

Mapping of MELTAC Platform Licensing Documents to the DI&C-ISG-06 Guidance

Non-Proprietary

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Signature History

	JEXU-1041-1012 Rev.0, April 2014	JEXU-1041-1012 Rev.1, March 2015	JEXU-1041-1012-NP Rev.0, March 2016	
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Revision History

Revision	Date	Page (section)	Description
JEXU-1041-1012 (R0)	April 2014	All	Initial issue
JEXU-1041-1012 (R1)	Mar 2015	General	Identified the submitted documents by entering "Submitted" in the "Planned Date to Submit to NRC" column.
		2	Deleted the "Summary of MELTAC Platform Analysis" and added the following documents as the submittal documents. <ul style="list-style-type: none"> • MELTAC Platform Software Tool Analysis • MELTAC Platform Safety Analysis • Summary of Compliance to the IEEE Std.603 and IEEE Std.7-4.3.2 Added the following documents. <ul style="list-style-type: none"> • MELTAC Platform Setpoint Methodology • MELTAC Platform Response Time • Quality Manual based on U.S. Nuclear Regulations Changed the category of the "Safety System Platform MELTAC-Nplus S Re-evaluation Plan" and "Summary of MELTAC Platform QA" from "Internal Document" to "Submittal Document".
		4	Changed "Planned Date to Submit to NRC" of the "Summary of MELTAC Platform QA" Before: "Available for audit" After: "Dec 2014 <Submitted>"
		6, 7, 14, 17, 19, 20, 21, 22	Added "Quality Manual based on U.S. Nuclear Regulations" to Table 1, corresponding to "1.2 Quality Assurance Plan for Digital Hardware." Changed "Planned Date to Submit to NRC" of the "Summary of MELTAC Platform Design". Before: "Dec 2014" After: "Jan 2015 <Submitted>"

Revision	Date	Page (section)	Description
		7, 16, 17, 20, 21	<p>Changed “Planned Date to Submit to NRC” of the “Summary of MELTAC Platform Equipment Qualification” Before: “Apr 2015” After: “Jun 2015” (*)</p> <p>*This document includes the methodology of the qualification submitted in Jan 2015. A revised version containing the result will be submitted in Jun 2015.</p>
		8	<p>Changed the document corresponding to the requirement of “1.16 Design Analysis Reports” as follows: Before: “Summary MELTAC Platform Safety Analysis” After: “Summary of Compliance to the IEEE Std.603 and IEEE Std.7-4.3.2”. “Planned Date to Submit to NRC” and “MELCO Document Number” are also changed.</p> <p>Changed the description of “MELCO Interpretation of ISG-06 for the MELTAC Platform” of the “1.16 Design Analysis Reports.”</p>
		9, 14	<p>Changed the document corresponding to the requirements of the following. -“1.18 Design Report on Computer integrity, Test and Calibration, and Fault Detection” -“2.1 Safety Analysis”. Before: “Summary MELTAC Platform Safety Analysis” After: “MELTAC Platform Safety Analysis”. The following are also changed. -“Planned Date to Submit to NRC” -“MELCO Document Number”</p> <p>Changed the description of “1.18 Design Report on Computer integrity, Test and Calibration, and Fault Detection” and “2.1 Safety Analysis.”</p>
		10	<p>Added “MELTAC Platform Setpoint Methodology”</p> <p>Changed the description of “MELCO Interpretation of ISG-06 for the MELTAC Platform” of the “1.18 Design Report on Computer integrity, Test and Calibration, and Fault Detection.”</p>

Revision	Date	Page (section)	Description
		12	<p>Changed "Planned Date to Submit to NRC" of the "Safety System Platform MELTAC-Nplus S Re-evaluation Plan" Before: "Available for audit" After: "Dec 2014 <Submitted>"</p> <p>Modified the document number of the document titled "Safety System Platform MELTAC-Nplus S Reevaluation Plan"</p> <p>Deleted the description of the non-proprietary version of the document titled "Safety System Platform MELTAC-Nplus S Reevaluation Plan".</p>
		14, 15, 1619, 20, 21	<p>Changed "Planned Date to Submit to NRC" of the "Summary of MELTAC Platform V&V" Before: "Apr 2015" After: "Jun 2015" (*)</p> <p>*This document includes the methodology of the V&V submitted in Jan 2015. A revised version containing the result will be submitted in Jun 2015.</p>
		16, 18	<p>Changed "Planned Date to Submit to NRC" of the "Summary of MELTAC Platform Reliability." Before: "Dec 2014" After: "Jan 2015 <Submitted>"</p>
		18	<p>Added "MELTAC Platform Response time"</p> <p>Changed the description of "MELCO Interpretation of ISG-06 for the MELTAC Platform" of the "2.9 System Build Documents."</p> <p>Changed the document corresponding to the requirement of "2.14 System Response Time Confirmation Report" Before: "Summary MELTAC Platform Safety Analysis" After: "MELTAC Platform Software Tool Analysis". The following are also changed. - "Planned Date to Submit to NRC" - "MELCO Document Number"</p> <p>Changed the description of "MELCO Interpretation of ISG-06 for the MELTAC Platform" if the "2.14 System Response Time Confirmation Report."</p>

Revision	Date	Page (section)	Description
		20	Changed "Planned Date to Submit to NRC" of the "MELTAC Platform Re-evaluation Program Report" Before: "Available for audit" After: "Dec 2014 <Submitted>"
		24, 25	Deleted note (*1) and note (*4) Added the note (*6).
JEXU-1041-1012-NP (R0)	Mar. 2016	All	Changed the document number of this document due to addition of proprietary information in Tables 5, 6.
		0	Added the document number in the "Revision" column.
		2	Modified the title of JEXU-1041-1031 in Figure1. Before) MELTAC Platform Software Tool Analysis After) MELTAC Platform Software Tools
		4	- Modified the document number of the "Quality Manual based on U.S. Nuclear Regulations", Before) ARQ-XXP001-P After) ESC N-G000-P - Deleted "(*6)".
		18	The following contents for "ISG-06 Enclosure B Tier 3 Document" No.2.17 (Software Tool Analysis Report) were modified to reflect the submitted document "MELTAC Platform Software Tools". - The explanation of "MELTAC interpretation of ISG-06 for the MELTAC Platform" - Added the revision number of "MELTAC Platform Software Tools" in the "Planned Date to Submit to NRC" column.
		24	Deleted note (*6).
		3, 4, 7-10, 16	Added the explanation that Rev.1 will not impact the content of Rev.0 related to "ISG-06 Enclosure B Tier 3 Document" No.1.1, 1.2, 1.3, 1.14, 1.17, 1.19, 1.20, 2.9.
		25, 26	Added Tables 2, 3.
JEXU-1041-1012-NP (R1)	May 2016	3,4,7,8,9,10, 16,17,18,26, 27	Updated the status (the revised date and the revision number) of the submittal documents.
		6,7,13,14,15, 16,17,18,19, 20,21,22	Added the plan to provide the non-proprietary version of the following documents. - "Summary of MELTAC Platform Design" - "Summary of MELTAC Platform V&V" - "Summary of MELTAC Platform Reliability"

