

LICENSEE: System Energy Resources, Inc.  
FACILITY: Grand Gulf Nuclear Station, Unit 1  
SUBJECT: SUMMARY OF AUGUST 15, 1988 MEETING REGARDING THE THIRD  
REFUELING OUTAGE

The purpose of the meeting was to present plans for the third refueling outage to management of the NRC, Division of Reactor Projects I/II. Attendees are listed in Enclosure 1. Enclosure 2 is a handout prepared by the licensee. The licensee stated that morale of the generating organization is good. There is very low turnover and no union problems. System Energy Resources, Inc., has initiated random testing of plant personnel for drugs.

The licensee said its goal for the third refueling outage (RF03) was to complete the outage in 45 days while minimizing radiation exposure of personnel and reportable events, such as actuation of engineered safety features. An outage director has been put in charge of preoutage planning and coordination of outage activities. Administrative controls will be used to conduct the outage in a prudent manner. (See Sheets 3 and 4 of Enclosure 2).

A schedule of preoutage activities is shown on Sheet 5 of Enclosure 2 and a schedule of outage activities is shown on sheet 8A of Enclosure 2. A feature of the outage planning is the designation of the availability of emergency core cooling system components and shutdown cooling systems. (Top of Sheet 8A). Components designated as "functional" are available within a short time interval while others not designated are either operating or operable. "Functional" means they can perform their function after simple operations, like closing a breaker or opening a valve.

Major activities during the outage will include chemical cleaning of the standby service water system, a low pressure turbine inspection, inservice inspection of the reactor coolant system, removal of the remainder of the sensors used in the startup test of reactor core internals vibration, and inspection of the Division I TDI diesel generator. During the first part of the outage, a new system for removal of decay heat during outages will be installed. This alternative decay heat removal (ADHR) system will use two pumps and two heat exchangers purchased for the Grand Gulf Nuclear Station, Unit 2, spent fuel pool cooling system. The ADHR will be installed in the residual heat removal (RHR) "C" pump room and will take suction from the RHR common suction line and discharge to the low pressure coolant injection system line.

Technical Specification changes are grouped under two headings on Sheet 9 of Enclosure 2. Those listed under "Outage Assumption" were assumed to be approved in planning the outage schedule; and, therefore, the licensee considers them to have high priority. As of the date of this summary preparation, Items A, B, E, F and G have been submitted.

The reload amendment was discussed with the staff on July 28, 1988; and a December 9, 1988 submittal date was agreed to by the staff. Technical Specification changes listed under "Outage Contingencies/Improvements" are given a lower priority by the licensee. Items A, B and C have been submitted.

In response to a staff question, the licensee said that the noise detected in the "B" recirculation loop will be investigated during the outage. If the noise is found to come from the recirculation flow control valve, as expected, there will be no impact on the outage schedule. However, if the noise comes from the discharge valve, repairs may impact restart.

*LS/*

Lester L. Kintner, Senior Project Manager  
Project Directorate II-1  
Division of Reactor Projects I/II

Enclosures:  
As stated

cc w/encls:  
See attached list

OFC	: PM: PO21: DRPR: D: PO21: DRPR :	:	:	:	:	:	:	:
NAME	: L. Kintner: jw: E. Adensam :	:	:	:	:	:	:	:
DATE	: 9/13/88 : 9/17/88 :	:	:	:	:	:	:	:

DISTRIBUTION FOR MEETING SUMMARY DATED: September 14, 1988

Facility: GRAND GULF UNIT 1

**Docket File**

NRC PDR

Local PDR

PDI-1 Reading

S. Varga (14E4)

G. Laines

E. Adensam

P. Anderson

Project Manager

OGC

E. Jordan (MNRB 3302)

B. Grimes (9A2)

NRC Participants

ACRS (10)

B. Troskoski (17D19)

cc: Licensee/Applicant Service List

DF01  
'1

Mr. Oliver D. Kingsley, Jr.  
System Energy Resources, Inc.

