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Nuclear Energy Systems & Services Division

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9	See Cover Sheet	See Cover Sheet	See Cover Sheet	See Cover Sheet	See Cover Sheet

## **Record of Revisions**

TOSHIBA CORPORATION Nuclear Energy Systems & Services Division

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Equivalency Evalaution Report for Equipment Qualification Program

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### NOMENCLATURE

Acronyms	Definition
ABWR	Advanced Boiling Water Reactor
ASME B&PV	American Society of Mechanical Engineers Boilers and Pressure Vessel
BWR	Boiling Water Reactor
CFR	Code of Federal Regulation
COLA	Construction Operation Licensing Application
DBE	Design Basis Events
DCD	Design Control Document
DD	Derivative Document
EE	Equivalency Evaluation
EPC	Engineering, Procurement and Construction
EQ	Equipment Qualification
FSER	Final Safety Evaluation Report
GE	General Electric
GEH	General Electric Hitachi
I&C	Instrumentation & Control
IEEE	Institute of Electrical and Electronics Engineers
LTR	Licensing Topical Report
NRC	Nuclear Regulatory Commission
SER	Safety Evaluation Report
STP	South Texas Project
STPNOC	South Texas Project Nuclear Operating Company
TCAP	Toshiba Capability Assessment Program
U.S.	United States

## 1. Introduction

Toshiba has developed an Equipment Qualification (EQ) Program to qualify safety-related mechanical and electrical equipment for Units 3 and 4 of the South Texas Project (STP) Nuclear Operating Company (Reference 6.2). This EQ Program incorporates the applicable requirements of the GE Proprietary Document, Environmental Qualification Program (Reference 6.1). The purpose of this report is to provide an evaluation that Toshiba's STP 3&4 EQ Program meets applicable requirements in the GE document.

## 2. Equivalency Evaluation Document

### 2.1. Document Identification

This section defines the documents to be evaluated as follows:

(1) GENERAL ELECTRIC ENVIRONMENTAL QUALIFICATION PROGRAM (NEDE-24326-1-P Jan. 1983) (Reference 6.1)

This document is GE's proprietary Licensing Topical Report which has been approved by the NRC. It defines GE's general processes and requirements for the equipment environmental qualification program. This document is referenced in ABWR DCD Tier 2, Section 3.11 and 3K as Tier 2\* (Reference 6.4).

The NRC approved the qualification methodology therein in a Safety Evaluation Report (SER) sent to GE on October 23, 1983.

(2) STP 3&4 EQ Program (7A10-0301-0025 Rev.7) (Reference 6.2)

This is the EQ Program for STP 3&4 that will meet the COLA (Reference 6.5) requirements and will be available for NRC inspection and review. This document provides guidelines, acceptable methods, and procedures for the environmental and dynamic qualification of mechanical and electrical equipment for STP 3&4 ABWR units. Equipment qualification for STP 3&4 units shall be conducted in accordance with this document.

The licensing approach for STP 3&4 COLA (Reference 6.5) is to use the STP 3&4 EQ Program document to implement the EQ Program, consistent with the licensing basis (Reference 6.1).

A comparison of the above two documents is made in Attachment 1.

### 2.2. General Differences between GE & STP 3&4 EQ Program

There are two main differences between the two documents listed in Sections 2.1 (1) and 2.1 (2) above.

The first difference is that the GE Environmental Qualification Program document is a Licensing Topical Report that describes the plans for environmental qualification of Class 1E electrical products subject to a harsh environment. The STP 3&4 EQ Program document has the broader scope of defining the program for equipment qualification (both environmental and dynamic qualification) for electrical and mechanical equipment within the scope of 10 CFR 50.49.

The second difference is the timing of when each document was prepared. The GE Environmental Qualification Program document was written in 1983, which is why some of the requirements in this document were updated in the ABWR DCD (Reference 6.4). The STP 3&4 EQ Program reflects the Codes, Standards and Regulatory Guide requirements in the ABWR DCD, and the STP 3&4 COLA (Reference 6.5).

