ppendix	D		Scenario Outline	Form ES-D
Facility:	Ginna		Scenario No.: <u>1</u>	Op-Test No.: 01-01
Examine	ers: <u>Lau</u> Fis Sill	h	eett) Operators: 	
reduced	4 hours ag	o for conde	~48% reactor power, MOL. C _B enser tube leakage and is ready MDAFW pump and "C" charging	to go back to full power.
ago for o	condenser t charging	ube leakag	eactor power, MOL. C _B =824 pp je and is ready to go back to full OS for excessive leakage, "B" M	power. BAST C _B =11,000
Event No.	Malf. No.	Event Type*		ent ription
1	N/A	N(CRF) R(HCO	Raise power to 100% IAW O- (Rods à hanne (1.2. •
2	NIS07A	I(CRF, HCO)	PR channel N41 fails high, roo entry) B/S tripped by CO	ls insert. (Enter ER-NIS.3, TS
3	ROD2A	C(CRF, HCO)	Dropped control rod A (Enter malfunction, O-5.1 for load red	r AP-RCC.2 for RCC duction) روسین
4	CND07 A	C(All)	Loss of condenser vacuum-ea trip. (Enter AP-TURB.4 and E	
5	EDS01 A&B	M(All)	Loss of offsite power. (Enter A bus 14.	PELEC:1) "A" EDG runs on
6	GEN04 B	C(All)	"A" EDG runs on bus 14, "B" E be started manually.	EDG fails to auto-start but can
0	GEN04	M(All)	"A" EDG trips, station blackou when transition to ECA-0.1	t. (Enter ECA-0.0) Terminate
7	A A	<u> </u>		

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ppendix D		Operator Actions	Form ES-D
Op-Test No.:		Scenario No.:1 Event No.:1	Page _1_ of _6
Event D	escription: _R	aise reactor power to 100% IAW)-1.2	
Time	Position	Applicant's Actions or Behavio	r
	CRF	Direct start of "B" MFW pump per attachment "M	FW Pump B"
		(Steps 7.0-13.0) Step 5.8.12	
	со	Lineup Service Water to MFW pump B oil cooler	
		Take B MFW out of Pull Stop	
		Verify MFW pump recirculation valve opens (AO	V-4148)
		Start "B" MFW pump	
· · · · · · · · · · · · ·		Verify MFW pump discharge pressure and open	discharge valve
			MOV-3976
	CRF	Direct AO to close B MFW pump discharge bypa	ss valve
		//	MOV-3976A
	со	Place HDT Level Controlerl 7-2013A in Auto	
	CRF	Direct AO to check MFW pump warmup valves c	losed
	нсо	Check Delta I cumulative time on PPCS	
		Verify QPTR is <1.02	
	CRF	Verify RP has a leak rate determined from the air	r ejector sample
	со	Raise valve position limit to 100%	
		Raise Setter and start load increase	
	НСО	Manually operate control rods/dilute as necessar	<u>y to control Tave</u> .
<u> </u>			
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ppendix	D	Operator Actions	Form ES-D
Op-Tes	t No.: S	cenario No.: _1_ Event No.: _2	Page _2_ of _6_
Event D	Description: _PF	R Channel N41Fails High	
Time	Position	Applicant's Actions or Behav	vior
	All	Identify failed PR channel	
	нсо	Place rod control bank selector switch in manu	ual
	нсо/со	Adjust Tave/ Tref as necessary	
	CRF	Address Technical Specifications (ITS3.2.3)	
		Direct NIS channel 41 to be defeated per "ttac	hment N-41 Defeat"
	нсо	Verify rod control bank selector switch in manu	ual
	нсо/со	Place DROPPED ROD MODE switch to bypas	ss and verify
		following alarms - DROPPED ROD BYPASS is	s lit;
		POWER RANGE ROD DR	OP BYPASS is lit;
		Annunciator E-7 NIS TRIP	BYPASS is lit
	-	Place T/405E DELTA T DEFEAT switch to LO	OP A UNIT 1
		Place OVERTEMP TRIP bistable switch to DE	FEAT and verify
		the following - F-23 RCS OT / T CHANNEL A	LERT is lit
		Red bistable status light OT AT L	<u>OOP A TC405C is li</u>
		Place OVERPOWER TRIP B/S switch to DEF	EAT and verify the
		following: F-32 RCS OP∧T CHANNEL ALERT	is lit
		Red B/S status light OPAT LOOP A	TC405A is lit
		Place UPPER SECTION DEFEAT switch to th	e PRN41 position &
		verify the following: Local light for CHAN	NEL DEFEAT is lit
		Place LOWER SECTION DEFEAT switch to the	ne PRN41 position &
		verify the following: Local ight for CHAN	NNEL DEFEAT is lit
		Place POWER MISMATCH BYPASS switch to	BYPASS PRN41
		Place ROD STOP BYPASS switch to BYPASS	SPRN41
		Place COMPARATOR CHANNEL DEFEAT sv	vitch to N41 & verify
	1004 D ::	<u>I the following_COMPARATOR DEFEAT light is</u> 8, Supplement 1 40 of 40	<u>s lit</u>

