

Preparing to drain to mid-loop - 1815  
RP working to revise indicators on air press gauge

go to 40% ~~to~~ ~~newly~~ level.  
then go to mid loop.  
Expect to be at  
mid loop at 2100.

## S/G Nozzle Dam Removal Pre-job Brief

### 1. Introduction (Sr Manager - Jim Schweitzer)

#### a. Scope of Job

- Big Picture/ what we are doing and why  
Removing Nozzle Dams  
Plant in reduced inventory - IPTE/High Risk  
high dose rates  
personnel safety issues (confined space/engulfment).
- Management Expectations
  1. Conservative Operating Philosophy
  2. Procedure Adherence
- Procedures/Work plans in effect
  1. HPIP 4.58 Issuance of Respiratory Equipment.
  2. PBF 4234. Respirator Issue Record
  3. WO 0400042, 1HX-001A Nozzle Dam Removal
  4. WO 0400043, 1HX-001B Scientech Procedure 83A7564, Rev 6, Steam Generator Nozzle Dam Installation and Removal, Test, Operation and Maintenance Manual
  5. HPIP 4.51.3, Airline Respiratory Protection Equipment
  6. HP 2.5, Radiation Work Permits
  7. NP 8.4.9, Hose Control
  8. PBF 4107a, Bubble Hood Air Supply Pressure Record
  9. NP 1.2.6 Infrequently Performed Tests or Evolutions
  10. NP 1.1.7, Managing Work Activity Risk
  11. RMP 9391, Connection of Unit 1 Nozzle Dam Control Console Remote Alarms to 1 C20

#### b. Lessons Learned/OE

- c. Remind everyone that if anyone during in the brief makes the statement: "I think" or "I believe," we must challenge their assumptions. Their inaccurate mental model could create a problem on the job. Use Qualification, Validation, and Verification (QV&V) to eliminate assumptions.

### 2. Radiological Conditions/ Precautions - Carberry/Reiff/Peroutka

- #### a. ALARA /Radwaste Considerations

4-3

*15 min. hr on  
Divider plates*

- High Exposure job – minimize time in the bowl; helpers should minimize time in shine from bowl. Safety and correct removal are even more important than speed.
- Irradiated material is a possibility; don't pick up anything inside the channel head without RP permission. The object may be highly radioactive. Numerous industry over exposures have occurred in 10 to 30 seconds of handling irradiated components. (Information Notice 90-47)

b. RWP - Separate RP brief (PBF – 4194a)

### 3. Work Order/ Procedure Summary – Contract Liaison (Klesper)

- Initial Conditions
- Work Plan - Interfaces with other procedures
- Self Checking
- Independent Verification and Concurrent Checks
  - Hot leg first
- Overall effect on plant/systems and expected major alarms
  - If notified by the control room or any containment evacuation alarms, put job in safe condition and exit containment.
- Operating Procedures - OP 4-F
- Contingency plans - If bolt won't come out without being disassembled, stop the job.
- Stop Job Criteria
  - Low air pressure
  - Any unexplained anomaly
  - Significant Water
- FME Closeouts/ covers

### 4. Energy Sources/ Danger Tagging - Klesper

- a. De-energized equipment, pressurized, de-pressurized systems /boundaries
- Nozzle dam console must be unprotected and the caution tags removed.

- b. Protected Worker Log
  - All Sciencetech personnel on the platforms
- c. Walkdown
  - Ladders
- d. Notes & Cautions
  - Single chain for hand rail

**5. Communications/ Command and Control Protocol (Hennessy)**

**a. Command and Control**

- Contractor Liaison - prior to beginning work on the platform
- RP Supervisor when workers are on the platform
- Contractor liaison once workers have cleared the platforms

**b. Importance of elevating concerns/problems to Contactor Liaison**

- When any abnormal event has occurred.
- When any part of the evolution is delayed by 15 minutes and the reason why

