

## A.21

### SPENT FUEL COOLING SYSTEM

#### 1.0 PURPOSE

##### .1 Provide procedures to accomplish the following operations:

- |     |  |         |
|-----|--|---------|
| .1  | Fill and Startup of Spent Fuel Cooling System (Section 4.1)              | A.21-2  |
| .2  | Startup of Spent Fuel Purification System (Section 4.2)                  | A.21-3  |
| .3  | Spent Fuel Pool Skimmer System Operation (Section 4.3)                   | A.21-4  |
| .4  | Spent Fuel Pool Liner Leak Detection System Operation (Section 4.4)      | A.21-5  |
| .5  | Normal Operation (Section 5.0)   | A.21-5  |
| .6  | Shutdown of Spent Fuel Cooling and Purification (Section 6.1)            | A.21-6  |
| .7  | Shutdown of Spent Fuel Pool Skimmer System (Section 6.2)                 | A.21-6  |
| .8  | Spent Fuel Coolant Filter Replacement (Section 7.1)                      | A.21-7  |
| .9  | Draining the Spent Fuel Pool and Coolant System (Section 7.2)            | A.21-8  |
| .10 | Utilizing Decay Heat System to Cool Spent Fuel (Section 7.3)             | A.21-8  |
| .11 | Water Removal from Spent Fuel Pool Upender Pit (Section 7.4)             | A.21-10 |
| .12 | Filling Upender Pit from Spent Fuel Pool (Section 7.5)                   | A.21-10 |
| .13 | Replacement of Spent Fuel Coolant Demineralizer Resin (Section 7.6)      | A.21-11 |
| .14 | Adjusting Spent Fuel Pool Boron Concentration and/or Level (Section 7.7) | A.21-11 |

#### 2.0 REFERENCES

- .1 P and ID M-523, Spent Fuel Cooling System
- .2 P and ID M-543, Component Cooling Water
- .3 P and ID M-522, Decay Heat System

Rev. 12  
A.21-1

8505290437 850522  
PDR ADOCK 05000312  
P PDR

## REFERENCES (Continued)

2.4 Station Manual Systems Descriptions, Volume 1

.5 Rancho Seco Unit 1 Process Standards

## 3.0 LIMITATIONS AND PRECAUTIONS

- .1 Maximum allowable demineralizer inlet temperature 140°F.
- .2 Maximum flow through purification loop 160 gpm.
- .3 Minimum allowable spent fuel pool level for skimmer pump operation is 38'.
- .4 Maximum pool level is 39 feet. Minimum pool level while moving spent fuel is 38 ft 3 inches. During normal operation, minimum level is 35 feet.
- .5 Minimum allowable boron concentration in spent fuel storage pool is 1875 ppm.
- .6 Maximum allowable temperature of storage pool water is 110°F.
- .7 Spent Fuel Cooling Water pump maximum allowable flow is 1200 gpm (pump differential pressure of 17 psid).
- .8 Maximum filter differential pressure 25 psi.
- .9 Maximum resin differential pressure 50 psi.
- .10 Spent Fuel Storage Pool Water will be maintained visibly clear to the bottom of the pool.
- .11 Before transferring water from the fuel transfer canal to the BWST, the gate must be installed in the spent fuel pool.

## 4.0 SYSTEM STARTUP

### .1 Spent Fuel Cooling Water System

#### Initial Conditions

- .1 Pool empty and/or system drained.
- .2 Water available from the borated water storage tank for filling pool and/or system.
- .3 Component cooling water system available.

