2009 FERMI 2 POWER PLANT

INITIAL EXAMINATION

PROPOSED EXAM FILES

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Site Vice President

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DTE Energy

10 CFR 55.40

January 28, 2009
NRC-09-0002

Mr. Hironori Peterson
Chief, Operations Branch
Division of Reactor Safety
Region III
U. S. Nuclear Regulatory Commission
2443 Warrenville Road, Suite 210
Lisle, Illinois 60532-4352

References: 1) Fermi 2
NRC Docket No. 50-341
NRC License No. NPF-43

2) NRC letter dated October 29, 2008, "Fermi 2 Power Plant Confirmation of Initial License Examination"

Subject: Fermi 2 Initial License Operator Examination

Enclosed please find the following examination material in preparation for the Fermi 2 Initial License Operator Examination scheduled to occur during the week of March 16, 2009:

- Modified Examination Outlines (modified during the examination development process)
- Seventy-five (75) written examination items for the Reactor Operator examination
- Twenty-five (25) written examination items for the Senior Reactor Operator examination
- Eleven (11) Plant Systems related Job Performance Measures
- Eight (8) Administrative topic Job Performance Measures
- Four (4) Simulator Scenarios

- Supporting Reference Material
- Quality Verification Checklists from Revision 9, NUREG 1021

The examination material was developed using the appropriate guidance contained in NUREG 1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9. The examination material shall be withheld from public disclosure until after the examinations are complete.

We look forward to working with you and your examination team during the examination development and administration process. If you have any questions or comments regarding the contents of the items listed above, please contact Mr. Michael J. Doucet, General Supervisor, Operations Training, at (734) 586-4961.

Sincerely,

Joseph H. Plona

Enclosures

cc: [w/o Enclosures]
NRC Project Manager
Reactor Projects Chief, Branch 4, Region III
NRC Resident Office
Document Control Desk
Washington D C

		Initials		
	1. GENERAL CRITERIA			
a	The operating test conforms with the previously approved outline; changes are consistent with sampling requirements (e.g., 10 CFR 55.45, operational importance, safety function distribution).	[illegible]	D	[illegible]
b	There is no day-to-day repetition between this and other operating tests to be administered during this examination.	[illegible]	D	[illegible]
c	The operating test shall not duplicate items from the applicant's (audit test(s)) (see Section D.1.a).	[illegible]	D	[illegible]
d	Overlap with the written examination and between different parts of the operating test is within acceptable limits.	[illegible]	D	[illegible]
e	It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.	[illegible]	D	[illegible]
	2. WALK-THROUGH CRITERIA			
a	Each JPM includes the following, as applicable: • initial conditions • initiating cues • references and tools, including associated procedures • reasonable and validated time limits (average time allowed for completion) and specific designation if deemed to be time critical by the facility licensee • operationally important specific performance criteria that include: - detailed expected actions with exact criteria and nomenclature - system response and other examiner cues - statements describing important observations to be made by the applicant - criteria for successful completion of the task - identification of critical steps and their associated performance standards - restrictions on the sequence of steps, if applicable	[illegible]	D	[illegible]
b	Ensure that any changes from the previously approved systems and administrative walk-through outlines (Forms ES-301-1 and 2) have not caused the test to deviate from any of the acceptance criteria (e.g., item distribution, bank use, repetition from the last 2 NRC examinations) specified on those forms and Form ES-201-2.	[illegible]	D	[illegible]
	3. SIMULATOR CRITERIA			
	The associated simulator operating tests (scenario sets) have been reviewed in accordance with Form ES-301-4 and a copy is attached.	[illegible]	D	[illegible]

	Printed Name / Signature		Date
a. Author	[illegible]	[illegible]	[illegible]
b. Facility Reviewer (*)	Michael Doucet	[illegible]	[illegible]-27-09
c. NRC Chief Examiner (#)	CARL MOORE	[illegible]	2/13/09
d. NRC Supervisor	Hironori Peterson	[illegible] 2/13/09	3/5/09

NOTE: * The facility signature is not applicable for NRC-developed tests.
Independent NRC reviewer initial items in Column C. Chief examiner concurrence is required.