Table of Contents

1.0 BACKGROUND	1
2.0 OBJECTIVE	1
3.0 METHODOLOGY	1

List of Tables

Table 1: Mapping of MELTAC Platform Licensing Documents to the Digital I&C-ISG-06 Revision 1 (Dated January 19, 2011) Tier 3 Documents	3
Table 2: Submitted MELTAC Documents to be revised	26
Table 3: Planned Revision for Summary of MELTAC Platform Design / Reliability / Equipment Qualification / V&V	27

List of Figures

Figure 1: Summary of Documents.....	2
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1.0 BACKGROUND

Digital I&C ISG-06 Revision 1 (Dated January 19, 2011) describes the licensing process that may be used to review license amendment requests (LARs) associated with digital Instrumentation and Control (I&C) systems. ISG-06 also identifies the information the NRC staff should review and when the information should be provided. ISG-06 is intended for a plant-specific LAR. Interpretation is required to identify the documentation that applies to a generic review of a digital safety I&C platform Topical Report. The Mitsubishi Electric Corporation (MELCO) Mitsubishi Electric Total Advanced Controller (MELTAC) Platform has not been reviewed by the Nuclear Regulatory Commission (NRC). Therefore, the ISG-06 guidance for a “Tier 3” review applies. Enclosure B lists the documents that would normally be provided by the licensee as part of a Tier 3 review.

2.0 OBJECTIVE

This document provides an interpretation of the ISG-06 Tier 3 document guidance and identifies the documentation that applies to the review of the MELTAC Safety System Digital Platform.

Table 1 “Mapping of MELTAC Platform Licensing Documents to the Digital I&C-ISG-06 Revision 1 (Dated January 19, 2011) Tier 3 Documents” demonstrates how MELCO has, or intends to comply with the ISG-06 Tier 3 guidance.

3.0 METHODOLOGY

Table 1 demonstrates how the MELTAC Platform licensing documents relate to the list of Tier 3 documents in Enclosure B of ISG-06. Table 1 includes the following four main columns.

- The column “ISG-06 Enclosure B Tier 3 Document” is the ISG-06 Tier 3 document list in Enclosure B.
- The column “Applicable ISG-06 Section” gives the ISG-06 sections related to the ISG-06 Tier 3 documents listed in Enclosure B
- The column “MELCO Interpretation of ISG-06 for the MELTAC Platform” provides an interpretation of how each ISG-06 Tier 3 document applies to the review of the MELTAC Platform.
- The column “Corresponding MELTAC Platform Licensing Documents” identifies the MELTAC Platform licensing documents that correspond to each ISG-06 Tier 3 item, whether the document is Proprietary (P) or Non-Proprietary (NP), the MELCO document number and the Planned Date to Submit to NRC.

The following types of documents are referenced in this column.

- ✓ Submittal Documents
These documents will be submitted to the NRC on the date given in Table 1. Also see Figure 1.
- ✓ Internal Documents
These documents will be available for NRC audit according to the date given in Table 1. Also see Figure 1.

