

August 22, 2008

Mr. Michael P. Gallagher
Vice President License Renewal Projects
AmerGen Energy Company, LLC
200 Exelon Way
Kennett Square, PA 19348

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR SECTIONS 2.2, 2.3, 2.4, &
2.5 OF THE THREE MILE ISLAND NUCLEAR STATION, UNIT 1, LICENSE
RENEWAL APPLICATION (TAC NO. MD7701)

Dear Mr. Gallagher:

By letter dated January 8, 2008, AmerGen Energy Company, LLC (AmerGen) submitted an application pursuant to 10 CFR Part 54 to renew the operating license for Three Mile Island Nuclear Station, Unit 1 for review by the U.S. Nuclear Regulatory Commission (NRC or the staff). The staff is reviewing the information contained in the license renewal application and has identified, in the enclosure, areas where additional information is needed to complete the review. Further requests for additional information may be issued in the future.

Items in the enclosure were discussed with Chris Wilson, of your staff, and a mutually agreeable date for the response is within 30 days from the date of this letter. If you have any questions, please contact me at 301-415-2878 or e-mail Jay.Robinson@nrc.gov.

Sincerely,

/RA/

Jay Robinson, Sr. Project Manager
Projects Branch 1
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket No. 50-289

Enclosure:
As stated

cc w/encl: See next page

August 22, 2008

Mr. Michael P. Gallagher
Vice President License Renewal Projects
AmerGen Energy Company, LLC
200 Exelon Way
Kennett Square, PA 19348

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR SECTIONS 2.2, 2.3, 2.4, &
2.5 OF THE THREE MILE ISLAND NUCLEAR STATION, UNIT 1, LICENSE
RENEWAL APPLICATION (TAC NO. MD7701)

Dear Mr. Gallagher:

By letter dated January 8, 2008, AmerGen Energy Company, LLC (AmerGen) submitted an application pursuant to 10 CFR Part 54 to renew the operating license for Three Mile Island Nuclear Station, Unit 1 for review by the U.S. Nuclear Regulatory Commission (NRC or the staff). The staff is reviewing the information contained in the license renewal application and has identified, in the enclosure, areas where additional information is needed to complete the review. Further requests for additional information may be issued in the future.

Items in the enclosure were discussed with Chris Wilson, of your staff, and a mutually agreeable date for the response is within 30 days from the date of this letter. If you have any questions, please contact me at 301-415-2878 or e-mail Jay.Robinson@nrc.gov.

Sincerely,

/RA/

Jay Robinson, Sr. Project Manager
Projects Branch 1
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket No. 50-289

Enclosure:
As stated

cc w/encl: See next page

DISTRIBUTION: See next page

ADAMS Accession No.: ML082200032

* = concurrence via e-mail

OFFICE	LA:DLR	OGC	DRA:AFPB	DE:EMCB	DE:EEEE	PM:DLR:RPB1	BC:DLR:RPB1
NAME	SFiguroa	BMizuno	AKlein	KManoly	GWilson	JRobinson	DPelton
DATE	8/17/08	06/17/08	8/20/08	8/18/08	8/18/08	8/20/08	8/22/08

OFFICIAL RECORD COPY

Letter to AmerGen Energy Company, LLC from J. Robinson dated August 22, 2008

DISTRIBUTION:

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR SECTIONS 2.2, 2.3, 2.4, &
2.5 OF THE THREE MILE ISLAND NUCLEAR STATION, UNIT 1, LICENSE
RENEWAL APPLICATION (TAC NO. MD7701)

HARD COPY:

DLR RF

E-MAIL:

PUBLIC

RidsNrrDlrRpb1

RidsNrrDlrRpb2

RdsNrrDlrRer1

RidsNrrDlrRer2

RidsNrrDeEmcb

RidsNrrDeEeeb

RidsNrrDraAfpb

RidsOgcMailCenter

SLopas

NIqbal

BTitus

FFarzam

KMiller

Three Mile Island Nuclear Station,
Unit 1

cc:

Site Vice President - Three Mile Island
Nuclear Station, Unit 1
AmerGen Energy Company, LLC
P. O. Box 480
Middletown, PA 17057

Senior Vice President - Operations,
Mid-Atlantic
AmerGen Energy Company, LLC
200 Exelon Way, KSA 3-N
Kennett Square, PA 19348

Vice President - Licensing and Regulatory
Affairs
AmerGen Energy Company, LLC
4300 Winfield Road
Warrenville, IL 60555

Regional Administrator
Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Chairman
Board of County Commissioners
of Dauphin County
Dauphin County Courthouse
Harrisburg, PA 17120

Chairman
Board of Supervisors
of Londonderry Township
R.D. #1, Geyers Church Road
Middletown, PA 17057

Senior Resident Inspector (TMI-1)
U.S. Nuclear Regulatory Commission
P.O. Box 219
Middletown, PA 17057

Director - Licensing and Regulatory Affairs
AmerGen Energy Company, LLC
Correspondence Control
P.O. Box 160
Kennett Square, PA 19348

Director
Bureau of Radiation Protection
Pennsylvania Department of
Environmental Protection
Rachel Carson State Office Building
P.O. Box 8469
Harrisburg, PA 17105-8469

Plant Manager - Three Mile Island Nuclear
Station, Unit 1
AmerGen Energy Company, LLC
P.O. Box 480
Middletown, PA 17057

Regulatory Assurance Manager –
Three Mile Island Nuclear Station,
Unit 1
AmerGen Energy Company, LLC
P.O. Box 480
Middletown, PA 17057

Ronald Bellamy, Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Ronnie Gardner, PMP
Manager, Site Operations and Corporate
Regulatory Affairs
AREVA NP Inc.
3315 Old Forest Road OF-16
Lynchburg, VA 24501

Dr. Judith Johnsrud
National Energy Committee
Sierra Club
433 Orlando Avenue
State College, PA 16803

Eric Epstein
TMI Alert
4100 Hillsdale Road
Harrisburg, PA 17112

Three Mile Island Nuclear Station,
Unit 1

- 2 -

cc:

Correspondence Control Desk
AmerGen Energy Company, LLC
200 Exelon Way, KSA 1-N-1
Kennett Square, PA 19348

Manager Licensing - Three Mile Island
Nuclear Station, Unit 1
Exelon Generation Company, LLC
Correspondence Control
P.O. Box 160
Kennett Square, PA 19348

Christopher M. Crane
President and Chief Executive Officer
AmerGen Energy Company, LLC
4300 Winfield Road
Warrenville, IL 60555

Mr. Charles G. Pardee
Chief Nuclear Officer
AmerGen Energy Company, LLC
200 Exelon Way
Kennett Square, PA 19348

Associate General Counsel
AmerGen Energy Company, LLC
4300 Winfield Road
Warrenville, IL 60555

Chief Operating Officer (COO)
AmerGen Energy Company, LLC
4300 Winfield Road
Warrenville, IL 60555

Senior Vice President - Operations Support
AmerGen Energy Company, LLC
4300 Winfield Road
Warrenville, IL 60555

Albert A. Fulvio, Senior Project Manager
License Renewal
Exelon Nuclear
200 Exelon Way
Kennett Square, PA 19348

Rich Janati, Chief
Division of Nuclear Safety
Bureau of Radiation Protection
Pennsylvania Department of
Environmental Protection
Rachel Carson State Office Building
P.O. Box 8469
Harrisburg, PA 17105-8469

Michael Murphy
Bureau of Radiation Protection
Pennsylvania Department of
Environmental Protection
Rachel Carson State Office Building
P.O. Box 8469
Harrisburg, PA 17105-8469

Michael G. Brownell, Chief
Water Resources Management
Susquehanna River Basin Commission
1721 N. Front Street
Harrisburg, PA 17102