## SYSTEM STARTUP (Continued)

### Procedure

- 4.1 .4 Valve lineup in accordance with Enclosure 8.1 and 8.2, Spent Fuel Cooling Water System.
- .5 Fill spent fuel cooling water pool and/or system with water from the borated water storage tank to 38'6" normal operating level.
- .1 Open BWS-013 demineralizer pump P-274 suction from BWST.
  - .2 Vent demineralizer pump P-274, filter F-275 and demineralizer D-276.
  - .3 Open DHS-050 demineralizer D-276 outlet to skimmer nozzles and throttle SFC-014 outlet of demineralizer D-276.
  - .4 Rack in demineralizer pump P-274 breaker 2C502, MCC-S2C5.
  - .5 Start demineralizer pump P-274 and throttle demineralizer D-276 outlet SFC-014 to establish 160 gpm through FI-27402; (maximum flow available may be less than 160 gpm).
  - .6 Observe filter F-275 for a normal differential pressure of approximately 5-20 psi.
  - .7 Observe demineralizer D-276 normal differential pressure of approximately 10-45 psi.
  - .8 Stop demineralizer pump P-274 and close BWS-013 and BWS-050 when spent fuel pool level reaches 38'6".
- .6 Vent Spent Fuel cooling water pump P-272 and Cooler E-270.
- .7 Throttle Spent Fuel Cooling Water System return valve SFC-005.
- .8 Rack in Spent Fuel Cooling Water pump P-272 breaker 2C501, MCC-S2C5.
- .9 Start pump P-272, throttle Spent Fuel Cooling Water System return valve SFC-005, and establish pump differential pressure of 17 psid by throttling SFC-005.
- .10 Maintain Spent Fuel Pool between ambient and 110°F.

### .2 Purification of the Spent Fuel Storage Pool

#### Initial Conditions

- .1 Spent Fuel Cooling Water System in service in accordance with Section 4.1.

## SYSTEM STARTUP (Continued)

- 4.2 .2 Purification of the borated water storage tank is not needed.

### Procedure

- .3 Valve lineup in accordance with Enclosure 8.2, Purification of the Spent Fuel Storage Pool.
  - .4 Open pump P-274 suction valve SFC-006 and vent demineralizer pump P-274, filter F-275, and demineralizer D-276.
  - .5 Open SFC-019 purification system return to pool.
  - .6 Rack in demineralizer pump P-274 breaker 2C502, MCC-S2C5.
  - .7 Start demineralizer pump P-274 and throttle outlet valve SFC-014 to establish 160 gpm through FI-27402. Additional throttling of SFC-005 may be necessary to balance flow; (maximum flow available may be less than 160 gpm).
  - .8 Observe filter F-275 normal differential pressure of approximately 5-20 psi.
  - .9 Observe demineralizer D-276 normal differential pressure of approximately 10-45 psi.
- .3 Spent Fuel Pool Skimmer System

### Initial Conditions

- .1 Spent Fuel Storage Pool water level is between 38' and 39'.
- .2 Spent Fuel Storage Pool water surface needs to be skimmed.
- .3 Valve lineup in accordance with Enclosure 8.2, Purification of the Spent Fuel Storage Pool.
- .4 Open DHS-049 skimmer outlet to demineralizer pump P-274.
- .5 Open DHS-050 demineralizer D-276 outlet to skimmer nozzles.
- .6 Throttle SFC-014 demineralizer D-276 outlet isolation valve.
- .7 Rack in demineralizer pump P-274 breaker 2C502, MCC-S2C5.
- .8 Start demineralizer pump P-274 and throttle demineralizer D-276 outlet SFC-014 to establish 160 gpm through FI-27402; (maximum flow available may be less than 160 gpm).
- .9 Observe filter F-275 normal differential pressure of approximately 5-20 psi.



## SYSTEM STARTUP (Continued)

- 4.3 .10 Observe demineralizer D-276 normal differential pressure of approximately 10-45 psi.

### .4 Spent Fuel Pool Liner Leak Detection System

#### Initial Conditions

- .1 Water in Spent Fuel Storage Pool.

#### Procedure

- .2 Check FG-27209, FQI-27209, and FG-27210 for signs of liner leakage.

## 5.0 NORMAL OPERATION

### .1 Spent Fuel Cooling Water System

#### Initial Conditions

- .1 Spent Fuel Cooling System in service in accordance with Section 4.1.  
.2 Purification in service in accordance with Section 4.2.

#### Procedure

- .3 Maintain pool water temperature between ambient and 110°F.  
.4 Maintain demineralizer D-276 differential less than 50 psi.  
.5 Maintain filter F-275 differential less than 25 psi.  
.6 Spent Fuel Cooling pump P-272 flow is less than 1200 gpm.  
.7 Spent Fuel Cooling pump P-272 differential pressure is 17-22 psid (1000-1200 gpm).  
12> .8 Maintain pool water level above 35' for normal operation, and between 38'3" and 38'9" for refueling operations.