Grand Gulf Nuclear Station (GGNS)

cc:

Mr. Ted H. Cloninger  
Vice President, Nuclear Engineering  
and Support  
System Energy Resources, Inc.  
Post Office Box 23054  
Jackson, Mississippi 39205

Mr. C. R. Hutchinson  
GGNS General Manager  
System Energy Resources, Inc.  
Post Office Box 756  
Port Gibson, Mississippi 39150

Robert B. McGehee, Esquire  
Wise, Carter, Child, Steen and Caraway  
P.O. Box 651  
Jackson, Mississippi 39205

The Honorable William J. Guste, Jr.  
Attorney General  
Department of Justice  
State of Louisiana  
Baton Rouge, Louisiana 70804

Nicholas S. Reynolds, Esquire  
Bishop, Liberman, Cook, Purcell  
and Reynolds  
1400 L Street, N.W.  
Washington, D. C. 20005-3502

Office of the Governor  
State of Mississippi  
Jackson, Mississippi 39201

Mr. Ralph T. Lally  
Manager of Quality Assurance  
Middle South Utilities System  
Services, Inc.  
639 Loyola Avenue, 3rd Floor  
New Orleans, Louisiana 70113

Attorney General  
Gartin Building  
Jackson, Mississippi 39205

Mr. John G. Cesare  
Director, Nuclear Licensing  
System Energy Resources, Inc.  
P.O. Box 23054  
Jackson, Mississippi 39205

Mr. Jack McMillan, Director  
Division of Solid Waste Management  
Mississippi Department of Natural  
Resources  
Post Office Box 10385  
Jackson, Mississippi 39209

Mr. C. B. Hogg, Project Manager  
Bechtel Power Corporation  
P. O. Box 2166  
Houston, Texas 77252-2166

Alton B. Cobb, M.D.  
State Health Officer  
State Board of Health  
P.O. Box 1700  
Jackson, Mississippi 39205

Mr. Ross C. Butcher  
Senior Resident Inspector  
U. S. Nuclear Regulatory Commission  
Route 2, Box 399  
Port Gibson, Mississippi 39150

President  
Claiborne County Board of Supervisors  
Port Gibson, Mississippi 39150

Mr. William T. Cottle  
GGNS Site Director  
System Energy Resources, Inc.  
P.O. Box 756  
Port Gibson, Mississippi 39150

Regional Administrator, Region II  
U. S. Nuclear Regulatory Commission  
101 Marietta Street  
Suite 2900  
Atlanta, Georgia 30323

## ATTENDEES

AUGUST 15, 1988 MEETING NRC--SERI

<u>NAME</u>	<u>AFFILIATION</u>
L. L. Kintner	NRC, Project Manager for GGNS
E. Adensam	NRC, Director, Project Directorate II-1
G. Lains	NRC, Assistant Director, for Region II Reactors
S. Varga	NRC, Director, Division of Reactor Projects I/II
O. D. Kingsley	SERI, Vice President, Nuclear Operations
W. T. Cottle	SERI, Site Director, GGNS-1
C. R. Hutchison	SERI, General Manager, GGNS-1
F. W. Titus	SERI, Director Nuclear Engineering Dept.
J. G. Cesare	SERI, Director Licensing
J. D. Fowler	SERI, Licensing Department
J. K. Fortenberry	SERI, Licensing Department

SERI/NRC  
BRIEFING ON  
GRAND GULF NUCLEAR STATION  
REFUELING OUTAGE 03

AUGUST 15, 1988  
ROCKVILLE, MARYLAND

## AGENDA

- |       |   |                     |
|-------|---|---------------------|
| I.    | INTRODUCTION                                    | O. D. KINGSLEY, JR. |
| II.   | RF03 GOALS & OBJECTIVES                         | W. T. COTTLE        |
| III.  | SERI OUTAGE PHILOSOPHY                          | W. T. COTILE        |
| IV.   | PRE-OUTAGE MILESTONE DATES                      | C. R. HUTCHINSON    |
| V.    | OVERVIEW OF RF03 SCHEUDLE &<br>WORK EFFORT      | C. R. HUTCHINSON    |
| VI.   | LICENSING SUPPORT ACTIVITIES                    | J. G. CESARE        |
| VII.  | ALTERNATE DECAY HEAT REMOVAL<br>SYSTEM OVERVIEW | F. W. TITUS         |
| VIII. | SUMMARY   | O. D. KINGSLEY, JR. |

## RF03 GOALS & OBJECTIVES

OBJECTIVE: SAFE EXECUTION OF OUTAGE

- GOALS:
- o MINIMIZE COLLECTIVE EXPOSURE
  - o MINIMIZE INCIDENTS
  - o MINIMIZE PERSONNEL ERRORS

OBJECTIVE: BETTER CONTROL OF WORK

- GOALS:
- o OUTAGE DURATION OF 45 DAYS OR LESS
  - o OUTAGE COMPLETED WITHIN THE ESTABLISHED BUDGET

OBJECTIVE: PREPARE UNIT FOR CYCLE 4 OPERATION

- GOALS:
- o COMPLETE ALL MAJOR MAINTENANCE ITEMS
  - o COMPLETE LICENSING IMPROVEMENTS



## SERI OUTAGE PHILOSOPHY

- o CRITICAL PATH CONTROLLED BY:
  - REFUELING
  - SURVEILLANCE
  - MAJOR MAINTENANCE
  - LICENSING IMPROVEMENTS
  - RECOVERY PERIOD
  