Rachel Diamond, Regional Director
Southcentral Regional Office
Pennsylvania Department of
Environmental Protection
909 Elmerton Avenue
Harrisburg, PA 17110

Nancy Ranek
Environmental Lead, License Renewal
Exelon Nuclear
200 Exelon Way, KSA/2-E
Kennett Square, PA 19348

Three Mile Island Nuclear Station,
Unit 1

- 3 -

cc:

Frederick W. Polaski
Manager License Renewal
Exelon Nuclear
200 Exelon Way
Kennett Square, PA 19348

Christopher Wilson
KSQ License Renewal
Exelon Nuclear
200 Exelon Way, KSA/2-E
Kennett Square, PA 19348

Mr. Michael P. Gallagher
Vice President License Renewal Projects
AmerGen Energy Company, LLC
200 Exelon Way
Kennett Square, PA 19348

REQUEST FOR ADDITIONAL INFORMATION

SECTIONS 2.2, 2.3, 2.4, & 2.5

THREE MILE ISLAND NUCLEAR STATION, UNIT – 1

LICENSE RENEWAL APPLICATION

LRA Section: 2.2, Plant Level Scoping Results
Table 2.2-1, Page 2.2-6

RAI#: 2.2-1

Table 2.2-1, Plant Level Scoping Results, lists the Chemical Cleaning Building as NOT being within the scope of license renewal. However, the TMI UFSAR, Section 5.1.1.1.a, lists the Chem Cleaning Building *Basin* as a Class I structure. If it is not included as an oversight, please provide a description of the scoping and aging management review. If it is covered somewhere else in the LRA, please indicate the location, or provide the basis for its exclusion from the scope of license renewal.

LRA Section: 2.3, Scoping and Screening Results: Mechanical
2.3.3, Auxiliary Systems
2.3.3.10, Fire Protection System

The staff reviewed the Three Mile Island Nuclear Station (TMI), Unit 1, license renewal application (LRA); updated final safety analysis report (UFSAR), Section 9.9, "Plant Fire Protection Program;" NRC-approved fire protection program; fire hazard analysis Volumes 1 and 2; point-by-point comparison with Appendix A to Branch Technical Position (BTP) Auxiliary and Power Conversion Systems Branch (APCSB) 9.5-1, "Guidelines for Fire Protection for Nuclear Power Plants" May 1, 1976, documented in the TMI-1 UFSAR, Section 9.9; and fire protection current licensing basis documents listed in the TMI Unit 1 Operating License Condition 2.c.4.

RAI#: 2.3.3.10-1

LRA Tables 2.3.3-10 and 3.3.2-10 exclude several types of fire protection components that are discussed in the Safety Evaluation Reports (SERs) and/or UFSAR. These components are listed below:

- hose connections
- hose racks
- yard hose houses
- interior fire hose stations
- pipe supports
- buried piping
- filter housing
- flexible hose

ENCLOSURE

- dikes for oil spill confinement
- buried underground fuel oil tanks for emergency diesel generators
- fire water main loop valves
- post indicator valves
- lubricating oil collection system components for each reactor coolant pump
- lubricating oil cooler
- auxiliary lubricating oil makeup tank
- floor drains and curbs for fire-fighting water
- backflow prevention devices
- flame retardant coating for cables
- fire retardant coating for structural steel supporting walls and ceilings
- thermal insulation on valves
- engine intake and exhaust silencers/muffler (diesel driven fire pump)
- heat exchanger (bonnet)
- heat exchangers (shell)
- heat exchangers (tube)

For each, determine whether the component should be included in Tables 2.3.3.10 and 3.3.2-10, and, if not, justify the exclusion.

LRA Section: 2.4, Scoping and Screening Results: Structures

RAI#: 2.4.0-1

To clarify the component identified as “Steel Components: All Structural Steel” in various LRA Tables 2.4-XX, please confirm that the connection components (e.g. gusset plates, welds, etc.) are in-scope for license renewal and subject to an AMR.