#### Pool Makeup

##### NOTE:

Evaporation will gradually cause pool level to decrease. Fill pool according to Steps .9 through .18 below to maintain level as in .8 above.

- .9 Stop the spent fuel demineralizer pump P-274.  
.10 Close spent fuel coolant demineralizer pump P-274 suction valve SFC-006.

## NORMAL OPERATION (Continued)

- 5.1 .11 Open borated water storage tank supply valve BWS-013 to suction of demineralizer pump P-274.
- .12 Throttle demineralizer D-276 outlet valve SFC-014.
- .13 Start demineralizer pump P-274 and throttle demineralizer D-276 outlet valve SFC-014 to establish 160 gpm through FI-27402; (maximum flow available may be less than 160 gpm).
- .14 Fill spent fuel pool to normal operating level (38'6").
- .15 Stop spent fuel demineralizer pump P-274.
- .16 Close borated water storage tank supply valve BWS-013 to suction of demineralizer pump P-274.
- .17 Open Spent Fuel Coolant demineralizer pump P-274 suction valve SFC-006 and start the Spent Fuel demineralizer pump P-274.
- .18 Observe FI-27402 for demineralizer flow of 160 gpm.

## 6.0 SHUTDOWN

### .1 Spent Fuel Cooling Water and Purification System

#### Initial Conditions

- .1 Spent Fuel Cooling Water System in service.
- .2 Purification of Spent Fuel Pool water is in progress.

#### Procedure

#### NOTE:

If irradiated fuel is located in the Spent Fuel Pool, an alternate method of cooling this fuel must be provided by a decay heat system. Refer to this procedure, Section 7.3.

- .3 Stop Spent Fuel coolant pump P-272 and demineralizer pump P-274.
- .4 Close Spent Fuel Cooler E-270 outlet valve CCW-123.

### .2 Spent Fuel Pool Skimmer System

#### Initial Conditions

- .1 Spent Fuel Storage Pool water level is between 38' and 39'.
- .2 Pool skimmer system in service.

## SHUTDOWN (Continued)

### Procedure

- 6.2 .3 Stop demineralizer pump P-274.
- .4 Close DHS-049 skimmer outlet to demineralizer pump P-274.
- .5 Close DHS-050 demineralizer D-276 outlet to skimmer nozzles.
- .6 Open SFC-014 demineralizer D-276 outlet isolation valve.
- .7 Open SFC-006 pump P-274 suction valve.
- .8 Open SFC-019 purification system return to pool.
- .9 Start demineralizer pump P-274.
- .10 Observe demineralizer D-276 flow of 160 gpm through FI-27402; (maximum flow available may be less than 160 gpm).
- .11 Observe filter F-275 normal differential pressure of approximately 5-20 psi.
- .12 Observe demineralizer D-276 normal differential pressure of approximately 10-40 psi.

## 7.0 ABNORMAL OPERATIONS

### .1 Spent Fuel Coolant Filter F-275 Replacement

#### Initial Conditions

- .1 The purification demineralizer D-276 system is in service.
- .2 The  $\Delta p$  of filter F-275 has increased to approximately 25 psi.

#### Procedure

##### CAUTION:

Radiation and smearable contamination may be present.

- .3 Check pump P-274 off, close filter F-275 inlet valve SFC-010 and outlet valve SFC-012.
- .4 Open filter F-275 drain valve SFC-028 and vent valve SFC-027.
- .5 Remove filter F-275 and replace cartridges (3 microns).
- .6 Close filter F-275 drain valve SFC-028 and vent valve SFC-027.

## ABNORMAL OPERATIONS (Continued)

7.1 .7 Open filter F-275 inlet valve SFC-010; fill filter and vent, and then open outlet valve SFC-012.

.8 Observe normal differential across filter F-275 between 5-20 psi when used.

### .2 Method for Draining the Spent Fuel System

#### Initial Conditions

.1 Spent Fuel Storage pool level is at normal operating level and needs to be drained.

#### NOTE:

Depending on the initial condition of the BWST, it may be necessary to use available storage in the radwaste system.

.2 Reactor Shutdown.