# 3. Reference of the GE Environmental Qualification Program in the DCD

To define the application of the GE Environmental Qualification Program to the ABWR as a licensing basis, this section provides how the DCD/COLA references the GE Environmental Qualification Program (in italics). The Final Safety Evaluation Report (FSER) for the DCD, NUREG-1503 Sections 3.10 and 3.11 (Reference 6.3) also provide supporting information.

- DCD 3.9.3.2 Pump and Valve Operability Assurance
- Section 4.4 of GE's Environmental Qualification Program (Reference 3.9-6) applies to this subsection, and the seismic qualification methodology presented therein is applicable to mechanical as well as electrical equipment.
- Reference 3.9-6 ["General Electric Environmental Qualification Program", NEDE-24326-1-P, Proprietary Document, January 1983.]\*
- 3.10.1.3 Dynamic Qualification Program
- The dynamic qualification program is described in Section 4.4 of GE's Environmental Qualification Program, which is referenced in Subsection 3.11.2. [The program conforms to the requirements of IEEE-323 as modified and endorsed by the Regulatory Guide 1.89, and meets the criteria contained in IEEE-344 as modified and endorsed by Regulatory Guide 1.100.]\*
- 3.10.2 Methods and Procedures for Qualifying Electrical Equipment and Instrumentation
- > The following subsections describe the methods and procedures incorporated in the above mentioned dynamic qualification program.
- 3.10.2.1.3.1 Vibration Conditioning
- If required by Paragraph 4.4.2.4.5 of Reference 3.11-2 in Section 3.11, vibration aging program, vibration conditioning is performed at this point in the sequence and the vibration conditioning details are given.
- 3.10.3 Methods and Procedures of Analysis or Testing of Supports of Electrical Equipment and Instrumentation
- > The following subsections describe the general methods and procedures, as incorporated in the dynamic qualification program (Subsection 3.10.1.3), for analysis and testing of supports of Seismic Category I instrumentation and electrical equipment.
- 3.11.2 Qualification Tests and Analyses
- The qualification methodology is described in detail in the NRC approved Licensing Topical Report on GE's environmental qualification program (Reference 3.11-2). This report also addresses compliance with the applicable portions of the General Design Criteria of 10CFR50, Appendix A, and the Quality Assurance Criteria of 10CFR50, Appendix B. Additionally, the report describes conformance to NUREG-0588 (Reference 3.11-3), and Regulatory Guides (i.e., RG 1.89) and IEEE Standards referenced in Section 3.11 of NUREG-0800 (Standard Review Plan).

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- 3.11-2 ["General Electric Environmental Qualification Program", NEDE-24326-1-P, Proprietary Document, January 1983.]\*
- 3K Designated NEDE-24326-1-P Material Which May Not Change Without Prior NRC Staff Approval

## 4. Evaluation Results

This section provides the evaluation results of the STP 3&4 EQ Program (Reference 6.2) in comparison with the GE Environmental Qualification Program (Reference 6.1)

## 4.1. Comparison of General Document Features (GE Environmental Qualification Program & STP 3&4 Equipment Qualification Program)

### (1) Document Scope

The GE Environmental Qualification Program name implies Environmental Qualification. However, GE applied in the ABWR DCD (Reference 6.4) and the NRC determined that the elements of the program process can also be applied to seismic qualification. The STP 3&4 EQ Program contains not only environmental qualification but also dynamic qualification which includes both seismic and hydrodynamic loadings.

The GE Environmental Qualification Program does not address environmental qualification of mechanical equipment. However, GE applied in the ABWR DCD (Reference 6.4) and the NRC determined that the elements of program process can also be applied to mechanical equipment qualification. The STP 3&4 EQ Program covers both electrical and mechanical equipment. Therefore, the scope of the STP 3&4 EQ Program is equivalent to or more comprehensive than the scope of the GE Environmental Qualification Program.