- o CONDUCT & MANAGE REFUELING OUTAGES IN A SAFE AND PRUDENT MANNER
  - ONE ECCS & ONE FUEL POOL COOLING SUBSYSTEM FUNCTIONAL AT ALL TIMES
  - ONE SHUTDOWN COOLING SUBSYSTEM OF RHR FUNCTIONAL AT ALL TIMES (EXCEPT FOR PERIODS OF REQUIRED MAINTENANCE OR TESTING)
  - THE DIESEL/GENERATOR ASSOCIATED WITH THE REQUIRED ECCS, FUEL POOL COOLING, AND SHUTDOWN COOLING SUBSYSTEMS MUST BE FUNCTIONAL
  - ALTERNATE COOLING METHODS ARE DEMONSTRATED AS CAPABLE OF REMOVING DECAY HEAT PRIOR TO BEING DECLARED AS AN ALTERNATE MODE
  - STATUS BOARD IS PROVIDED IN THE CONTROL ROOM WHICH CLEARLY INDICATES THE OPERABLE ECCS SYSTEMS, THE SHUTDOWN COOLING MODE BEING UTILIZED AND THE STATUS OFF ALL SYSTEMS WHICH COULD CAUSE INADVERTENT VESSEL DRAINING
  - SPECIAL CONTROLS ESTABLISHED TO REQUIRE THE REFUELING FLOOR COORDINATOR AND THE SHIFT SUPERINTENDENT TO APPROVE MANIPULATION OF ALL VALVES WHICH COULD DRAIN THE VESSEL WHILE THE VESSEL HEAD IS DETENSIONED

SERI OUTAGE PHILOSOPHY (CONT'D)

- TRAINING PROVIDED TO ALL OPERATIONS SHIFTS AND REFUELING FLOOR COORDINATOR DISCUSSING THE TIME TO DRAIN THE VESSEL, POTENTIAL CONSEQUENCES, RESPONSIBILITIES FOR APPROVAL OF VALVE MANIPULATIONS WHICH COULD CAUSE INADVERTENT DRAINING, AND CONTINGENCY PLANNING.
  
- ALL TAG-OUTS ARE SCREENED AND CONTROLLED BY THE TAG-OUT COORDINATOR.

PRE-OUTAGE MILESTONE DATES

ESTABLISH PRE-OUTAGE PLANS AND ORGANIZATION	FEBRUARY 29, 1988
COMPLETED RF02 CRITIQUE	MARCH 9, 1988
IDENTIFY TECH SPEC CHANGES	MARCH 31, 1988
ISSUED PRELIMINARY MILESTONE SCHEDULE	APRIL 1, 1988
IDENTIFY MAJOR RF03 DCPs	APRIL 15, 1988
FREEZE DESIGN SCOPE	JUNE 20, 1988
ALL DISCIPLINES PROVIDE OUTAGE SCOPE AND IMPACT	ONGOING
FREEZE RF03 MAINTENANCE SCOPE	OCTOBER 1, 1988
ESTABLISH OUTAGE ORGANIZATION	DECEMBER 2, 1988
CYCLE 4 FUEL RECEIPT	JANUARY 3, 1989
RF03 PROJECTED START DATE	MARCH 1, 1989

RF03 OUTAGE SCHEDULE OVERVIEW

- o PROJECTED START DATE: 3/1/89
- o PROJECTED OUTAGE DURATION: 42-45 DAYS
- o NUMBER OF MODIFICATIONS (DCPs)  
(CURRENTLY) 81
- o LICENSING MAJOR TASKS 25
- o MAJOR PLANT/AVAILABILITY/RELIABILITY/  
ALARA MODIFICATIONS 22

## RFO3 MAJOR OUTAGE ACTIVITIES

- o REFUELING
  - FUEL SHUFFLE
  - VIBRATION MONITORING REMOVAL
  - HORIZONTAL FUEL TRANSFER SYSTEM UPGRADE
  
- o SURVEILLANCE
  - INTEGRATED LEAK RATE TESTS
  - DRYWELL BYPASS TEST
  - EMERGENCY CORE COOLING SYSTEM TESTING
  - LOCAL LEAK RATE TESTS
  - PREVENTATIVE MAINTENANCE
  
