2009 DRESDEN NUCLEAR POWER STATION

INITIAL EXAMINATION

OUTLINE SUBMITTAL

Exelon Generation Company, LLC
Dresden Nuclear Power Station
6500 North Dresden Road
Morris, IL 60450-9765

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Exelon Nuclear

September 19, 2008

SVPLTR 08-0048

Regional Administrator, Region III
U. S. Nuclear Regulatory Commission
2443 Warrenville Road
Lisle, IL 60532-4352

Dresden Nuclear Power Station, Units 2 and 3
Renewed Facility Operating License Nos. DPR-19 and DPR-25
Docket Nos. 50-237 and 50-249

Subject: Submittal of Initial Operator Licensing Examination Outlines

Enclosed are the examination outlines supporting the Initial License Examination at Dresden Nuclear Power Station. The examinations are scheduled for the weeks of March 09, 2009 through March 20, 2009.

This submittal includes all appropriate Examination Standard forms and outlines in accordance with NUREG-1021, "Operator Licensing Examination Standards", revision 9 supplement 1.

In accordance with NUREG 1021, Revision 9, supplement 1, Section ES-201, "Initial Operator Licensing Examination Process," please ensure that these materials are withheld from public disclosure until after the examinations are complete.

Should you have any questions concerning this letter, please contact Mr. Stephen Taylor, Regulatory Assurance Manager, at 815-416-2800. For questions concerning examination outlines, please contact Mr. Frank Ferrero at 815-416-2620.

Respectfully,

David B. Wozniak

David B. Wozniak
Site Vice President
Dresden Nuclear Power Station

SEP 17 2008

Enclosures: (Hand delivered to Chief Examiner Region III)

Examination Security Agreements (Form ES-201-3)
Administrative Topics Outline (Form ES-301-1)
Control Room/In-Plant Systems Outline (Form ES-301-2)
BWR Examination Outline (Forms ES-401-1)
Generic Knowledge and Abilities Outline (Tier 3) (Form ES-401-3)
Scenario Outlines (Form ES-D-1)
Record of Rejected K/As (Form ES-401-4)
Examination Outline Quality Checklist (Form ES-201-2)
Transient and Event Checklist (Form ES-301-5)

cc: (without enclosures)
Chief, NRC Operator Licensing Branch
NRC Senior Resident Inspector - Dresden Nuclear Power Station

Facility: Dresden		Date of Examination: 3/9/09			
Item	Task Description	Initials a	b*	c#
1. WRITTEN	a. Verify that the outline(s) fit(s) the appropriate model, in accordance with ES-401.	✓	✓	n/a
	b. Assess whether the outline was systematically and randomly prepared in accordance with Section D.1 of ES-401 and whether all K/A categories are appropriately sampled.	✓	✓	n/a
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	✓	✓	n/a
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	✓	✓	n/a
2. SIMULATOR	a. Using Form ES-301-5, verify that the proposed scenario sets cover the required number of normal evolutions, instrument and component failures, technical specifications, and major transients.	✓	✓	n/a
	b. Assess whether there are enough scenario sets (and spares) to test the projected number and mix of applicants in accordance with the expected crew composition and rotation schedule without compromising exam integrity, and ensure that each applicant can be tested using at least one new or significantly modified scenario, that no scenarios are duplicated from the applicants' audit test(s), and scenarios will not be repeated on subsequent days.	✓	✓	n/a
	c. To the extent possible, assess whether the outline(s) conform(s) with the qualitative and quantitative criteria specified on Form ES-301-4 and described in Appendix D.	✓	✓	n/a
3. W/T	a. Verify that the systems walk-through outline meets the criteria specified on Form ES-301-2: (1) the outline(s) contain(s) the required number of control room and in-plant tasks distributed among the safety functions as specified on the form (2) task repetition from the last two NRC examinations is within the limits specified on the form (3) no tasks are duplicated from the applicants' audit test(s) (4) the number of new or modified tasks meets or exceeds the minimums specified on the form (5) the number of alternate path, low-power, emergency, and RCA tasks meet the criteria on the form	✓	✓	n/a
	b. Verify that the administrative outline meets the criteria specified on Form ES-301-1: (1) the tasks are distributed among the topics as specified on the form (2) at least one task is new or significantly modified (3) no more than one task is repeated from the last two NRC licensing examinations	✓	✓	n/a
	c. Determine if there are enough different outlines to test the projected number and mix of applicants and ensure that no items are duplicated on subsequent days.	✓	✓	n/a
4. GENERAL	a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam section.	✓	✓	n/a
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	✓	✓	n/a
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	✓	✓	n/a
	d. Check for duplication and overlap among exam sections.	✓	✓	n/a
	e. Check the entire exam for balance of coverage.	✓	✓	n/a
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	✓	✓	n/a

	Printed Name / Signature	Date
a. Author	FRANK FERRERO / [signature]	8-15-08
b. Facility Reviewer (*)	GLEN MORROW / [signature]	8/19/08
c. NRC Chief Examiner (#)	Nicholas Valos / [signature]	9/19/08
d. NRC Supervisor	Honorio Peterson / [signature]	9/19/08

NOTE: # Independent NRC Reviewer initial items in Column "c"; chief examiner concurrence required.