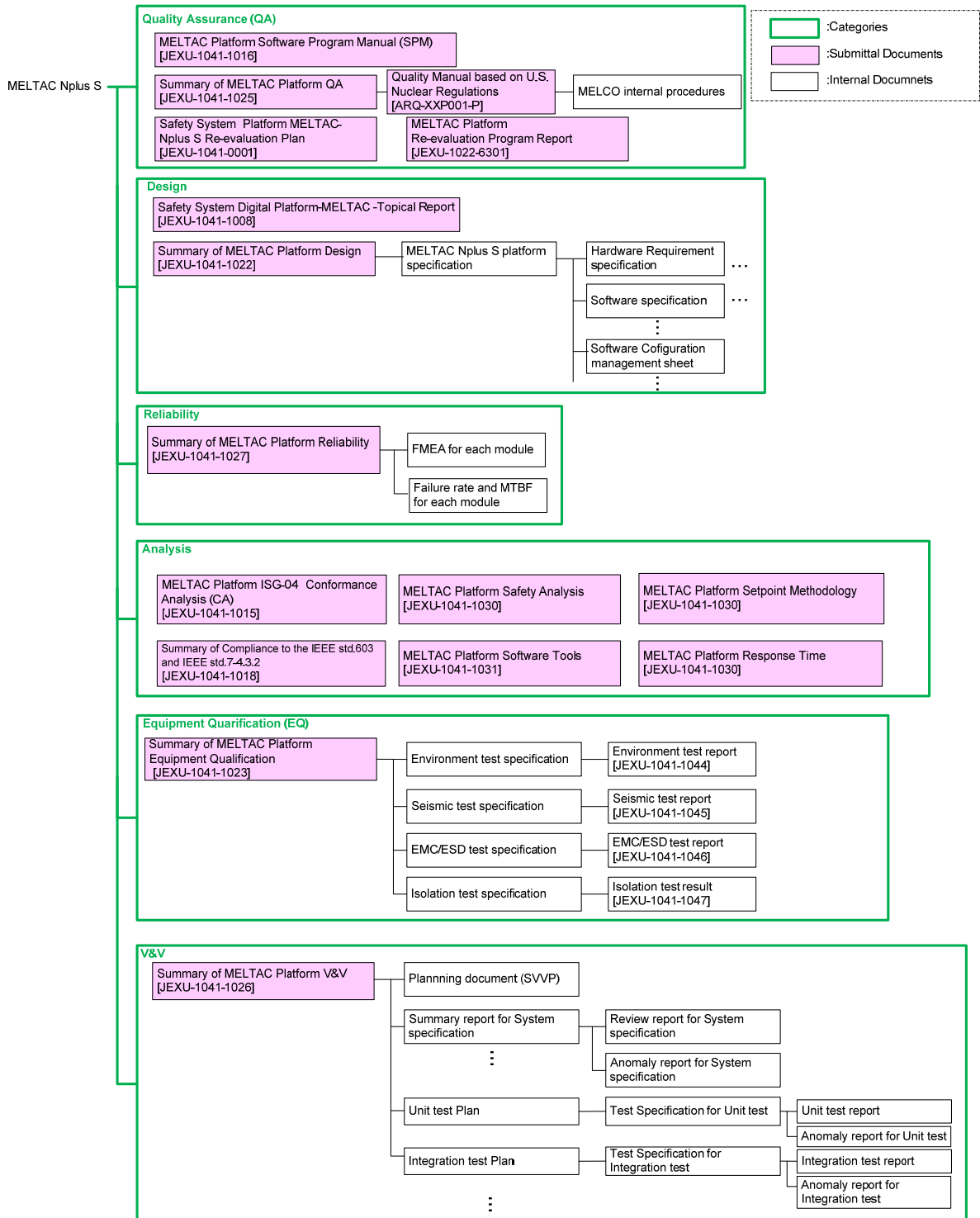


Figure 1 Summary of Documents

Note: For simplicity, The Proprietary (P) and Non- Proprietary (NP) document number suffixes are not shown.

Table 1: Mapping of MELTAC Platform Licensing Documents to the Digital I&C-ISG-06 Revision 1 (Dated January 19, 2011) Tier 3 Documents

ISG-06 Enclosure B Tier 3 Document	Applicable ISG-06 Section	MELCO Interpretation of ISG-06 for the MELTAC Platform	Corresponding MELTAC Platform Licensing Documents					Remarks
			Document Title	P/NP	MELCO Document Number	Section Number(s)	Planned Date to Submit to NRC	
1.1 Hardware Architecture Descriptions	D.1.2	A typical configuration of the MELTAC Platform for a safety system is shown in Section 4. A typical single division of a Plant Safety System (PSS) is described. Detailed descriptions of the MELTAC Platform hardware are given in Sections 4.1.1, 4.1.2 and Appendix A. MELTAC Platform software is described in Section 4.1.3.	Safety System Digital Platform - MELTAC - Topical Report	P	JEXU-1041-1008-P	4.0 4.1.1 4.1.2 4.1.3 4.2 App. A	Apr. 2016 <Rev. 1 Submitted>	Rev.1 does not impact the content of Rev.0 related to this requirement.
				NP	JEXU-1041-1008-NP			

ISG-06 Enclosure B Tier 3 Document	Applicable ISG-06 Section	MELCO Interpretation of ISG-06 for the MELTAC Platform	Corresponding MELTAC Platform Licensing Documents					Remarks
			Document Title	P/NP	MELCO Document Number	Section Number(s)	Planned Date to Submit to NRC	
1.2 Quality Assurance Plan for Digital Hardware	D.2.2	The MELCO quality assurance program (QAP) meets all requirements of 10 CFR 50 Appendix B.	Safety System Digital Platform - MELTAC - Topical Report	P	JEXU-1041-1008-P	6.0 6.1 6.2	Apr. 2016 <Rev. 1 Submitted>	Rev.1 does not impact the content of Rev.0 related to this requirement.
				NP	JEXU-1041-1008-NP			
			Summary of MELTAC Platform QA (*1)	P	JEXU-1041-1025-P	All	Dec. 2014 <Rev. 0 Submitted>	For the supplemental information indicated by "(*1)", see the notes at the end of this table.
			Quality Manual based on U.S. Nuclear Regulations	P	ESC N-G000-P	All	Jun. 2015 <Rev. 0 Submitted>	
1.3 Software Architecture Descriptions (SAD)	D.3.2 D.4.4.3.2	The architecture of the MELTAC Platform Basic Software is described in the "Safety System Digital Platform - MELTAC - Topical Report".	Safety System Digital Platform - MELTAC - Topical Report	P	JEXU-1041-1008-P	4.1.3 4.2.2 4.3	Apr. 2016 <Rev. 1 Submitted>	Rev.1 does not impact the content of Rev.0 related to this requirement.
				NP	JEXU-1041-1008-NP			

ISG-06 Enclosure B Tier 3 Document	Applicable ISG-06 Section	MELCO Interpretation of ISG-06 for the MELTAC Platform	Corresponding MELTAC Platform Licensing Documents					Remarks
			Document Title	P/NP	MELCO Document Number	Section Number(s)	Planned Date to Submit to NRC	
1.4 Software Management Plan (SMP)	D.4.4.1.1	The SMP for the MELTAC Platform Basic Software is described in the "MELTAC Platform Software Program Manual".	MELTAC Platform Software Program Manual	P	JEXU-1041-1016-P	3.1 App B	Jul. 2014 <Rev. 0 Submitted>	
				NP	JEXU-1041-1016-NP			
1.5 Software Development Plan (SDP)	D.4.4.1.2	The SDP for the MELTAC Platform Basic Software is described in the "MELTAC Platform Software Program Manual".	MELTAC Platform Software Program Manual	P	JEXU-1041-1016-P	3.2	Jul. 2014 <Rev. 0 Submitted>	
				NP	JEXU-1041-1016-NP			
1.6 Software QA Plan (SQAP)	D.4.4.1.3 D.10.4.2.3 .1	The SQAP for the MELTAC Platform Basic Software is described in the "MELTAC Platform Software Program Manual".	MELTAC Platform Software Program Manual	P	JEXU-1041-1016-P	3.3	Jul. 2014 <Rev. 0 Submitted>	
				NP	JEXU-1041-1016-NP			
1.7 Software Integration Plan (SIntP)	D.4.4.1.4	The SIntP for the MELTAC Platform Basic Software is described in the "MELTAC Platform Software Program Manual".	MELTAC Platform Software Program Manual	P	JEXU-1041-1016-P	3.4	Jul. 2014 <Rev. 0 Submitted>	
				NP	JEXU-1041-1016-NP			
1.8 Software Safety Plan (SSP)	D.4.4.1.9	The SSP for the MELTAC Platform Basic Software is described in the "MELTAC Platform Software Program Manual".	MELTAC Platform Software Program Manual	P	JEXU-1041-1016-P	3.9	Jul. 2014 <Rev. 0 Submitted>	
				NP	JEXU-1041-1016-NP			