- o MAJOR MAINTENANCE
  - STANDBY SERVICE WATER 'B' CHEMICAL CLEANING
  - STANDBY SERVICE WATER VENT AND DRAIN PIPING REPLACEMENT
  
- o PLANT MODIFICATIONS
  - ALTERNATE DECAY HEAT REMOVAL SYSTEM
  - PARALLEL POWER SUPPLY FOR SCRAM SOLENOIDS
  - TURBINE CONTROL MODIFICATIONS
  
- o LICENSING RELATED ISSUES
  - LOW PRESSURE TURBINE INSPECTION
  - FEEDWATER NOZZLE INSPECTION

TYPICAL REFUELING OUTAGE WORK

I. MAINTENANCE WORK ORDERS

O	MECHANICAL	1430
O	ELECTRICAL	343
O	INSTRUMENTATION & CONTROLS	551

II. PREVENTATIVE MAINTENANCE

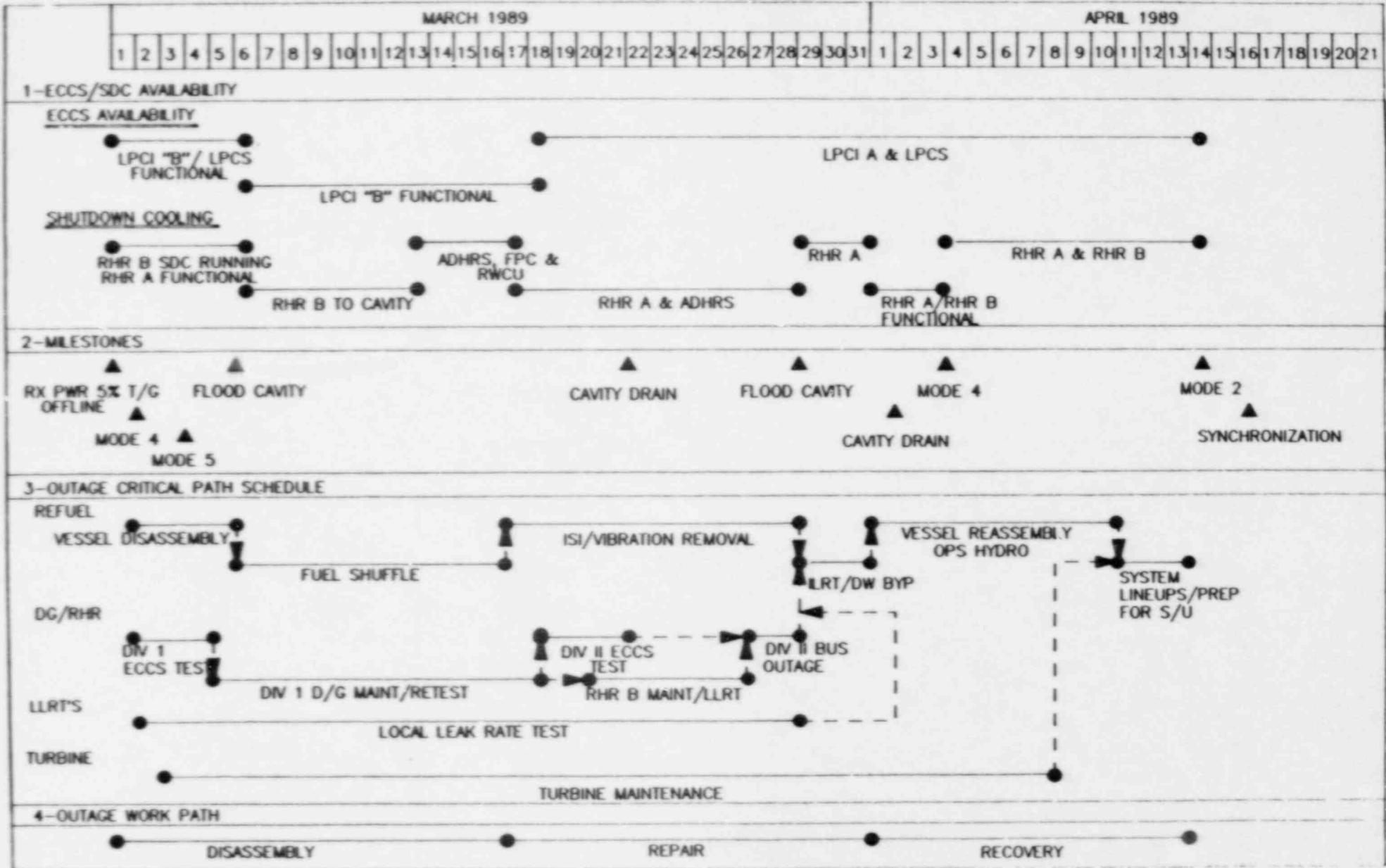
O	MECHANICAL	750
O	ELECTRICAL	888
O	INSTRUMENTATION & CONTROLS	2150