Facility: Dresden Date of Examination: 03/03/09

Examination Level: RO ☒ SRO ☐ Operating Test Number: 2009-301

Administrative Topic (See Note)	Type Code*	Describe activity to be performed
Conduct of Operations	D, P, R	Verify Iso Condenser Quarterly Makeup Test Generic.2.1.7
Conduct of Operations	N, R	Verify Standby Liquid Control Heater Surveillance Generic.2.1.18
Equipment Control	N, S	Calculate Pump Flows for Drywell Sumps Generic.2.2.12
Radiation Control	M, R	Select Personnel for Radiation Work Generic.2.3.4
Emergency Plan		

NOTE: All items (5 total) are required for SROs. RO applicants require only 4 items unless they are retaking only the administrative topics, when 5 are required.

* Type Codes & Criteria:
(C)ontrol room, (S)imulator, or Class(R)oom
(D)irect from bank (≤ 3 for ROs; ≤ 4 for SROs & RO retakes)
(N)ew or (M)odified from bank (≥ 1)
(P)revious 2 exams (≤ 1; randomly selected)

Facility: Dresden Date of Examination: 03/03/09

Examination Level: RO ☐ SRO ☒ Operating Test Number: 2009-301

Administrative Topic (See Note)	Type Code*	Describe activity to be performed
Conduct of Operations	D, P, S	Reportability Determination Generic.2.1.1
Conduct of Operations	D, R	Authorize Overtime IAW G 82-12 Guidelines Generic.2.1.5
Equipment Control	N, S	Calculate Pump Flows for Drywell Sumps Generic.2.2.12
Radiation Control	M, R	Select Personnel for Radiation Work Generic.2.3.4
Emergency Plan	N, S	Determine Emergency Classification Generic.2.4.38

NOTE: All items (5 total) are required for SROs. RO applicants require only 4 items unless they are retaking only the administrative topics, when 5 are required.

* Type Codes & Criteria:
(C)ontrol room, (S)imulator, or Class(R)oom
(D)irect from bank (≤ 3 for ROs; ≤ 4 for SROs & RO retakes)
(N)ew or (M)odified from bank (≥ 1)
(P)revious 2 exams (≤ 1; randomly selected)

Facility: Dresden Date of Examination: 03/03/09

Exam Level: RO ☒ SRO-I ☐ SRO-U ☐ Operating Test Number: 2009-301

Control Room Systems@ (8 for RO); (7 for SRO-I); (2 or 3 for SRO-U, including 1 ESF)

System / JPM Title	Type Code*	Safety Function
a. RECIRC – STARTUP OF SECOND PUMP WITH FAILURE OF DISCHARGE VALVE TO OPEN	A, D, L, S	1
b. FW – PLACE A FRV IN SERVICE IN AUTO DURING UNIT STARTUP	D, L, S	2
c. DEHC – TURBINE BYPASS VALVE UTILIZATION	N, L, S	3
d. ISO CONDENSER – SHUTDOWN	A, D, S	4
e. GROUP 3 ISOLATION – INCOMPLETE	A, M, L, S	5
f. AUX POWER – TRANSFER TO TR-22 FROM TR-21	D, S	6
g. RWM – PLACE A CONTROL ROD OUT OF SERVICE ON THE RWM	D, P, S	7
h. SBGT – POST MAINTENANCE TESTING WITH AUTO INITIATION	A, D, P, S	9
In-Plant Systems@ (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)		
i. CRD – CROSSTIE FOR ALTERNATE INJECTION	D, E, R	1
j. MSIV – LOCALLY CLOSE	D, R	4
k. DC – SWAP BATTERY CHARGERS	N, R	6

@ All RO and SRO-I control room (and in-plant) systems must be different and serve different safety functions; all 5 SRO-U systems must serve different safety functions; in-plant systems and functions may overlap those tested in the control room.

* Type Codes	Criteria for RO / SRO-I / SRO-U
(A)lternate path	4-6 / 4-6 / 2-3
(C)ontrol room	
(D)irect from bank	≤ 9 / ≤ 8 / ≤ 4
(E)mergency or abnormal in-plant	≥ 1 / ≥ 1 / ≥ 1
(EN)gineered safety feature	- / - / ≥ 1 (control room system)
(L)ow-Power / Shutdown	≥ 1 / ≥ 1 / ≥ 1
(N)ew or (M)odified from bank including 1(A)	≥ 2 / ≥ 2 / ≥ 1
(P)revious 2 exams	≤ 3 / ≤ 3 / ≤ 2 (randomly selected)
(R)CA	≥ 1 / ≥ 1 / ≥ 1
(S)imulator	

