

Toshiba Corporation

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No. TOS-CR-FPG-2017-0002
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10 CFR 2.390

NRC Project Number: PROJ0729

Document Control Desk
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852-2738

Reference: NRC Letter Dated August 16, 2017: Request for Additional Information for "Licensing Topical Report for Toshiba NRW [Non Re-Writable]-FPGA [Field Programmable Gate Array]-Based Instrumentation and Control system for Safety-Related Application," UTLA 0020P, Revision 2 (TAC No. ME9861)


Subject: Submittal of the Documents Related to Toshiba Response to NRC RAI Letter Dated August 16, 2017 (TAC No. ME9861)

The purpose of this letter is to submit the documents related to the Toshiba response to NRC RAI Letter Dated August 16, 2017.

This submittal contains proprietary information of Toshiba Corporation. An affidavit setting forth the basis on which the information identified as proprietary may be withheld from public disclosure is provided in Enclosure 1. Accordingly it is requested that Enclosures 2, 4, 10, 13, and 18 be withheld from public disclosure in conformance with the requirements of 10 CFR Section 2.390, as amended, of the Commission's regulations. Enclosures 3, 5, 6, 7, 8, 9, 11, 12, 14, 15, 16, 17, 19, 20, and 21 provide the non-proprietary versions. If this letter becomes separated from the proprietary material it is no longer proprietary.

Communication with respect to the proprietary aspects of the application for withholding or the Toshiba affidavit should be addressed to Jim Powers at 704-548-7910 or Jim.Powers@toshiba.com.

Sincerely,


Hirofumi Takeda
Senior Manager
Electrical System Design & Engineering Dept.
Nuclear Energy Systems & Solutions Division
Toshiba Corporation

*Proprietary-Withhold from public disclosure pursuant to 10 CFR 2.390.
Upon removing Enclosure 2, this document can be made public.*

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PROPRIETARY

- Enclosures:
- (1) 10 C.F.R. § 2.390 Supporting Affidavit
 - (2) FPG-DRT-C51-0005, "NICSD [Nuclear Instrumentation and Control Systems Department Critical] Digital Report Rev.3" (Proprietary version)
 - (3) FPG-DRT-C51-0005, "NICSD [Nuclear Instrumentation and Control Systems Department Critical] Digital Report Rev.3" (Non-Proprietary version)
 - (4) FC51-3702-1000, "Oscillation Power Range Monitor (OPRM) unit detail design specification, Rev. 4" (Proprietary version)
 - (5) FC51-3702-1000, "Oscillation Power Range Monitor (OPRM) unit detail design specification, Rev. 4" (Non-Proprietary version)
 - (6) FA32-3709-0001, "Nuclear Energy Systems and Services Division FPGA [Field Programmable Gate Array]-based Safety-Related Systems Verification and Validation Plan, Rev.4" (Non-Proprietary version)
 - (7) FPG-PLN-C51-0006, "Verification and Validation Plan, Rev.5" (Non-Proprietary version)
 - (8) FA32-3709-1000, "Nuclear Instrumentation & Control Systems Department Verification and Validation Plan for FPGA-based Safety-Related Systems, Rev.8" (Non-Proprietary version)
 - (9) FA32-3701-1001, "Nuclear Instrumentation & Control Systems Department Software Quality Assurance Plan for FPGA-based Safety-Related Systems, Rev.3" (Non-Proprietary version)
 - (10) FC51-3704-0004, "NED [Nuclear Energy Systems and Services Division Software Safety] Analysis Report for OPRM, Rev.5" (Proprietary version)
 - (11) FC51-3704-0004, "NED [Nuclear Energy Systems and Services Division Software Safety] Analysis Report for OPRM, Rev.5" (Non-Proprietary version)
 - (12) FPG-CFM-C51-0001, "Master Configuration List, Rev.9" (Non-Proprietary version)
 - (13) FPG-TRT-C51-0101, "Qualification Test Summary Report, Rev.2" (Proprietary version)
 - (14) FPG-TRT-C51-0101, "Qualification Test Summary Report, Rev.2" (Non-Proprietary version)
 - (15) MEM-JHS-000757 Mapping of design criteria in EDS (Non-Proprietary version)
 - (16) MEM-JHS-000758 V&V team activity and action for anomaly (Non-Proprietary version)
 - (17) MEM-JHS-000759 CGD Flow Outline (Non-Proprietary version)
 - (18) MEM-JHS-000761 RTM Table (Proprietary version)
 - (19) MEM-JHS-000761 RTM Table (Non-Proprietary version)
 - (20) MEM-JHS-000762 OPRM CGD Trace Map (Non-Proprietary version)
 - (21) MEM-JHS-000763 Document Map (Non-Proprietary version)

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Contact Information:

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Enclosure 1
Letter No. TOS-CR-FPG-2017-0002
Affidavit for Withholding Confidential and Proprietary Information from Public Disclosure
under 10 CFR § 2.390

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

AFFIDAVIT

I, Hirofumi Takeda, hereby affirm and state that I am the Senior Manager, Electrical System Design & Engineering Department, Nuclear Energy Systems & Solutions Division, Toshiba Corporation, and I have been authorized to execute this affidavit on behalf of Toshiba to 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 document entitled and identified as;
 - Response to NRC Request for Additional Information (RAI) Letter Dated August 16, 2017 and all information identified as "Proprietary" therein.
- (B) The Confidential Information is owned by Toshiba Corporation. In my position as Senior Manager, Electrical System Design & Engineering Department, Nuclear Energy Systems & Solutions Division, 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) This document provides Toshiba's lifecycle process and qualification activities for developing and qualifying Non-Rewritable (NRW) Field Programmable Gate Array (FPGA) Based Safety I&C systems to the Nuclear Regulatory Commission. The Confidential Information which is entirely confidential and proprietary to Toshiba Corporation is identified as "Proprietary" in the document.
- (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.
- (E) Public disclosure of the Confidential Information is likely to cause substantial harm to Toshiba Corporation's competitive position by (1) disclosing confidential and proprietary commercial information about the design, manufacture and operation of the FPGA based I&C platform for nuclear power reactors to other parties whose commercial interests may be adverse to those of Toshiba Corporation, and (2) giving such parties access to and use of such information at little or no cost, in

contrast to the significant costs incurred by Toshiba Corporation to develop such 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.
- (g) It contains security information that could reasonably be expected to be useful to a potential adversary.
- (h) It contains privacy act and personally identifiable information.

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.
- (g) SECY-04-0191 states that security information should be withheld from public disclosure.
- (h) Personally identifiable information is required to be protected from public disclosure by 10 CFR § 2.390.

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) and (E).
- (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.

H. Takeda
Hirofumi Takeda
Senior Manager
Electrical System Design & Engineering Dept.
Nuclear Energy Systems & Solutions Division
Toshiba Corporation

Date

Sep. 29, 2017