POLICY ISSUE
(Notation Vote)

November 1, 1995 SECY-95-264

FOR: The Commissioners

FROM: James M. Taylor
Executive Director for Operations

SUBJECT: RESTART OF THE BROWNS FERRY NUCLEAR PLANT UNIT 3

PURPOSE:

To request that the Commission authorize the Region II Administrator to allow restart of the Browns Ferry Nuclear Plant (BFN) Unit 3 upon satisfactory completion of open items and an assertion of readiness by the Tennessee Valley Authority (TVA), and completion of required NRC inspections.

BACKGROUND:

The Browns Ferry Nuclear Plant consists of three boiling-water reactor (BWR) units, each rated at 1098 megawatts gross electrical output, which are owned and operated by TVA. BFN Unit 2 was shut down for a regular refueling outage in September 1984. BFN Units 1 and 3 were voluntarily shut down by TVA in March 1985 due to poor performance, including significant enforcement actions, several operational events, equipment failures, and the inability of management to identify and correct problems.

On September 17, 1985, the Nuclear Regulatory Commission (NRC) requested, pursuant to 10 CFR 50.54(f), that TVA submit information about its plans for correcting problems at its nuclear facilities, including BFN. In response, on November 1, 1985, TVA submitted Volume 1 of its Nuclear Performance Plan (NPP), addressing root causes of problems with TVA's corporate management of its nuclear program, and described its plans to correct those problems. On August 28, 1986, TVA submitted Volume 3 of the NPP, addressing problems specific to the Browns Ferry plant, and defined actions planned for correcting those problems at the site. Volumes 2 and 4 of the NPP addressed problems specific to the Sequoyah and Watts Bar plants, respectively.

Contact:
Joseph F. Williams, NRR
301-415-1470

SECY NOTE: TO BE MADE PUBLICLY AVAILABLE AT THE COMMISSION BRIEFING ON NOVEMBER 9, 1995.

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The NRC staff safety evaluation report (SER) on the NPP Volume 1 issues was provided in NUREG-1232, Volume 1, dated July 1987. In this SER, the staff concluded that TVA had adequately addressed the corporate-level concerns raised by the 10 CFR 50.54(f) letter of September 17, 1985.

The NRC staff SERs for the site-specific issues for BFN Unit 2 from Volume 3 of the NPP were documented in NUREG-1232, Volume 3, issued in April 1989, Supplement 1, dated October 1989, and Supplement 2, dated January 1991. These reports concluded that TVA had adequately addressed the concerns raised by the 10 CFR 50.54(f) letter of September 17, 1985 for BFN Unit 2.

After a Commission briefing on April 23, 1991, the Region II Administrator was authorized to allow BFN Unit 2 restart upon completion of remaining open items. BFN Unit 2 was restarted on May 24, 1991, and is currently in its third fuel cycle after restart. A more extensive discussion of the background and basis for BFN Unit 2 restart can be found in SECY-91-101.

DISCUSSION:

By letters dated January 9 and July 10, 1991, TVA submitted its corrective action plan for returning BFN Units 1 and 3 to service. In general, TVA adopted the same methods, criteria, and technical positions for Unit 3 that were approved for Unit 2. By letter dated April 1, 1992, the Office of Nuclear Reactor Regulation (NRR) concluded that TVA's plans were acceptable for returning Units 1 and 3 to service. For issues where TVA deviated from the Unit 2 precedent, TVA submitted descriptions of the revised programs. The staff reviewed each of these topics, and issued safety evaluations when necessary.

In January 1993, the staff substantially revised Inspection Manual Chapter (IMC) 0350, "Staff Guidelines for Restart Approval." Prior to this revision, there were limited guidelines and procedures for the reviews and inspections required to support restart of a nuclear plant after an extended shutdown. Actions required were identified by NRR and Regional managers. Results of licensee corrective actions were documented in inspection reports and letters to the affected licensee.

Although this process was adequate and the necessary actions were accomplished, it was not a structured process that could be consistently applied to each facility. The IMC 0350 revision addressed this problem. It ensures objective measures of restart readiness are developed, and that NRC review efforts are appropriate to the individual circumstances and are reviewed and approved by appropriate NRC management. It also provides a generic checklist of actions from which a plant-specific Restart Action Plan can be developed, and provides a record of regulatory actions leading to approval of plant restart.

The NRC staff has monitored BFN Unit 3 activities continuously since TVA began its recovery efforts in 1991. The BFN Unit 3 IMC 0350 Restart Panel was created on February 1, 1995, and includes representatives from Region II and NRR. This panel is responsible for reviewing NRC and licensee activities,

with the goal of making a restart readiness recommendation to the Region II Administrator when TVA nears completion of recovery activities. Regular Restart Panel meetings have been conducted to review plant status, progress, and inspection findings, and to provide guidance and direction to regional technical branches and the resident inspectors to focus on problem areas.

Copies of the Task Checklist and the Issues Checklist developed by the BFN Unit 3 Restart Panel are enclosed. The Task Checklist provides an outline of major activities required for restart. The Issues Checklist provides a detailed listing of issues requiring resolution, with references to the relevant NRC safety evaluations and inspection reports.

Inspections of structural, electrical, and fire protection modifications have generally resulted in satisfactory findings. The licensee's planning and execution of modifications have been good. Construction deficiencies have been minor, and defects have been effectively addressed. Some minor drawing errors have been noted, which seem to be the result of isolated problems from a lack of attention to detail. No safety-significant discrepancies have been identified, and problems have been satisfactorily resolved.