Facility: Fermi-2 Date of Exam: 3/16/2009 Scenario Numbers: 1 / 2 / 3 Operating Test Number: 2009-1

	QUALITATIVE ATTRIBUTES	Initials a	Initials b*	Initials c#
1.	The initial conditions are realistic, in that some equipment and/or instrumentation may be out of service, but it does not cue the operators into expected events.	T	DB	CLM
2.	The scenarios consist mostly of related events.	T	DB	CLM
3.	Each event description consists of • the point in the scenario when it is to be initiated • the malfunction(s) that are entered to initiate the event • the symptoms/cues that will be visible to the crew • the expected operator actions (by shift position) • the event termination point (if applicable)	T	DB	CLM
4.	No more than one non-mechanistic failure (e.g., pipe break) is incorporated into the scenario without a credible preceding incident such as a seismic event.	T	DB	CLM
5.	The events are valid with regard to physics and thermodynamics.	T	DB	CLM
6.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.	T	DB	CLM
7.	If time compression techniques are used, the scenario summary clearly so indicates. Operators have sufficient time to carry out expected activities without undue time constraints. Cues are given.	T	DB	CLM
8.	The simulator modeling is not altered.	T	DB	CLM
9.	The scenarios have been validated. Pursuant to 10CFR55.46(d), any open simulator performance deficiencies or deviations from the referenced plant have been evaluated to ensure that functional fidelity is maintained while running the planned scenarios.	T	DB	CLM
10.	Every operator will be evaluated using at least one new or significantly modified scenario. All other scenarios have been altered in accordance with Section D.5 of ES-301.	T	DB	CLM
11.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).	T	DB	CLM
12.	Each applicant will be significantly involved in the minimum number of transients and events specified on Form ES-301-5 (submit the form with the simulator scenarios).	T	DB	CLM
13.	The level of difficulty is appropriate to support licensing decisions for each crew position.	T	DB	CLM

	Target Quantitative Attributes (Per Scenario; See Section D.5.d)	Actual Attributes	--	--	--
1.	Total malfunctions (5-8)	11 / 12 / 12	T	DB	CLM
2.	Malfunctions after EOP entry (1-2)	4 / 3 / 3	T	DB	CLM
3.	Abnormal events (2-4)	2 / 4 / 4	T	DB	CLM
4.	Major transients (1-2)	2 / 1 / 1	T	DB	CLM
5.	EOPs entered/requiring substantive actions (1-2)	2 / 2 / 1	T	DB	CLM
6.	EOP contingencies requiring substantive actions (0-2)	1 / 1 / 1	T	DB	CLM
7.	Critical tasks (2-3)	5 / 2 / 3	T	DB	CLM

Facility: Fermi-2 Date of Exam: 3/16/2009 Scenario Numbers: 4 / / Operating Test Number: 2009-1

	QUALITATIVE ATTRIBUTES	Initials a	b*	c#
1.	The initial conditions are realistic, in that some equipment and/or instrumentation may be out of service, but it does not cue the operators into expected events.	T	DB	CLM
2.	The scenarios consist mostly of related events.	T	DB	CLM
3.	Each event description consists of • the point in the scenario when it is to be initiated • the malfunction(s) that are entered to initiate the event • the symptoms/cues that will be visible to the crew • the expected operator actions (by shift position) • the event termination point (if applicable)	T	DB	CLM
4.	No more than one non-mechanistic failure (e.g., pipe break) is incorporated into the scenario without a credible preceding incident such as a seismic event.	T	DB	CLM
5.	The events are valid with regard to physics and thermodynamics.	T	DB	CLM
6.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.	T	DB	CLM
7.	If time compression techniques are used, the scenario summary clearly so indicates. Operators have sufficient time to carry out expected activities without undue time constraints. Cues are given.	T	DB	CLM
8.	The simulator modeling is not altered.	T	DB	CLM
9.	The scenarios have been validated. Pursuant to 10CFR55.46(d), any open simulator performance deficiencies or deviations from the referenced plant have been evaluated to ensure that functional fidelity is maintained while running the planned scenarios.	T	DB	CLM
10.	Every operator will be evaluated using at least one new or significantly modified scenario. All other scenarios have been altered in accordance with Section D.5 of ES-301.	T	DB	CLM
11.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).	T	DB	CLM
12.	Each applicant will be significantly involved in the minimum number of transients and events specified on Form ES-301-5 (submit the form with the simulator scenarios).	T	DB	CLM
13.	The level of difficulty is appropriate to support licensing decisions for each crew position.	T	DB	CLM

