Mr. John L. Skolds, Chairman
and Chief Executive Officer
AmerGen Energy Company, LLC
4300 Winfield Road
Warrenville, IL 60555

December 10, 2002

SUBJECT: THREE MILE ISLAND NUCLEAR STATION, UNIT 1 (TMI-1), RELOCATION OF THE TECHNICAL SUPPORT CENTER (TSC) (TAC NO. MB5210)

Dear Mr. Skolds:

By letter dated May 28, 2002, AmerGen Energy Company, LLC (the licensee), submitted a request for Nuclear Regulatory Commission (NRC) approval of a change to the TMI-1 Emergency Plan pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.54(q). The proposed change would relocate the existing TSC and Emergency Control Center functions from the TMI-1 control tower to a common TSC in the Operations Support Facility located immediately outside the protected area fence. The licensee provided additional information by letter dated September 30, 2002, in response to the NRC's request. NRC approval was requested since the proposed facility would not meet the guidance contained in NUREG-0696, "Functional Criteria for Emergency Response Facilities." The licensee stated that the relocation would improve the overall effectiveness of the TSC and the onsite emergency response capability at TMI-1.

The NRC staff has completed its review of the proposed change and has determined that the the proposed changes do not decrease the effectiveness of the Emergency Plan and that the plan, as changed, continues to meet the planning standards of 10 CFR 50.47(b) and the requirements of Appendix E to 10 CFR Part 50. Therefore, the licensee may implement the proposed change. The details of the NRC staff's review are contained in the enclosed safety evaluation. If you have any questions, please contact me at 301-415-1402.

Sincerely,

/RA/

Timothy G. Colburn, Senior Project Manager, Section 1
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-289

Enclosure: Safety Evaluation

cc w/encl: See next page

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DATE	12/9/02	12/10/02	11/25/02	12/10/02

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO THE PROPOSED CHANGES FOR

AMERGEN ENERGY COMPANY, LLC

THREE MILE ISLAND NUCLEAR STATION, UNIT 1, EMERGENCY PLAN

DOCKET NO. 50-289

1.0 INTRODUCTION

This safety evaluation addresses proposed changes to the Three Mile Island Nuclear Station, Unit 1 (TMI-1), Emergency Plan (EP). AmerGen Energy Company, LLC (the licensee or AmerGen), requested approval by letter dated May 28, 2002, to relocate the Technical Support Center (TSC) and the Emergency Control Center (ECC) functions from the TMI-1 control room and nearby areas to a building outside the protected area which currently houses the Operations Support Facility (OSF). Additional information was provided by the licensee in response to a Nuclear Regulatory Commission (NRC) staff request for additional information (RAI) by letter dated September 20, 2002.

2.0 APPLICABLE REGULATIONS AND GUIDANCE

Section 50.47(b)(8) of Title 10 of the *Code of Federal Regulations* (10 CFR) requires in part, “adequate emergency facilities and equipment to support the emergency response [be] provided and maintained.”

Section IV.E(8) of 10 CFR Part 50, Appendix E, requires “a licensee onsite technical support center and a licensee near-site emergency operations facility from which effective direction can be given and effective control can be exercised during an emergency.”

Section IV.E(9)(c) of 10 CFR Part 50, Appendix E, requires “provision for communications among the nuclear power reactor control room, the onsite technical support center...”

Section IV.E(9)(d) of 10 CFR Part 50, Appendix E, requires “Provision for communications by the licensee with NRC Headquarters and the appropriate NRC Regional Office Operations Center from the nuclear power reactor control room, the onsite technical support center...”

Regulatory Guide 1.101, "Emergency Planning and Preparedness for Nuclear Power Reactors," Revision 3, states, in part: "The criteria and recommendations contained in Revision 1 of NUREG-0654/FEMA-REP-1 are considered by the NRC staff to be acceptable methods for complying with the standards in 10 CFR 50.47 that must be met in on-site and off-site emergency response plans."

Section II.H of NUREG-0654/FEMA-REP-1, Rev 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," includes the following criterion for TSCs:

> Each licensee shall establish a Technical Support Center and onsite operations support center (assembly area) in accordance with NUREG-0696, Revision 1.

NUREG-0696, Revision 1, "Functional Criteria for Emergency Response Facilities," Section 2, "Technical Support Center."

NUREG-0337, Supplement No. 1, "Clarification of TMI Action Plan Requirements," Section 8.2, "Technical Support Center."

3.0 BACKGROUND

The proposed changes to the TMI-1 EP, contained in the licensee's May 28, 2002, letter involve the relocation of the TSC from the control room to a building outside the protected area. Attachment A to the licensee's letter is a summary of the proposed changes to the EP. Attachment B contains the pages of the EP that will be affected and revised based upon the approval of the proposed changes.

The NRC staff toured the existing and proposed facilities with the licensee on August 8, 2002. The existing TSC is located in and adjacent to the control room of TMI-1. The TSC has two parts. One part is a room outside the control room; this part contains the engineering support staff. The other part is the ECC, which is located in the shift manager's office in the control room. The ECC augments the control room staff and is responsible for event command and control, assessment, and decision making functions.