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Appendix D		Operator Actions	Form ES-D-				
Op-Test	t No.: S	cenario No.: _1_ Event No.: _2 (con't)	Page _3_ of _6_				
Event D	escription: Pf	RN41 Failure					
·							
Time	Position	Position Applicant's Actions or Behavior					
	нсо/со	Remove 118V 5A AC INSTR POWER fuses & ve	erify the following				
		E-18 POWER RANGE LOSS OF DETECTOR V	OLTAGE				
		E-19 POWER RANGE HI RANGE CHANNEL AL	.ERT 108%				
		E-21 POWER RANGE OVERPOWER ROD STO	P 103%				
		E-27 POWER RANGE LO RANGE CHANNEL A	LERT 24%				
		E-28 POWER RANGE ROD DROP ROD STOP	5%/5 SEC				
		Verify the following red bistable lights (MCB) are	lit				
		HI POW RANGE P-10 NC41M					
		HI POW RANGE P-8 NC41N					
		LO POW RANGE TRIP NC41P					
		HI POW RANGE TRIP NC41R	·				
		HI POW RANGE P-9 NC41S					
		Verify various status lighnt on PR N41A drawer a	re lit				
		Verify following status lights on PRN41B drawer a	are extinguished				
		INSTRUMENT POWER ON					
		CHANNEL ON TEST	د				
	CRF	Notify I&C to install jumpers					
	HCO/CO	Restore ROD CONTROL back to AUTO					
		Reset dropped rod rod stop signals at RR NIS dra	awers				
	CRF	Check Tech Specs	<u></u>				
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Appendix	D	Operator Actions	Form ES-D-2
Op-Test No.: S		Scenario No.: _1 Event No.: _3_	Page _4_ of _6_
Event D load red	escription: Dro	opped Control Rod 2A (Enter AP-RCC.2 for RCC ciator C-5 Rod Deviation light lit, Annunciator F-2	malfunction, O-5.1 for 9 PPCS or
Time	Position	Applicant's Actions or Beha	vior
	HCO/CRO	Place Rod Control Bank Selector Switch to M/	ANUAL
		Check Dropped Rod Indication - Pwr and Tav	e decreasing
		Go to AP-RCC.3 (Dropped Rod Recovery)	
	со	Place EH control in MANUAL	
·		Reduce turbine load as necessary to match Ta	ave and Tref
		Verify Annunciator G-15 STEAM DUMP ARM	ED- EXTINGUISHED
		Check Main Generator Load - GREATER THA	<u>N 15 MW</u>
		Establish Stable Plant Conditions	
		Check REGEN HX Letdown Indications	
	CRF	Evaluate Control Rod Operability	
	HCO/CO	Go toER-RCC.1 RETRIEVAL OF A DROPPE	D ROD (are we going
		to try and retrieve?)	
	· · · · · · · · · · · · · · · · · · ·		

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ppendix	: D	Operator Actions	Form ES-I	
Op-Tes	t No.: S	cenario No.:1_ Event No.: _4_	Page _5_ of _6	
Event [Description: Los	ss of condenser vacuum- east 1B resulting in a turbine/Rx trip		
Time	Position	Applicant's Actions or Behavior		
	со	Identifies decreasing vacuum, monitors condenser	indications	
	CRF	Directs entry into AP-TURB.4 LOSS OF CONDEN	SER VACUUM	
		Dispatches AO to perform local actions		
	CRF	Directs Rx Trip and entry into E-0		
	нсо/со	Performs Immediate Actions of E-0		
		Verify Rx Trip		
		Verify Turbine Stop Valves Shut		
		Verify BothTrains of AC Emergency Buses Energiz	zed	
		Check if SI is Actuated		
		SI NOT Required - Transition to ES 0.1 Reactor T	rip Response	
		Monitor RCS Tave		
		Check S/G Feed Flow Status		
		Verify all rods on bottom		
		Verify All AC Buses ENERGIZED BY OFFSITE PC	WER - NO	
		Perform RNO actions of step 4 of ES-0.1		
		Verify at Least Two SW Pumps running - NO	•	
		Start one SW pump per RNO step 5		
		Verify IA Available		
		Check PZR Level Control - start charging pump(s)	per RNO step	
		"A" D/G trips - Loss of all AC		
	CRF	Directs transition to ECA-0.0 Loss of all AC		
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ppendix D		Operator Actions Form ES-D
Op-Test No.: Scena		Scenario No.: _1_ Event No.:5,6,7 Page _6_ of _6_
Event [Description: Los	ss of all AC
Time	Position	Applicant's Actions or Behavior
	CRF	Directs immediate actions of ECA-0.0
	со	Close MSIVs
	НСО	Isolate RCS by closing AOV 200A, B, C, AOV 371, 427& AOV 310
	со	Verify adequate TDAFW flow >200 gpm
		Try to restart a D/G
	CRF	Direct AO to locally restart a D/G
	нсо/со	Pull Stop Equipment
		Isolate RCP seal injection
		Place hotwell level control in manual at 50%
		Check S/G status - intact
	CRF	Direct manual start of "B" D/G
••••	со	Manually control ARV to stabilize RCS temp
		Restore SW pumps
		Verify equipment loaded on available AC emergency buses
	CRF	Direct AO to check battery chargers
		Direct transition to ECA-0.1
	CRF	Site Area Classification
······		