As modifications neared completion, inspections focused on system preoperability walkdown inspections and restart testing. After some initial problems, walkdown inspections are very detailed and thorough. System testing has also been good. BFN Unit 3 fuel loading was completed on October 28, 1995. The licensee's approach was deliberate and conservative, with a good level of management oversight.

The licensee's independent assessments for restart readiness have included program implementation audits by Quality Assurance, a special Institute for Nuclear Power Operations (INPO) visit for assessment of multi-unit operational readiness, and Nuclear Safety Review Board (NSRB) oversight of restart activities. Quality Assurance and INPO findings have been consistent with NRC inspection findings.

The licensee also conducted a comprehensive Operational Readiness Review Team (ORRT) assessment. The ORRT was staffed with experienced personnel from outside Browns Ferry and TVA, and was organized into teams to assess plant readiness in key areas. Reviews were staggered over a 7-week period, with a core team who maintained a presence the entire time. At the end of the assessment (September 29, 1995), the ORRT concluded that Browns Ferry was not yet ready to commence multi-unit operations, but expressed confidence that the licensee would be ready in the near future after completion of ongoing activities characterized as restart prerequisites. The most significant items to be resolved were completion of systems turnover, the adequacy of training on unit differences and interactions, improvement of staff sensitivity for multi-unit operations, and issuance of revised Emergency Operating Instructions. TVA's NSRB and NRC inspectors have monitored actions to address these items. Restart issues will be resolved before plant startup.

An Operational Readiness Assessment Team (ORAT) inspection, led by the Special Inspection Branch of NRR, was conducted at the site October 10-20, 1995. The

objective of this inspection was to assess the readiness of the site to support simultaneous operation of BFN Units 2 and 3. The team reviewed the readiness of plant systems and hardware, management, operations, maintenance and surveillance testing, engineering, fire protection, and safety assessment and quality verification.

The ORAT concluded that there were no obstacles to prevent safe operation of the two units. Plant management was found to be a strength, with attention focused on aggressive resolution of problems. Procedure structure and complexity, personnel attention to detail, and availability of qualified spare parts were the most significant problems identified by the team. Licensee corrective actions for these issues are ongoing. In the fire protection area, the team identified problems which the licensee committed to resolve prior to restart. These findings are consistent with previous NRC inspection findings, and TVA reviews.

Based on its review and inspection of TVA's activities to date, the Restart Panel has found no discrepancies which should prevent restart of BFN Unit 3. The Restart Panel will document its final recommendations to the Region II Administrator as the licensee nears completion of its recovery activities. Checklist open items identified as restart items will be resolved before startup of BFN Unit 3.

RECOMMENDATIONS:

It is recommended that the Commission grant the Region II Administrator authority to permit restart of Browns Ferry Unit 3 upon satisfactory completion of all necessary outstanding actions by TVA and the NRC staff. The Region II Administrator will consult with the Director of NRR and the Executive Director for Operations before permitting TVA to restart Browns Ferry Unit 3.

COORDINATION:

This paper has been coordinated with OGC, and OGC has no legal objection.

SCHEDULING:

TVA will request permission to restart Browns Ferry Unit 3. Plant startup will not occur before November 15, 1995.

James M. Taylor
Executive Director
for Operations

Attachments: 1. Task Checklist
2. Issues Checklist

Commissioners' comments or consent should be provided directly to SECY by c.o.b. Thursday, November 16, 1995.

Commission staff office comments, if any, should be submitted to the Commissioners NLT November 9, 1995, with an information copy to SECY. If the paper is of such a nature that it requires additional review and comment, the Commissioners and the Secretariat should be apprised of when comments may be expected.

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BROWNS FERRY UNIT 3 TASK CHECKLIST

TASK	RESP.	REFERENCE	STATUS
Establish Restart Panel	RII, NRR	2/1/95 SDE ltr	C
Develop Case Specific Checklist	RII, NRR	9/22/94	C
Develop Restart Action Plan	RII, NRR	2/1/95 SDE ltr	C
Regional Administrator Approves Plan	RII	2/1/95 SDE ltr	C
NRR Associate Director Approves Plan	NRR	2/1/95 SDE ltr	C
Notification Restart Panel established	Lesser	2/24/95 RON 509	C
Licensee performs root cause analysis and develops corrective action plan	Licensee	7/10/91 TVA ltr	C
NRC evaluates licensee's root cause determination and corrective action plan	NRR	4/1/92 Varga ltr	C
Review licensee generated restart issues	Panel	3/21/95 Panel mtg minutes	C
Independent NRC identification of restart items (consider external sources)	Panel	3/21/95 Panel mtg minutes	C
NRC/Licensee agreement on restart issues	Panel	4/19/95 mtg w/licensee	C
Obtain public comments	Lesser	monthly mtgs with licensee were open; 3/21/95 RA press brief; 10/26/95 NRR press brief	
Obtain comments from State and Local Officials	Barr	Notified of fuel load via PN 2-95-57; no comments	C
Cognizant Federal agencies notified of restart plans (i.e. FEMA)	Ed Fox	5/15/95 Fox memo	C
Obtain comments from applicable Federal agencies	Ed Fox; Barr	10/18/95 Fox memo	C
No restart objections from applicable Federal agencies	Ed Fox	10/18/95 Fox note	C