(2) Applicable Regulatory Guides, Codes and Standards Requirements

The GE Environmental Qualification Program complies with NUREG-0588 (Reference 6.10) and IEEE Std 323-1974 (Reference 6.7). After issuance of the GE Environmental Qualification Program, 10CFR50.49, Regulatory Guide 1.89 Revision 1 (Reference 6.6), Regulatory Guide 1.100 Revision 2 (Reference 6.9) and IEEE Std 344-1987 (Reference 6.8) were issued.

The NRC staff issued NUREG-0588 in December 1979 to promote a more orderly and systematic implementation of equipment qualification programs by industry and to provide guidance to the NRC staff for its use in ongoing licensing reviews. The positions in the NUREG report provide guidance on (1) how to establish environmental service conditions, (2) how to select methods that are considered appropriate for qualifying equipment in different areas of the plant, and (3) other areas such as margin, aging, and documentation. A final rule on environmental qualification of electrical equipment important to safety for nuclear power plants became effective on February 2, 1983. This rule, 10 CFR 50.49, specifies the requirements to be met for demonstrating the environmental qualification of electrical equipment in guidelines that are safety located in a harsh environment. RG 1.89, Revision 1 (June 1984) (Reference 6.6), identifies the guidelines that have to be met for complying with this rule.

ABWR DCD Tier 2, Section 3.11 (Reference 6.4) states "The qualification methodology is described in detail in the NRC approved Licensing Topical Report on GE's environmental qualification program (3.11-2, Reference 6.1)." The GE Environmental Qualification Program also addresses compliance with the applicable portions of the General Design Criteria of 10CFR50, Appendix A, and the Quality Assurance Criteria of 10CFR50, Appendix B. In addition, the GE report describes conformance to NUREG-0588 (3.11-3, Reference 6.10), and

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Regulatory Guide 1.89 and the IEEE Standards referenced in Section 3.11 of NUREG-0800 (Standard Review Plan)."

As stated in the FSER (Reference 6.3), NRC staff reviewed the GE Licensing Topical Report and found that the equipment qualification methodology conforms to 10CFR50.49 and its associated standards, except for the position on the time margin. GE provided a commitment on the time margin in ABWR DCD Tier 2, Section 3.11.1 (Reference 6.4). NRC concluded that the GE Environmental Qualification Program with the DCD commitment comply with NUREG-0588 Rev.1.

Regarding Seismic Qualification, ABWR DCD Tier 2, Section 3.10 (Reference 6.4) states "The dynamic qualification program is described in Section 4.4 of GE's Environmental Qualification Program that is referenced in Subsection 3.11.2. [The program conforms to the requirements of IEEE-323 as modified and endorsed by the Regulatory Guide 1.89, and meets the criteria contained in IEEE-344 as modified and endorsed by Regulatory Guide 1.100.]\*". NRC concluded as part of their DCD review that the GE Environmental Qualification Program with DCD commitment meets IEEE Std 344-1987 (Reference 6.8) and Regulatory Guide 1.100 Revision 2 (Reference 6.9) requirements.

The STP 3&4 EQ Program meets IEEE Std 323-1974 (Reference 6.7) that has been found acceptable as described by Regulatory Guide 1.89 Revision 1 (Reference 6.6) and IEEE Std 344-1987 (Reference 6.8) as found acceptable by Regulatory Guide 1.100 Revision 2 (Reference 6.9). The STP 3&4 EQ Program complies with applicable commitments in the ABWR DCD Tier 2, Sections 3.9.2.2, 3.9.2.3, 3.10 and 3.11 (Reference 6.4). Therefore, the STP 3&4 EQ Program meets or exceeds the requirements in comparison to the GE Environmental Qualification Program in terms of Applicable Codes, Standards, and Regulations.