Facility: Dresden Date of Examination: 03/03/09

Exam Level: RO ☐ SRO-I ☒ SRO-U ☐ Operating Test Number: 2009-301

Control Room Systems@ (8 for RO); (7 for SRO-I); (2 or 3 for SRO-U, including 1 ESF)

System / JPM Title	Type Code*	Safety Function
a. RECIRC – STARTUP OF SECOND PUMP WITH FAILURE OF DISCHARGE VALVE TO OPEN	A, D, L, S	1
b. FW – PLACE A FRV IN SERVICE IN AUTO DURING UNIT STARTUP	D, L, S	2
c. DEHC – TURBINE BYPASS VALVE UTILIZATION	N, L, S	3
d. ISO CONDENSER – SHUTDOWN	A, D, S	4
e. GROUP 3 ISOLATION – INCOMPLETE	A, M, L, S	5
f. AUX POWER – TRANSFER TO TR-22 FROM TR-21	D, S	6
g.		
h. SBGT – POST MAINTENANCE TESTING WITH AUTO INITIATION	A, D, P, S	9
In-Plant Systems@ (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)		
i. CRD – CROSSTIE FOR ALTERNATE INJECTION	D, E, R	1
j. MSIV – LOCALLY CLOSE	D, R	4
k. DC – SWAP BATTERY CHARGERS	N, R	6

@ All RO and SRO-I control room (and in-plant) systems must be different and serve different safety functions; all 5 SRO-U systems must serve different safety functions; in-plant systems and functions may overlap those tested in the control room.

* Type Codes	Criteria for RO / SRO-I / SRO-U
(A)lternate path	4-6 / 4-6 / 2-3
(C)ontrol room	
(D)irect from bank	≤ 9 / ≤ 8 / ≤ 4
(E)mergency or abnormal in-plant	≥ 1 / ≥ 1 / ≥ 1
(EN)gineered safety feature	- / - / ≥ 1 (control room system)
(L)ow-Power / Shutdown	≥ 1 / ≥ 1 / ≥ 1
(N)ew or (M)odified from bank including 1(A)	≥ 2 / ≥ 2 / ≥ 1
(P)revious 2 exams	≤ 3 / ≤ 3 / ≤ 2 (randomly selected)
(R)CA	≥ 1 / ≥ 1 / ≥ 1
(S)imulator	

ES-301 Transient and Event Checklist Form ES-301-5

Facility: Dresden | Date of Exam: 3/9/09 | Operating Test Number: 2009-301

APPLICANT	EVENT TYPE	Scenarios												TOTAL	MINIMUM(*)		
		1			2			3			4						
		CREW POSITION			CREW POSITION			CREW POSITION			CREW POSITION						
		SRO	ATC	BOP	SRO	ATC	BOP	SRO	ATC	BOP	SRO	ATC	BOP		R	I	U
SRO-I #1 #2 #3 ☒	RX				1									1	1	1	0
	NOR	1			5									2	1	1	1
	I/C	2, 3, 4, 5, 6			2, 3, 4, 6				2, 3, 5					12	4	4	2
	MAJ	7, 8			7, 8									4	2	2	1
	TS	2, 4			2, 4									4	0	2	2
SRO-I #4 ☒	RX					1								1	1	1	0
	NOR			1				1						2	1	1	1
	I/C			4, 6		3, 4		2, 3, 4, 5						8	4	4	2
	MAJ			7, 8		7, 8		6, 7						6	2	2	1
	TS							2, 4						2	0	2	2
RO #1 #3 #5 ☒	RX													0	1	1	0
	NOR						5			1				2	1	1	1
	I/C		2, 3, 5				2, 6			4				6	4	4	2
	MAJ		7, 8				7, 8			6, 7				6	2	2	1
	TS													0	0	2	2
RO #2 #4 ☒	RX					1								1	1	1	0
	NOR			1										1	1	1	1
	I/C			4, 6		3, 4								4	4	4	2
	MAJ			7, 8		7, 8								4	2	2	1
	TS													0	0	2	2

Instructions:

1. Check the applicant level and enter the operating test number and Form ES-D-1 event numbers for each event type; TS are not applicable for RO applicants. ROs must serve in both the "at-the-controls (ATC)" and "balance-of-plant (BOP)" positions; Instant SROs must serve in both the SRO and the ATC positions, including at least two instrument or component (I/C) malfunctions and one major transient in the ATC position. If an Instant SRO additionally serves in the BOP position, one I/C malfunction can be credited toward the two I/C malfunctions required for the ATC position.
2. Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions (refer to Section D.5.d) but must be significant per Section C.2.a of Appendix D. (*) Reactivity and normal evolutions may be replaced with additional instrument or component malfunctions on a 1-for-1 basis.
3. Whenever practical, both instrument and component malfunctions should be included; only those that require verifiable actions that provide insight to the applicant's competence count toward the minimum requirements specified for the applicant's license level in the right-hand columns.

