days.	(a)Sept. 3, 1996 (b)Ongoing (c)May 31, 1997 (d)Sept. 3, 1996 (e)Sept. 3, 1996
7. NSS-1 is out-of-date and does not reflect current practices or meet the intent of NP-800, e.g.: -Investigation Plans not used -Positions defined not staffed -Scheduled interviews not conducted -Corrective action not tracked thru implementation(O).	NRC IR PTN 96-05, PSL 96-07	Early Sept. 96	(a)NSS-1 has been completely revised to reflect program enhancements, current practices, organization, etc.	Sept. 3, 1996
8. Concerns not always entered into the database in a timely manner and concernees routinely informed that resolution of their concern will be delayed. Trend in open concern backlog and ageing is increasing(O).	NRC IR PTN 96-05, PSL 96-07	Early Sept. 96	(a)The additional staffing will alleviate this issue (See Item 1).	Sept. 3, 1996

ITEM DESCRIPTION (C=Commitment, R=Recommendation, O=Observation)	SOURCE	REQUIRED DATE	ACTION TAKEN/REQUIRED	DATE COMPLETE
9. Some concernees "badgered" for going to SPEAKOUT(O).	NRC IR PTN 96-05, PSL 96-07	Early Sept. 96	(a)NP-800 has been revised and reissued by the President Nuclear Division to specify that harassment or intimidation of employees who provide information to SPEAKOUT will not be tolerated and will result in severe disciplinary action. (b)The video used to orient entrants to the sites and prior to exit interviews has been updated by the President and emphasizes his policy of non-threatening behavior towards SPEAKOUT participants. (c)The Nuclear Division President issued a memo re-emphasizing his policy of freedom of employees to raise safety concerns without fear of retaliation.	(a)Sept. 3, 1996 (b)Complete (c)Sept. 5, 1996
10. Concerns not adequately resolved(O).	NRC IR PTN 96-05, PSL 6-07	Early Sept. 96	(a)Additional resources assigned to SPEAKOUT will allow for more thorough, focused investigations. (b)The new supervisor, with a technical and quality assurance background, will provide full time oversight that emphasizes quality of investigations and feedback along with increased timeliness. (c)Training in investigative techniques and event analysis will enhance the skills of the SPEAKOUT investigators. (d)Providing additional staffing to allow more investigations to be performed by SPEAKOUT investigators, rather than assigning to other department personnel, will improve the quality of investigations. (e)Selective use of Investigation Plans for appropriate concerns will serve to enhance those investigations. (f)SRC role in reviewing Investigation Reports clarified(par. 3.4.4).	(a)Sept. 3, 1996 (b)Sept. 3, 1996 (c)July 26, 1996 (d)Sept. 3, 1996 (e)Sept. 3, 1996 (f)Sept. 3, 1996
11. Administrative errors and lack of attention to detail(O).	NRC IR PTN 96-05, PSL 6-07	Early Sept. 96	(a)Standardized SPEAKOUT processes as a result of revisions to NSS-1, increased staffing, and full time supervision will address these issues.	Sept. 3, 1996
12. Inconsistencies in method used to document acknowledgment to employee that investigation might reveal identity(O).	NRC IR PTN 96-05, PSL 6-07	Early Sept. 96	(a)NSS-1 has been revised to clarify the use of the Identity Disclosure Acknowledgment form(par. 5.2.1.4). (b)Standardized SPEAKOUT processes as a result of revisions to NSS-1 and full time supervisory attention will minimize inconsistencies between investigators and locations.	Sept. 3, 1996
13. The program description is not clear on training applicability(O).	M,I&B Assess.	N/A	(a)Par. 6.1 clearly applies to SPEAKOUT personnel only However, additional assigned SPEAKOUT personnel will allow for more coaching of other Dept. investigators(par. 3.3.5). (b)The additional SPEAKOUT personnel will allow more investigations to be performed by SPEAKOUT. (c)Investigation plans will be provided by SPEAKOUT to other Depts. when appropriate (par. 3.7.1)	Sept. 3, 1996