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Attachment 1

Browns Ferry Unit 3 Task Checklist, Continued

TASK	RESP.	REFERENCE	STATUS
Applicable Federal agencies notified of restart authorization by NRR (FEMA)	Ed Fox		
Applicable Federal agencies notified of restart authorization by RII (FEMA)	Decker		
Evaluate licensee's readiness self assessment	RII	Licensee briefed restart panel on ORR results at meetings 8/31 and 9/21; Rpt dated 10/3/95 reviewed.	C
Conduct Operational Readiness Assessment Team Inspection (ORAT)	Narbut	Oct 10-20; Exit 10/27; Rpt 95-291	C
Restart issues closed	Panel		
Issue augmented restart coverage ROI	RII		
Obtain staff comments on restart	RII, NRR	Varga memo dtd 9/29/95; RON 0511 RI, dtd 10/10/95	C
Re-review MC 0350 generic restart checklist	Panel		
Prepare restart recommendation document and basis for restart to Regional Administrator	RII		
Restart meeting with licensee	Panel	monthly meetings	C
Restart Panel recommends restart	Panel		
Regional Administrator concurs in restart recommendation (SECY paper)	RII		
NRR Associate Director concurs in restart recommendation (SECY paper)	NRR		
EDO Concurs in restart recommendation (SECY paper)	NRR		

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Browns Ferry Unit 3 Task Checklist, Continued

TASK	RESP.	REFERENCE	STATUS
ACRS briefing	NRR	2/16/95 Williams memo	NA
Submit Commission paper	NRR	goal: 11/1	
Commission briefing	NRR, RII	Status Brief 7/12/95; Final brief Nov 9	
Commission restart authorization	Comm		
Notify Congressional Affairs of restart	NRR		
Notify ACRS of restart	NRR		
Notify FEMA of restart	RII, Ed Fox		
Notify Public Affairs of restart	RII		
Notify State and Locals of restart	RII		
Monitor restart	RII		

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BROWNS FERRY UNIT 3 ISSUES CHECKLIST

ISSUE	DESCRIPTION	NRC LEAD	IR/SER	COMMENTS
TMI ACTION ITEMS (TI 2515/065)				
I.D.1.2	Control Room Design Review TAC M56105; MPA F071	Peebles	SE 10/29/91 93-201 94-09 93-21	Inspection performed 9/94 reviewed program satisfactory
II.B.3.3	PASS - Procedures TAC M74614; MPA F077; M83122	Jones	SE 5/27/87; TS amend 6/21/94 IR 95-40 95-47	procedures reviewed, open pending review of procedures for estimated dose calcs, analyzing samples
II.B.3.4	PASS - Modifications TAC M44425; MPA F012	Jones	SE 5/27/87 IR 95-40 95-47	Installation reviewed, open pending calibration and functional testing
II.E.4.1.2	Dedicated Hydrogen Penetrations - Review and Revise H2 Control Proc TAC R00003	SRI	SE 5/23/88 95-10	
II.E.4.1.3	Dedicated Hydrogen Penetration - Install TAC M44763; MPA F013	SRI	SE 12/22/81 95-10	
II.E.4.2.1-4	Containment Isolation Dependability - Diverse Isolation TAC M74615; MPA F078	Musser	SE 1/6/95 and 10/3/95 IR 95-16	installation verified, open pending PMT
II.E.4.2.6	Containment Isolation Dependability - Containment Purge Valves TAC M74616; F079	Musser	SE 1/6/95 95-16	installation verified, open pending PMT
II.F.1.1	Accident Monitoring - Procedures TAC M74617; MPA F081	Jones	SER 8/17/90 94-33;95-40 95-47	Procedures established; open pending review of dose calc, data interpretation
II.F.1.2.A	Accident Monitoring - Noble Gas Monitor TAC M44905; MPA F020	Jones	SER 12/22/81; IR 95-40 95-47	instrument installed
II.F.1.2.B	Iodine/Particulate Monitor TAC M44976; MPA F021	Jones	SER 12/22/81; IR 95-40 95-47	instrument installed

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Attachment 2

Browns Ferry Unit 3 Issues Checklist, Continued

ISSUE	DESCRIPTION	NRC LEAD	IR/SER	COMMENTS
II.F.1.2.C	Containment High Range Monitor TAC M45047; MPA F022	Loo	SER 1/8/82 IR 94-28 95-11; 95-33; 95-42; 95-55	
II.F.1.2.D	Containment Pressure Monitor TAC M47584; MPA F023	Morgan	SER 6/16/83; IR 95-31, 95-60	hardware inspected, open pending calibration and procedures
II.F.1.2.E	Containment Water Level Monitor TAC M47655; MPA F024	Morgan	SER 6/16/83; IR 95-31 95-56	
II.K.3.13.B	HPCI/RCIC Initiation Levels TAC M45534; MPA F043	Musser	SER 9/19/88 90-23 95-56	
II.K.3.18.C	ADS Actuation Modification TAC M45682; MPA F048	Morgan	SER 5/29/90; IR 95-43, 95-60	installation verified, open pending calibration and functional testing
II.K.3.27	Common Reference Level TAC M45778; MPA F054	SRI	SER 12/3/82 95-16	
II.K.3.28	Qualification of ADS Accumulators TAC M46262; MPA F055	Musser	SER 7/24/85; IR 95-56	
II.K.3.57	Identify Water Sources Prior to Manual Actuation of ADS MPA F062	SRI	95-31	
III.D.3.4.3	Control Room Habitability - Implement Mods	SRI	SER 8/30/82 90-37	
TEMPORARY INSTRUCTIONS				
TI 2500/020	ATWS GL 83-28 TAC M07931; MPA D001	Musser	SER 1/22/90 IR90-29 IR90-38 95-22 95-60	
TI 2515/074	Employee Concerns Resolution	SRI	IR90-31 93-18 93-32 93-43 94-20 95-10	