Appendix			Scenario Outline	Form E
Facility:	Ginna		Scenario No.: <u>01-02</u>	Op-Test No.:
Examine	Fis		Operators:	
Initial Co isolated	nditions: _ due to high	Plant is at I leakage.	<u>100% power, BOL, C_в 1329, xenon e MOV-516 closed. BAST C_в - 11,000</u>	quilibrium. PORV-430 ppm
Turnove	r:			······
Event No.	Malf. No.	Event Type*	Event Descriptior	
1	PZR01	C(CRF, HCO)	PZR spray valve PCV-431A fails op AP-PRZR.1)	
2	NIS8A	I (CRF, HCO)	Blown fuse on intermodiate range A ER.NIS.2) PER (1 427 fuls Low	channel 35. (Enter
3	TUR05 C	C(CRF) R(HCO	Turbine vibration increases. (Enter load reduction to stabilize vibration)	
4	SGN04 A	M(All)	SGTR on S/G 1A at 700 gpm. (Ente	er E-0, E-3, O-6.407 <u>AP-56</u> ,
5	TUR02 TUR11 D	C(CRF, CO)	Turbine fails to trip. (Manually trip t	urbine per E-0)
6	SIS03B	C(CRF, HCO)	1B SI pump fails to start.	
7	PZR05 B	C(CRF, HCO)	PORV 431 fails open, resulting in S AP-PRZR.1, AP-RCS.1) Terminate underway.	