Facility Name: Dresden Date of Exam: 3/9/09

Tier	Group	RO K/A Category Points												SRO-Only Points						
		K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G *	Total	A2		G*		Total		
1. Emergency & Abnormal Plant Evolutions	1	4	3	3	N/A			3	3	N/A		4	20	4		3		7		
	2	1	1	1				2	1			1	7	2		1		3		
	Tier Totals	5	4	4				5	4			5	27	6		4		10		
2. Plant Systems	1	3	2	2	3	2	3	2	2	3	2	2	26	3		2		5		
	2	1	1	1	1	1	2	1	1	1	1	1	12	0	2	1		3		
	Tier Totals	4	3	3	4	3	5	3	3	4	3	3	38	5		3		8		
3. Generic Knowledge and Abilities Categories		1		2		3		4					10	1	2	3	4	7		
		3		3		2		2						2	2	1	2			

Note:
1. Ensure that at least two topics from every applicable K/A category are sampled within each tier of the RO and SRO-only outlines (i.e., except for one category in Tier 3 of the SRO-only outline, the "Tier Totals" in each K/A category shall not be less than two).
2. The point total for each group and tier in the proposed outline must match that specified in the table. The final point total for each group and tier may deviate by ±1 from that specified in the table based on NRC revisions. The final RO exam must total 75 points and the SRO-only exam must total 25 points.
3. Systems/evolutions within each group are identified on the associated outline; systems or evolutions that do not apply at the facility should be deleted and justified; operationally important, site-specific systems that are not included on the outline should be added. Refer to Section D.1.b of ES-401 for guidance regarding the elimination of inappropriate K/A statements.
4. Select topics from as many systems and evolutions as possible; sample every system or evolution in the group before selecting a second topic for any system or evolution.
5. Absent a plant-specific priority, only those K/As having an importance rating (IR) of 2.5 or higher shall be selected. Use the RO and SRO ratings for the RO and SRO-only portions, respectively.
6. Select SRO topics for Tiers 1 and 2 from the shaded systems and K/A categories.
7.* The generic (G) K/As in Tiers 1 and 2 shall be selected from Section 2 of the K/A Catalog, but the topics must be relevant to the applicable evolution or system. Refer to Section D.1.b of ES-401 for the applicable K/As.
8. On the following pages, enter the K/A numbers, a brief description of each topic, the topics' importance ratings (IRs) for the applicable license level, and the point totals (#) for each system and category. Enter the group and tier totals for each category in the table above; if fuel handling equipment is sampled in other than Category A2 or G* on the SRO-only exam, enter it on the left side of Column A2 for Tier 2, Group 2 (Note #1 does not apply). Use duplicate pages for RO and SRO-only exams.
9. For Tier 3, select topics from Section 2 of the K/A catalog, and enter the K/A numbers, descriptions, IRs, and point totals (#) on Form ES-401-3. Limit SRO selections to K/As that are linked to 10 CFR 55.43.

ES-401	BWR Examination Outline								Form ES-401-1
Emergency and Abnormal Plant Evolutions - Tier 1/Group 1 (RO)									
E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G	K/A Topic(s)	IR	#
295001 Partial or Complete Loss of Forced Core Flow Circulation / 1 & 4	02						Power/flow distribution	3.3	1
295003 Partial or Complete Loss of AC / 6				02			Emergency generators	4.2	1
295004 Partial or Total Loss of DC Pwr / 6					02		Extent of partial or complete loss of D.C. power	3.5	1
295005 Main Turbine Generator Trip / 3			05				Extraction steam/moisture separator isolations	2.5	1
295006 SCRAM / 1						01.23	Ability to perform specific system and integrated plant procedures during all modes of plant operation.	4.3	1
295016 Control Room Abandonment / 7						04.12	Knowledge of general operating crew responsibilities during emergency operations.	4	1
295018 Partial or Total Loss of CCW / 8			02				Reactor power reduction	3.3	1
295019 Partial or Total Loss of Inst. Air / 8		08					Plant ventilation	2.8	1
295021 Loss of Shutdown Cooling / 4		04					Component cooling water systems: Plant-Specific	3	1
295023 Refueling Acc / 8				06			Neutron monitoring	3.3	1
295024 High Drywell Pressure / 5	01						Drywell integrity: Plant-Specific	4.1	1
295025 High Reactor Pressure / 3						02.38	Knowledge of conditions and limitations in the facility license.	3.6	1
295026 Suppression Pool High Water Temp. / 5					01		Suppression pool water temperature	4.1	1
295027 High Containment Temperature / 5									0
295028 High Drywell Temperature / 5			05				Reactor SCRAM	3.6	1
295030 Low Suppression Pool Wtr Lvl / 5						04.18	Knowledge of the specific bases for EOPs.	3.3	1
295031 Reactor Low Water Level / 2	03						Water level effects on reactor power	3.7	1
295037 SCRAM Condition Present and Reactor Power Above APRM Downscale or Unknown / 1				03			ARI/RPT/ATWS: Plant-Specific	4.1	1
295038 High Off-site Release Rate / 9	03						Meteorological effects on off-site release	2.8	1
600000 Plant Fire On Site / 8					11		Time limit for use of respirators	2.9	1
700000 Generator Voltage and Electric Grid Disturbances / 6		02					Breakers, relays	3.1	1
K/A Category Totals:	4	3	3	3	3	4	Group Point Total:		20

