July 28, 2005

Mr. Christopher M. Crane
President and CEO
AmerGen Energy Company, LLC
200 Exelon Way, KSA 3-E
Kennett Square, PA 19348

SUBJECT: THREE MILE ISLAND REACTOR OPERATOR AND SENIOR REACTOR OPERATOR INITIAL EXAMINATION REPORT NO. 05000289/2005301

Dear Mr. Crane:

This report transmits the results of the Reactor Operator (RO) and Senior Reactor Operator (SRO) licensing examination conducted by the NRC during the period of May 9 - May 16, 2005. This examination addressed areas important to public health and safety and was developed and administered using the guidelines of the “Examination Standards for Power Reactors” (NUREG-1021, Revision 9).

Based on the results of the examination, all seven Senior Reactor Operator applicants passed all portions of the examination. Mr. D’Antonio discussed performance insights observed during the examination with site training personnel on May 13, 2005. On June 16, 2005, final examination results, including individual license numbers, were given during a telephone call between Mr. D’Antonio and Mr. Gil Cropper

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC’s document system (ADAMS). These records include the final examination and are available in ADAMS Package Accession No. ML041340041; RO and SRO Written - Accession Number ML051890112; RO and SRO Operating Section A - Accession Number ML051890097; RO and SRO Operating Section B - Accession Number ML051890099; and RO and SRO Operating Section C - Accession Number ML051890107, and Facility Post Examination Comments on the Written Exams - Accession No. ML052000492. ADAMS is accessible from the NRC Web site at www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Should you have any questions regarding this examination, please contact me at (610) 337-5183, or by E-mail at RJC@NRC.GOV.

Sincerely,

/RA/

Richard J. Conte, Chief
Operations Branch
Division of Reactor Safety

Docket No. 50-289
License No. DPR-50

Enclosure: Initial Examination Report No. 05000289/2005301

Attachment 1: Supplemental Information
Attachment 2: Facility Post-Exam Comments
Attachment 3: NRC Resolution of Facility Comments

cc w/encl:
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Site Vice President - TMI Unit 1, AmerGen
Plant Manager - TMI, Unit 1, AmerGen
Regulatory Assurance Manager - TMI, Unit 1, AmerGen
Senior Vice President - Nuclear Services, AmerGen
Vice President - Mid-Atlantic Operations, AmerGen
Vice President - Operations Support, AmerGen
Vice President - Licensing and Regulatory Affairs, AmerGen
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DATE	07/20/05		07/20/05		07/21/05		07/28/05	

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.	50-289
License No.	DPR-50
Report No.	05000289/2005301
Licensee:	AmerGen Energy Company, LLC
Facility:	Three Mile Island Nuclear Station
Dates:	May 16, 2005 (Written Examination Administration) May 9 - 13, 2005 (Operating Test Administration) May 17 - June 15, 2005 (Examination Grading) June 14, 2005 (Licensee Final Post-Exam Comments - End of Examination Period)
Examiners:	Joseph D'Antonio, Operations Engineer (Chief Examiner) Ron Aiello, Senior Operations Engineer Larry Vick, Senior Operations Engineer
Approved by:	Richard J. Conte, Chief Operations Branch Division of Reactor Safety

SUMMARY OF FINDINGS

IR 05000289/2005301; May 9-16, 2005; Three Mile Island; Initial Operator Licensing Examination.

Seven of seven SRO instant applicants passed the examination.

The written examinations were administered by the facility and the operating tests were administered by three NRC region-based examiners. There were no inspection findings of significance associated with the examinations.

REPORT DETAILS

1. REACTOR SAFETY

Mitigating Systems - Reactor Operator (RO) and Senior Reactor Operator (SRO) Initial License Examination

a. Scope of Review

The NRC examination team developed the written and operating initial examination and together with Three Mile Island training and operations personnel verified or ensured, as applicable, the following:

- The examination was prepared and developed in accordance with the guidelines of Revision 9, "Operator Licensing Examination Standards for Power Reactors." A review was conducted both in the Region I office and at the Three Mile Island plant and training facility. Final resolution of comments and incorporation of test revisions were conducted during and following the onsite preparation week.

- Simulation facility operation was proper.

- A test item analysis was completed on the written examination for feedback into the systems approach to training program.

- Examination security requirements were met.

The NRC examiners administered the operating portion of the examination to all applicants from May 9-13, 2005. The written examination was administered by the Three Mile Island training staff on May 16, 2005.

b. Findings

Grading and Results

All seven SROI applicants passed all portions of the initial licensing examination.

Facility post exam comments are provided as Attachment 2; NRC resolution of those comments is provided as Attachment 3.

Examination Administration and Performance

One problem occurred during the administration of a JPM requiring the applicants to perform a plant cooldown using manual control of steam dumps. The JPM setup conditions were such that emergency feedwater was automatically cycling on and off, affecting cooldown rate. The transient effects of this cycling flow caused wide swings in cooldown rate which masked the effect of the applicant control manipulations under evaluation. This was resolved by having an instructor act as a second operator and place emergency feedwater in manual control.

SGTR EOP Rapid Cooldown and use of 10CFR50.54(x)

One of the examination scenarios involved a Steam Generator Tube Rupture and the use in EOP-5 of a cooldown rate of 240 deg F/hr. vs. the Technical Specification limit of 100 deg F /hr. The NRC questioned the technical basis for use of this emergency cooldown rate at the radiation limits stated in the EOP. The NRC also questioned the need to invoke 10CFR50.54(x) to use the emergency cooldown rate per the EOP if the technical justification is adequate. These issues are unresolved pending further NRC review of facility technical basis information. **(URI 05000289/2005301-01)**

4OA6 Exit Meeting Summary

On June 16, 2005**,** the NRC provided conclusions and examination results to Three Mile Island management representatives via telephone. License numbers for seven of seven applicants were also provided during this time.