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Browns Ferry Unit 3 Issues Checklist, Continued

ISSUE	DESCRIPTION	NRC LEAD	IR/SER	COMMENTS
TI 2515/089	Stress Corrosion Cracking in BWR Piping	Blake		SIMS shows ready for closure; TI for GL 84-11; GL 88-01 superseded 84-11 and TI cancelled; Issue tracked under GL 88-01
TI 2515/095	BWR Recirc Pump Trip	Musser	95-22 95-60	
TI 2515/099	BWR Power Oscillation IEB 88-07 TAC M72769; MPA X807	Kellogg	SER 4/4/90 TS 179 5/31/94	
TI 2515/109	MOV Testing GL 89-10	Whitener	94-03; 95-19; 95-51 95-53	
TI 2515/111	EDSFI followup	Rudisail	95-60	
TI 2515/112	Eval Changes in Environs	SRI	93-44	
TI 2515/118	Service Water System TAC M73972; MPA L917	Peebles	SER 4/23/90; IR 95-23	
TI 2515/119	Water Level Inst Errors GL 92-04	Peebles	IR 93-16	
TI 2515/121	Installation of Hardened Wetwell Vent GL 89-16	Morgan	SER 8/16/91; IR 95-38 95-56	
TI 2515/122	Loss of Fill Oil for Rosemount Transmitter IEB 96-01 TAC M85363 MPAB122	Shymlock	95-29	NRR to issue SER early 1995; Closed for units 2 and 3; MC Change Notice 95-08 deletes requirement for completion of TI at sites such as BF1
TI 2515/128	Plant Hardware Mods to Rx Vessel Water Level Inst.	Munday	SER 4/20/94 IR 93-201; 95-31 95-56	unit 2 mod walkdown complete IR 95-31; verify installation on unit 3
NRC BULLETINS				
IEB 79-02	Pipe Support Base Plate Designs Using Concrete Expansion Anchor Bolts TAC R00017	Blake		Refer to Large Bore Piping and Supports Program
IEB 79-12	Short Period Scrams at BWRs	Morgan	95-51	
IEB 79-14	Seismic Analysis for As-built SR Piping Systems TAC R00017	Blake		Refer to Large Bore Piping and Supports Program

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Browns Ferry Unit 3 Issues Checklist, Continued

ISSUE	DESCRIPTION	NRC LEAD	IR/SER	COMMENTS
IEB 79-18	Audibility Problems	Barr	IR93-23; 95-30	
IEB 80-06	ESF Reset Controls	SRI	95-22	
IEB 83-02	Stress Corrosion Cracking in Large Dia SS Pipe	Blake		Refer to GL 88-01
IEB 83-08	Elect Circuit Bkrs with UV Trip Feature in SR applications other than RPS	SRI	95-22	
IEB 84-02	Failures of GE HFA relays in 1E Safety systems	SRI	95-43	
IEB 85-03	MOV Common Mode Failures; GL 89-10	Whitener		Refer to GL 89-10
IEB 86-02	Static O Ring DP Switches	Casto	94-31	
IEB 88-03	Inadequate Latch Engagement in HFA relays by GE TAC M73854; MPA X883	NRR	SER 8/2/90	NUREG 1435; NRR determined issue is closed
IEB 88-04	SR Pump Loss TAC M69890; MPA X807	Sparks	SER 4/4/90; IR 95-31	
IEB 88-07	Power Oscillations in BWRs; TI 2515/099	Kellogs		Refer to TI 2515/099
IEB 90-01	Loss of Fill-Oil in Rosemount Transmitters TAC M85363; MPA B122	Shymlock		Refer to TI 2515/122
IEB 92-01	Thermolag TAC M83830; MPA X201	Wiseman	SER 11/13/92	Refer to GL 92-08
IEB 93-02	Debris Plugging of ECCS Suction Strainers TAC M86537; MPA X302 TAC M89279; MPA B124	Musser	SER 6/28/93 7/19/94	sch for drywell closeout 11/6
IEB 93-03	Issues related to Reactor Vessel Water Level Inst. TAC M86884; MPA X309	Shymlock	SER 4/20/94 IR 93-201	refer to TI 2515/128
IEB 95-02	Unexpected Clogging of RHR Strainers	SRI		sch 11/13
NRC GENERIC LETTERS				

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Browns Ferry Unit 3 Issues Checklist, Continued