ITEM DESCRIPTION (C=Commitment, R=Recommendation, O=Observation)	SOURCE	REQUIRED DATE	ACTION TAKEN/REQUIRED	DATE COMPLETE
14. Administrative features and turnaround adversely impacted by reduced resources(O).	M,L&B Assess.	N/A	(a)See items 1,6,7 above.	Sept. 3, 1996
15. Instructions do not address actions by SPEAKOUT to ensure no retaliation against employee after concern dispositioned(O).	M,L&B Assess.	N/A	(a)See item 9 above. (b)Added reference to NRC Policy Statement(par. 2.1.10). (c)Included in NP-800, Rev.4. (d)The SPEAKOUT orientation video has been updated by the President and emphasizes his policy of non-threatening behavior towards SPEAKOUT participants. (e)PSL AP 0010519, (pars.8.2.2,8.1.3); PTN 0-ADM-002(par.5.1.1,5.2.2); and IP-802 (pars.5.1.1,5.2.2) clearly establish and communicate the policy. (f)NSS-1 (pars. 5.2.1,5.4.2.3) provide for confidentiality so far as practicable throughout the process.	(a)Sept. 5, 1996 (b)Sept. 3, 1996 (c)Sept. 3, 1996 (d)Complete (e)Complete (f)Sept. 3, 1996
16. Feedback to the concernee may not be sufficient(O).	M,L&B Assess.	N/A	(a)See item 2 above.	Sept. 3, 1996
17. NSS-1 does not address measures of effectiveness for SPEAKOUT(O).	M,L&B Assess.	N/A	(a)See item 3 above. (b)NSS-1 was revised to include performance indicators(par.7.1).	Sept. 3, 1996
18. NSS-1 does not address the role of prioritization in management of SPEAKOUT workload(O).	M,L&B Assess.	N/A	(a)The Supervisor is responsible for prioritizing concern investigations (pars. 3.3.3, 5.5)	Sept. 3, 1996
19. SPEAKOUT addresses concerns retrospectively rather than prospectively. Instructions do not address training of supervisors or managers with respect to managing employee safety concerns(O).	M,L&B Assess.	N/A	(a)This is not considered a direct SPEAKOUT accountability. The necessary policies and practices are well documented in SPEAKOUT procedures and management policy statements, as referenced above(NP-800, TFP Video, TFP Memo, etc.). This is an item that will be reflected in Self-Assessment results. (b)Mgt./Supv. Civil Conduct training covers this topic.	(a)Sept. 3, 1996 (b)Ongoing
20. Handling of contractors is not specifically addressed(O).	M,L&B Assess.	N/A	(a)NSS-1(par. 1.0) and NP 800 have been revised to more specifically include contractors in all aspects of the program. No distinction is made or intended relative to processing contractor concerns vs employees. (b)The Video used to orient contractors, and for their exit interviews, makes it clear that contractors may express concerns to FPL SPEAKOUT. Previous data indicates that contractors have been included and do participate.	(a)Sept. 3, 1996 (b)Ongoing
21. NSS-1 does not address interaction, oversight, or coordination of contractor's ECP's(O).	M,L&B Assess.	N/A	(a)JB QA performs a planned review of major contractor's DOL 211 activities. (b)The pertinent regulatory requirements are incorporated into all applicable procurement documents.	Sept. 3, 1996

ITEM DESCRIPTION (C=Commitment, R=Recommendation, O=Observation)	SOURCE	REQUIRED DATE	ACTION TAKEN/REQUIRED	DATE COMPLETE
22. Procedural safeguards for maintaining confidentiality need reconciled with current staffing/practices(O).	M,L&B Assess.	N/A	(a)See items 1 and 7 above.	Ongoing
23. SPEAKOUT could investigate more concerns in-house with additional resources(O).	M,L&B Assess.	N/A	(a)See item 1 above. (b)Once the current backlog and aging time is reduced, consideration will be given to bringing more investigations in-house.	Sept. 3, 1996