.3 No irradiated fuel in Spent Fuel Pool.

#### Procedure

.4 Draining pool and system can be accomplished by pumping spent fuel pool level down to the borated water storage tank through BWS-014 until Spent Fuel Coolant Pump P-272 loses suction (approximately 26'). (Depending on the initial condition of the BWST, it may be necessary to use available storage in the radwaste system.)

.5 Draining of system can be accomplished by opening drain valves on pumps P-272 and P-274 and cooler E-270.

#### NOTE:

Do not drain pool below 26' unless all irradiated material has been removed.

.6 Use a submergible pump to complete draining of Spent Fuel Pool.

### .3 Utilizing Decay Heat System to Cool Spent Fuel

#### NOTE:

For the case where 1-1/3 cores are stored due to complete unloading of the reactor vessel, one of the two redundant decay heat removal pumps and coolers will be used to supplement the pump and cooler to maintain the spent fuel storage pool temperature at 110°F.



## ABNORMAL OPERATIONS (Continued)

### Initial Conditions

- 7.3 .1 Irradiated fuel stored in the spent fuel storage pool.
- .2 Loss of spent fuel coolant pump P-272 or spent fuel cooler E-270.
- .3 Decay heat system lined up according to operating procedure A.8, SFAS Standby operation.

### Procedure

#### CAUTION:

Do not violate Technical Specifications,  
Section 3.0.

- .4 Place nuclear service raw water system A [B] in service per OP-A.25.
- .5 Place nuclear service cooling water system A [B] in service to supply decay heat cooler per OP-A.24.
- .6 Open DHS-056 [DHS-055] decay heat system suction.
- .7 Open DHS-032 and HV-26046 [HV-26047] decay heat system cross-tie valves.
- .8 Start decay heat pump P-261A [P-261B].
- .9 Observe decay system operation according to operating procedure A.8, Section 3.0, Limitations and Precautions.

### Return Decay Heat System to Normal Standby Status Procedure

- .10 Stop decay heat pump P-261A [P-261B] and place to standby status.
- .11 Close DHS-032 and HV-26046 [HV-26047] decay heat system cross-tie valves.
- .12 Close DHS-056 [DHS-055] decay heat system suction valves.
- .13 Stop nuclear service cooling water pump P-482A [P-482B] and place to standby status.
- .14 Stop nuclear service raw water pump P-472 [P-472B] and place to standby status.
- .15 Place spent fuel cooling water system in service according to Section 4.1.

## ABNORMAL OPERATIONS (Continued)

### 7.4 Water Removal from Spent Fuel Pool Upender Pit

#### Initial Conditions

- .1 Upender pit is at normal operating level and needs to be drained.

#### Procedure

- .2 Install stop logs between upender pit and spent fuel pool.
  - .3 Verify transfer tube gate valves SFC-500 and 501 are closed.
  - .4 Move transfer pump into place at north end of spent fuel pool and close pump discharge valve.
  - .5 Install spool piece No. 2 between pump and eductor located in upender pit.
  - .6 Prime transfer pump suction line, start pump and slowly throttle open discharge valve SFC-493.
  - .7 When eductor suction is lost, secure pump, close discharge valve SFC-493, and break syphon on eductor discharge to fuel pool by opening SFC-494.
- .5 Filling Upender Pit from Spent Fuel Pool

#### Initial Conditions

- .1 Upender pit empty or partially empty and it is desired to fill it.

#### NOTE:

Verify a minimum of 15 psig instrument air to air motors in upender pit prior to filling.

#### Procedure

- .2 Verify transfer tube gate valves SFC-500 and 501 are closed.
- .3 Move transfer pump into place at north end of spent fuel pool.
- .4 Install spool piece No. 1 between pump and upender pit and close pump discharge valve.
- .5 Prime transfer pump suction line, start pump and slowly throttle open pump discharge valve SFC-493.
- .6 When upender pit and fuel pool levels are equalized, secure pump and close discharge valve SFC-493.

## ABNORMAL OPERATIONS (Continued)

### 7.6 Replacement of Demineralizer D-276 Resin

#### Initial Conditions

- .1 Purification of spent fuel pool water is in progress.
- .2 Demineralizer D-276 differential pressure greater than 45 psi.