ISG-06 Enclosure B Tier 3 Document	Applicable ISG-06 Section	MELCO Interpretation of ISG-06 for the MELTAC Platform	Corresponding MELTAC Platform Licensing Documents					Remarks
			Document Title	P/NP	MELCO Document Number	Section Number(s)	Planned Date to Submit to NRC	
1.9 Software V&V Plan (SVVP)	D.4.4.1.10	The SVVP for the MELTAC Platform Basic Software is described in the "MELTAC Platform Software Program Manual".	MELTAC Platform Software Program Manual	P	JEXU-1041-1016-P	3.10	Jul. 2014 <Rev. 0 Submitted>	
				NP	JEXU-1041-1016-NP			
1.10 Software Configuration Management Plan (SCMP)	D.4.4.1.11	The SCMP for the MELTAC Platform Basic Software is described in the "MELTAC Platform Software Program Manual".	MELTAC Platform Software Program Manual	P	JEXU-1041-1016-P	3.11	Jul. 2014 <Rev. 0 Submitted>	
				NP	JEXU-1041-1016-NP			
1.11 Software Test Plan (STP)	D.4.4.1.12	The STP for the MELTAC Platform Basic Software is described in the "MELTAC Platform Software Program Manual".	MELTAC Platform Software Program Manual	P	JEXU-1041-1016-P	3.12	Jul. 2014 <Rev. 0 Submitted>	
				NP	JEXU-1041-1016-NP			
1.12 Software Requirements Specification (SRS)	D.4.4.3.1	The software requirements are specified in the platform specification, which is the highest-level design document for the MELTAC Platform. The platform specification defines the boundary between the functions of hardware and software.	Summary of MELTAC Platform Design (*2)	P	JEXU-1041-1022-P	All	See Table 2 below.	
				NP	JEXU-1041-1022-NP			

ISG-06 Enclosure B Tier 3 Document	Applicable ISG-06 Section	MELCO Interpretation of ISG-06 for the MELTAC Platform	Corresponding MELTAC Platform Licensing Documents					Remarks
			Document Title	P/NP	MELCO Document Number	Section Number(s)	Planned Date to Submit to NRC	
1.13 Software Design Specification (SDS)	D.4.4.3.3	The SDS for the MELTAC platform consists of the following documents: -high-level Software specification -low-level Program specification	Summary of MELTAC Platform Design (*2)	P	JEXU-1041-1022-P	All	See Table 2 below.	
				NP	JEXU-1041-1022-NP			
1.14 Equipment Qualification Testing Plans (Including EMI, Temperature, Humidity, and Seismic)	D.5.2	The Equipment Qualification Testing for plan the MELTAC Platform is summarized in the "Safety System Digital Platform - MELTAC - Topical Report" and the "Summary of MELTAC Platform Equipment Qualification".	Safety System Digital Platform - MELTAC - Topical Report	P	JEXU-1041-1008-P	5.1 5.2 5.3 5.4	Apr. 2016 <Rev. 1 Submitted>	Rev.1 does not impact the content of Rev.0 related to this requirement.
				NP	JEXU-1041-1008-NP			
			Summary of MELTAC Platform Equipment Qualification (*3)	P	JEXU-1041-1023-P	All	See Table 2 below.	For the supplemental information indicated by "(*3)", see the notes at the end of this table.
				NP	JEXU-1041-1023-NP			
1.15 D3 Analysis	D.6.2	D3 analyses are described by the Application Licensing and Design Documentation and are not within the scope of the "Safety System Digital Platform - MELTAC - Topical Report".	N/A	N/A	N/A	N/A	N/A	

ISG-06 Enclosure B Tier 3 Document	Applicable ISG-06 Section	MELCO Interpretation of ISG-06 for the MELTAC Platform	Corresponding MELTAC Platform Licensing Documents					Remarks
			Document Title	P/NP	MELCO Document Number	Section Number(s)	Planned Date to Submit to NRC	
1.16 Design Analysis Reports	D.7.2 D.8.2 D.9.4.2.6 D.10.4.2.6	<p>The “MELTAC Platform ISG-04 Conformance Analysis” describes the MELTAC Platform’s conformance to ISG-04 requirements. The “ Summary of Compliance to the IEEE std.603 and IEEE std.7-4.3.2” contains the compliance to IEEE Std. 603-1991 and IEEE Std. 7-4.3.2-2003.</p> <p>The requirements of section D.8.2 are not applicable to the MELTAC Platform because this is a “Tier 3” review.</p>	MELTAC Platform ISG-04 Conformance Analysis	P	JEXU-1041-1015-P	All	Jul. 2014 <Rev. 0 Submitted>	
				NP	JEXU-1041-1015-NP			
			Summary of Compliance to the IEEE std.603 and IEEE std.7-4.3.2	P	JEXU-1041-1018-P	All	Apr. 2015	For the supplemental information indicated by “(*4)”, see the notes at the end of this table.
1.17 System Description (To block diagram level)	D.9.2 D.10.2	A typical configuration of the MELTAC Platform for a safety system is shown in Section 4. A typical single division of a Plant Safety System (PSS) is described.	Safety System Digital Platform - MELTAC - Topical Report	P	JEXU-1041-1008-P	4	Apr. 2016 <Rev. 1 Submitted>	Rev.1 does not impact on the content of Rev.0 related to this requirement.
				NP	JEXU-1041-1008-NP			

ISG-06 Enclosure B Tier 3 Document	Applicable ISG-06 Section	MELCO Interpretation of ISG-06 for the MELTAC Platform	Corresponding MELTAC Platform Licensing Documents					Remarks
			Document Title	P/NP	MELCO Document Number	Section Number(s)	Planned Date to Submit to NRC	
1.18 Design Report on Computer integrity, Test and Calibration, and Fault Detection	D.9.4.2.5 D.9.4.2.7 D.9.4.2.10 D.9.4.3.5 D.10.4.2.5 D.10.4.2.7	Design report on generic computer integrity, test Calibration and fault Detection is described in the "MELTAC Platform Safety Analysis".	MELTAC Platform Safety Analysis	P	JEXU-1041-1030-P	All	Apr. 2015	
1.19 System Response Time Analysis Report	D.9.4.2.4	The "Safety System Digital Platform - MELTAC - Topical Report" describes the general approach for calculating system Response Times. The plant specific System Response Time Analysis Report will be addressed in Application Licensing and Design Documentation.	Safety System Digital Platform - MELTAC - Topical Report	P	JEXU-1041-1008-P	4.4	Apr. 2016 <Rev. 1 Submitted>	Rev.1 does not impact the content of Rev.0 related to this requirement.
				NP	JEXU-1041-1008-NP			