24. Management should review staffing at PTN and PSL(O).	M,L&B Assess.	N/A	(a)See item 1 above.	Aug. 1, 1996
25. No formal training provided to employees of other departments investigating SPEAKOUT concerns(O).	M,L&B Assess.	N/A	(a)Training in selected topics was provided to all SPEAKOUT investigators and some other individuals on July 25, 26 and Aug. 21. (b)See item 13 above for additional discussion. NOTE: Since it is not possible to predict the specific resource needs from other Depts. in advance, the above measures are considered more effective than mass training or other possible actions.	(a)Complete (b)Sept. 3, 1996
26. Training for new investigators should be considered(O).	M,L&B Assess.	N/A	(a)Training in selected topics was provided to all SPEAKOUT investigators on July 25, 26 and Aug. 21. (b)See item 13 above. (c)NSS-1 includes adequate training guidance.	(a)Complete (b)Sept. 3, 1996 (c)Sept. 3, 1996
27. Management should reconcile expectations with respect to quality/timeliness of investigations with available resources(O).	M,L&B Assess.	N/A	(a)See items 1,6 and 10 above. (b)Performance measures (par. 7.0) will be monitored to evaluate effectiveness.	Sept. 3, 1996
28. NSS-1 does not address prioritization among multiple Class 1 concerns and dedication of NSS resources(O).	M,L&B Assess.	N/A	(a)See item 18 above. (b)Item 1 also will obviate this issue.	Sept. 3, 1996
29. Some administrative portions of the program are not being accomplished because of resource limitations(O).	M,L&B Assess.	N/A	(a)See item 1,6,7,14,24, and 27 above.	Sept. 3, 1996
30. The program appears understaffed to meet all stated objectives(O).	M,L&B Assess.	N/A	(a)See item 29 above.	Sept. 3, 1996
31. NSS is not audited. Self-Assessments may be effective in identifying trends before weaknesses develop(O).	M,L&B Assess.	N/A	NOTE: Due to the sensitivity of the SPEAKOUT information, audits would add a potential vulnerability to the confidentiality. (a)Performance indicators and Self-Assessment results will be monitored to determine the need for independent audits.	Ongoing

ITEM DESCRIPTION (C=Commitment, R=Recommendation, O=Observation)	SOURCE	REQUIRED DATE	ACTION TAKEN/REQUIRED	DATE COMPLETE
32. The program may be less effective in addressing non-safety issues in a timely manner(O).	M,L&B Assess.	N/A	(a)Items 1,6,8,10,11,18,23,27,28,29,30,etc. above address this issue.	Sept. 3, 1996
33. Minimal feedback in response letter(O).	M,L&B Assess.	N/A	(a)See item 2 above.	Sept. 3, 1996
34. Completeness of documentation varies between locations(O).	M,L&B Assess.	N/A	(a)See items 1,7,10,11,12 and 23 above.	Sept. 3, 1996
35. Quality of investigations not reviewed by SRC is questionable(O).	M,L&B Assess.	N/A	(a)NSS-1 revised to clarify SRC responsibilities(par. 3.4). (b)All investigation reports will be reviewed and approved by the Supervisor(par. 3.2.14). (c)See items 1,7,10,23,32 above.	Sept. 3, 1996
36. Classification of concerns at all locations not consistent(O).	M,L&B Assess.	N/A	(a)The Supervisor, in addition to review by the Director, will review and approve all classifications(pars.3.1.1, 3.2.5, 5.5).	Sept. 3, 1996
37. Appreciation Centers unmanned while investigator performing other duties(O).	M,L&B Assess.	N/A	(a)See item 1 above.	Sept. 3, 1996
38. Practice of providing concernee identity to Security not consistent(O).	M,L&B Assess.	N/A	(a)The identity will be revealed to the assigned Dept. only when it is necessary to conduct the investigation (pars.5.2.1.2, 5.2.1.4, 5.6.2, and 5.7.1). (b)See also items 5,22, and 23 above.	Sept. 3, 1996