4.0 EVALUATION

NUREG-0696 discusses, in detail, the purpose and the functions of the TSC. The TSC was designed to provide plant management and engineering support to the operating personnel in the control room during emergency conditions. It also serves to relieve the control room staff of peripheral duties such as communications and coordination until the emergency operations facility is operational. To fulfill these functions the staff needs to have sufficient work space, appropriate equipment, supplies, and a means to communicate with the control room, plant management, the NRC, and other support agencies. These attributes are addressed below. Weaknesses in any one area could affect the effective operation of the TSC and the licensee's overall emergency response.

4.1 Location and Size

The proposed TSC will be relocated to the first floor of the OSF. This building is outside the protected area boundary (PAB) but within in the owner-controlled area (OCA). The new working space is much larger than the existing facility and will reduce the crowding that has been experienced at the current facility. It will also provide a better and quieter working environment for the emergency operating staff.

Locating the TSC outside the PAB, however, may raise some security concerns, and could cause minor delays in getting to the TSC during security events. These considerations are discussed in Sections 4.7 and 4.8.

4.2 Staffing and Training

The relocation of the TSC should not impact the staffing or training of the emergency workers assigned to the TSC. The licensee plans to hold a short orientation showing the location of plans, procedures, blueprints, etc., and the operation of communications and display devices. This orientation will be sufficient to familiarize the staff with the new facility.

4.3 Structure and Habitability

The proposed TSC is located on the first floor of the OSF. The OSF building was properly constructed to withstand natural disasters as well as radiation releases from the reactor. The OSF building was designed to withstand the 100-year wind loading of 80 miles per hour and the facility stands 7 feet above the 100-year flood levels. The walls and ceiling of the facility are constructed of 9-inch thick reinforced concrete and therefore will afford some protection against radiation shine and direct radiation. The licensee calculated that the TSC occupants would receive a dose that was less than 5 REM total effective dose equivalent for the 30-day accident mitigation period. The proposed TSC will have an isolated heating, ventilation and air conditioning system. It will contain two high efficiency particulate air filters and an activated charcoal adsorbent filter. In the event of an emergency, the TSC can be isolated from the remaining buildings. The proposed TSC receives electrical power from the plant power distribution system. Backup power is available from offsite sources and a 2-hour battery bank.

4.4 Communications

The proposed TSC will be equipped with the same communication capability that exists in the current control room and ECC. This includes a dedicated EP phone exchange, a site phone exchange (which includes commercial onsite and offsite phone lines), an in-plant radio channel, and station and intra facility public address systems. For backup communication, the TSC will have a dedicated radio frequency on the Pennsylvania Emergency Management Administrative Radio System and a satellite telephone line. The telephone lines will have a battery backup in the event of a power outage.

4.5 Technical Data

The proposed TSC will have a direct link to the plant process computer and the Safety Parameter Display System. It will have the same capability as the ECC and the control room for retrieving and monitoring plant conditions. The information will be displayed on four large projection screens in the proposed TSC. Three screens will be in the main room and one in the engineering room.

4.6 Records Availability and Management

The proposed TSC will contain updated, controlled records, plans, plant drawings, and procedures needed by the TSC staff to perform technical analysis and evaluations. These materials will be available on paper and/or electronically through the local area network connections from the Electronic Data Management System.

4.7 Security Concerns

Locating the proposed TSC outside the protected area raises some concerns about securing the area in the event of a security threat. However, the TSC has two levels of protection. The first is the building housing the proposed TSC. It is constructed of concrete and is designed to be locked down to prevent unauthorized access. Secondly, the licensee has instituted increased site access security for the OCA. In the event of a security threat, the entire island can be locked down. This has been made easier by limiting access to the island (and hence the OCA) through the north gate entrance.

4.8 Backup/Contingency Plans

In the event of the unavailability or inaccessibility of the proposed onsite TSC, for security reasons or other conditions, the licensee has arranged for the use of the simulator area of the training facility, outside the OCA. The simulator has access to the plant process computers and communication links, which will allow the initial emergency responders to assume command and control and implement the TSC portion of the emergency plan**.**

5.0 CONCLUSION

Although the proposed location of the TSC does not strictly follow the guidance in NUREG-0696, the proposed TSC can perform its role of providing technical support to the control room staff and relieve the control room staff of peripheral duties and communications that don't directly affect the operation of the reactor. The proposed relocation of the TSC will enhance the effective operation of the TSC and control room in some ways by reducing crowding and noise levels. In addition, the new facility is larger and has improved displays and equipment to support emergency response activities by the staff. The licensee's facility, plans, and procedures related to the proposed TSC as described in the May 28, 2002, letter and September 20, 2002, RAI response constitute an acceptable alternative to the guidance in NUREG-0696 and do not decrease the effectiveness of the emergency plan, and the plan continues to meet the standards of Section 50.47(b) and the requirements of Appendix E to Part 50.

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Date: December 10, 2002

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