ES-401	BWR Examination Outline							Form ES-401-1	
Emergency and Abnormal Plant Evolutions - Tier 1/Group 2 (RO)									
E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G	K/A Topic(s)	IR	#
295002 Loss of Main Condenser Vac / 3									0
295007 High Reactor Pressure / 3	01						Pump shutoff head	2.9	1
295008 High Reactor Water Level / 2									0
295009 Low Reactor Water Level / 2					02		Steam flow/feedflow mismatch	3.6	1
295010 High Drywell Pressure / 5						04. 01	Knowledge of EOP entry conditions and immediate action steps.	4.6	1
295011 High Containment Temp / 5									0
295012 High Drywell Temperature / 5		02					Drywell cooling	3.6	1
295013 High Suppression Pool Temp. / 5									0
295014 Inadvertent Reactivity Addition / 1									0
295015 Incomplete SCRAM / 1				08			Process computer/SPDS/ERIS/CRIDS/GDS: Plant-Specific	2.7	1
295017 High Off-site Release Rate / 9									0
295020 Inadvertent Cont. Isolation / 5 & 7									0
295022 Loss of CRD Pumps / 1									0
295029 High Suppression Pool Wtr Lvl / 5									0
295032 High Secondary Containment Area Temperature / 5			02				Reactor SCRAM	3.6	1
295033 High Secondary Containment Area Radiation Levels / 9									0
295034 Secondary Containment Ventilation High Radiation / 9									0
295035 Secondary Containment High Differential Pressure / 5				02			SBGT/FRVS	3.8	1
295036 Secondary Containment High Sump/Area Water Level / 5									0
500000 High CTMT Hydrogen Conc. / 5									0
K/A Category Totals:	1	1	1	2	1	1	Group Point Total:		7

ES-401	BWR Examination Outline											Form ES-401-1	
	Plant Systems - Tier 2/Group 1 (RO)												
System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	K/A Topic(s)	IR	#
203000 RHR/LPCI: Injection Mode									07			Loop selection: Plant-Specific	4.2	1
205000 Shutdown Cooling							08					Heat exchanger temperatures	3.1	1
206000 HPCI				05								Preventing water hammer in turbine exhaust line (procedural control): BWR-2, 3, 4	3.1	1
207000 Isolation (Emergency) Condenser		02							05			Initiation logic: BWR-2, 3; System lineup: BWR-2, 3	3.5; 3.6	2
209001 LPCS				08								Automatic system initiation	3.8	1
209002 HPCS														0
211000 SLC					06		10					Tank level measurement ; Lights and alarms	3; 3.7	2
212000 RPS	04											A.C. electrical distribution	3.4	1
215003 IRM								06				Faulty range switch	3	1
215004 Source Range Monitor					03			03				Changing detector position; Stuck detector	2.8; 3	2
215005 APRM / LPRM										06		Verification of proper functioning/ operability	3.6	1
217000 RCIC														0
218000 ADS	02											Low pressure core spray: Plant-Specific	4	1
223002 PCIS/Nuclear Steam Supply Shutoff											02.40	Ability to apply Technical Specifications for a system.	3.4	1
239002 SRVs	07											Suppression pool	3.6	1
259002 Reactor Water Level Control						03						Main steam flow input	3.1	1
261000 SGTS						01						A.C. electrical distribution	2.9	1
262001 AC Electrical Distribution			06									Reactor protection system	3.8	1
262002 UPS (AC/DC)						02						D.C. electrical power	2.8	1
263000 DC Electrical Distribution		01	02									Major D.C. loads; Components using D.C. control power (i.e. breakers)	3.1; 3.5	2
264000 EDGs				02					04			Emergency generator trips (emergency/LOCA); Operation of the governor control system on frequency and voltage control	4; 3.1	2
300000 Instrument Air										01		Pressure gauges	2.6	1
400000 Component Cooling Water											01.28	Knowledge of the purpose and function of major system components and controls.	4.1	1
														0
K/A Category Totals:	3	2	2	3	2	3	2	2	3	2	2	Group Point Total:		26

