PWR Plant Groupings in Response to Reactor Closure Head Degradation

| | | | MRP-48 Ranking for Head Nozzle PWSCC (Note 1) | | | | | | | | | | | | | | | | | | |
|---------------------------|--|------------|---|---|--|--|--|---|---|--|---|---|---|--|----------------------------------|--------------------------------|----------------------|---|---|--|--|
| | | | < 5 EFPYs (Highest Susceptibility Group) | | | | 5 – 10 EFPYs | | | 10 – 15 EFPYs | | | 15 – 20 EFPYs | | | 20 – 30 EFPYs | | | > 30 EFPYs (Lowest Susceptibility Group) | | |
| | | | | Bulletin 2001-01 Inspection | | | Bulletin 2001-01 Inspection | | | Bulletin 2001-01 Inspection | | | Bulletin 2001-01 Inspection inspection | | | Bulletin 2001-01 Inspection | | - | Bulletin 2001-01 Inspection | | |
| | | | Unit (Note 2) | Date | Inspection Method | Unit (Note 2) | Date | Inspection Method | Unit (Note 2) | Date | Inspection Method | Unit (Note 2) | Date O | Inspection Method | Unit (Note 2) | Date | Inspection Method | Unit (Note 2) | Date O | | |
| | Other | | Davis-Besse | 2/02 | √ Bare-metal + U | Г | | | Beaver Valley 1 | 9/01 | √ Bare-metal (Note 4) | • Palo Verde 2 | 5/02 | UT | | | | Cook 1 Wolf Creek Watts Bar 1 | 5/02 3/02 2/02 √ | Bare-metal Bare-metal GL 88-05 | |
| tatus | No Deposits on Head Based on Assessment of Above-Head Leak Sources and Past Maintenance | Category 4 | | | | Point Beach 2 Waterford 3 Turkey Point 4 | 4/02 3/02 3/02 | Bare-metal Bare-metal Bare-metal | Calvert Cliffs 2 Indian Point 3 Point Beach 1 St. Lucie 1 • Millstone 2 (R) | Spring 2: Spring 2: Fall 2002 Fall 2002 2/02 | 003 2 2 (Note 7) | Diablo Canyon 2 Palo Verde 1 Palo Verde 3 | Spring 200 Spring 200 Fall 2002 | | Indian Point 2 • Diablo Canyon 1 | Fall 2002 5/02 | Bare-metal | Byron 2 Callaway McGuire 1 Millstone 3 South Texas 2 Vogtle 2 Seabrook Summer Byron 1 Sequoyah 1 South Texas 1 Shearon Harris | 10/01 | GL 88-05 GL 88-05 GL 88-05 GL 88-05 GL 88-05 GL 88-05 | |
| Boric Acid Deposit Status | No Deposits of Above-Head I | Category 3 | | | | | | | San Onofre 3 • San Onofre 2 • Ginna | Spring 20 5/02 3/02 | Bare-metal + UT Best effort (Note 3) | • Fort Calhoun • ANO 2 • Salem 2 Palisades (Note 5) | 5/02 4/02 4/02 1/02 ✓ | Bare-metal UT Bare-metal GL 88-05 | Prairie Island 1 | Fall 2002 | | Comanche Peak 1 Catawba 1 Braidwood 2 Coman. Peak 2 Sequoyah 2 Braidwood 1 Catawba 2 | Fall 2002 4/02 4/02 4/02 3/02 9/01 √ | GL 88-05 GL 88-05 Bare-metal Bare-metal GL 88-05 GL 88-05 | |
| | 100% Bare-Metal Insp. Completed Returned to Service with Clean Head | Category 2 | North Anna 2 (R) Oconee 3 (R) TMI 1 (R) North Anna 1 Surry 1 (R) Oconee 2 (R) Robinson 2 ANO 1 (R) • Oconee 1 (R) | 11/01 11/01 10/01 10/01 10/01 4/01 4/01 | → Bare-metal + U → Bare-metal → Bare-metal | T T T T T T T T T T T T T T T T T T T | 10/01 | √ Bare-metal + UT | | | | | | | | | | | 7 | | |
| | 100% Bare- Returned to | Category 1 | • Surry 2 | 12/01 | | Calvert Cliffs 1 Cook 2 Farley 1 Turkey Point 3 Farley 2 | 2/02 1/02 10/01 10/01 2/01 | ✓ Bare-metal ✓ Bare-metal + UT ✓ Bare-metal ✓ Bare-metal ✓ Bare-metal | St. Lucie 2 Salem 1 | 11/01 4/01 | √ Bare-metal √ Bare-metal | Beaver Valley 2 | 2/02 | Bare-metal | Prairie Island 2 Kewaunee | 2/02 9/01 | 1 | Vogtle 1 McGuire 2 | 3/02 √ 2/02 √ | Bare-metal GL 88-05 | |

Category definitions for boric acid deposit status:

- Category 1: Recent bare-metal inspection showed no boric acid on head.
- Category 2: Recent bare-metal inspection showed some boric acid on head; boric acid removed from head and sources corrected.
- Category 3: Possible sources of boric acid from above the head have been carefully monitored; no cases of boric acid leakage from these sources have occurred.
- Category 4: Possible sources of boric acid from above the head have been carefully monitoried; leakage has occurred, but the boric acid was removed at that time and the leakage source corrected.

Other: Remaining plants, i.e., those not included in Categories 1 through 4 (based on information provided to date).

NOTES:

- 1. PWR Materials Reliability Program Response to NRC Bulletin 2001-01 (MRP-48), EPRI, Palo Alto, CA: 2001. 1006284.
- 2. A dot (•) before the plant name indicates that this plant either is currently down for a refueling outage or will be coming down for a spring 2002 refueling outage.
- 3. The 1999 Ginna eddy-current (ECT) inspection of all top head nozzles showed no cracking. During ongoing March '02 outage, Ginna completed selective UT through the thickness of the head material; no voids have been discovered. Visual inspection above the insulation was ongoing when this table was completed.
- 4. Recent bare-metal inspection, some boric acid residue on head, sources corrected. Boric acid residue did not obscure area of interest. Residue generally free of evidence of corrosion product.
- 5. Based on an updated head temperature value of 586.4°F, the susceptibility ranking of Palisades has changed subsequent to MRP-48; their current ranking places them in the 15-20 EFPYs column.
- 6. "(R)" denotes that nozzle repairs were performed.
- 7. A 100% bare-metal inspection is planned for St. Lucie 1 during their fall 2002 outage.