#### Procedure

- .3 Stop the demineralizer pump P-274.
  - .4 Close inlet valve SFC-013 and outlet valve SFC-014.
  - .5 Replace the resin in accordance with A.22.
  - .6 After the resin has been replaced, commence purification of the spent fuel pool water in accordance with Section 4.2.
- .7 Adjusting Spent Fuel Pool Boron Concentration and/or Level

#### Initial Conditions

- .1 Spent fuel pool boron concentration is in need of adjustment or level needs to be increased.

#### Procedure

- .2 To increase boron concentration.
  - .1 Check closed BWS-510, Boric Acid Filter F-711 to BWST.
  - .2 Check closed PLS-468 and PLS-470, Demineralized Reactor Coolant Storage Tank to Spent Fuel Pool.
  - .3 Open BWS-511, Boric Acid Filter F-711 to Spent Fuel Pool, and BWS-042, Boric Acid Filter F-711 to BWST.
  - .4 Run Boric Acid Pump P-705A or B until the desired amount of boric acid solution has been added.
  - .5 Close BWS-511.
  - .6 Use Step 7.7.3 below to flush ~50 gallons of demineralized water through the piping.
- .3 To decrease boron concentration:
  - .1 Check closed BWS-511, Boric Acid Filter F-711 to Spent Fuel Pool.

## ABNORMAL OPERATIONS (Continued)

- 7.7 .3 .2 Open PLS-468 and PLS-470, Demineralized Reactor Coolant Storage Tank to Spent Fuel Pool.
- .3 Run Demineralized Reactor Coolant Storage Tank Pump P-622A or B until the desired amount of demineralized water has been added.
- .4 Close PLS-468 and PLS-470.
- .4 To increase Spent Fuel Pool level:
  - .1 Use OP B.9 to calculate the required amount of boric acid solution and demineralized water required for the desired batch size.
  - .2 Use Steps 7.7.2 and 7.7.3 above for the additions.

## 8.0 ENCLOSURES

- .1 Spent Fuel Cooling Water System
- .2 Purification of the Spent Fuel Storage Pool
- .3 Spent Fuel Coolant Pump Performance Curve P-272
- .4 Spent Fuel Coolant Demineralizer Pump Curve P-274



ENCLOSURE 8.1  
SPENT FUEL COOLING WATER SYSTEM

VALVE NO.	VALVE NAME	POSITION	INITIAL
SFC-001	Pump P-272 Suction Valve	Open	_____
SFC-021	Pump P-272 Drain Valve	Closed	_____
PI-27204	Pump P-272 Discharge Pressure	In Service	_____
PSL-27202	Pump P-272 Discharge Pressure Switch	In Service	_____
SFC-003	Pump P-272 Discharge Valve	Open	_____
SFC-022	Cooler E-270 Vent Valve	Closed	_____
SFC-023	Cooler E-270 Drain Valve	Closed	_____
SFC-004	Cooler E-270 Outlet Valve	Open	_____
SFC-048	Radiation Monitor Inlet Valve	Open	_____
SFC-049	Radiation Monitor Outlet Valve	Open	_____
SFC-005	Spent Fuel Cooling Water System Return	Throttled	_____
SFC-006	Pump P-274 Suction Valve	Closed	_____
SFC-019	Pump P-274 Demineralizer Return to Pool	Closed	_____
SFC-499	Sample Point	Closed	_____
DHS-032	Decay Heat Removal Cooler E-260A and B to Pool	Closed	_____
DHS-546	DHS-032 Bypass Valve	Closed	_____
DHS-054	Decay Heat Removal Pump Suction Header	Open	_____
SFC-500	Transfer Tube No. 1 Gate Valve	Closed	_____
SFC-501	Transfer Tube No. 2 Gate Valve	Closed	_____
LSL-27208	SF Pool Low Level Switch	In Service	_____
LSLL-27207	SF Pool Low-Low Level Switch	In Service	_____
LSH-27206	SF Pool High Level Switch	In Service	_____
DMW-021	Misc Water Holdup Tank Sply to Spent Fuel Pool	Closed	_____