ES-401	BWR Examination Outline												Form ES-401-1	
	Plant Systems - Tier 2/Group 2 (RO)													
System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	K/A Topic(s)	IR	#
201001 CRD Hydraulic														0
201002 RMCS							03					Rod movement sequence lights	3	1
201003 Control Rod and Drive Mechanism														0
201004 RSCS														0
201005 RCIS														0
201006 RWM						03						Rod position indication: P-Spec(Not-BWR6)	2.9	1
202001 Recirculation														0
202002 Recirculation Flow Control								04				Recirculation pump speed mismatch between loops: Plant-Specific	3	1
204000 RWCU														0
214000 RPIS									01			Full core display	3.4	1
215001 Traversing In-core Probe														0
215002 RBM														0
216000 Nuclear Boiler Inst.				01								Reading of nuclear boiler parameters outside the control room	3.6	1
219000 RHR/LPCI: Torus/Pool Cooling Mode														0
223001 Primary CTMT and Aux.						11						A.C. electrical distribution	3	1
226001 RHR/LPCI: CTMT Spray Mode														0
230000 RHR/LPCI: Torus/Pool Spray Mode														0
233000 Fuel Pool Cooling/Cleanup					06							Maximum normal heat load	2.5	1
234000 Fuel Handling Equipment														0
239001 Main and Reheat Steam														0
239003 MSIV Leakage Control														0
241000 Reactor/Turbine Pressure Regulator	02											Reactor pressure	3.9	1
245000 Main Turbine Gen. / Aux.														0
256000 Reactor Condensate										06		System pressure	3.1	1
259001 Reactor Feedwater														0
268000 Radwaste			04									Drain sumps	2.7	1
271000 Offgas														0
272000 Radiation Monitoring		01										Main steamline radiation monitors	2.5	1
286000 Fire Protection														0
288000 Plant Ventilation														0
290001 Secondary CTMT														0
290003 Control Room HVAC											01.36	Knowledge of procedures and limitations involved in core alterations.	3	1
290002 Reactor Vessel Internals														0
K/A Category Totals:	1	1	1	1	1	2	1	1	1	1	1	Group Point Total:		12

ES-401	BWR Examination Outline							Form ES-401-1	
Emergency and Abnormal Plant Evolutions - Tier 1/Group 1 (SRO)									
E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G	K/A Topic(s)	IR	#
295001 Partial or Complete Loss of Forced Core Flow Circulation / 1 & 4									0
295003 Partial or Complete Loss of AC / 6									0
295004 Partial or Total Loss of DC Pwr / 6					0 1		Cause of partial or complete loss of D.C. power	3.6	1
295005 Main Turbine Generator Trip / 3						04. 49	Ability to perform without reference to procedures those actions that require immediate operation of system components and controls.	4.4	1
295006 SCRAM / 1									0
295016 Control Room Abandonment / 7									0
295018 Partial or Total Loss of CCW / 8					0 1		Component temperatures	3.4	1
295019 Partial or Total Loss of Inst. Air / 8									0
295021 Loss of Shutdown Cooling / 4									0
295023 Refueling Acc / 8						01. 35	Knowledge of the fuel-handling responsibilities of SROs.	3.9	1
295024 High Drywell Pressure / 5									0
295025 High Reactor Pressure / 3									0
295026 Suppression Pool High Water Temp. / 5					0 2		Suppression pool level	3.9	1
295027 High Containment Temperature / 5									0
295028 High Drywell Temperature / 5					0 5		Torus/suppression chamber pressure: Plant-Specific	3.8	1
295030 Low Suppression Pool Wtr Lvl / 5									0
295031 Reactor Low Water Level / 2									0
295037 SCRAM Condition Present and Reactor Power Above APRM Downscale or Unknown / 1									0
295038 High Off-site Release Rate / 9									0
600000 Plant Fire On Site / 8									0
700000 Generator Voltage and Electric Grid Disturbances / 6						01. 20	Ability to interpret and execute procedure steps.	4.6	1
K/A Category Totals:	0	0	0	0	4	3	Group Point Total:		7

ES-401	BWR Examination Outline								Form ES-401-1
Emergency and Abnormal Plant Evolutions - Tier 1/Group 2 (SRO)									
E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G	K/A Topic(s)	IR	#
295002 Loss of Main Condenser Vac / 3									0
295007 High Reactor Pressure / 3									0
295008 High Reactor Water Level / 2									0
295009 Low Reactor Water Level / 2					0 3		Reactor water cleanup blowdown rate	2.9	1
295010 High Drywell Pressure / 5									0
295011 High Containment Temp / 5									0
295012 High Drywell Temperature / 5									0
295013 High Suppression Pool Temp. / 5									0
295014 Inadvertent Reactivity Addition / 1									0
295015 Incomplete SCRAM / 1									0
295017 High Off-site Release Rate / 9									0
295020 Inadvertent Cont. Isolation / 5 & 7									0
295022 Loss of CRD Pumps / 1									0
295029 High Suppression Pool Wtr Lvl / 5									0
295032 High Secondary Containment Area Temperature / 5						04. 04	Ability to recognize abnormal indications for system operating parameters that are entry-level conditions for emergency and abnormal operating procedures.	4.7	1
295033 High Secondary Containment Area Radiation Levels / 9									0
295034 Secondary Containment Ventilation High Radiation / 9									0
295035 Secondary Containment High Differential Pressure / 5					0 1		Secondary containment pressure: Plant-Specific	3.9	1
295036 Secondary Containment High Sump/Area Water Level / 5									0
500000 High CTMT Hydrogen Conc. / 5									0
K/A Category Totals:	0	0	0	0	2	1	Group Point Total:		3

