

Toshiba Corporation

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No. TOS-CR-FPG-2012-0003
October 9, 2012

NRC Project Number: PROJ0729

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: Licensing Topical Report for Toshiba NRW-FPGA-based Instrumentation and Control System for Safety-Related Application, Revision 0 dated October, 2012

The purpose of this letter is to submit for NRC review and approval a Toshiba Topical Report for a non-rewritable field programmable gate array based instrumentation and control system for safety related applications. Enclosures 2 and 3 to this letter are the proprietary version and non-proprietary version of the topical report, titled "Licensing Topical Report for Toshiba NRW-FPGA-based Instrumentation and Control System for Safety-Related Application". This Topical Report consists of 6 separate parts (Acronym and Reference Part and Part I - V). NRC approval of this Topical Report is requested for making it available for industry-wide use at new and existing U.S. commercial nuclear power plants.

This submittal contains proprietary information of Toshiba Corporation. Accordingly it is requested that enclosure 2 be withheld from public disclosure in conformance with the requirements of 10 CFR Section 2.390, as amended, of the Commission's regulations. An affidavit setting forth the basis on which the information identified as proprietary may be withheld from public disclosure is provided in enclosure 1.

Communication with respect to the proprietary aspects of the application for withholding or the Toshiba affidavit should be addressed to Robert W. Schrauder at 704-548-7640 or rschrauder@tane.toshiba.com.

Sincerely,

Tatsuyuki Maekawa Oct. 9, 2012
Tatsuyuki Maekawa
Senior Manager
I&C Systems Design and Engineering Dept.
Nuclear Energy Systems & Services Division
Power Systems Company
Toshiba Corporation

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

*T007
NRR*

PROPRIETARY

- Enclosures:
- (1) 10 C.F.R. § 2.390 Supporting Affidavit
 - (2) UTLA-0020P Rev.0, Licensing Topical Report for Toshiba NRW-FPGA-based Instrumentation and Control System for Safety-Related Application (Proprietary)
 - (3) UTLA-0020NP Rev.0, Licensing Topical Report for Toshiba NRW-FPGA-based Instrumentation and Control System for Safety-Related Application (Non-Proprietary)

Contact Information:

Mr. Robert W. Schrauder
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(704) 548-7640
Facsimile: (704) 548-7701

cc: enclosures
Joseph Holonich
U. S. Nuclear Regulatory Commission

cc: (electronic copies) without enclosures

David Misenhimer
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U. S. Nuclear Regulatory Commission

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Naotaka Oda
Tadashi Miyazaki
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Toshiba Corporation

Shigeru Suzuki
Richard DiSalvo
Robert W. Schrauder
Dale R. Wuokko
Toshiba America Nuclear Energy

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

Daniel F. Stenger
Hogan Lovells US LLP

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

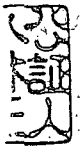
UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

AFFIDAVIT

I, Tatsuyuki Maekawa, being duly sworn, hereby depose and state that I am Senior Manager, Instrumentation & Control Systems 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 document entitled and identified as "Licensing Topical Report for Toshiba NRW-FPGA-based Instrumentation and Control System for Safety-Related Application", UTLA-0020P, Revision 0 and all information identified as "Proprietary" therein.
- (B) The Confidential Information is owned by Toshiba Corporation. In my position as Senior Manager, Instrumentation & Control Systems 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) 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.

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) 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.

Tatsuyuki Maekawa

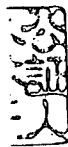
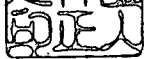
Tatsuyuki Maekawa
Senior Manager
I&C Systems Design and Engineering Dept.
Nuclear Energy Systems & Services Division
POWER SYSTEMS COMPANY
TOSHIBA CORPORATION

Oct. 9, 2012

Date



Masakazu Kobayashi



平成24年登簿第
認

132 号
証

囑託人株式会社東芝部長前川立行は、公証人の面前で、添付書面に署名した。

よって、これを認証する。

平成24年 10月 9日、本公証人役場において

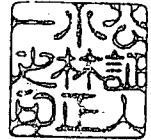
横浜市中区羽衣町2丁目7番10号

横浜地方法務局所属

公証人

Notary

小林 一



MASAKAZU KOBAYASHI

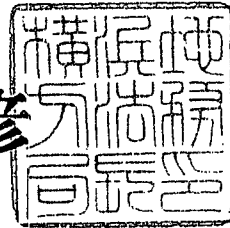
証 明

上記署名は、横浜地方法務局所属公証人の署名に相違ないものであり、かつ、その押印は、真実のものであることを証明する。

平成24年 10月 9日

横浜地方法務局長

小沼邦彦



APOSTILLE

(Convention de La Haye du 5 octobre 1961)

- 1. Country : JAPAN
This public document
- 2. has been signed by MASAKAZU KOBAYASHI
- 3. acting in the capacity of Notary of the Yokohama District
Legal Affairs Bureau
- 4. bears the seal/stamp of MASAKAZU KOBAYASHI , Notary

Certified

- 5. at Tokyo
- 6. OCT. - 9, 2012
- 7. by the Ministry of Foreign Affairs
- 8. 12- No 303794
- 9. Seal/stamp :
- 10. Signature :

Haruo YAMAGAMI

For the Minister for Foreign Affairs





Registered No. **132** of 2012

Certificate of Acknowledgment of Notary

On this 9th day of October, 2012, before me, MASAKAZU KOBAYASHI, a notary in and for YOKOHAMA District Legal Affairs Bureau, personally appeared, TATSUYUKI MAEKAWA Senior Manager of TOSHIBA Corporation, with satisfactory evidence of his identification, affixed his signature to the attached document.

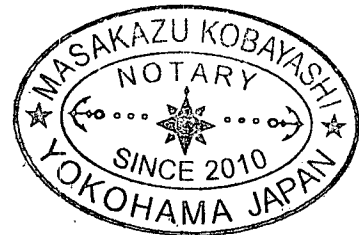
Witness, I set my hand and seal.

Notary's official seal

Notary

Masakazu Kobayashi

MASAKAZU KOBAYASHI



Kannai-odori Notary office

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

Attached to the Yokohama District Legal Affairs Bureau.