ENCLOSURE 8.1 (Continued)  
SPENT FUEL COOLING WATER SYSTEM

VALVE NO.	VALVE NAME	POSITION	INITIAL
CCW-138	Spent Fuel Cooler E-270 Drain Valve	Closed	_____
CCW-137	Spent Fuel Cooler E-270 Vent Valve	Closed	_____
CCW-017	Spent Fuel Cooler E-270 Inlet Valve	Open	_____
CCW-123	Spent Fuel Cooler E-270 Outlet Valve	Throttled Nominal 3-1/2 Turns Open	_____
SFC-024	Pool Liner Leak Detection System	Open	_____
SFC-041	Pool Liner Leak Detection System	Open	_____
SFC-042	Pool Liner Leak Detection System	Open	_____
SFC-043	Pool Liner Leak Detection System	Open	_____
SFC-044	Pool Liner Leak Detection System	Open	_____
SFC-045	Pool Liner Leak Detection System	Open	_____
SFC-046	Pool Liner Leak Detection System	Open	_____
SFC-047	Pool Liner Leak Detection System	Open	_____

DATE \_\_\_\_\_

TIME STARTED \_\_\_\_\_

TIME COMPLETED \_\_\_\_\_

OPERATOR \_\_\_\_\_

REMARKS \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## ENCLOSURE 8.2

## PURIFICATION OF THE SPENT FUEL STORAGE POOL

VALVE NO.	VALVE NAME	POSITION	INITIAL
SFC-006	Pump P-274 Suction Valve	Closed	_____
BWS-013	Pump P-274 Suction from Borated Water Storage	Closed	_____
SFC-026	Pump P-274 Drain Valve	Closed	_____
PI-27401	Pump P-274 Discharge Pressure	In Service	_____
SFC-009	Pump P-274 Discharge Valve	Open	_____
DHS-049	Skimmer Outlet to Demineralizer Pump P-274	Closed	_____
SFC-038	Vent Between Skimmer and Demineralizer Pump P-274	Closed	_____
FI-27402	SF Cooling Demineralizer Flow	In Service	_____
SFC-502	Sample Point	Closed	_____
SFC-011	Filter F-275 Bypass Valve	Closed	_____
SFC-010	Filter F-275 Inlet Valve	Open	_____
SFC-012	Filter F-275 Outlet Valve	Open	_____
SFC-028	Filter F-275 Drain Valve	Closed	_____
SFC-027	Filter F-275 Vent Valve	Closed	_____
PDISHL-27501	Filter F-275 Differential Pressure	In Service	_____
PDISHL-27602	Demineralizer D-276 Differential Pressure	In Service	_____
SFC-504	Sample Point	Closed	_____
SFC-015	Demineralizer D-276 Bypass Valve	Closed	_____
SFC-013	Demineralizer D-276 Inlet Isolation Valve	Open	_____
SFC-014	Demineralizer D-276 Outlet Isolation Valve	Throttled	_____
SFC-029	Demineralizer D-276 Service Air Supply	Closed	_____
SFC-031	Demineralizer D-276 Vent Valve	Closed	_____
SFC-033	Demineralizer D-276 Resin Outlet Valve	Closed	_____

ENCLOSURE 8.2 (Continued)  
PURIFICATION OF THE SPENT FUEL STORAGE POOL

VALVE NO.	VALVE NAME	POSITION	INITIAL
SFC-032	Demineralizer D-276 Resin Inlet Valve	Closed	_____
SFC-034	Demin D-276 Resin Flush Water Supply Valve	Closed	_____
SFC-016	Strainer Y-27603 Inlet Valve	Open	_____
SFC-018	Strainer Y-27603 Outlet Valve	Open	_____
SFC-017	Strainer Y-27603 Bypass Valve	Closed	_____
	Strainer Y-27603 Sample Point	Closed	_____
PDI-27601	Strainer Y-27603	In Service	_____
DHS-050	Demineralizer D-276 Outlet to Skimmer Nozzles	Closed	_____
BWS-014	Supply Valve to Borated Water Storage Tank	Closed	_____
SFC-019	Purification System Return to Pool	Closed	_____