ES-401	BWR Examination Outline											Form ES-401-1	
	Plant Systems - Tier 2/Group 1 (SRO)												
System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	K/A Topic(s)	IR	#
203000 RHR/LPCI: Injection														0
205000 Shutdown Cooling Mode														0
206000 HPCI														0
207000 Isolation (Emergency) Condenser														0
209001 LPCS								03				A.C. failures	3.6	1
209002 HPCS														0
211000 SLC											02.25	Knowledge of the bases in Technical Specifications for limiting conditions for operations and safety limits.	4.2	1
212000 RPS														0
215003 IRM														0
215004 Source Range Monitor														0
215005 APRM / LPRM														0
217000 RCIC														0
218000 ADS								05				Loss of A.C. or D.C. power to ADS valves	3.6	1
223002 PCIS/Nuclear Steam Supply Shutoff														0
239002 SRVs											01.06	Ability to manage the control room crew during plant transients.	4.8	1
259002 Reactor Water Level Control														0
261000 SGTS														0
262001 AC Electrical Distribution														0
262002 UPS (AC/DC)								01				Under voltage	2.8	1
263000 DC Electrical Distribution														0
264000 EDGs														0
300000 Instrument Air														0
400000 Component Cooling Water														0
														0
K/A Category Totals:	0	0	0	0	0	0	0	3	0	0	2	Group Point Total:		5

ES-401	BWR Examination Outline											Form ES-401-1	
	Plant Systems - Tier 2/Group 2 (SRO)												
System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	K/A Topic(s)	IR	#
201001 CRD Hydraulic														0
201002 RMCS														0
201003 Control Rod and Drive Mechanism								10				Excessive SCRAM time for a given drive mechanism	3.4	1
201004 RSCS														0
201005 RCIS														0
201006 RWM														0
202001 Recirculation														0
202002 Recirculation Flow Control														0
204000 RWCU														0
214000 RPIS														0
215001 Traversing In-core Probe														0
215002 RBM														0
216000 Nuclear Boiler Inst.														0
219000 RHR/LPCI: Torus/Pool Cooling Mode														0
223001 Primary CTMT and Aux.											02.22	Knowledge of limiting conditions for operations and safety limits.	4.7	1
226001 RHR/LPCI: CTMT Spray Mode														0
230000 RHR/LPCI: Torus/Pool Spray Mode														0
233000 Fuel Pool Cooling/Cleanup														0
234000 Fuel Handling Equipment														0
239001 Main and Reheat Steam														0
239003 MSIV Leakage Control														0
241000 Reactor/Turbine Pressure Regulator														0
245000 Main Turbine Gen. / Aux.														0
256000 Reactor Condensate														0
259001 Reactor Feedwater								03				Loss of condensate pump(s)	3.6	1
268000 Radwaste														0
271000 Offgas														0
272000 Radiation Monitoring														0
286000 Fire Protection														0
288000 Plant Ventilation														0
290001 Secondary CTMT														0
290003 Control Room HVAC														0
290002 Reactor Vessel Internals														0
K/A Category Totals:	0	0	0	0	0	0	0	2	0	0	1	Group Point Total:		3

Facility Name:Dresden Date of Exam:3/9/09

Category	K/A #	Topic	RO		SRO-Only	
			IR	#	IR	#
1. Conduct of Operations	2.1. 03	Knowledge of shift or short-term relief turnover practices.	3.7	1		
	2.1. 08	Ability to coordinate personnel activities outside the control room.	3.4	1		
	2.1. 29	Knowledge of how to conduct system lineups, such as valves, breakers, switches, etc.	4.1	1		
	2.1.					
	2.1. 05	Ability to use procedures related to shift staffing, such as minimum crew complement, overtime limitations, etc.			3.9	1
	2.1. 25	Ability to interpret reference materials, such as graphs, curves, tables, etc.			4.2	1
	Subtotal			3		2
2. Equipment Control	2.2. 03	Knowledge of the design, procedural, and operational differences between units.	3.8	1		
	2.2. 12	Knowledge of surveillance procedures.	3.7	1		
	2.2. 14	Knowledge of the process for controlling equipment configuration or status.	3.9	1		
	2.2.					
	2.2. 15	Ability to determine the expected plant configuration using design and configuration control documentation, such as drawings, line-ups, tag-outs, etc.			4.3	1
	2.2. 35	Ability to determine Technical Specification Mode of Operation.			4.5	1
	Subtotal			3		2
3. Radiation Control	2.3. 07	Ability to comply with radiation work permit requirements during normal or abnormal conditions.	3.5	1		
	2.3. 11	Ability to control radiation releases.	3.8	1		
	2.3.					
	2.3.					
	2.3.					
	2.3. 13	Knowledge of radiological safety procedures pertaining to licensed operator duties, such as response to radiation monitor alarms, containment entry requirements, fuel handling responsibilities, access to locked high-radiation areas, aligning filters, etc.			3.8	1
	Subtotal			2		1
4. Emergency Procedures / Plan	2.4. 02	Knowledge of system set points, interlocks and automatic actions associated with EOP entry conditions.	4.5	1		
	2.4. 14	Knowledge of general guidelines for EOP usage.	3.8	1		
	2.4.					
	2.4.					
	2.4. 28	Knowledge of procedures relating to a security event.			4.1	1
	2.4. 35	Knowledge of local auxiliary operator tasks during an emergency and the resultant operational effects.			4	1
	Subtotal			2		2
Tier 3 Point Total				10		7