### 4.2. Qualification Method and Process

Section 4.4.1 of the GE Environmental Qualification Program (Reference 6.1) provides the method used for equipment qualification. The qualification method specified in the GE Environmental Qualification Program and the STP 3&4 EQ Program is considered equivalent.

Section 4.4.2 of the GE Environmental Qualification Program (Reference 6.1) provides requirements for type test including test specimen, test sequence, aging test, vibration test, dynamic test, Design Basis Event (DBE) radiation exposure, modification, and repair. The STP 3&4 EQ Program includes equivalent requirements. For vibration and dynamic tests, the STP 3&4 EQ Program refers to IEEE Std 344-1987 (Reference 6.8).

Section 4.4.3 of the GE Environmental Qualification Program (Reference 6.1) provides the Operational Qualification method. Regulatory Guide 1.100 Rev. 2 (reference 6.9) allows a method using experience based data for seismic qualification. If this method is used for equipment seismic qualification, the NRC staff will review results on a case-by-case basis. Equipment that has been previously qualified by tests and/or analyses equivalent to those specified here will be acceptable provided that proper documentation of such tests and analysis is provided. Components that have been previously tested to IEEE Std 344-1987 (Reference 4.2.C (1)) shall be reevaluated to justify the appropriateness of the input motion used, and re-qualified if necessary. Components that have been previously tested to IEEE Std 344-1987 (Reference 4.2.C (1)) shall be re-qualified using biaxial or triaxial test input motions unless

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justification for using a single axis test input motion is provided. Experience base qualification using exposure to natural seismic disturbance shall not be used for STP 3&4 dynamic qualification programs.

Section 4.4.4 of the GE Environmental Qualification Program (Reference 6.1) provides the analysis method in detail as one qualification method, especially for seismic qualification. The STP 3&4 EQ Program refers to IEEE Std 344-1987 (Reference 6.8) which contains more comprehensive qualification requirements.

Section 4.4.5 of the GE Environmental Qualification Program (Reference 6.1) describes qualification by combined methods as one qualification method. The STP 3&4 EQ Program also specifies this method.

Section 4.4.6 of the GE Environmental Qualification Program (Reference 6.1) provides requirements for ongoing equipment qualification. The STP 3&4 EQ Program does not allow the use of ongoing equipment qualification as a viable qualification method.

Section 4.4.7 of the GE Environmental Qualification Program (Reference 6.1) provides guidance to margin. In the FSER (Reference 6.3) "NUREG-0588 states that the time margin for Design of Structures, Components, Equipment, and Systems, certain categories of equipment (these categories are identified in this NUREG report) should be a minimum of 1 hour." The GE Licensing Topical Report has not addressed this requirement. Based on the NRC comment, GE added the time margin requirements in the ABWR DCD (Reference 6.4). The STP 3&4 EQ Program exceeds the GE Environmental Qualification Program margin requirement regarding equipment qualification.

### 4.3. Documentation

Section 4.4.8 of the GE Environmental Qualification Program (Reference 6.1) provides documentation requirements including environmental data, functional requirements, test and analysis documentation, qualification specification, and qualification report. The STP 3&4 EQ Program documentation requirements meet or exceed the GE program documentation requirement.

### 4.4. Tier 2\* Information

ABWR DCD Tier 2, Section 3K (Reference 6.4) specifies and publishes the Tier 2\* portion of GE Environmental Qualification Program, which can not be changed without NRC prior approval. Portions of the Tier 2\* consists of: General Requirements for Dynamic Testing, Product and Assembly Testing, Multiple-Frequency Tests, Single- and Multi-axis Tests, Single Frequency Tests, Damping, Qualification Determination, Dynamic Qualification by Analysis, Required Response Spectra, and Time History Analysis. The STP 3&4 EQ Program (Reference 6.2) covers all these requirements and is considered as equivalent to the GE Environmental Qualification Program (Reference 6.1).