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ppendix	D	Operator Actions	Form ES-D-
Op-Tes	t No.: S	Scenario No.:2_ Event No.:1_	Page1 of _7_
Event D	escription: Pzr	spray valve PCV <u>-431A fails open (~50%)</u>	
	·		
Time	Position	Applicant's Actions or Behavior	
	нсо	Identifies stuck open spray valve, RCS pressure dec	crease
	CRF	Directs entry into AP-PRZR.1 "Abnormal Pressurize	r Pressure"
	нсо	Checks Pzr Pressure, Reactor Power, Pzr Heater S	tatus, Pzr
		Spray valve closed	
		Place controllers in manual @0% demand Check Pz	<u>r Pressure</u>
		controller 431K, Demand <50%	
		Check PORVs closed,	
		Check Pzr safety valves closed	
		Check Aux Spray valve closed	
		Restore Pzr pressure control	
		Check PRT Indications	
	CRF	Notify plant supervision and maintenance and reactor	or Engineering
			··
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			·· ·· ·· ·
<u>,</u>			
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Appendix	D	Operator Actions	Form ES-D-2
Op-Tes	t No.: S	cenario No.:2_ Event No.:2_	Page _2_ of _7_
Event D	escription: Blວັ	Win fuse on intermediate range A channel 35>	
••••••••••••••••••••••••••••••••••••••	PZR	LT 428 fails In	
Time	Position	Applicant's Actions or Behavio	or
	нсо	Identifies IR channel 35 failure	
	C RF	Directs entry into ER-NIS 2"IR Malfunction"	/
	нсо	Defeats reactor trip and rod stopfunction for IR3	35 by placing level
		Bypass position	
		Contacts 18C	
	ERF	Refers to TS Section 3 3.1, Table 3.3.1-1, Func	tion #3 and #16a
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		-	
			<u>.</u>
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opendix	D	Operator Actions	Form ES-D
Op-Tes	t No.: S	Scenario No.: _2 Event No.: _3	Page _3_ of _7
Event D	escription: Tur	bine vibration increase resulting in a load reduction	
	T		
Time	Position	Applicant's Actions or Behavio	۱ ۲
	CRF	Recognize hi turbine vibration, enter AP-TURB.3	}
		Verify turbine trip not required	
	CRF/CO	Reduce turbine load to stabilize vibrations	
		Continue load reduction until vibrations stabilize.	then stop load
		decrease	
	нсо	Stabilize primary systems	
	CRF	Direct walkaround inspection of turbine	
		Notify higher supervision	
		Notify Maintenance Mgr.	
			, 44 ⁻⁰
			4
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opendix	D	Operator Actions	Form ES-I
Op-Test	t No.: S	cenario No.: _2 Event No.:4_	Page _4 of _7
Event D	escription: SG	TR on S/G A at <u>400gpm</u>	·
	1		
Time	Position	Applicant's Actions or Behavio)r
	нсо	Identifies prz level decrease and pressure decre	ase
	со	Identifies SF/FF mismatch on A S/G	
	нсо	Charging pump speed alarm/flow increase	·····
		Increasing radiation levels on R-15, R-19 and R-	-31
		Start additional charging pumps	
		Close loop B cold leg to regen Hx AOV-427	
	CRF	Enter AP-SG.1 Steam Generator Tube Leak	
		Direct Rx Trip if charging pumps running at max	speed with
		Letdown isolated	
			·····
	· · · · · · · · · · · · · · · · · · ·	-	
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ppendix	D	Operator Actions Form ES-D
Op-Tes	t No.: S	Scenario No.: _1 Event No.: _5,6_ Page _5_ of _7
Event D	escription: Rx	Trip, turbine fails to trip, 1B SI pump fails to start
Time	Position	Applicant's Actions or Behavior
	CRF	Direct actions of E-0
	нсо/со	Verify Rx Trip
		Verify turbine stop valves closed- NO- MANUALLY TRIP TURBINE
		Verify AC Emergency Busses Energized
		Check if SI Actuated
		Verify SI/RHR pumps running -NO-MANUALLY START B SI PUMP
		Verify CNMT RECIRC FANS running
		Verify CNMT Spray NOT required
		Check if Main Steamlines should be isolated
		Verify MFW Isolation
		Verify AFW Pumps Running
		Verify at least Two SW Pumps running
		Verify CI and CVI
		Check CCW System Status
		Verify SI and RHR Pump Flow
		Verify AFW Flow > 200 GPM
····· ,		Verify AFW Valve Alignment
		Verify SI Pump and RHR Pump Emergency Alignment
		Check CCW Flow to RCP Thermal Barriers
		Check PZR PORVs and Spray Valves
		Monitor RCP Trip Criteria
		Check if S/G Secondary Side is Intact
. <u>.</u> .		Check if S/G Tubes are Intact - NO- Transition to E-3
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| opendix  | D               | Operator Actions                                    | Form E      | S-[         |
|----------|-----------------|-----------------------------------------------------|-------------|-------------|
| Op-Test  | t No.: S        | cenario No.: _2 Event No.: _7                       | Page _6_ of | _7          |
| Event D  | escription: _St | eam Generator <u>Tube Rupture</u>                   |             |             |
|          |                 |                                                     |             |             |
|          |                 |                                                     |             |             |
| Time     | Position        | Applicant's Actions or Behavior                     |             |             |
|          | CRF             | Direct actions of E-3 Steam Generator Tube Ruptu    | re          |             |
|          | нсо/со          | Monitor RCP Trip Criteria                           |             |             |
|          |                 | Identify Ruptured S/G- 1A S/G                       |             |             |
|          |                 | Isolate Flow From Ruptured 1A S/G                   |             |             |
|          |                 | Complete Ruptured S/G Isolation                     |             |             |
|          |                 | Check Ruptured S/G Level                            |             |             |
|          |                 | Verify Ruptured S/G Isolated                        |             |             |
|          |                 | Establish Condenser Steam Dump Pressure Contro      | ol          |             |
|          |                 | Reset SI                                            |             |             |
|          |                 | Initiate RCS Cooldown                               |             | _           |
|          |                 | Monitor Intact S/G Levels                           | •           |             |
|          |                 | Check PZR PORVs and Block Valves                    |             |             |
|          |                 | Reset Cl                                            |             |             |
|          |                 | Monitor AC Busses - Energized by Offsite Power      |             |             |
| ,        |                 | Verify SW Flow                                      |             |             |
|          |                 | Establish IA to CTMT - AOV 5392 FAILS to OPEN       |             |             |
|          |                 | Check if RHR Pumps should be stopped                |             |             |
|          |                 | Establish Charging Flow                             |             |             |
|          |                 | Check if RCS Cooldown Should be Stopped             |             |             |
|          |                 | Depressurize RCS to minimize break Flow and Ref     |             | <u>יר</u> ל |
| <u> </u> |                 | Check RCS Pressure INCREASING - NO - TRANS<br>ECA-3 |             |             |
| <u> </u> |                 | ECA-3                                               | <u>. I</u>  |             |
|          |                 |                                                     | ,0,10,0     |             |
|          |                 |                                                     |             |             |