Scenario Outline

Station: Dresden Generating Station Scenario No.: ILT-N-1 Class ID: 2009-301

Evaluators	Operators	/ crew position
		/ ATC
		/ BOP
		/ CRS

Initial Conditions: Rx Power ~ 2%

Turnover: Awaiting REMA to Continue Startup
Shutdown U2 EDG Following Surveillance

Event No.	Malf. No.	Event Type*		Event Description
1	NONE	N	BOP CRS	EDG - Shutdown U2 EDG Following Surveillance Testing.
2	RDFAILF5	I	ATC CRS	CRD - RPIS failure for rod F-05. T
3	FWSACBV	C	ATC CRS	RFP - 2A Vent Fan Trips with Failure of 2B to Auto Start.
4	ADS3CBN ADS3CSD	C	BOP CRS	ERV - Spurious ERV Opening. T
5	RLLMLS	I	ATC CRS	FWLC - FWLC Controller Drifts High.
6	Q01	C	BOP CRS	RBCCW - Pump Trip.
7	SER1784WR PPDSH1 SER1735 SER0369 SER0322 RRMPMAHI RRMPMBHI	M	TEAM	RBCCW - Loss of RBCCW / Manual Scram.
8	CSBRKSEV	M	TEAM	Torus - Lowering Level from ECCS Suction Line Break.

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor, (T)ech Spec

SRRS: 3D.105

Scenario Outline

Station: Dresden Generating Station Scenario No.: ILT-N-2 Class ID: 2009-301

Evaluators	Operators	/ crew position
		/ ATC
		/ BOP
		/ CRS

Initial Conditions: Rx Power ~ 40%

Turnover: Raise Power With Recirculation Flow

Event No.	Malf. No.	Event Type*		Event Description
1	NONE	R	ATC CRS	Recirc - Raise Reactor Power using Recirculation Flow.
2	CSV4A SCAFILOF	C	BOP CRS	Core Spray - 'A' CS System Low Pressure. T
3	NONE	C	ATC CRS	RFP - 2B RFP Develops an Oil Leak, Must Swap.
4	RRMASDND	I	ATC CRS	Recirc - Master Recirc Flow Controller Fails Downscale. T
5	NONE	N	BOP CRS	RBCCW - Swap RBCCW Pumps.
6	N33	C	BOP CRS	Inst Air - Instrument Air Compressor Trip.
7	NP2	M	TEAM	Inst Air - Instrument Air Leak / Manual Scram.
8	ICSTMRB	M	TEAM	Iso Cond - Steam Inlet Line Leak into Reactor Building.

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor, (T)ech Spec

Scenario Outline

Station: Dresden Generating Station Scenario No.: ILT-N-3 Class ID: 2009-301

Evaluators	Operators	/ crew position
		/ ATC
		/ BOP
		/ CRS

Initial Conditions: Rx Power ~ 95%

Turnover: Maintain Current Power Level per TSO Direction
Swap Service Water Pumps

Event No.	Malf. No.	Event Type*		Event Description
1	NONE	N	BOP CRS	Service Water - Swap Service Water Pumps.
2	B02	C	ATC CRS	RPS - Trip of MG Set, Re-energize from Reserve Power. T
3	RDFCFHI	C	ATC CRS	CRD - CRD Flow Controller Fails High.
4	HPGP4RLY AT46	I	BOP CRS	HPCI - Spurious HPCI Isolation with Failure to Isolate. T
5	K11 MGDSCBTR	C	ATC CRS	Stator Cooling - 2A Pump Trip With Failure of 2B to Start.
6	I21	M	TEAM	Steam Leak - Small Leak in Drywell / Manual Scram.
7	RODST I21	M	TEAM	ATWS - Hydraulic ATWS / Drywell Leak Gets Worse.

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor, (T)ech Spec