ISSUE	DESCRIPTION	NRC LEAD	IR/SER	COMMENTS
GL 82-33	Inst to follow course of Accident; RG 1.97 TAC M51075; MPA A017	Rudisail	SER 2/8/90 IR90-32 93-201; 95-39	
GL 83-28	Salem ATWS; TI 2500/020	Musser		Refer to TI 2500/020
GL 83-36	NUREG 0737 TS	NRR	94-33; TS change 6/21/94 on PASS	
GL 88-01	IGSCC in BWR Aust SS Piping TAC M85296	Coley	SER 12/3/93; IR 95-44	
GL 88-11	Radiation Embrittlement of Reactor Vessel; RG 1.99 TAC M71469; MPA A023	NRR	SER 6/29/89	NUREG 1485; NRR determined issue is closed
GL 88-14	Instrument Air Affecting SR Systems TAC M71633; MPA B107	Morgan	SER 5/9/89; IR 95-38 95-56	
GL 88-20	IPE	NRR		Seismic Evaluation Report due to NRC 9/19/96; closed for restart purposes
GL 89-06	SPDS TAC 73636; MPA F072	Musser	SER 2/5/92	Refer to TMI item I.D.2
GL 89-08	Erosion Corrosion monitoring program TAC M73459; MPA L908	Klinzorge	SER 8/21/89; IR 95-41	
GL 89-10	MOV Testing And Surveillance TAC M75637; MPA B110	Whitener		Refer to TI 2515/109
GL 89-13	Service Water Systems TAC M73972; MPA L913	Kellogg		Refer to TI 2515/118
GL 89-16	Installation of Hardened Wetwell Vent TAC M74860; MPA B112	Morgan	SER 8/16/91	Refer to TI 2515/121
GL 89-19	USI A-47 Safety Implication of Control Systems TAC M74917; MPA B113	NRR	SER 6/28/94; SE 9/22/94	

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Browns Ferry Unit 3 Issues Checklist, Continued

ISSUE	DESCRIPTION	NRC LEAD	IR/SER	COMMENTS
GL 92-04	Reactor Vessel Water Level Instrument TAC M84271; MPA B121	SRI	SER 3/25/93 IR93-16	TI completed; Further review of mods under IEB 93-03
GL 92-08	Thermolag	Wiseman	SE 5/11/94; IR 95-38 95-60	RHRSW cables use thermolag and have been upgraded to configurations as tested at WB; ampacity/combustible analysis by 12/22/95 and abandoned material removed by 6/20/96; not required for restart
GL 94-02	Long Term Solution for Thermal Hydraulic Instabilities	Peebles	94-11	action 1.a closed; IFI 94-11-02 to review action 1.b; action 2 not required for restart (long term mods due 3/97)
GL 94-03	IGSCC of Core Shroud TAC M90083	Blake	94-16; 95-44	SE 1/13/95 concluded structural integrity will be maintained for at least 1 cycle without need for mod
UNRESOLVED SAFETY ISSUES				
A-7	Mark I Long Term Program TAC M07931; MPA D001	Blake		Refer to Long Term Torus Integrity Program; TI 2515/085 closed 88-19
A-9	ATWS	Musser		Refer to TI 2500/020
A-24	Qualification of Class 1E Equipment TAC M42681; MPA B060	Shymlock		Refer to EQ Program; TI 2515/074 closed 88-17
A-36	Control of Heavy Loads Near Spent Fuel Pool	York	94-12; 95-38	
A-42	Pipe Cracks in BWRs	Blake		Refer to GL 88-01
A-44	Station Blackout	Fillion	95-16; 95-44 95-60	
A-47	Safety Implication of Control Systems	NRR		Refer to GL 89-19
A-48	Hydrogen Control Measures and Burn Effects TAC M55955; MPA A019	Musser	SER 9/9/86; IR 95-51	
GENERIC SAFETY ISSUES				
GSI 40	Safety Concerns Associated with Pipe Breaks in BWR Scram System TAC M43736; MPA B065	Lenahan	SER 1/7/86; IR 95-03; 95-52	

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Browns Ferry Unit 3 Issues Checklist, Continued

ISSUE	DESCRIPTION	NRC LEAD	IR/SER	COMMENTS
GSI 41	BWR Scram Discharge Volume System TAC M51014; MPA B058	Morgan	SER 6/24/83; IR 95-56	
GSI 43	Reliability of Air Systems	SRI		Refer to GL 88-14
GSI 51	Improving SW system Reliability	Kellogg		Refer to TI 2515/118
GSI 67.3.3	Improved Accident Monitoring; RG 1.97	Shymlock		Refer to GL 82-33
GSI 75	Salem ATWS 4.5.2 and 4.5.3 RPS Test Alternatives TAC 53966; MPA B093	Rudisail	SER 8/17/90 IR 95-00	
GSI 75	Salem ATWS 1.2 Data Capability TAC M53573; MPA B085	Musser	SER 6/12/85	sch 11/13
MULTI PLANT ACTION ITEMS				
MPA A004	Appendix J Cont Leak Testing M08717	Whitener	SER 10/24/84; IR 95-08	ILRT
MPA B118	IPE Internal Events	NRR		Refer to GL 88-20; not required for restart
MPA B41	Fire Protection Final TS M48136	NRR	SER 10/12/89	Refer to License Amendment TS 337; Removal of TS complete. NRR reviewing Fire Protection Plan submittal
MPA C-10	Heavy Loads Phase I M08438	SRI	SER 6/6/84; IR 95-38	
MPA C011	RPS Power Supply M08931	Musser	SER 6/27/85; IR 95-51	Installed UV, OV, UF protection to MG set circuit breakers
INSPECTOR FOLLOWUP SYSTEM				
URI 84-29-01	Failure to adequately control welding	SRI	IR 94-18	
IFI 84-32-02	Torus Level Instrumentation	Morgan	IR 95-31 95-56	
IFI 84-41-04	Relocation of HPCI Emerg Control Boxes	SRI	94-27; 95-43	
IFI 85-09-02	Bolts inadequate on Limitorque motors	Whitener	95-19	