III. SURVEILLANCE

O	MECHANICAL	37
O	ELECTRICAL	60
O	INSTRUMENTATION & CONTROLS	473
O	OPERATIONS	72
O	LOCAL LEAK RATE TESTS	445

2A

# GRAND GULF NUCLEAR STATION RF03 SCHEDULE



RF03 TECHNICAL SPECIFICATION CHANGES

<u>ISSUE</u>	<u>NRC NEED DATE</u>	<u>COMMITTED SUBMITTAL DATE</u>
<u>I. OUTAGE ASSUMPTIONS</u>		
A. GENERIC LETTER 87-09 CHANGES	2/1/89	8/19/88
B. SEPARATE 24 HOUR DIESEL RUN FROM LOAD SEQUENCING TEST	2/1/89	*7/26/88
C. ALTERNATE DECAY HEAT REMOVAL SYSTEM TECHNICAL SPECIFICATION CHANGES	2/1/89	9/2/88
D. RELOAD LICENSE AMENDMENT	3/1/89	12/9/88
E. WIDE RANGE MONITORING SYSTEM DEFERRAL	3/1/89	*7/1/88
F. LOWER DOWNTRAVEL CUTOFF ON MAIN HOIST	3/1/89	8/19/88
G. DELETE LOCAL LEAK RATE TESTING OF TEST CONNECTIONS	1/1/89	8/31/88
<u>II. OUTAGE CONTINGENCIES/IMPROVEMENTS</u>		
A. REACTOR PROTECTION SYSTEM SURVEILLANCE INTERVAL AND ALLOWED OUTAGE TIME EXTENSION	1/1/89	*6/30/88
B. DELETE TRANSFER CANAL GATE FROM FOOTNOTE	3/1/89	8/31/88
C. DELETE SNUBBER REJECT REGION	3/1/89	*7/25/88

\*SUBMITTED



## ALTERNATE DECAY HEAT REMOVAL SYSTEM

### o OBJECTIVE

- ALTERNATE DECAY HEAT REMOVAL CAPABILITY BY DAY 13 OF RFO3
- ALTERNATE DECAY HEAT REMOVAL CAPABILITY AVAILABLE DAY 1 OF FUTURE OUTAGES
- INDEPENDENT SUCTION PATH IN ADDITION TO RHR COMMON SUCTION LINE

### o APPROACH

- DEDICATED DESIGN TEAM
- POTENTIAL ALTERNATIVES EVALUATED
- DETAILED REVIEW OF CONCEPTUAL DESIGN
- FINALIZE DESIGN CONCEPT

### o DESIGN CONCEPT

- INSTALL NEW PUMPS AND HEAT EXCHANGERS IN RHR "C" PUMP ROOM
- UTILIZE EXISTING FPCCU PIPING TO RHR COMMON SUCTION LINE
- DISCHARGE VIA LPCI "C" INJECTION LINE

### o SCOPE OF DESIGN

- 1000 FT LARGE PIPE
- 300 FT SMALL PIPE
- 20 LARGE VALVES
- 2 - 1800 GPM PUMPS (UNIT 2 FPCCU)
- 2 HEAT EXCHANGERS (UNIT 2 FPCCU)
- 2500 FT ELECTRICAL CONDUIT
- 350 FT LEAD WRAP SHIELDING
- 50 LARGE PIPE SUPPORTS
- 10 TON ROOM COOLER
- PROCESS RADIATION MONITOR

ALTERNATE DECAY HEAT REMOVAL SYSTEM (CONT'D)

o SYSTEM DESIGN FEATURES/CAPABILITY

- PRIMARY SYSTEM COMPONENTS ARE ASME SECTION III, SEISMIC CATEGORY I
- ADHRS HEAT REMOVE CAPABILITY IS APPROXIMATELY 3 TIMES CURRENT ALTERNATE CAPACITY

o SYSTEM BENEFITS

- RFO3: 13 DAYS DUE TO EARLIER START DATE FOR VIBRATION INSTRUMENTATION REMOVAL AND RHR COMMON SUCTION WORK
- FUTURE OUTAGES: 10 DAYS DUE TO EARLIER START DATE FOR RHR COMMON SUCTION WORK
- ADDITIONAL ALTERNATE DECAY HEAT REMOVAL CAPABILITY

11A