### 4.5. Transfer of EQ Program Responsibility

The EQ process verifies that all safety-related structures, systems and components are appropriately qualified for use in STP 3&4. The record generated by this program forms the

basis for the STP 3&4 equipment qualification operational program.

The STPNOC Operating Equipment Qualification Program implementation represents the final step of transferring all responsibility for EQ to STPNOC. This process is done over several steps beginning with the first system start-up activities and will be completed prior to commercial operation of the plant. This description is not covered in the GE Environmental Qualification Program (Reference 6.1). Therefore, the STP 3&4 EQ Program (Reference 6.2) meets or exceeds the requirements in comparison to the GE Environmental Qualification Program in terms of data transfer requirements for STP 3&4.

### 4.6. Appendix of the GE Environmental Qualification Program

Appendix A through J of the GE Environmental Qualification Program (Reference 6.1) provides typical templates and guideline for the documentation. As stated the first page of the Appendixes, the Appendixes provide examples of the level of detail for documentations and those are not specific commitments.

Toshiba recognizes the purpose of the appendixes, the documentation and reporting requirement in the STP 3&4 EQ Program (Reference 6.2) are consistent with the level of detailed for documentation as those appendixes.

## 4.7. Detailed Comparison (GE & STP 3&4 EQ Program)

Attachment 1 provides a detailed comparison table of the STP 3&4 EQ Program (Reference 6.2) versus the GE Environmental Qualification Program (Reference 6.1). The first column shows only section titles because Toshiba cannot provide GE Proprietary information to the STP 3&4 EPC team members. The second column provides corresponding referenced section titles of the STP 3&4 EQ Program (Reference 6.2). The third column provides result of equivalency assessment. The fourth column provides special notes for equivalency assessment, comparing how the STP 3&4 EQ Program (Reference 6.2) is equivalent to corresponding elements of the GE Environmental Qualification Program (Reference 6.1 of this document).

# 5. Conclusion

This report documents the Equivalency Evaluation performed to demonstrate that the Toshiba's STP 3&4 EQ Program meets applicable requirements in GE Proprietary Document, Environmental Qualification Program (Reference 6.1). The Toshiba EQ Program to qualify safety-related mechanical and electrical equipment for STP 3&4 is documented in Reference 6.2. The Toshiba STP 3&4 EQ Program incorporates the applicable requirements of the GE Proprietary Document, Environmental Qualification Program (Reference 6.1).

The Toshiba STP 3&4 EQ Program document (Reference 6.2, Appendix A) compiled a compliance traceability matrix with respect to Regulatory Guide 1.89 (Reference 6.6), Regulatory Guide 1.100 (Reference 6.9), IEEE Std 323-1974 (Reference 6.7), and IEEE Std 344-1987 (Reference 6.8) for confirming acceptability. These regulatory requirements and industry standards are those defined in the ABWR DCD (Reference 6.4) and STP 3&4 COLA (Reference 6.5) for performing qualification of safety related equipment. The traceability matrixes provided demonstrate the Toshiba STP 3&4 EQ Program is in compliance with all requirements provided in these documents.

Therefore, it is concluded that the STP 3&4 EQ Program (Reference 6.2) meets or exceeds the GE Environmental Qualification Program (Reference 6.1) requirements. It is also concluded the STP 3&4 Equipment Qualification Program (Reference 6.2) meets the regulatory requirements and industry standards as defined in the ABWR DCD (Reference 6.4) and STP 3&4 COLA (Reference 6.5).