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Browns Ferry Unit 3 Issues Checklist, Continued

ISSUE	DESCRIPTION	NRC LEAD	IR/SER	COMMENTS
URI 85-26-03	Interim Acceptability of Plant Operation for IEB 79-02	Blake	95-03	
DEV 85-36-04	Torus Flood Level Switch	SRI	95-51	
VIO 85-41-01	Cable Tray Supports	Lenahan	95-52	
IFI 85-51-01	Cable Tray Support Criteria Seismic	Lenahan	95-52	
LER 85-20	Failure to install core spray hanger	SRI	94-32	
LER 85-32	Reevaluation of Design Criteria for FSAR 8.6.2.1	Shymlock	91-06; 95-21	
LER 85-33	Nonstandard 4" pipe penetrations through sec cont	SRI	95-26	
LER 85-47	Improper SLC heat trace tape	SRI	94-32	
URI 86-06-02	Rx Bldg control Bay HVAC inadequate design	Lenahan	95-52	
URI 86-14-03	Overstress of Drywell Beams	Lenahan	95-41	
IFI 86-28-05	Addition of EECW/RBCCW xconn valves to IST	SRI	94-27	
IFI 86-40-03	IRM Power supply and procedure changes per SIL 445	SRI	94-32	
LER 86-10	Design Engineers identified connection of unqualified piping to containment sensing lines	Speckz	95-38	
LER 86-14	Fluid leakage problem with large bore snubbers for Torus dynamic restraint	Blake	95-26	
LER 86-18	Neutron monitor surv test deficiencies	SRI	94-36	
URI 87-02-02	Limitorque gear ratio	Whitener	95-19	
URI 87-26-03	RHR pump suction and nozzle load allowances possibly exceeded	Lenahan	95-52	
IFI 87-33-02	Failure of drywell control air isol valves to fail closed on air loss	SRI	95-16	
IFI 87-37-03	Reactor Water Level Sensing lines	SRI	95-16	

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Browns Ferry Unit 3 Issues Checklist, Continued

ISSUE	DESCRIPTION	NRC LEAD	IR/SER	COMMENTS
IFI 88-02-02	Temp Alterations change forms large number outstanding	SRI	94-17	
VIO 88-04-03	Failure to Correctly translate design requirements into drawings	SRI	95-31	
LER 88-12	Battery failure concurrent with LOP/LOCA prevent auto start	Fillion	95-60	
LER 88-14	Unplanned manual start of ESF due to personnel error	SRI	95-26	
LER 88-25	CR operator dose may exceed design limits after accident because of design error	SRI	94-24	
LER 88-32	Electrical separation requirement violated due to design controls	Shymlock	95-20	
LER 88-37	Inadequate design control process discrepancy in HVAC duct work	Lenahan	95-52	
LER 88-40	Inadequate design controls results in backup control system not meeting design requirement	Fillion	95-60	
IFI 89-11-03	Deteriorated GE cables	SRI	95-22	
IFI 89-17-05	Followup on ATWS mods	SRI	95-22	
IFI 89-20-02	CRD seismic analysis	Blake	95-03	
URI 89-36-02	Use of closed manual valves in RCW line to control bay chiller	SRI	94-17	
LER 89-03	Design of suppression pool vacuum relief system not provide single failure proof	SRI	95-22	
LER 89-11	Design error in EECW anti syphon check valves	SRI	95-22	
LER 89-07	Cable deterioration causes inoperable neutron monitoring	SRI	95-22	
LER 89-25	Design errors in 250VDC results in unanalyzed condition	Fillion	95-60	
URI 90-33-06	RPS/ARI diversity	SRI	95-22	

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ISSUE	DESCRIPTION	NRC LEAD	IR/SER	COMMENTS
IFI 90-40-01	Deficiencies identified during integrated ESF test	SRI	95-10	
DEV 91-41-01	Control of Construction	SRI	95-10	
LER 91-01	Failure of Two trains of Standby power system to load sequence	Shymlock	95-10	
LER 91-15	HPCI did not fulfill safety function from low suction pressure during last start	SRI	95-10 95-36	
URI 92-07-01	Large bore walkdown inspection & documentation checking problems	Blake	93-29 95-08	
IFI 92-30-03	Circuit Breaker Coordination	SRI	94-18	
IFI 92-32-01	Design Problems in Spring Supports	Blake	94-15	
VIO 92-37-01	Failure to verify secondary containment isolation	SRI	94-06 94-32	
LER 92-02	ESF actuation from relay failure	SRI	94-20	
LER 92-03	Failure of Reactor zone isol damper to close	SRI	94-32	
LER 92-05	Design Deficiency allowed secondary containment atmosphere to be released through RCW	SRI	95-10	
URI 93-11-01	Weld Differences between the welds assumed in support	Coley	95-44	
IFI 94-04-02	Verify Method used to install wedge anchors	Blake	95-15	
IFI 94-07-03	Verification of SBO Functional Requirements	Salgado	95-16; 95-34	
IFI 94-07-04	System operational boundary test identification	Williams	95-51	
IFI 94-11-02	Response to GL 94-02	Peebles		
IFI 94-12-01	Rosemount Transmitter Drift Problems	Shymlock	95-29	
IFI 94-18-02	Condition of Containment Coating	Musser	95-26	scheduled for drywell closeout
IFI 94-29-01	Review of CONAN Concrete Capacity	Lenahan	95-41	