DATE \_\_\_\_\_

TIME STARTED \_\_\_\_\_

TIME COMPLETED \_\_\_\_\_

OPERATOR \_\_\_\_\_

REMARKS \_\_\_\_\_

\_\_\_\_\_

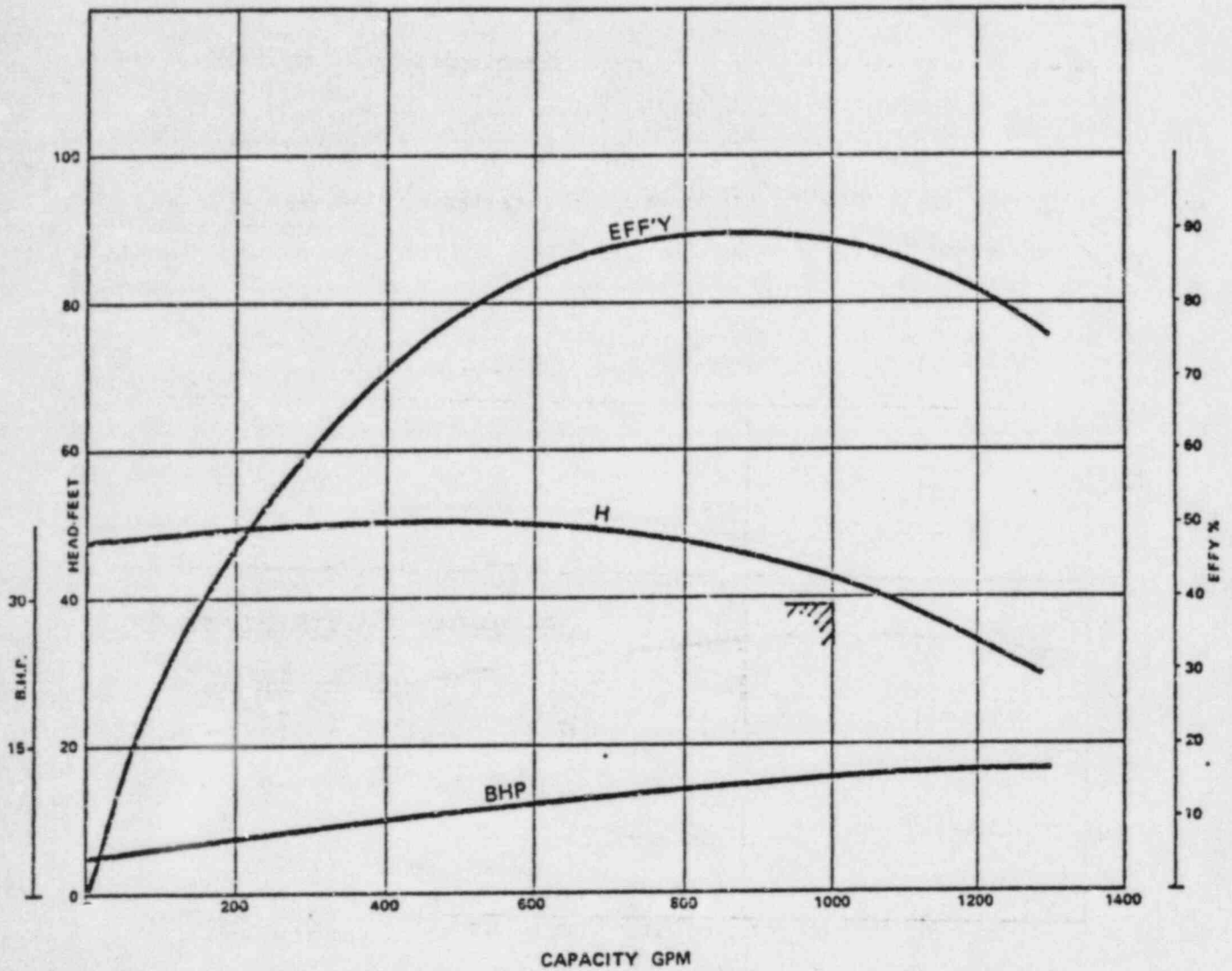
\_\_\_\_\_

\_\_\_\_\_



ENCLOSURE 8.3

SPENT FUEL COOLANT PUMP PERFORMANCE CURVE P-272