Appendix D

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**Operator Actions** 

| Op-Test  | t No.: So                             | cenario No.: _2_ Event No.: _7_ Page _7 of _7_ |
|----------|---------------------------------------|------------------------------------------------|
| Event D  | escription: _PC                       | ORV 431 Fails Open During RCS Depressurization |
| <u> </u> |                                       |                                                |
|          | 1                                     |                                                |
| Time     | Position                              | Applicant's Actions or Behavior                |
| ·······  | CRF                                   | Direct actions of ECA-3.1                      |
|          | нсо/со                                | Reset SI and CI                                |
|          |                                       | Verify adequate SW Flow                        |
|          |                                       | Establish IA to CTMT - NO -                    |
|          |                                       | AC Busses energized by offsite power           |
|          |                                       | Monitor CTMT Spray Pumps - STOPPED             |
|          |                                       | Check Ruptured 1A S/G Level                    |
|          |                                       | Stopped RHR Pumps                              |
|          |                                       | Evaluate Plant Status                          |
|          |                                       | Establish 75 GPM Charging Flow                 |
|          |                                       | Check S/G Secondary Side and Intact S/G Levels |
|          | · · · · · · · · · · · · · · · · · · · | Initiate RCS Cooldown to Cold Shutdown         |
|          | CRF                                   | Classify as Alert                              |
|          |                                       |                                                |
|          |                                       |                                                |
|          |                                       |                                                |
|          |                                       |                                                |
|          |                                       |                                                |
|          |                                       |                                                |
|          |                                       |                                                |
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| Appendix I                                                                                                     | D                                                      |                                                                                                      | Scenario Outline Form ES-I                                                                                         |  |
|----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|--|
| Facility:                                                                                                      | Ginna                                                  |                                                                                                      | _ Scenario No.: Op-Test No.:                                                                                       |  |
| Examine                                                                                                        | aminers: <u>Bissett</u> Operators:<br>Fish<br>Laughlin |                                                                                                      |                                                                                                                    |  |
|                                                                                                                | nc. = 11,0                                             |                                                                                                      | is at 100% power BOL xenon equilibrium. Boron=1329ppm,<br>751 is OOS due to an auto accident, "D" SW pump is OOS d |  |
| Turnovei                                                                                                       | •                                                      |                                                                                                      |                                                                                                                    |  |
|                                                                                                                |                                                        |                                                                                                      |                                                                                                                    |  |
| Event<br>No.                                                                                                   | Malf.<br>No.                                           | Event<br>Type*                                                                                       | Event<br>Description                                                                                               |  |
| 1                                                                                                              | PZR2D                                                  | D I(CRF, PZR pressure channel PT-449 fails high. (Enter AP-PRZR.1, HCO) ER-INST.1 to defeat channel) |                                                                                                                    |  |
| 2                                                                                                              | RCS14<br>B                                             | C(CRF,<br>HCO)                                                                                       | "B" RCP #3 seal failure. (Enter AP-RCP.1)                                                                          |  |
| 3                                                                                                              | RCS2A                                                  | C(CRF,<br>HCO)                                                                                       | RCS leak inside containment from loop A hot leg, 15 gpm.<br>(Enter AP-RCS.1) (Notify Cuc to State State)           |  |
| 4                                                                                                              | N/A                                                    | N(CRF)<br>R(HCO                                                                                      | Perform plant shutdown in response to RCS leak. (Enter O-<br>2.1, 100% to 95%) (AP-TURB.5)                         |  |
| 5                                                                                                              | CND8                                                   | C(CRF,<br>CO)                                                                                        | Condensate header break 20K gpm, complete loss of main feedwater. (Enter E-0, <b>54) (AP- Fw.I)</b>                |  |
| 6                                                                                                              | RPS5A<br>&B                                            | M(All)                                                                                               | ATWS (Enter FR-S.1)                                                                                                |  |
| 7                                                                                                              | TUR2 🕤                                                 | C(CRF,<br>CO)                                                                                        | Main turbine fails to automatically trip.                                                                          |  |
| 8 CVC15 C(CRF, BA flow transmitter, FT110 fails to selected value wo<br>HCO) boron addition. (Enter ER-CVCS.1) |                                                        |                                                                                                      |                                                                                                                    |  |
|                                                                                                                |                                                        |                                                                                                      | Terminate drill when SI termination criteria met in E-1.                                                           |  |
| (N)orma                                                                                                        |                                                        |                                                                                                      | nstrument, (C)omponent, (M)ajor                                                                                    |  |

