

Facility:	Davis-Besse	Scenario No.:	2	Op Test No.:	DB NRC 2016
Examiners:	_____	Operators:	_____		SRO
	_____		_____		ATC
	_____		_____		BOP
Initial Conditions: <ul style="list-style-type: none"> 70% Power RCP 1-1 OOS (Upper bearing issue) 					
Turnover: Maintain 70% Power					
Planned: Normal shift routines					
Critical tasks: 1. ATWS (CT24)					
2. Isolate overcooling SG (CT-17)					
Event No.	Malf. No.	Event Type*	Event Description		
1		I-ATC/BOP/SRO (TS)	Power range (NI5) high failure		
2		C-ATC/SRO	Letdown (MU11) transfers to CWRT		
3		I-BOP/SRO	MFW control valve d/p instrument fails low		
4		R-ATC/SRO (TS)	Dropped rod		
5		N-BOP/SRO	Remove MFP from service		
6		M-All	MFP trip – Loss of Main Feedwater/ATWS		
7		C-BOP/SRO	Stuck Open Main Steam Safety Valve		
* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor					

DAVIS-BESSE 2016 NRC SCENARIO 2

The Crew will take the watch with power at 70% with 1-1 RCP out of service due to a maintenance issue with the upper bearing. Direction for the crew is to maintain 70% power. Following turnover the lead evaluator will cue the failure high of Power Range Nuclear Instrument NI-5, which will cause rods to insert due to the ICS system responding to the failed high signal. The crew will take actions to stabilize the plant per abnormal procedure DB-OP-02515, Nuclear Instrument Failures. The Unit Supervisor will direct placing RPS Channel 2 in Manual Bypass and the Power Range Test Module in Test Operate. The Unit Supervisor will enter applicable Technical Specification (T.S. 3.3.1) for RPS Channel 2 in Manual Bypass (TS).

At the Lead Evaluators cue event 2 will be inserted and MU11, Three-Way (Letdown to Radwaste Drain Make-Up Tank), will reposition to the Clean Waste Receiver Tank due to accidental bumping of the switch in the field. The crew will respond to the repositioning of MU11 as identified by panel indication, computer point Z733, RC Diverting Vlv Open to CWRT, PDI MU13, MU Filter Diff Press, lowering to zero, and annunciator 2-2-C, MU Tk Lvl Lo, if MUT level lowers to the alarm set point. At the Lead Evaluators cue an equipment operator will report inadvertent positioning of MU11 by bumping the local control switch. The ATC will reposition MU11 back to the Makeup Tank.

Event 3 will be initiated at the cue from the Lead Evaluator which will fail low PDT SP5B1, MFW control valve d/p instrument. The crew will identify the failure and respond by taking manual control of HIC ICS36A/HIC ICS36B, Main Feed Pump Turbine Hand/Auto Stations, or may take actions per abnormal procedure DB-OP-02526, Primary to Secondary Plant Upset. Once the plant is stabilized the crew will select the "Y" instrument PDT SP5B2 and restore ICS stations to auto. After ICS is restored to automatic control the scenario will proceed to event 4.

Event 4 will have the crew respond to a dropped rod. Abnormal procedure DB-OP-02516, CRD Malfunctions, will be entered and power reduced to 33% power based on the three RCP configuration. The plant will be stabilized and troubleshooting of the fault will be requested, but it is not the intent of this scenario to recover the rod. The Unit Supervisor will enter applicable technical specifications 3.1.4 and 3.1.5 for the dropped rod (TS).

With power being maintained at approximately 33%, the Lead Evaluator will proceed to event 5 by providing a Shift Manager cue to remove #1 MFP from service. The BOP will remove #1 MFP from service IAW DB-OP-06224, Main Feed Pump and Turbine.

The Lead Evaluator will next cue event 6 and 7 resulting in the loss of #2 MFP and a loss of all Main Feed Water with an Anticipated Transient Without a Scram (ATWS). The ATC will perform immediate actions and trip the reactor by de-energizing simultaneously the E2 and F2 busses, and verify power is lowering in the intermediate range (**CT-24**). The crew will continue to perform actions IAW the Emergency Procedure DB-OP-02000. The crew will identify Overcooling due to a stuck open safety valve and route to section 7 of DB-OP-02000 to isolate the OTSG and terminate the overcooling (**CT-17**). The scenario will be terminated at the discretion of the Lead Evaluator.