

Enclosure 3

PSNN-2019-0066

Document No.

E2-2018-001214NP

Replacement of Table IV-4-2

Note :

This memo addresses the replacement of Table IV-4-2 in four of the submitted documents to the NRC by letter TOS-CR-FPG-2018-0002 dated November 9, 2018.

001	Jan. 29, 2019	Separated the content into a proprietary version and a non-proprietary version.	<i>T. Miyagaki</i> Jan. 29, 2019	<i>T. Miyagaki</i> Jan. 29, 2019	<i>T. Hayashi</i> Jan. 29, 2019
000	Dec. 5, 2018	Initial Issue	<i>T. Miyagaki</i> Dec. 5, 2018	<i>T. Miyagaki</i> Dec. 5, 2018	<i>T. Hayashi</i> Dec. 5, 2018
Revision	Date	Contents	Approved by	Reviewed by	Prepared by

TOSHIBA ENERGY SYSTEMS & SOLUTIONS CORPORATION
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Non-Proprietary

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1. Purpose

Toshiba submitted revised documents after the Extent of Condition Review by letter TOS-CR-FPG-2018-0002 dated November 9, 2018. Subsequently, Toshiba found that a Table included in four of the submitted documents was not complete with respect to contents and needs to be replaced. Toshiba issued CAR-18-018 on this matter. The purpose of this memo is to inform the NRC of the matter and provide the complete table which Toshiba requests the NRC to review as the replacement of the table in the submitted documents by the letter TOS-CR-FPG-2018-0002.

2. Table to be replaced

The table requiring replacement is Table IV-4-2 that is included in four Enclosures attached to the Toshiba Letter TOS-CR-FPG-2018-0002 dated November 9, 2018 as listed below. This table is associated with NRC Open Item No 100-1 which requested Toshiba to provide the Operability Test results related to response time. Toshiba responded to the Open Item by uploading the document E2-2016-000934 Rev.0 on the Portal. NRC responded to this document by putting the note “Reviewed during audit. RAI not needed” in the Open Item List.

However, Toshiba also included similar information in the Toshiba Response to RAI3: E2-2017-00812 Rev.0 as Table IV-4-2 to supplement the correction of Table IV-4-1 as stated Toshiba response to the NRC question 15 in the E2-2017-000812. This Table IV-4-2 was supposed to have the same content as the table “Table Response Time Operability Test Results” included in the Toshiba response E2-2016-000934 Rev.0. Toshiba found that the Table IV-4-2 included in the Toshiba Response to RAI3: E2-2017-000812 Rev.0 needed editing during the check and review process of the Extent of Condition Review. In revising E2-2017-000812 to Rev.1, Toshiba made some corrections but failed to fully populate the table to be the same as the table “Table Response Time Operability Test Results” in the E2-2016-000934 Rev.0 due to miscommunication and misunderstanding among the check and review team. Toshiba also included the same Table IV-4-2 in the Rev. 3 of the Toshiba topical report Part IV. Toshiba issued the CAR-18-018 to address this matter.

Associated Enclosures of TOS-CR-FPG-2018-0002 dated November 9, 2018 needing replacement of Table IV-4-2; these are the Proprietary and Non-proprietary versions of two documents:

- (2) E2-2017-000812 Rev. 1, Toshiba response to RAI3 (Proprietary version)
- (6) UTLR-0020P Part IV, Rev. 3, Licensing Topical Report for Toshiba NRW-FPGA-based Instrumentation and Control System for Safety-Related Application (Proprietary version)
- (13) E2-2017-000812 Rev. 1, Toshiba response to RAI3 (Non-proprietary version)
- (17) UTLR-0020NP Part IV, Rev. 3, Licensing Topical Report for Toshiba NRW-FPGA-based Instrumentation and Control System for Safety-Related Application (Non-proprietary version)

3. Table revision to replace the incomplete table

The Non-proprietary version of the complete Table IV-4-2, which is the same as the table “Table Response Time Operability Test Results” included in the Toshiba earlier response E2-2016-000934 Rev.0, is provided below. Toshiba requests the NRC to treat and review these tables as replacements of the Table IV-4-2 included in the Enclosures listed above that were submitted by the NRC by the Letter TOS-CR-FPG-2018-0002 dated November 9, 2018.

Table IV-4-2 Response Time Operability Test Results (Non-Proprietary version)

		A3.1(Ical= 40 μA)			A3.3(Ical= 2,400 μA)			A3.2(Ical= 400 μA)			
		APRM High (ms)	TPM High(0s) (ms)	TPM High(6s) (s)	APRM High (ms)	TPM High(0s) (ms)	TPM High(6s) (s)	APRM High (ms)	TPM High(0s) (ms)	TPM High(6s) (s)	
Pre-Qualification Test (Base Line)											a.c
Radiation Exposure											
Environmental Test	Before High Temperature and High Humidity Exposure										
	During High Temperature and High Humidity Exposure										
	After(End of) *)High Temperature and High Humidity Exposure										
	During Low Temperature Exposure										
	After (End of) *) Low Temperature Exposure										
	During Low Humidity Exposure										
	After (End of) *) Low Humidity Exposure										
	After *) all Environmental										
Seismic Test	Before Seismic Test										
	During Seismic Test										
	After Seismic Test										
Exchange of Modules (LPRM Modules was exchanged for HNS013 from HNS011. AO Modules was exchanged for HNS515/516/517/518 from HNS511/512/513/514.											a.c
EMC Test	Before EMC Test										
	During EMC Test										
	After EMC Test										

Isolation Test(Class 1E to Non 1E Test)		a.c
Post Qualification Test(Before re-exchange of modules)		
Re-Exchange of Modules (LPRM Modules was exchanged for HNS011 from HNS013. AO Modules was exchanged for HNS511/512/513/514 from HNS515/516/517/518.		
Post-Qualification Test (After re-exchange of modules) (Performance-Proof Test)		a.c

*) Note for Clarification: The Operability Tests were performed at the end of each environment test run and again after all the environmental tests were complete.

Underline shows the changes from Table IV-4-2 included in the Enclosures listed in Section 2.