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| opendix     | D                                     | Operator Actions                                   | Form ES-                               |
|-------------|---------------------------------------|----------------------------------------------------|----------------------------------------|
| Op-Tes      | t No.: S                              | cenario No.:3_ Event No.: _1                       | Page _1_ of _                          |
| Event D     | escription: _P                        | ZR pressure channel failure PT-449 fails HI        |                                        |
|             |                                       |                                                    | ······································ |
| ****        | I                                     |                                                    |                                        |
| Time        | Position                              | Applicant's Actions or Behavior                    |                                        |
|             | CRF                                   | PT-449 fails HI, Directs entry into AP-PZR.1Abnorr | mal PZR PRES                           |
|             | нсо/со                                | Acknowledges ANN F-2 and F-10                      |                                        |
|             |                                       | Checks PZR Press - Refers to ER-INST.1             |                                        |
|             |                                       | Place 431K in MANUAL @ ~50%                        |                                        |
| <del></del> |                                       | Refer to Attachment PZR PRESSURE PI-449 YEL        | LOW CHANNE                             |
|             |                                       | to defeat failed channel                           |                                        |
|             |                                       | Place P/429A to DEFEAT-1 (PLP PZR PRE              | SS/LVL RACK                            |
|             |                                       | Place T/405F DELTA T DEFEAT switch to I            |                                        |
| ,           |                                       | (RIL INSERTION LIMIT Rac                           | <u>k)</u>                              |
|             | · · · · · · · · · · · · · · · · · · · | In Y-1 PROTECTION CHANNEL 4 rack Pla               | ice B/S switche                        |
|             |                                       | To DEFEAT                                          |                                        |
|             |                                       | 408 LOOP B-2 - OVER TEMP TRIP                      |                                        |
|             |                                       | 449 CHANNEL 4 - LOW PRESS TRIP                     |                                        |
|             |                                       | Place PZR pressure recorder to position 1-3        | 3 (MCB)                                |
|             |                                       | Delete 404/408 from the PPCS                       |                                        |
|             |                                       | Restore PZR Pressure Control to automatic          |                                        |
|             | CRF                                   | Refer to ITS for applicable LCOs                   |                                        |
|             |                                       | Section 3.3.1 Table 3.3.1-1 Functions 5 and        | 17a                                    |
|             |                                       | Section 3.3.3 Table 3.3.3-1 Functions 1 and        | 16                                     |
|             |                                       | Check TRM 3.4.3 ATWS mitigation                    |                                        |
|             |                                       | Notify maintenance and higher supervision          | · · · · · · · · · · · · · · · · · · ·  |
|             |                                       |                                                    |                                        |
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|             |                                       |                                                    |                                        |
|             |                                       | 8, Supplement 1 40 of 40                           | ······                                 |

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| Appendix | D              | Operator Actions                              | Form ES-D-                             |
|----------|----------------|-----------------------------------------------|----------------------------------------|
| Op-Tes   | t No.: S       | cenario No3_ Event No.: _2 F                  | Page _2_ of _8_                        |
| Event D  | escription: "B | " RCP #3 seal failure                         |                                        |
|          | · _            | ······                                        |                                        |
|          |                |                                               |                                        |
| Time     | Position       | Applicant's Actions or Behavior               |                                        |
|          | нсо            | Acknowledges ANN B-11 RCP STAND PIPE LO LE    | VEL -4FT                               |
|          | CRF            | Directs actions of AP-RCP.1 RCP SEAL MALFUNC  | TION                                   |
|          | нсо/со         | Check Total #1 Seal Flow < 8.0 GPM            |                                        |
|          |                | Check RCP Seal Return valve Alignment         |                                        |
|          |                | MOV313 Open, AOV270A/B Open                   |                                        |
|          |                | Check Total #1 Seal Flow Between .8 - 6.0 GPM |                                        |
| ······   |                | Check RCP cooling                             |                                        |
|          |                | Check RCP #2 Seal Indications                 |                                        |
|          |                | Check RCP Labyrinth Seal D/Ps > 15"           |                                        |
|          |                | Check RCP #3 Seal Indications                 |                                        |
|          |                | RNO Check CTMT rad monitors                   |                                        |
|          |                | Monitor RCP Seal Conditions                   | <u></u>                                |
|          |                |                                               |                                        |
|          |                |                                               |                                        |
|          |                |                                               |                                        |
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|          |                |                                               | . <u>west</u> ere                      |
|          |                |                                               | 4                                      |
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|          |                |                                               |                                        |
|          | 021 Revision   | 1                                             |                                        |
|          |                |                                               |                                        |