**c. Critical Handoffs**

**d. Communications**

- The steam generator nozzle dam removal event will be communicated to the OCC by the Program Engineering Supv.
- Use of three-way communication outside the Manway is required during directions or following the work plan. Informational communications need not be 3-way.
- Do not be afraid to interrupt non-essential conversations.
- Clear and concise commands are required.
- The RP tech timing the jump should announce when 30 seconds remain. The RP tech should not count down continuously as this is distracting to the jumpers. At 10 seconds, the jumpers should be told, "10 seconds, get out."
- If you lose communications while in the steam generator, GET OUT.
- To stop the job, it is imperative that the words "STOP, STOP, STOP" be used. In the case of the personnel in the channel heads should be told to "GET OUT".

**6. Safety/Hazards/Permits Hennessy**

- **Plant operation, power generation, nuclear safety, trip avoidance**

The removal will be staged as follows:

- A hot leg nozzle dam;
  - A cold leg nozzle dam
  - B hot leg nozzle dam.
  - B cold leg nozzle dam
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- During the point of the outage at which we are at, 45 days from shutdown, initial RCS temperature < 90°F and after replacing 1/3 of the core, the time to reach 200°F is conservatively estimated at 90 minutes. If both trains of RHR lost, Operations has Shutdown Emergency Procedures which allow them to fill the RCS and RHR suction line and restore core cooling.
  - When removing the Cold Leg nozzle dam, it is possible to have a decrease of approximately 2 inches in the RCS level
  - Transient Combustibles PBF-1911a (Communication cable/airhoses are covered)

- **Personnel / PPE (Sipiorski)**

Confined space procedure; responsibilities PBF-0038

Confirm everyone legal for safety related work (16/24, 2/48, 72 consecutive)

We will not spray down jumpers to assist in accessing the channel head.

Verify that the light is lit prior to entering the channel head. If light goes out, have the spare sent in. If the spare does not work or can't be found, GET OUT.

If you are not comfortable with the status of your breathing air, do not continue. If the breathing air supply is interrupted, GET OUT.

If breathing air is lost, RP should perform an emergency cut out.

If you lose communications, GET OUT.

Be aware of the symptoms of heat stress. If you think you are suffering from heat stress, GET OUT.

The nozzle dam sections are heavy. Remember to use proper lifting techniques (as allowable by the space configuration.).

## 7. Identify Critical Steps/ Error Likely Situations/Defense Barriers (Hennessy)

- Task demands (Time pressure); more important to be safe!
- Distractive or poor environment
- Work stoppage (termination) Criteria
  1. Attachment A in work plan

**8. Other (Hennessy)**

a. Foreign Material Exclusion

- VERY HIGH level of FME control is required. Any loss of foreign material (tools, parts, etc.) SHALL be reported immediately to the Contract Liaison

b. Review OE Included in Work Package

c. Individual Responsibilities & Qualifications

- Ensure all had JIT Training
  1. Scientech – responsible for removal of nozzle dams
    - a. Tech A – removal technician
    - b. Tech B (2) – platform support technicians
    - c. Tech C – located at control console
  2. RP – prepares SG channel head for entry
  3. Confined Space Attendant – when nozzle dams are removed; Channel head becomes a permit required confined space. RP Tech on 8 ft level will serve as Attendant
  4. RP Supervisor – controls evolution while workers on platform
  5. Contract Liaison – Responsible for event execution.
  6. Operations – controls water level in the RCS
  7. Rescue Team - located at 8ft; responsible for executing confined space rescue if required
  8. Operations – responsible for removing tags, protected equipment, handoffs for evolution
  9. Westinghouse – provides communication and video equipment/operators
  10. Maintenance – responsible for reinstalling manways

d. Post-Job Debrief Schedule (PBF-9218) \_\_\_\_\_  
 (fill in time and location prior to brief)

e. Address Concerns/Questions – Specify