ISG-06 Enclosure B Tier 3 Document	Applicable ISG-06 Section	MELCO Interpretation of ISG-06 for the MELTAC Platform	Corresponding MELTAC Platform Licensing Documents					Remarks
			Document Title	P/NP	MELCO Document Number	Section Number(s)	Planned Date to Submit to NRC	
1.20 Theory of Operation Description	D.9.4.2.8 D.9.4.2.9 D.9.4.2.10 D.9.4.2.11 D.9.4.2.13 D.9.4.2.14 D.9.4.3.2 D.9.4.3.5 D.9.4.3.6 D.9.4.3.7 D.9.4.4	The general "Theory of Operation" for the MELTAC Platform is given in the "Safety System Digital Platform - MELTAC - Topical Report".	Safety System Digital Platform - MELTAC - Topical Report	P	JEXU-1041-1008-P	4	Apr. 2016 <Rev. 1 Submitted>	Rev.1 does not impact the content of Rev.0 related to this requirement.
				NP	JEXU-1041-1008-NP			
1.21 Setpoint Methodology	D.9.4.3.8 D.11	The methodology used to develop setpoints is described in Application Licensing and Design Documentation. The accuracy of the MELTAC is described in "MELTAC Platform Setpoint Methodology"	MELTAC Platform Setpoint Methodology	P	JEXU-1041-1100-P	All	Mar. 2015	
1.22 Vendor Software Plan	D.10.4.2.3.1	All MELTAC Platform Basic Software items are generated and maintained by MELCO. Therefore, MELCO does not have a Vendor Software Plan.	N/A	N/A	N/A	N/A	N/A	

ISG-06 Enclosure B Tier 3 Document	Applicable ISG-06 Section	MELCO Interpretation of ISG-06 for the MELTAC Platform	Corresponding MELTAC Platform Licensing Documents					Remarks
			Document Title	P/NP	MELCO Document Number	Section Number(s)	Planned Date to Submit to NRC	
1.23 Software Tool Verification Program	D.10.4.2.3.2	The Software Tools of the MELTAC Platform are not Class 1E (non-safety related). Qualification and Independent Verification and Validation (V&V) are not applied to Software Tools. Therefore, Independent V&V is applied to the Basic Software configuration items, as they are developed and maintained. However, the Software Tools are maintained under configuration control. The MELTAC Platform Software Tools are described in the "MELTAC Platform Software Program Manual".	MELTAC Platform Software Program Manual	P	JEXU-1041-1016-P	3.1.4 3.2.5 3.3.4 3.4.3 3.5.3	Jul. 2014 <Rev. 0 Submitted>	
				NP	JEXU-1041-1016-NP	3.10 3.11.3 3.12.3		
1.24 Software Project Risk Management Program	D.10.4.2.3.6	The Risk Management Program for the MELTAC Platform Basic Software is described in the Software Management Plan located in the "MELTAC Platform Software Program Manual."	MELTAC Platform Software Program Manual	P	JEXU-1041-1016-P	3.1	Jul. 2014 <Rev. 0 Submitted>	
				NP	JEXU-1041-1016-NP			

ISG-06 Enclosure B Tier 3 Document	Applicable ISG-06 Section	MELCO Interpretation of ISG-06 for the MELTAC Platform	Corresponding MELTAC Platform Licensing Documents					Remarks
			Document Title	P/NP	MELCO Document Number	Section Number(s)	Planned Date to Submit to NRC	
1.25 Commercial Grade Dedication Plan	D.10.4.2.4.2	<p>The MELTAC Platform was originally developed under a Japanese nuclear quality program. MELCO performed an independent re-evaluation of the MELTAC Platform design and design process based on the commercial grade dedication process in accordance with 10CFR21, EPRI-5652, EPRI TR-106439 and EPRI TR-107330. This is referred to as the MELTAC Re-evaluation Program (MRP).</p> <p>The MRP was executed in accordance with the MELCO's 10 CFR 50 App. B QAP as a one-time non-recurring activity. The MRP established a baseline to demonstrate that the MELTAC platform has suitable technical characteristics and quality for nuclear safety applications in the U.S. MELTAC is now maintained as a 10 CFR 50 Appendix B product.</p>	Safety System Platform MELTAC-Nplus S Re-evaluation Plan	P	JEXU-1041-0001-P	All	Dec. 2014 <Rev. 0 Submitted>	
1.27 Secure Development and Operational Environment Controls	D.12.2	Secure Development and Operational Environment Controls of MELTAC platform are described in the "MELTAC Platform Software Program Manual".	MELTAC Platform Software Program Manual	P	JEXU-1041-1016-P	3.1 to 3.12	Jul. 2014 <Rev. 0 Submitted>	
				NP	JEXU-1041-1016-NP			

ISG-06 Enclosure B Tier 3 Document	Applicable ISG-06 Section	MELCO Interpretation of ISG-06 for the MELTAC Platform	Corresponding MELTAC Platform Licensing Documents					Remarks
			Document Title	P/NP	MELCO Document Number	Section Number(s)	Planned Date to Submit to NRC	
2.1 Safety Analysis	D.4.4.2.1	The safety analysis methods for the MELTAC Platform Basic Software are described in the Software Safety Plan located in the "MELTAC Platform Software Program Manual". The safety analysis report is described in the "MELTAC Platform Safety Analysis".	MELTAC Platform Software Program Manual	P	JEXU-1041-1016-P	3.9	Jul. 2014 <Rev. 0 Submitted>	
				NP	JEXU-1041-1016-NP			
			MELTAC Platform Safety Analysis(*5)	P	JEXU-1041-1030-P	All	Apr. 2015	
2.2 V&V Reports	D.4.4.2.2	The MELTAC Platform Basic Software V&V Reports are summarized in the "Summary of MELTAC Platform V&V".	Summary of MELTAC Platform V&V(*4)	P	JEXU-1041-1026-P	All	See Table 2 below.	For the supplemental information indicated by "(*4)", see the notes at the end of this table.
				NP	JEXU-1041-1026-NP			
2.3 As-Manufactured, System Configuration Documentation	D.4.4.2.3	The System Configuration documentation for the MELTAC platform is described in the "Summary of MELTAC Platform Design".	Summary of MELTAC Platform Design (*2)	P	JEXU-1041-1022-P	All	See Table 2 below.	
				NP	JEXU-1041-1022-NP			