| opendix | D              | Operator Actions                           | Form ES-      |
|---------|----------------|--------------------------------------------|---------------|
| Op-Tes  | t No.: S       | Scenario No.: _3 Event No.: _3             | Page _3_ of _ |
| Event D | escription: _R | CS leak inside CTMT from A loop hot leg    | ·····         |
|         |                |                                            |               |
|         |                |                                            |               |
| Time    | Position       | Applicant's Actions or Behavior            |               |
|         | CRF            | Directs actions of AP-RCS.1 REACTOR COOLAN |               |
|         | нсо/со         | Acknowledges ANN F-14, A-2, E-16, F-4      |               |
|         |                | Check PZR level (Decreasing) RNO actions   |               |
|         |                | Start additional charging pumps            |               |
|         |                | Check VCT M/U System                       |               |
|         |                | Check if RCS leakage in CTMT               | <u> </u>      |
|         |                | Dispatch AO to Aux Bldg                    |               |
|         |                | Check for leak to CCW System               |               |
|         |                | Check CVCS Conditions                      |               |
|         |                | Check AUX Bldg radiation levels            |               |
|         |                | Check PRT Indications                      |               |
|         |                | Check S/Gs for Leakage                     |               |
|         |                | Check SI Accumulator levels                |               |
|         |                | Check RCP Seal Leakoff Flows               |               |
|         |                | Check RCDT Leak Rate                       |               |
|         |                | Check Valve Leakoff Temps                  |               |
|         |                | Establish Stable Plant Conditions          |               |
|         |                | Evaluate RCS Leakage                       |               |
|         |                | RNO - Commence Plant Shutdown at 1%/       | min           |
|         | CRF            | Notify higher supervision                  |               |
|         |                |                                            |               |
|         |                |                                            | ······        |
|         |                |                                            |               |
|         |                |                                            |               |
|         |                | 8, Supplement 1 40 of 40                   |               |

| ppendix | D                                     | Operator Actions                           | Form ES-D                         |
|---------|---------------------------------------|--------------------------------------------|-----------------------------------|
| Op-Test | No.: S                                | cenario No.:3_ Event No.:4_                | Page _4_ of _8                    |
| Event D | escription: _Ra                       | apid Plant Shutdown due to RCS leak        |                                   |
|         |                                       |                                            |                                   |
|         |                                       | 1                                          |                                   |
| Time    | Position                              | Applicant's Actions or Behavio             | r                                 |
|         | CRF                                   | Direct actions of AP-TURB.5 RAPID LOAD REE | DUCTION                           |
|         | HCO/CO                                | Initiate load reduction                    |                                   |
|         |                                       | Monitor RCS Tave                           |                                   |
|         |                                       | Borate as necessary                        |                                   |
|         |                                       | Check IA to CTMT                           | <u></u>                           |
|         |                                       | Monitor plant parameters                   |                                   |
|         |                                       |                                            |                                   |
|         |                                       |                                            |                                   |
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|         |                                       | 8, Supplement 1 40 of 40                   |                                   |

| ppendix  | D                                     | Operator Actions                                    | Form ES-D-                              |
|----------|---------------------------------------|-----------------------------------------------------|-----------------------------------------|
| Op-Tes   | t No.: S                              | cenario No.: _3 Event No.: _5                       | Page _5_ of _8_                         |
| Event D  | escription: _Co                       | ondensate header break 20K gpm, Loss of MFW         |                                         |
|          |                                       |                                                     |                                         |
|          | 1                                     |                                                     | <u></u>                                 |
| Time     | Position                              | Applicant's Actions or Behavior                     |                                         |
|          | CRF                                   | Direct actions -AP-FW.1 Partial or complete loss of | MFW                                     |
|          | HCO/CO                                | Check MFW requirements                              |                                         |
|          |                                       | Verify MFW pump status                              |                                         |
| <u> </u> |                                       | Check MFW Pump suction pressure                     |                                         |
|          |                                       | Total loss of MFW - Transition to E-0               |                                         |
|          |                                       |                                                     |                                         |
|          |                                       |                                                     |                                         |
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|          | 021 Devision                          | I<br>8, Supplement 1 40 of 40                       |                                         |