## 6. References

- 6.1 GENERAL ELECTRIC ENVIRONMENTAL QUALIFICATION PROGRAM (NEDE-24326-1-P Jan. 1983).
- 6.2 STP Units 3 and 4 Equipment Qualification Program (7A10-0301-0025 Rev.7).
- 6.3 NUREG-1503, Final Safety Evaluation Report of ABWR Standard Design.
- 6.4 ABWR Design Control Document, Rev.4.
- 6.5 STP 3&4 COL Application, Rev.4.
- 6.6 RG 1.89," Environmental Qualification of Certain Electric Equipment Important to Safety for Nuclear Power Plants," Revision 1.
- 6.7 IEEE Std 323-1974, IEEE Standard for Qualifying Class1E Equipment for Nuclear Power Generating Stations.
- 6.8 IEEE Std 344-1987, "IEEE Recommended Practice for seismic Qualification of Class1E Equipment for Nuclear Power Generating Stations."
- 6.9 RG 1.100, "Seismic Qualification of Electrical and Mechanical Equipment for Nuclear Power Plants," Revision 2.
- 6.10 NUREG-0588, "Interim Staff Position on Environmental Qualification of Safety-Related Electrical Equipment," Revision 1

a, c

Note: The remaining pages in this document contain proprietary information, and are therefore omitted from this Non-Proprietary version of the report.

#### Affidavit for Withholding Confidential and Proprietary Information from Public Disclosure under 10 CFR § 2.390

#### UNITED STATES OF AMERICA NUCLEAR REGULATORY COMMISSION

In the Matter of

STP Nuclear Operating Company

Docket Nos.52-012 52-013

South Texas Project Units 3 and 4

#### <u>AFFIDAVIT</u>

I, <u>Hiromitsu Imaruoka</u>, being duly sworn, hereby depose and state that I am Senior Manager, System Design & Engineering Department, Nuclear Energy Systems & Services Division, Power Systems Company, Toshiba Corporation; that I am duly authorized by Toshiba Corporation to sign and file with the Nuclear Regulatory Commission the following application for withholding Toshiba Corporation's confidential and proprietary information from public disclosure; that I am familiar with the content thereof; and that the matters set forth therein are true and correct to the best of my knowledge and belief.

In accordance with 10 CFR § 2.390(b)(ii), I hereby state, depose, and apply as follows on behalf of Toshiba Corporation:

- (A) Toshiba Corporation seeks to withhold from public disclosure the documents listed in Attachment 1 of this affidavit, and all information identified as "Proprietary Class 2" therein (collectively, "Confidential Information").
- (B) The Confidential Information is owned by Toshiba Corporation. In my position as Senior Manager, System Design & Engineering Department, Nuclear Energy Systems & Services Division, Power System Company, Toshiba Corporation, I have been specifically delegated the function of reviewing the Confidential Information and have been authorized to apply for its withholding on behalf of Toshiba Corporation.
- (C) The report listed in Attachment 1 as Item (1) provides guidelines, acceptable methods and procedures for the environmental and dynamic qualification of equipment for the South Texas Project (STP) 3&4 Advanced Boiling Water Reactor (ABWR) plants. The report listed in Attachment 1 as Item (2) provides an evaluation that Toshiba's STP 3&4 EQ Program meets applicable requirements in the EQ Program description document NEDE-24326-1-P, which is the ABWR DCD licensing basis and is also a proprietary document. The confidential Information which is entirely confidential and proprietary to Toshiba Corporation is indicated in the Non-Proprietary versions of these documents by the statement "The remaining pages in this document contain proprietary information, and are therefore omitted from this Non-Proprietary version of the report", and are excluded from the Non-Proprietary documents.



(D) Consistent with the provisions of 10 CFR § 2.390(a)(4), the basis for proposing that the Confidential Information be withheld is that it constitutes Toshiba Corporation's trade secrets and confidential and proprietary commercial information.

Toshiba Corporation has a rational basis for determining the types of information customarily held in confidence by it, and utilizes a system to determine when and whether to hold certain types of information in confidence.