	Target Quantitative Attributes (Per Scenario; See Section D.5.d)	Actual Attributes	--	--	--
1.	Total malfunctions (5-8)	10 / /	T	DB	CLM
2.	Malfunctions after EOP entry (1-2)	2 / /	T	DB	CLM
3.	Abnormal events (2-4)	3 / /	T	DB	CLM
4.	Major transients (1-2)	2 / /	T	DB	CLM
5.	EOPs entered/requiring substantive actions (1-2)	2 / /	T	DB	CLM
6.	EOP contingencies requiring substantive actions (0-2)	1 / /	T	DB	CLM
7.	Critical tasks (2-3)	2 / /	T	DB	CLM

Facility: Fermi-2 Date of Exam: 3/16/2009 Exam Level: RO ☒ SRO ☒

	Item Description	Initial a	b*	c#
1.	Questions and answers are technically accurate and applicable to the facility.	DB	D	CMM
2.	a. NRC K/As are referenced for all questions. b. Facility learning objectives are referenced as available.	DB	D	CMM
3.	SRO questions are appropriate in accordance with Section D.2.d of ES-401	DB	D	CMM
4.	The sampling process was random and systematic (If more than 4 RO or 2 SRO questions were repeated from the last 2 NRC licensing exam, consult the NRR OL program office).	DB	D	CMM
5.	Question duplication from the license screening/audit exam was controlled as indicated below (check the item that applies) and appears appropriate: __ the audit exam was systematically and randomly developed; or __ the audit exam was completed before the license exam was started; or X the examinations were developed independently; or X the licensee certifies that there is no duplication; or __ other (explain)	DB	D	CMM
6.	Bank use meets limits (no more than 75 percent from the bank, at least 10 percent new, and the rest new or modified); enter the actual RO / SRO-only question distribution(s) at right.	Bank: 2/1; Modified: 0/0; New: 73/24		
		DB	D	CMM
7.	Between 50 and 60 percent of the questions on the RO exam are written at the comprehension /analysis level; the SRO exam may exceed 60 percent if the randomly selected KAs support the higher cognitive levels; enter the actual RO / SRO question distribution(s) at right.	Memory: 32 / 10; C/A: 43 / 15		
		DB	D	CMM
8.	References/handouts provided do not give away answers or aid in the elimination of distractors.	DB	D	CMM
9.	Question content conforms with specific K/A statements in the previously approved examination outline and is appropriate for the Tier to which they are assigned; deviations are justified.	DB	D	CMM
10.	Question psychometric quality and format meet the guidelines in ES Appendix B	DB	D	CMM
11.	The exam contains the required number of one-point, multiple choice items; the total is correct and agrees with value on cover sheet	DB	D	CMM

	Printed Name / Signature	Date
a. Author	Timothy J. Barrett	1-27-09
b. Facility Reviewer (*)	Michael Doucet	1-27-09
c. NRC Chief Examiner (#)	CARL MOORE	2/10/09
d. NRC Regional Supervisor	Hironori Peterson	3/5/09

Note: * The facility reviewer's initials/signature are not applicable for NRC-developed examinations.
Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.

(FOR HP)