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| p-Tes  | t No.: S       | cenario No.:3_ Event No.: _6 Pa            | age _6_ of _                           |
|--------|----------------|--------------------------------------------|----------------------------------------|
| vent E | escription: _A | TWS_and Failure of Main Turbine to Trip    |                                        |
|        |                |                                            |                                        |
|        | 1              |                                            |                                        |
| Time   | Position       | Applicant's Actions or Behavior            |                                        |
|        | CRF            | Direct actions of E-0                      |                                        |
|        | нсо/со         | Verify Rx Trip - NO                        |                                        |
|        |                | Manually trip the reactor - NO -           |                                        |
| ·      | CRF            | Transition to FR-S.1                       |                                        |
|        | нсо/со         | Verify Rx Trip - NO                        | ,                                      |
|        |                | RNO- Manually trip reactor                 |                                        |
|        |                | Manually insert rods                       | <u></u>                                |
|        |                | Verify Turbine Stop Valves closed - NO     |                                        |
|        |                | Manually trip turbine                      |                                        |
|        |                | Verify AFW flow                            |                                        |
|        |                | Initiate Emergency Boration                |                                        |
|        |                | Check PZR PORV status - NO                 |                                        |
|        |                | Open PORVs as necessary to control pressur | e                                      |
|        |                | Verify CTMT ventilation isolation          |                                        |
|        | CRF            | Dispatch AO to locally trip reactor - YES  |                                        |
|        |                | Transition to E-0                          |                                        |
|        |                | Direct actions of E-0                      | •••••••••••••••••••••••••••••••••••••• |
|        | нсо/со         | Verify Rx Trip                             |                                        |
|        |                | Verify turbine stop valves closed          | •                                      |
|        |                | Verify AC emergency busses                 |                                        |
|        |                | Check if SI is actuated                    |                                        |
|        |                | Verify SI and RHR pumps running            |                                        |
|        | l              | Verify CTMT recirc fans running            |                                        |
|        |                | Verify CTMT spray not actuated             |                                        |

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| 0      | p-T | -<br>est | No  | •  |  |
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\_\_\_\_\_ Scenario No.: \_3\_\_ Event No.: \_6 con't

Event Description: ATWS and Failure of Main Turbine to Trip

| Time | Position                              | Applicant's Actions or Behavior                     |
|------|---------------------------------------|-----------------------------------------------------|
|      | нсо/со                                | Check if any main steamline should be isolated      |
|      |                                       | Verify MFW isolation                                |
|      |                                       | Verify AFW pumps running                            |
| ··   |                                       | Verify CI and CVI                                   |
|      |                                       | Check CCW system status                             |
|      |                                       | Verify SI and RHR flow                              |
|      |                                       | Verify AFW flow > 200 gpm                           |
|      |                                       | Verify SI pump and RHR pump emergency alignment     |
|      |                                       | Check CCW flow to RCP Thermal barriers              |
|      |                                       | Check if TDAFW pump can be stopped                  |
|      |                                       | Monitor RCS Tave- stable or trending to 547 degrees |
|      |                                       | Check PZR PORVs and Spray valves                    |
|      |                                       | Monitor RCP Trip Criteria                           |
|      |                                       | Check if S/G Secondary side is intact               |
|      |                                       | Check if S/G Tubes are intact                       |
|      |                                       | Check if RCS is intact - NO                         |
|      |                                       | Transition to E-1                                   |
|      | · · · · · · · · · · · · · · · · · · · |                                                     |
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| Appendix D |                 | Operator Actions Fo                              |
|------------|-----------------|--------------------------------------------------|
| Op-Test    | t No.: S        | cenario No.:3_ Event No.: Page _                 |
| Event D    | escription: Los | s of Reactor or Secondary Coolant (E-1)          |
|            |                 |                                                  |
|            |                 |                                                  |
| Time       | Position        | Applicant's Actions or Behavior                  |
|            | CRF             | Direct actions of E-1                            |
|            | нсо/со          | Monitor RCP Trip Criteria                        |
|            |                 | Check if S/G secondary side intact               |
|            |                 | Monitor intact S/G levels                        |
|            |                 | Monitor if secondary radiation levels are normal |
|            |                 | Monitor PRZ PORV status                          |
|            |                 | Reset SI and CI                                  |
|            |                 | Verify adequate SW flow                          |
|            |                 | Establish IA to CTMT                             |
|            |                 | Check normal power to charging pumps             |
|            |                 | Check if charging flow has been established      |
|            |                 | Check if SI should be terminated                 |
|            |                 | Monitor if CTMT spray should be stopped          |
|            |                 | Monitor if RHR pumps should be stopped           |
|            |                 | Check RCS and S/G pressures                      |
|            |                 | Check if EDGs should be stopped                  |
|            |                 | Check if RHR should be throttled                 |
|            |                 | Verify CTMT sump recirculation capability        |
|            |                 | Evaluate Plant Status                            |
|            |                 | NOTE: SHOULD MEET SI TERMINATION CRITERIA PE     |
|            |                 | FOLDOUT PAGE CRITERIA OR STEP 12 OF E-           |
|            | CRF             | Transition to ES-1.1, SI TERMINATION             |
|            |                 | Classify as a Site Area                          |