ISG-06 Enclosure B Tier 3 Document	Applicable ISG-06 Section	MELCO Interpretation of ISG-06 for the MELTAC Platform	Corresponding MELTAC Platform Licensing Documents					Remarks
			Document Title	P/NP	MELCO Document Number	Section Number(s)	Planned Date to Submit to NRC	
2.4 Test Design Specification	D.4.4.2.4	The MELTAC Platform Test design specification is summarized in the "Summary of MELTAC Platform V&V" and the "Summary of MELTAC Platform Equipment Qualification".	Summary of MELTAC Platform V&V (*4)	P	JEXU-1041-1026-P	All	See Table 2 below.	
				NP	JEXU-1041-1026-NP			
			Summary of MELTAC Platform Equipment Qualification (*3)	P	JEXU-1041-1023-P	All	See Table 2 below.	
				NP	JEXU-1041-1023-NP			
2.5 Summary Test Reports (Including FAT)	D.4.4.2.4	The MELTAC Platform summary test reports are summarized in the "Summary of MELTAC Platform V&V" and the "Summary of MELTAC Platform Equipment Qualification".	Summary of MELTAC Platform Equipment Qualification (*3)	P	JEXU-1041-1023-P	All	See Table 2 below.	
				NP	JEXU-1041-1023-NP			
			Summary of MELTAC Platform V&V (*4)	P	JEXU-1041-1026-P	All	See Table 2 below.	
				NP	JEXU-1041-1026-NP			

ISG-06 Enclosure B Tier 3 Document	Applicable ISG-06 Section	MELCO Interpretation of ISG-06 for the MELTAC Platform	Corresponding MELTAC Platform Licensing Documents					Remarks
			Document Title	P/NP	MELCO Document Number	Section Number(s)	Planned Date to Submit to NRC	
2.6 Summary of Test Results (Including FAT)	D.4.4.2.4	The MELTAC Platform summary of Test results are summarized in the "Summary of MELTAC Platform V&V" and the "Summary of MELTAC Platform Equipment Qualification".	Summary of MELTAC Platform Equipment Qualification (*3)	P	JEXU-1041-1023-P	All	See Table 2 below.	
				NP	JEXU-1041-1023-NP			
			Summary of MELTAC Platform V&V (*4)	P	JEXU-1041-1026-P	All	See Table 2 below.	
				NP	JEXU-1041-1026-NP			
2.7 Requirement Traceability Matrix	D.9.4.2	The MELTAC Platform Requirement Traceability Matrix is summarized in the documents referenced in the "Summary of MELTAC Platform V&V".	Summary of MELTAC Platform V&V (*4)	P	JEXU-1041-1026-P	All	See Table 2 below.	
				NP	JEXU-1041-1026-NP			

ISG-06 Enclosure B Tier 3 Document	Applicable ISG-06 Section	MELCO Interpretation of ISG-06 for the MELTAC Platform	Corresponding MELTAC Platform Licensing Documents					Remarks	
			Document Title	P/NP	MELCO Document Number	Section Number(s)	Planned Date to Submit to NRC		
2.8 FMEA	D.9.4.2.1.1	The MELTAC Platform FMEA methodology is described in the "Safety System Digital Platform - MELTAC - Topical Report". FMEA's for specific MELTAC Platform modules are also summarized in the "Summary of MELTAC Platform Reliability".	Safety System Digital Platform - MELTAC - Topical Report	P	JEXU-1041-1008-P	7	Apr. 2016 <Rev. 1 Submitted>		
				NP	JEXU-1041-1008-NP				
			Summary of MELTAC Platform Reliability (*5)	P	JEXU-1041-1027-P	All	See Table 2 below.		For the supplemental information indicated by "(*5)", see the notes at the end of this table.
				NP	JEXU-1041-1027-NP				
2.9 System Build Documents	D.4.4.3.5	The scope of the System Build Documents (equipment in the scope of the Topical Report) is identified in Section 4 and Appendix A of the "Safety System Digital Platform - MELTAC - Topical Report". Information on configuration management for the System Build Documents is identified in the "Summary of MELTAC Platform Design".	Safety System Digital Platform - MELTAC - Topical Report	P	JEXU-1041-1008-P	4 App. A	Apr. 2016 <Rev. 1 Submitted>	Rev.1 does not impact the content of Rev.0 related to this requirement.	
				NP	JEXU-1041-1008-NP				
			Summary of MELTAC Platform Design(*2)	P	JEXU-1041-1022-P	All	See Table 2 below.		
				NP	JEXU-1041-1022-NP				
2.10	None	No Document Referenced	N/A	N/A	N/A	N/A	N/A		

ISG-06 Enclosure B Tier 3 Document	Applicable ISG-06 Section	MELCO Interpretation of ISG-06 for the MELTAC Platform	Corresponding MELTAC Platform Licensing Documents					Remarks
			Document Title	P/NP	MELCO Document Number	Section Number(s)	Planned Date to Submit to NRC	
2.11 Qualification Test Methodologies	D.5.2	The MELTAC Platform Qualification Testing is summarized in the "Summary of MELTAC Platform Equipment Qualification".	Summary of MELTAC Platform Equipment Qualification (*3)	P	JEXU-1041-1023-P	All	See Table 2 below.	
				NP	JEXU-1041-1023-NP			
2.12 Summary of Digital EMI, Temp., Humidity, and Seismic Testing Results	D.5.2	The MELTAC Platform Qualification Testing results are summarized in the "Summary of MELTAC Platform Equipment Qualification".	Summary of MELTAC Platform Equipment Qualification(*3)	P	JEXU-1041-1023-P	All	See Table 2 below.	
				NP	JEXU-1041-1023-NP			
2.13 As-Manufactured Logic Diagrams	D.9.2	"As-Manufactured Logic Diagrams" are described by the Application Licensing and Design Documentation and are not within the scope of the "Safety System Digital Platform - MELTAC - Topical Report".	N/A	N/A	N/A	N/A	N/A	
2.14 System Response Time Confirmation Report	D.9.4.2.4	The response time of the MELTAC is described in "MELTAC Platform Response Time"	MELTAC Platform Response Time	P	JEXU-1041-1101-P	All	Mar 2015	