39. Dispemination of lessons learned, such as trends or opportunities to improve SPEAKOUT performance, is informal(O).	M,L&B Assess.	N/A	(a)Monthly reports, performance indicators and self-assessments will address this issue (pars. 5.11, and 7.0). (b)See items 3,17, and 31 above.	Sept. 3, 1996
40. Feedback not solicited from concernees(O).	M,L&B Assess.	N/A	(a)Some self-assessments will be structured to include concernee feedback (par. 7.2), including Scheduled Interviews(par.5.3.2). (b)Verbal debrief of concernees will provide real-time feedback (par. 5.9.6).	Sept. 3, 1996
41. Emphasis on reducing backlog and turnaround by SPEAKOUT may have lessened review of investigations by other Depts(O).	M,L&B Assess.	N/A	(a)See items 1,6,10,14,23,32, etc., above.	Sept. 3, 1996
42. Periodic feedback to apprise concernee of status of investigations not consistently provided(O).	M,L&B Assess.	N/A	(a)Concern aging will be tracked and feedback provided after 45 days (par. 5.9.5). (b)Item 1, etc., will also address this issue.	Sept. 3, 1996

ITEM DESCRIPTION (C=Commitment, R=Recommendation, O=Observation)	SOURCE	REQUIRED DATE	ACTION TAKEN/REQUIRED	DATE COMPLETE
43. Concerns are substantiated but changes are not made(O).	M,L&B Assess.	N/A	(a)Improvements have been incorporated in NSS-1 to improve SPEAKOUT's follow-up to recommendations. See item 4 above. (b)Self-Assessments and/or Indicators will be used to monitor the effectiveness of these revisions(par. 7.0).	Sept. 3, 1996
44. Revise NSS-1 to reflect manpower resources and current practice(R).	M,L&B Assess.	N/A	(a)See 7, 24, 27, 29, 30, 32, etc., above.	Sept. 3, 1996
45. Evaluate the scope of concerns accepted to ensure scope matches resources. Consider matrixing dedicated employees from other Depts. Centralization of some administrative tasks may be possible(R).	M,L&B Assess.	N/A	(a)See 7, 24, 27, 29, 30, 32, etc., above. (b)Items 23, 25, and 32 also address this issue.	Sept. 3, 1996
46. Provide more information to concernees on the results of the investigation and basis for conclusions(R).	M,L&B Assess.	N/A	(a)See items 2, 10, 16, 33 above.	Sept. 3, 1996
47. Consider use of CR's for processing recommendations and/or concerns anonymously(R).	M,L&B Assess.	N/A	(a)NSS-1 was revised to include the use of CR's for some recommendations(par. 5.10.2 and for some conditions identified by SPEAKOUT during an investigation(par. 5.1.1.1). NOTE: It was considered and determined inappropriate to enter concerns directly into the CR system for processing, since presumably the concernee would have done so had he felt that would adequately address the problem.	Sept. 3, 1996
48. Consider augmenting SPEAKOUT staff with employees from line organizations for a fixed period of time(R).	M,L&B Assess.	N/A	(a)The SPEAKOUT staff has been augmented with qualified, experienced personnel(See item 1 above). (b)Items 13, 23, and 25 alsoaddresss this issue.	Sept. 3, 1996
49. Consider developing classification examples from past practice as a guide(R).	M,L&B Assess.	N/A	(a) See item 36 above.	Sept. 3, 1996
50. Revise NSS-1 to specifically include contractors in the scope of the program(R).	M,L&B Assess.	N/A	(a)See item 20 above.	Sept. 3, 1996
51. Consider reviewing contractor ECP's and handling of allegations(R).	M,L&B Assess.	N/A	(a)See item 21 above.	Ongoing
52. Consider formalized training for any additions to the SPEAKOUT staff(R).	M,L&B Assess.	N/A	(a)See item 26 above.	Sept. 3, 1996
53. Consider periodic assessments or audits of the SPEAKOUT program(R).	M,L&B Assess.	N/A	(a)See item 31 above.	Sept. 3, 1996