Browns Ferry Nuclear Plant

Unit 2

Surveillance Procedure

2-SR-3.1.3.5(A)

Control Rod Coupling Integrity Check

Revision 0026

Quality Related

Level of Use: Continuous Use

Level of Use or Other Information: P2308

Effective Date: 09-28-2021

Responsible Organization: RXE, Reactor Engineering

Prepared By: Jesse V King

Approved By: Bill Williamson

1.2 Scope (continued)

This procedure and / or Attachment 1 may be used to record, document, or plan rod movements that otherwise do not require its performance. Those rod movements not required to be recorded by this procedure are:

- Rod moves to SCRAM the reactor.
- Rod moves to check the operability of the RWM.
- Rod moves to correct for a deviation from the RWM.
- Rod moves for CRD exercise testing per 2-SR-3.1.3.3.
- Rod moves for CRD testing per 0-TI-20 whenever not in Modes 1 or 2.
- Rod moves for CRD coupling integrity checks after refueling or maintenance per 2-SR-3.1.3.5(B).

1.3 Frequency

Each time a control rod is moved except as specified in Section 1.2 by bulleted items immediately above.

1.4 Applicability

Modes 1 and 2. (SR 3.1.3.5)

Modes 1 and 2 whenever the RWM is inoperable with Thermal Power $\leq$10%. (SR 3.10.7.1)

Mode 5 with the reactor mode switch in startup/hot standby position. (SR 3.10.8.3)

Attachment 1
(Page 1 of 2)

Control Rod Movement and Control Rod Drive Problem Data Sheets

Date _____

Part 1: CONTROL ROD MOVEMENT DATA SHEET

RWM[1] GP	STEP NUMBER	ROD NUMBER	FROM	TO	Rod Movement Completed Signoffs	
					UO (AC) [2]	Peer Check [3]

REMARKS[4]: _____

_____

NOTES:

1 RWM Group may be marked "**N/A**" when **NOT** applicable (i.e., when above the LPSP).

2 For all rod moves to the "full out" position (notch position 48), this signoff verifies coupling integrity was checked in accordance with 2-OI-85.

3 Documentation of Peer Check by a second qualified member of the plant staff (i.e., RE, STA OR UO) is required ONLY when the RWM is inoperable OR bypassed with core thermal power ≤10%.

4 Record the rod number and any problems encountered on Attachment 1, page 2 of 2, as applicable.

5 Peer Check by RE **OR** SRO [SRO to be utilized if a second RE is unavailable]. The SRO should be checking the FROM and TO control rod positions as a minimum. The RE **OR** SRO should be checking the positions identified for agreement with the Predictor Cases. Anytime the SRO feels the Peer Check is beyond his/her knowledge level, then call-in a second RE to perform the required Peer Check.

Prepared By: _____ / _____ Reviewed By[5]: _____ / _____

Reactor Engineer Date RE OR SRO Date

Authorization to perform the Control Rod manipulations identified on this sheet

_____ / _____

Unit SRO Date

Attachment 1
(Page 2 of 2)

Control Rod Movement and Control Rod Drive Problem Data Sheets

Date _____

Part 2: CONTROL ROD DRIVE PROBLEM DATA SHEET

Control Rod	DP Values (See Note)		Control Rod Positions		DN	DA	RS	FI *	FW *	SF *	NOTES/OTHER
	Init DP	Reqd DP	Init	Final	(√)	(√)	(√)	(√)	(√)	(√)	Explain briefly or indicate work orders, PER's, and other documents written to disposition CRD problem

° Additional sheets may be used as necessary.

° No entry is required if control rod movement was satisfactory and no other problems were noted.

° Log the initial DP, then the required (elevated) DP at which the Control Rod was successfully moved.

° Indicate CRD Movement problems and any other pertinent facts such as initial and/or final rod positions and drive pressures.

° Record in Condition Report Location Description BFN-2-CRDM-085-XX-YY, where XX-YY are the control rod coordinates.

* Operational problems with CRDs should be documented in a Condition Report including, but not limited to, having to increase Drive Water Pressure to move rod.

DN	Double Notched Rod - Indicate control rod movement (i.e., 48 to 44). Do **NOT** count as DN when elevated drive water DP is used.
DA	Drift Alarm - Note any movement of control rod.
RS	Problem with RPIS system - List rod position when incident occurred and details.
FI	Failed latch at next position on Insert - Indicate initial and final or increased DP.
FW	Failed Withdraw - Indicate initial and final or increased DP in the space provided.
SF	Stall flow greater than 5 gpm.

Attachment 2
(Page 1 of 39)

A1 Startup Sequence Control Rod Movement Data Sheet

Date _____

RWM GP	STEP NUMBER	ROD NUMBER	FROM	TO	Rod Movement Completed Signoffs UO (AC) [1]	Peer Check [2]
1	1	58-31	00	48		
1	2	34-07	00	48		
1	3	02-23	00	48		
1	4	18-55	00	48		
1	5	50-39	00	48		
1	6	18-07	00	48		
1	7	02-39	00	48		
1	8	34-55	00	48		
1	9	50-23	00	48		
1	10	10-15	00	48		
1	11	10-47	00	48		
1	12	42-47	00	48		SRM-B
1	13	42-15	00	48		
1	14	10-31	00	48		
1	15	26-47	00	48		
1	16	42-31	00	48		
1	17	26-15	00	48		
1	18	18-39	00	48		
1	19	34-39	00	48		
1	20	34-23	00	48		
1	21	18-23	00	48		SRM-D
1	22	26-31	00	48		

REMARKS[3]: _____

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NOTES:

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3 Record the rod number and any problems encountered, as applicable.