ISG-06 Enclosure B Tier 3 Document	Applicable ISG-06 Section	MELCO Interpretation of ISG-06 for the MELTAC Platform	Corresponding MELTAC Platform Licensing Documents					Remarks
			Document Title	P/NP	MELCO Document Number	Section Number(s)	Planned Date to Submit to NRC	
2.15 Reliability Analysis	D.9.4.2.15 D.10.4.2.15	The generic MELTAC Platform Reliability Analysis is documented in the "Safety System Digital Platform - MELTAC - Topical Report" and the "Summary of MELTAC Platform Reliability".	Safety System Digital Platform - MELTAC - Topical Report	P	JEXU-1041-1008-P	7	Apr. 2016 <Rev. 1 Submitted>	
				NP	JEXU-1041-1008-NP			
			Summary of MELTAC Platform Reliability (*5)	P	JEXU-1041-1027-P	All	See Table 2 below.	
				NP	JEXU-1041-1027-NP			
2.16 Setpoint Calculations	D.9.4.3.8	"Setpoint Calculations" are described by the Application Licensing and Design Documentation and are not within the scope of the "Safety System Digital Platform - MELTAC - Topical Report".	N/A	N/A	N/A	N/A	N/A	
2.17 Software Tool Analysis Report	D.10.4.2.3.2	The method of determining the quality of the software tools, and V&V activities associated with the outputs generated by those tools are described in "MELTAC Platform Software Tools".	MELTAC Platform Software Tools	P	JEXU-1041-1031-P	All	Apr. 2015 <Rev. 0 Submitted>	
Commercial Grade Dedication Report(s)	D.10.4.2.4.2	The result of the MRP is described in the "MELTAC Platform Re-evaluation Program Report".	MELTAC Platform Re-evaluation Program Report	P	JEXU-1022-6301-P	All	Dec. 2014 <Rev. 3 Submitted>	
				NP	JEXU-1022-6301-NP			

ISG-06 Enclosure B Tier 3 Document	Applicable ISG-06 Section	MELCO Interpretation of ISG-06 for the MELTAC Platform	Corresponding MELTAC Platform Licensing Documents					Remarks
			Document Title	P/NP	MELCO Document Number	Section Number(s)	Planned Date to Submit to NRC	
3.1 Software Integration Report	D.4.4.1.4 D.4.4.2.2	Integrating the various Basic Software modules together to form a single program is described in the "Summary of MELTAC Platform Design". Integrating the result with the hardware and software is described in the "Summary of MELTAC Platform Design". The test result of the integrated product is described in the "Summary of MELTAC Platform V&V".	Summary of MELTAC Platform Design (*2)	P	JEXU-1041-1026-P	All	See Table 2 below.	
				NP	JEXU-1041-1026-NP			
	Summary of MELTAC Platform V&V (*4)		P	JEXU-1041-1022-P	All	See Table 2 below.		
			NP	JEXU-1041-1022-NP				
3.2 Individual V&V Problem Reports up to FAT	D.4.4.2.2	V&V Problem Reports related to the MELTAC Platform Basic Software are summarized in the "Summary of MELTAC Platform V&V".	Summary of the MELTAC Platform V&V (*4)	P	JEXU-1041-1026-P	All	See Table 2 below.	
				NP	JEXU-1041-1026-NP			
3.3 Configuration Management Reports	D.4.4.2.3	The MELTAC Platform Configuration Management Reports are summarized in the "Summary of MELTAC Platform Design" and the "Summary of MELTAC Platform V&V".	Summary of MELTAC Platform Design (*2)	P	JEXU-1041-1022-P	All	See Table 2 below.	
				NP	JEXU-1041-1022-NP			
			Summary of MELTAC Platform V&V (*4)	P	JEXU-1041-1026-P	All	See Table 2 below.	
				NP	JEXU-1041-1026-NP			

ISG-06 Enclosure B Tier 3 Document	Applicable ISG-06 Section	MELCO Interpretation of ISG-06 for the MELTAC Platform	Corresponding MELTAC Platform Licensing Documents					Remarks
			Document Title	P/NP	MELCO Document Number	Section Number(s)	Planned Date to Submit to NRC	
3.4 Test Procedure Specification	D.4.4.2.4	The MELTAC Platform Test Procedure Specification is summarized in the "Summary of MELTAC Platform V&V documents" and the "Summary of MELTAC Platform Equipment Qualification".	Summary of MELTAC Platform V&V (*4)	P	JEXU-1041-1026-P	All	See Table 2 below.	
				NP	JEXU-1041-1026-NP			
			Summary of MELTAC Platform Equipment Qualification (*3)	P	JEXU-1041-1023-P	All	See Table 2 below.	
				NP	JEXU-1041-1023-NP			
3.5 Completed Test Procedures and Reports	D.4.4.2.4 D.5.2	The completed MELTAC Platform Test Procedures and Reports are summarized in the "Summary of MELTAC Platform V&V documents" and the "Summary of MELTAC Platform Equipment Qualification".	Summary of MELTAC Platform V&V (*4)	P	JEXU-1041-1026-P	All	See Table 2 below.	
				NP	JEXU-1041-1026-NP			
			Summary of MELTAC Platform Equipment Qualification (*3)	P	JEXU-1041-1023-P	All	See Table 2 below.	
				NP	JEXU-1041-1023-NP			

ISG-06 Enclosure B Tier 3 Document	Applicable ISG-06 Section	MELCO Interpretation of ISG-06 for the MELTAC Platform	Corresponding MELTAC Platform Licensing Documents					Remarks
			Document Title	P/NP	MELCO Document Number	Section Number(s)	Planned Date to Submit to NRC	
3.6 Test Incident Reports	D.4.4.2.4	The MELTAC Platform Test Incident Reports are summarized in the "Summary of MELTAC Platform V&V documents" and the "Summary of MELTAC Platform Equipment Qualification".	Summary of MELTAC Platform V&V (*4)	P	JEXU-1041-1026-P	All	See Table 2 below.	
				NP	JEXU-1041-1026-NP			
			Summary of MELTAC Platform Equipment Qualification (*3)	P	JEXU-1041-1023-P	All	See Table 2 below.	
				NP	JEXU-1041-1023-NP			
3.7 Code Listings	D.4.4.3.4	The MELTAC Platform Code Listings are summarized in the "Summary of MELTAC Platform Design"	Summary of MELTAC Platform Design (*2)	P	JEXU-1041-1022-P	All	See Table 2 below.	
				NP	JEXU-1041-1022-NP			
3.8 Software Project Risk Management Report	D.10.4.2.3.6	The MELTAC Platform Risk Matrix is in documents referenced by the "Summary of MELTAC Platform Design".	Summary of MELTAC Platform Design (*2)	P	JEXU-1041-1022-P	All	See Table 2 below.	
				NP	JEXU-1041-1022-NP			