The basis for claiming the information so designated as proprietary is as follows:

- (a) The information reveals the distinguishing aspects of a process (or component, structure, tool, method, etc.) where prevention of its use by any of Toshiba Corporation's competitors without license from Toshiba Corporation constitutes a competitive economic advantage over other companies.
- (b) It consists of supporting data, including test data, relative to a process (or component, structure, tool, method, etc.), the application of which data secures a competitive economic advantage, e.g., by optimization or improved marketability.
- (c) Its use by a competitor would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing a similar product.
- (d) It reveals cost or price information, production capacities, budget levels, or commercial strategies of Toshiba Corporation, its customers or suppliers.
- (e) It reveals aspects of past, present, or future Toshiba Corporation or customer funded development plans and programs of potential commercial value to Toshiba Corporation.
- (f) It contains patentable ideas, for which patent protection may be desirable.

There are sound policy reasons behind the Toshiba Corporation system which include the following:

- (a) The use of such information by Toshiba Corporation gives Toshiba Corporation a competitive advantage over its competitors. It is, therefore, withheld from disclosure to protect the Toshiba Corporation competitive position.
- (b) It is information that is marketable in many ways. The extent to which such information is available to competitors diminishes the Toshiba Corporation ability to sell products and services involving the use of the information.
- (c) Use by our competitor would put Toshiba Corporation at a competitive disadvantage by reducing his expenditure of resources at our expense.

- (d) Each component of proprietary information pertinent to a particular competitive advantage is potentially as valuable as the total competitive advantage. If competitors acquire components of proprietary information, any one component may be the key to the entire puzzle, thereby depriving Toshiba Corporation of a competitive advantage.
- (e) Unrestricted disclosure would jeopardize the position of prominence of Toshiba Corporation in the world market, and thereby give a market advantage to the competition of those countries.
- (f) The Toshiba Corporation capacity to invest corporate assets in research and development depends upon the success in obtaining and maintaining a competitive advantage.

Further, on behalf of Toshiba Corporation, I affirm that:

- (i) The Confidential Information is confidential and proprietary information of Toshiba Corporation.
- (ii) The Confidential Information is information of a type customarily held in confidence by Toshiba Corporation, and there is a rational basis for doing so given the sensitive and valuable nature of the Confidential Information as discussed above in paragraphs (D).
- (iii) The Confidential Information is being transmitted to the NRC in confidence.
- (iv) The Confidential Information is not available in public sources.
- (v) Public disclosure of the Confidential Document is likely to cause substantial harm to the competitive position of Toshiba Corporation, taking into account the value of the Confidential Information to Toshiba Corporation, the amount of money and effort expended by Toshiba Corporation in developing the Confidential Information, and the ease or difficulty with which the Confidential Information could be properly acquired or duplicated by others.

-eb 22, 2011

Hiromitsu Imaruoka Senior Manager System Design & Engineering Department Nuclear Energy Systems & Services Division POWER SYSTEMS COMPANY TOSHIBA CORPORATION





## Attachment 1 to the Toshiba Affidavit to the NRC (Proprietary Information)

### DOCUMENTS ENCLOSED (TO BE WITHELD FROM PUBLIC DISCLOSURE PER 2.390)

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<u>Item</u>	Document Description	Document Number	<u>Rev</u>
1.	Equipment Qualification Program (Proprietary Version)	U7-PROJ-K-PRD-0025	4

Equivalency Evaluation Report for Equipment Qualification U7-PROJ-L-EVAL-LIC-0001
Program (Proprietary Version)



Registered No. 19 of 2011

Certificate of Acknowledgment of Notary

On this 22nd day of February, 2011, before me, MASAKAZU KOBAYASHI, a notary in and for YOKOHAMA District Legal Affairs Bureau, personally appeared, HIROMITSU IMARUOKA Senior Manager of TOSHIBA Corporation, with satisfactory evidence of his identification, affixed his signature to the attached document.

Witness, I set my hand and seal. Notary's official seal



Notary

Masakamu Kobayashi

MASAKAZU KOBAYASHI

Kannai-odori Notary office

2-7-10, Hagoromocho, Naka-ku, Yokohama-city, Japan.

Attached to the Yokohama District Legal Affairs Bureau.