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Browns Ferry Unit 3 Issues Checklist, Continued

ISSUE	DESCRIPTION	NRC LEAD	IR/SER	COMMENTS
IFI 94-29-02	Design Methods for Anchor Location Tolerance	Lenahan	95-41	
URI 94-29-04	Amplification factors for anchor loads	Blake	95-15	
VIO 94-35-01	Failure to maintain spacing in low voltage cable tray	Rudussail	95-45	
LER 94-02	Raychem tubing EQ deficiency	McDnald	95-56	
VIO 95-03-01	Spring can installation	Coley	95-44	
URI 95-10-01	Inadequate Second party check by foreman (Beta Tape)	Rudisail	94-35; 95-14; 95-20; 95-51	
VIO 95-15-01	Failure to Complete Mod IAW work plan and Drawings	Lenahan		
URI 95-15-02	Failure to Update Design Drawings to Reflect As-built conditions	Lenahan	95-41	
URI 95-16-01	Work Performed on incorrect equip	SRI	95-51	
IFI 95-19-02	Valve motors stator through bolts mods	Whitener	95-53	
IFI 95-23-01	Service Water self assessment findings disp	Peebles		
VIO 95-31-01	Core Spray testable check valves	SRI	95-43; 95-56	Violation for unit 2 and remains open in IFS, adequate testing verified on unit 3
IFI 95-31-04	Rad Monitor RECW Discharge	Jones	95-47	
IFI 95-31-06	Potential EQ Program Deficiencies	McDonald	95-56	
IFI 95-37-01	Verification of Emergency Lighting	Wiseman	95-56	
IFI 95-37-02	Performance of simulated safe shutdown for App R event	Musser	95-51 95-56 95-60	
IFI 95-41-02	Platform Steel Qualification	Lenahan		Chou assisting with review of calculations
VIO 95-57-01	4 examples of inadequate mods	Lenahan		
URI 95-57-02	RHR platforms loose bolting	Lenahan		

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Browns Ferry Unit 3 Issues Checklist, Continued

ISSUE	DESCRIPTION	NRC LEAD	IR/SER	COMMENTS
ORAT issue	Ventilation damper closure requirements	SRI		
ORAT issue	Spurious failure criteria	SRI		
LICENSING ACTIONS				
TS 359	Scram Pilot Air Header Pressure Switches TAC	NRR	SE 8/29/95	
TS 337	Appendix R License Amendment TAC M87902	NRR		
TS 320	RWCU Temperature Switches TAC M88085	NRR	SE 5/15/95	
TS 340	Diesel Generator Load Shedding TAC M89245	NRR	SE 2/16/95	
TS 319	HPIC/RCIC Temp and Channel Checks TAC M89247	NRR	SE 3/16/95	
TS 318	Analog Transmitter/Trip Systems TAC M89250	NRR	SE 7/17/95	
TS 339	Extended Load Line Limit and Revised RBM Operability TAC M89253	NRR	SE 2/24/95	
N-416-1	Pressure testing Relief Request	NRR	SE 8/18/95	
N-498-1	Pressure testing Relief Request	NRR	SE 8/18/95	
TS 361	RHR Service Water Requirements for Standby coolant supply	NRR		
TAC M93759	Reactor Vessel Weld Inspection Flaw Evaluation	NRR	TVA: 3/6/95, 10/4/95, 10/9/95	flaw evaluation to be reviewed
MISC ISSUES				
	TS Surveillances	Shymlock		tracked under Restart Test Program
	Training - Unit differences	Kellogg		
	Plant Simulator Certification	Peebles		
NPP pg IV-17	HPCI Controller Improvements	SRI	SSER2 App E; IR 95-56	

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ISSUE	DESCRIPTION	NRC LEAD	IR/SER	COMMENTS
NPP pg III-57	Shroud Head Bolts (IGSCC)	Coley	SSER2 Sec 3.6; IR 95-44	
NPP pg II-94	Online Chem Instrumentation	Jones	SSER2 Sec 4.10 IR95-47	installation verified on RWCU, feedwater, cond
NPP pg II-58	Unresolved CAQs	SRI	SSER2; IR 95-56	periodic inspection of FERs when SPOC I complete
	ERDS link to HQ operational	Decker	IR 95-30	
	Review licensee CATD closeout letter	SRI	95-56	corrective actions for 11 CATDs will remain open for restart, associated with USI A-46, design changes for MSRV rigging to improve personnel safety, security lighting drawings, CHEVE GDC 19 resolution, RFP bypass line vibration to be verified during operation
	Final Restart Closeout Ltr	NRR		
PROGRAMS IMPLEMENTED IN ACCORDANCE WITH UNIT 2 PRECEDENT				
	Cable Ampacity	Rudisail	94-35	NUREG 1232 V3 S2 reviewed program and NRC ltr of 6/23/93 reviewed followup items
	Cable Tray supports M 80684	Lenahan	SER 12/17/91; IR 95-52	
	Containment Coatings	Musser	94-01 94-09 94-18 94-27	IFI 94-18-02 opened to track repairs to U3
	CRD Insert and Withdrawal Piping	Lenahan	95-52	
	Design Calc Review	Casto	94-31	
	EQ TAC M47482; MPA B060	McDonald	94-06 94-27 94-35 95-31 95-56	
	Flexible Conduits	NRR;Jeng	95-56	NRR (David Jeng) reviewer to provide feeder to close issue during site visit Aug; longer term issues to be resolved by A-46