LRA Section: 2.4, Scoping and Screening Results: Structures
2.4.2, Auxiliary Building

RAI#: 2.4.2-1

Section 2.6.5.d.4 of the TMI UFSAR states,

“Flood Gate (TMI-FG-B1) at 306 foot floor elevation between Aux Building and Turbine Building areas.”

Table 2.4-2 for the Auxiliary Building Components Subject to Aging Management Review does not list Flood Gate specifically in any row. If it is not included as an oversight, please provide a description of the scoping and aging management review. If it is covered somewhere else in the LRA, please indicate the location. If it is excluded from the scope of license renewal, please provide the basis for the exclusion.

LRA Section: 2.4, Scoping and Screening Results: Structures
2.4.4, Control Building

RAI#: 2.4.4-1

Section 2.6.5.c of the TMI UFSAR states,

“Flood Gate (TMI-FG-B2) at 306 foot floor elevation between Turbine Building and Control Building areas.”

Table 2.4-4 for the Control Building Components Subject to Aging Management Review does not list Flood Gate specifically in any row. If it is not included as an oversight, please provide a description of the scoping and aging management review. If it is covered somewhere else in the LRA, please indicate the location. If it is excluded from the scope of license renewal, please provide the basis for the exclusion.

LRA Section: 2.4, Scoping and Screening Results: Structures
2.4.5, Diesel Generator Building

RAI#: 2.4.5-1

Section 2.6.5.f.1 of the TMI UFSAR states,

1. “Flood Gates (TMI-FG-D1/D2A/D2B/D3) at 305 foot floor elevation.”

Table 2.4-5 for the Diesel Generator Building Components Subject to Aging Management Review does not list Flood Gates specifically in any row. Please clarify if the Flood Gates fall into the “Metal components: All structural members” category. If they are not included as an oversight, please provide a description of the scoping and aging management review. If they are covered somewhere else in the LRA, please indicate the location. If they are excluded from the scope of license renewal, please provide the basis for the exclusion.

RAI#: 2.4.5-2

Section 2.4.5 of the LRA, regarding the Diesel Generator Building, states,

“Steel panels are installed in the equipment access openings on the west side of the building for protection from flood and tornado loads including tornado missiles.”

Table 2.4-5 for the Diesel Generator Building Components Subject to Aging Management Review does not list Missile Protection as an intended function for any components other than Concrete. Please address the absence of the Missile Protection function of the aforementioned steel panels from Table 2.4-5.

LRA Section: 2.4, Scoping and Screening Results: Structures
2.4.6, Dike/Flood Control System

RAI#: 2.4.6-1

Section 2.4.6 of the LRA, regarding the Dike/Flood Control System, states,

“This structure also contains a sluice gate and associated operator supported by a structural steel platform on the inboard side of the dike...The sluice gate and associated operator on the inboard side of the dike are active components and, therefore, are not subject to aging management review.”

The aforementioned structural steel platform is not listed in Table 2.4-6, Components Subject to Aging Management Review, nor is it explicitly excluded from the scope by the Section 2.4.6 evaluation. If it is not included as an oversight, please provide a description of the scoping and aging management review. If it is covered somewhere else in the LRA, please indicate the location. If it is excluded from the scope of license renewal, please provide the basis for the exclusion.

LRA Section: 2.4, Scoping and Screening Results: Structures
2.4.10, Mechanical Draft Cooling Tower Structures

RAI#: 2.4.10-1

Section 2.4.10 of the LRA, Mechanical Draft Cooling Tower (MDCT) Structures, states that the intended function of the MDCT basin is to provide structural support and a flow path for the inlet and outlet river discharge piping. Within the current licensing basis, please justify the LRA statement that the failure of the building, adjoining TMI-2 structure, and sodium bisulfate tank foundation and dike does not affect the intended functions of the MDCT basin.