ISG-06 Enclosure B Tier 3 Document	Applicable ISG-06 Section	MELCO Interpretation of ISG-06 for the MELTAC Platform	Corresponding MELTAC Platform Licensing Documents					Remarks
			Document Title	P/NP	MELCO Document Number	Section Number(s)	Planned Date to Submit to NRC	
3.9 Circuit Schematics	None	The MELTAC Platform Circuit Schematics are in documents referenced by the "Summary of MELTAC Platform Design".	Summary of MELTAC Platform Design (*2)	P	JEXU-1041-1022-P	All	See Table 2 below.	
				NP	JEXU-1041-1022-NP			
3.10 Detailed System and Hardware Drawings	None	The MELTAC Platform Detailed System and Hardware Drawings are in documents referenced by the "Summary of MELTAC Platform Design".	Summary of MELTAC Platform Design (*2)	P	JEXU-1041-1022-P	All	See Table 2 below.	
				NP	JEXU-1041-1022-NP			
4.1 Software Installation Plan (SInstP)	D.4.4.1.5	The SInstP for the MELTAC Platform Basic Software is described in the "MELTAC Platform Software Program Manual."	MELTAC Platform Software Program Manual	P	JEXU-1041-1016-P	3.5	Jul 2014 <Rev. 0 Submitted>	
4.2 Software Maintenance Plan	D.4.4.1.6	The Software Maintenance Plan (SMaintP) is not applicable to the MELTAC Platform Basic Software because BTP 7-14 contemplates a Software Maintenance Plan as applicable to application level software.	N/A	N/A	N/A	N/A	N/A	

ISG-06 Enclosure B Tier 3 Document	Applicable ISG-06 Section	MELCO Interpretation of ISG-06 for the MELTAC Platform	Corresponding MELTAC Platform Licensing Documents					Remarks
			Document Title	P/NP	MELCO Document Number	Section Number(s)	Planned Date to Submit to NRC	
4.3 Software Training Plan	D.4.4.1.7	The Software Training Plan (STRngP) is not applicable to the MELTAC Platform Basic Software because BTP 7-14 contemplates a Software Training Plan as applicable to application level software.	N/A	N/A	N/A	N/A	N/A	
4.4 Software Operations Plan	D.4.4.1.8	The Software Operations Plan (SOP) is not applicable to the MELTAC Platform Basic Software because BTP 7-14 contemplates a Software Operations Plan as applicable to application level software.	N/A	N/A	N/A	N/A	N/A	
4.5 Site Test Documentation	D.4.4.2.4	“Site Test Documentation” is described by the Application Licensing and Test Documentation and is not within the scope of the “Safety System Digital Platform - MELTAC - Topical Report”.	N/A	N/A	N/A	N/A	N/A	
4.6 Operations Manual	D.4.4.3.7	The “Operations Manual” applies only to a plant specific system and is not within the scope of the “Safety System Digital Platform - MELTAC - Topical Report”.	N/A	N/A	N/A	N/A	N/A	

ISG-06 Enclosure B Tier 3 Document	Applicable ISG-06 Section	MELCO Interpretation of ISG-06 for the MELTAC Platform	Corresponding MELTAC Platform Licensing Documents					Remarks
			Document Title	P/NP	MELCO Document Number	Section Number(s)	Planned Date to Submit to NRC	
4.7 Software Maintenance Manuals	D.4.4.3.8	The “Software Maintenance Manuals” apply only to a plant specific system and is not within the scope of the “Safety System Digital Platform - MELTAC - Topical Report”.	N/A	N/A	N/A	N/A	N/A	
4.8 Software Training Manuals	D.4.4.3.9	The “Software Training Manuals” apply only to a plant specific system and is not within the scope of the “Safety System Digital Platform - MELTAC - Topical Report”.	N/A	N/A	N/A	N/A	N/A	
4.9 Installation Configuration Tables	D.4.4.3.6	The “Installation Configuration Tables” apply only to a plant specific system and is not within the scope of the “Safety System Digital Platform - MELTAC - Topical Report”.	N/A	N/A	N/A	N/A	N/A	

Notes for Table 1:

- (*1) This summary document shows the document title, number and revision number of the MELCO internal procedures.
- (*2) This summary document contains the list of auditable MELTAC design documents. MELTAC design documents include the platform specification, hardware specification, software specification configuration management sheets etc.
- (*3) This summary document shows the document title, number and revision number of the following Equipment Qualification test documentation
 - Planning documents
 - Test results
 - Test reports
- (*4) This summary document contains the auditable document list related to V&V activities including V&V configuration management sheets. The document title, number and revision are given for each document.

(*5) This summary document describes the FMEA methodology, calculation of failure rate and MTBF. The failure rate and MTBF results are also shown. In addition the document title, number and revision are given for each document.

Table 2 Submitted MELTAC Documents to be revised

Document Title	Document Number	Submitted Revision	Planned Submittal Date (Revision Number)		
Summary of MELTAC Platform Design	JEXU-1041-1022-P JEXU-1041-1022-NP	Rev.1	May 2016 <Rev.1 Submitted>	Oct. 2016 (Rev.2)	Feb. 2017 (Rev.3)
Summary of MELTAC Platform Reliability	JEXU-1041-1027-P JEXU-1041-1027-NP	Rev.1	May 2016 <Rev.1 Submitted>	Oct. 2016 (Rev.2)	Feb. 2017 (Rev.3)
Summary of MELTAC Platform Equipment Qualification	JEXU-1041-1023-P JEXU-1041-1023-NP	Rev.2	Oct. 2016 (Rev.3)	Feb.2017 (Rev.4)	-
Summary of MELTAC Platform V&V	JEXU-1041-1026-P JEXU-1041-1026-NP	Rev.2	May 2016 <Rev.2 Submitted>	Oct. 2016 (Rev.3)	Feb. 2017 (Rev.4)

Table 3 Planned Revision for Summary of MELTAC Platform Design / Reliability / Equipment Qualification / V&V