The NRC expressed appreciation for the cooperation and assistance that was provided during the preparation and administration of the examination by the licensee's training staff.

ATTACHMENT 1

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

Ken McCaul, Director of Training
Dave Atherholt, Manager, Operator Training

NRC Personnel

Joseph D'Antonio, Operations Engineer

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

ITEM NUMBER	TYPE	DESCRIPTION
05000289/2005301-01	URI	Use of rapid cooldown in SGTR EOP.

Attachment 2

Facility Post-Exam Comments

SEE ADAMS ML052000492

Attachment 3

NRC Response to Facility Comments

Summary - answer key changed for 7 & 24, deleted 19, 33, & 73

Q7:

Facility Comment

Change correct answer to “B.”

NRC Resolution

Accepted. The question asks the sequence of events and result on containment of a PORV lift for 15 seconds. The original correct answer was that the PRT relief would lift rupture disk would blow (venting the PRT to the containment). Engineering calculation and the system design basis document (SDBD) both indicate this transient is within the design capacity of the PRT. The exam author misread the SDBD in specifying the original answer. The SDBD contains a table of design features of the PRT which lists: “Design Max PORV/Relief Valve Flow Rate: 760,000 lbm/hr” and “Maximum Duration: 14.4 sec.” However, reading the body of the document clarifies that the 760,000 lbm/hr is the expected flow for all three valves - the PORV in the question AND both safeties. This makes the “B” the actual correct answer.

Q19:

Facility Comment

Delete due to three correct answers.

NRC Resolution

Accepted. The question asks the applicants to determine action to be taken concerning the EFW system, and expects them to realize they can return EFW to standby. The question does not give the applicant information concerning the reliability of the operating main feed pump. CRS concurrence is required by the Guide 15.1 “Return EFW to Standby,” and the applicants did not want to give their concurrence as CRS without more information. The question does not provide either that concurrence or a reason for the applicant to decide to give such concurrence, such as a clear status of the main feed system. This leaves it up to the preference of the applicant whether or not to return the EFW system to standby or to leave EFW in service. The original correct answer was to return EFW to standby; but without clarification of CRS concurrence, the two distractors which leave the EFW pumps running are also potentially correct because there is no facility guidance in regard to delegating one main or EFW as “preferred” or “backup” - with three correct answers, the question is deleted.

Q24:

Facility Comment

Change correct answer to “A”

NRC Resolution

Accepted. The question concerns “A” EDG start capability with low starting air pressure. An engineering test indicates that answer “A” should be the correct choice, that the EDG will start with reduced system pressure at 120 psig. The facility provided documentation of an engineering test which showed that the diesels will start within TS limits with air pressure as low as 95# (75# for the “A” EDG) and meeting minutes from PRG meetings discussing this issue. The 175# operability limit is a conservative number based on that engineering test. The question gives 120# start air pressure and states that the cause of the low pressure has been isolated, and under those conditions both diesels will start within TS limits. The diesel is functional, but not necessarily operable per Technical Specifications. Answer “A” correctly states the functionality of the diesel.

Q33:

Facility Comment

Delete the question - not operationally valid.

NRC Resolution

Accepted. This question asks about a reactor building fuel handling bridge radiation monitor. The facility provided lesson plan material stating that the reactor building fuel handling bridge monitor equipment has been abandoned in place. Accordingly, this was not an operationally valid question topic, and the question is deleted.

Q73:

Facility Comment

Delete the question.

NRC Resolution

Accepted. This question tells the applicants to use procedures in effect on the date of the exam, which contradicts the procedure freeze date and introduces confusion. Also, while the applicant’s may have been informed of a recent procedure change, that is not the same thing as having been trained on the change. During the prep week, one of the validators pointed out that a recent procedure change would make a different distractor the correct answer, stated that the applicants were aware of the change, and wanted to know if the NRC would grade as incorrect an answer based on the current procedure instead of the freeze date procedure. To avoid this anticipated problem, the exam team attempted to fix the question by stating in the

question “use procedures in effect as of 5/16/05", the date of the exam. In retrospect, this was not an adequate solution because while the applicants had received an e-mail on this change, they had been given no reason to study the change for this exam since it was promulgated after the agreed upon procedure freeze date. The NRC evaluation is that it would not be appropriate to hold the applicants responsible for changes they were not expected to have studied, but it would also not be logical to accept an answer that is no longer correct given the exam date specified in the question. Accordingly, this question is deleted.

Q97:

Facility Comment

Accept two correct answers “C” and “D.”

NRC Resolution

Not Accepted: This question asks the applicants to identify a situation requiring use of the Temporary Configuration Change (TCC) process. The proposed second correct answer was installation of a jumper in support of a surveillance procedure. To support their request, the facility provided two examples. One example stated that a jumper was used to accommodate a degraded condition during surveillance testing, but at a different plant. The second example was hydro procedure listing conditions requiring a TCC; however, none of those conditions was the installation of a jumper. While it may be possible to conceive of situations where a TCC would be needed to install a jumper for a surveillance at TMI, the facility has not provided an example where this has actually been done.