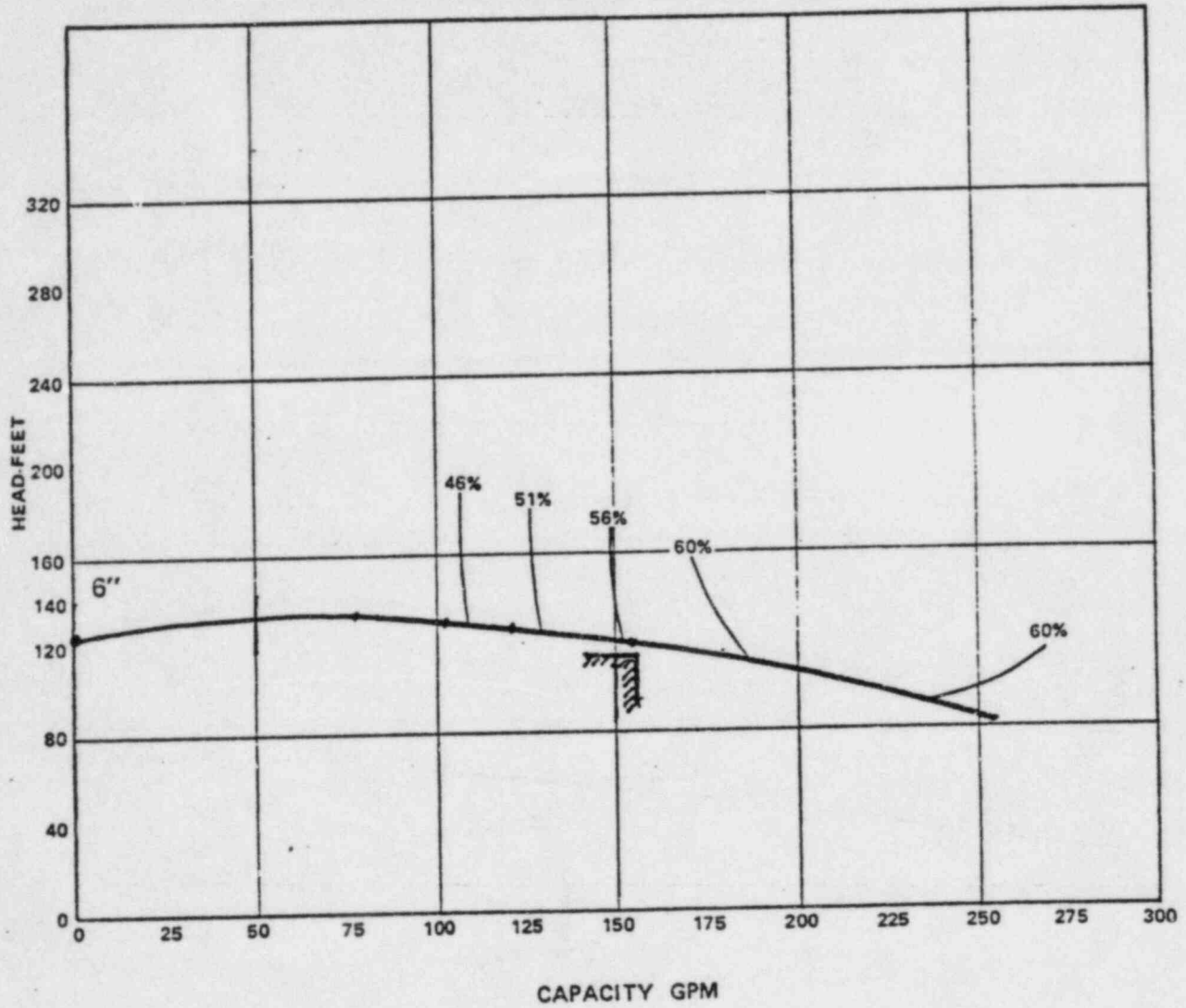


PUMP PERFORMANCE CURVE  
(FOR WATER)

Rev. 12  
A.21-17

ENCLOSURE 8.4

SPENT FUEL COOLANT DEMINERALIZER PUMP CURVE P-274



PUMP PERFORMANCE CURVE

Reference NCR 7234 Rev. 1

END

Rev. 12  
A.21-18