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ISSUE	DESCRIPTION	NRC LEAD	IR/SER	COMMENTS
	Fuses	Fillion Rudisail	SER 13.6 93-02 93-08, 95-02, 95-45	
	HVAC Duct Supports TAC R00300, M82127	Lenahan	SER 10/24/89 7/16/92 IR 93-201; 95-52	
	IGSSC	Blake	92-31 93-05	Refer to UL 88-01 ORS Reviewed program and found acceptable
	Large Bore Piping and Supports (IEB 79-02 & 79-14) TAC R0017	Lenahan	SER 10/24/89 94-15 94-29 95-03 95-52	
	Misc Steel Frames TAC R00297 M80620	Lenahan	SER 10/24/89 94-15 94-29 95-41	
	Moderate Energy Line Break	Lenahan	SER 4/20/94 IR 95-52	to determine effects of internal flooding from pipe breaks
	Platform Thermal Growth TAC R00297, M80620	Lenahan	SER 10/24/89 4/20/94 IR 93-201 94-29 95-41 95-52	
	PRA	NRR; MooChen	95-49	TVA to submit multi unit PRA 6/95, IPEEE 6/95, Internal fires IPEEE 120days after refueling; not required for restart; multiunit PSA briefed by NRR 9/11
	Q-List	SRI	95-43	
	Seismic Class II/I TAC M80015	Lenahan	SER 12/17/91	Water spray hazards complete; seismic induced spacial interactions effects associated with USI A-46, which is to be resolved after restart
	Splices	Rudisail	SSER2 3.13 90-22 95-14 95-20	
	Thermal Overloads	Rudisail	SER 13.4; IR 95-25	

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Browns Ferry Unit 3 Issues Checklist, Continued

ISSUE	DESCRIPTION	NRC LEAD	IR/SER	COMMENTS
PROGRAMS WHICH DEPART FROM THE UNIT 2 IMPLEMENTATION PRECEDENT				
	Component and Piece Parts Qualification M83828	Jape	SE 12/7/93 IR 95-60	PER written to wk of 10/23 to resolve Mid South Nuclear piping issue
	Cable Installation M80682	Rudisail	SER 4/8/92 7/1/94 93-34 94-27 94-35 95-20; 95-45	revised bend radius for medium voltage cables
	Conduit Support TAC R00024 M80690	Lenahan	SER 10/24/89 3/30/92; IR 95-15 95-37	
	Configuration Mgmt/Design Baseline M80698	Casto	94-07 SER 11/21/91 94-07 94-20 94-31 95-50	
	Instrument Tubing TAC M80036	Lenahan	SER 2/4/92 95-03 95-37	Licensee has combined inst tubing and small bore piping programs
	Instrument Sensing Lines TAC M80017	Morgan	SER 12/10/92 IR 94-24 95-36	
	Long Term Torus Integrity TAC M80686	Lenahan	SER 2/10/92 95-03 94-15 95-52	
	Restart Test Program TAC M81791	Mcdnld	SER 8/30/94; IR 95-07 95-08 95-26 95-51 95-60	SRI - Review administrative program; Casto - identify electrical/mechanical tests and inspector to review.
	Small Bore Piping TAC M80018 R00306	Lenahan	SER 10/24/89 2/4/92 95-03 95-37	
PROGRAMS WHICH DEPART FROM UNIT 2 CRITERIA PRECEDENT				
	Fire Protection; App R. TAC M85254	Wiseman	94-27 95-04 95-07; 95-37	

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ISSUE	DESCRIPTION	NRC LEAD	IR/SER	COMMENTS
	Lower Drywell Platforms and Misc Steel TAC M80620 R00303	Lenahan	SER 7/26/88 10/24/89 3/19/92 4/20/94 IR94-15, 93-201 94-29 95-15; 95-41	Long term design criteria implements AISC spec
PROGRAMS COMPLETED ON ALL THREE UNITS				
	Heat Code Traceability	Blake	SER 5/21/90	NUREG 1232 V3 S1 sec 2.3 and NRC SE of May 31, 1990 reviewed program for all 3 units
	Secondary Containment Penetrations	Blake	SER 4/11/88	Program evaluated by April 11, 1988 addressed all 3 units
	Welding Program	Blake	SER 5/31/90	Welding concerns adequately addressed per NUREG 1232,V3,S1
	Pipe Wall Thinning (GL 87-01)	Blake	SER 8/31/88	SER Addressed all 3 units
POST RESTART ITEMS				
TMI I.D.2.2	SPDS Installed TAC M74612; MPA F075 GL 89-06 TAC M73636 F072	Musser	SE 2/5/92 IR 95-22	Installation verified, open pending PMT; sch after startup Jan 96
TMI I.D.2.3	SPDS Fully Implemented TAC M51225; MPA F009	Musser	SE 2/5/92	sch after startup Jan 96
TMI II.B.3.2	Post Accident Sampling - Corrective Actions TAC M74613; MPA F076	Jones	SE 5/27/87 94-33 95-40 95-47	to be tested 30d after full power
TMI II.F.2.4	Instrumentation for Detection of Inadequate Core Cooling GL 84-23 TAC M45118; MPA F026	Musser	SER 11/18/86 95-16	open pending review of procedures, PMT, training; to be completed after restart

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