LRA Section: 2.4, Scoping and Screening Results: Structures
2.4.12, Natural Draft Cooling Towers

RAI#: 2.4.12-1

Section 2.4.12 of the LRA, Natural Draft Cooling Towers, states that the intended function of the reinforced concrete basin is to provide structural support and a flow path for the Circulating Water Pump House. Within the current licensing basis, please justify the LRA statement that the failure of the reinforced concrete hyperbolic towers, the wooden fill structure, and the canopy at the base of the towers does not affect the intended functions of the basin.

LRA Section: 2.4, Scoping and Screening Results: Structures
2.4.14, Reactor Building

RAI#: 2.4.14-1

Section 2.4.14, Reactor Building, of the LRA states,

“The foundation mat...is a nominal 9 feet thick with a 2 foot thick concrete slab above the bottom ¼ -inch liner plate.”

Please confirm that the inaccessible floor liner plate of the base mat including the leak chase system and the concrete fill slab above this liner are included in the components listed in Table 2.4-14.

LRA Section: 2.4, Scoping and Screening Results: Structures
2.4.16, Service Building

RAI#: 2.4.16-1

Section 2.4.16, Service Building, of the LRA states,

“The evaluation boundary for the Service Building includes the Service Building and Machine Shop, which are classified as Class III structures and designed to withstand the effects of normal operating loads.”

“The purpose of the Service Building is to provide structural support, shelter, and protection for safety-related mechanical components required for safe operation of the plant, including safe shutdown of the reactor.”

Per UFSAR Section 5.1.1.3, Class III structures, systems, and components (SSC) are those SSC which are not related to reactor operation. As such, the staff finds the above statements within the LRA contradictory and in need of clarification.

RAI#: 2.4.16-2

Section 2.4.16, Service Building, of the LRA states,

“Some of the interior reinforced concrete piers and a portion of the exterior reinforced concrete grade beam are supported on the reinforced concrete circulating water pipe tunnel which passes under the Service Building concrete floor slab at elevation 305'-0.”

Table 2.4-16 does not explicitly refer to the reinforced concrete circulating water pipe tunnel, nor does Section 2.4.11, Miscellaneous Yard Structures. Please confirm that the reinforced concrete circulating water pipe tunnel which provides support for the Service Building is included in the scope of license renewal. If it is not included as an oversight, please provide a description of the scoping and aging management review. If it is covered somewhere else in the LRA, please indicate the location. If it is excluded from the scope of license renewal, please provide the basis for the exclusion.

LRA Section: 2.4, Scoping and Screening Results: Structures
2.4.19, Turbine Building

RAI#: 2.4.19-1

Section 2.4.19, Turbine Building, of the LRA states,

“The purpose of the buildings is to provide structural support, shelter and protection for mechanical and electrical equipment required for safe operation of the plant, including safe shutdown of the reactor.”

Section 5.4.3.2.5 of the TMI UFSAR states,

“There is no equipment located in the Turbine Building that is required for safe shutdown of the plant.”

The staff finds these statements contradictory and in need of clarification.

LRA Section: 2.5, Scoping and Screening Results: Electrical Systems/Commodity Groups

RAI #: 2.5-1 Operating experience has shown that cable tie-wraps can fail as a result of age-related brittleness of the plastic material. These cable tie-wraps would be considered long-lived passive components depending on whether they have a credited design function. Some possible intended design functions include: maintaining spacing for power cable ampacity; maintaining stiffness in unsupported lengths of wire bundles to ensure minimum bending radius; and maintaining cables within vertical raceways, among others. Most recently, at Point Beach, the regional inspectors identified an unresolved item (Inspection Report 05000266/2006006; 05000301/2006006) after noticing that the current configuration of the plant may not be consistent with plant design documents due to the age-related breakage of a large number of plastic tie-wraps used to fasten wires and cables. At Point Beach, cable tie-wraps are used to maintain cable ampacity or are used to seismically qualify the cable tray system. Explain how Three Mile Island manages the aging of cable tie-wraps if they are credited in the plant design basis. In addition, justify the exclusion of cable tie-wraps from the scope of license renewal (see 10 CFR 54.4).