

December 23, 2013

**ASME CLASS 1, 2, AND 3 COMPONENTS, COMPONENT SUPPORTS, AND CORE
SUPPORT STRUCTURES AUDIT PLAN**

February 3 - 6, 2014

**US-APWR DESIGN CERTIFICATION
Mitsubishi Heavy Industries, Ltd.
Docket No. 52-021**

Location: U.S Nuclear Regulatory Commission
Two White Flint North
11545 Rockville Pike
Rockville, MD 20852

Purpose:

The purpose of the audit is to verify that the United States - Advanced Pressurized Water Reactor (US-APWR) component design and qualification are being performed in accordance with the methodology and criteria described in the US-APWR design control document (DCD) in support of the design certification (DC) application.

This audit follows the guidelines in Office of New Reactors (NRO) Office Instruction NRO-REG-108 (Revision 0), "Regulatory Audits."

Background and Audit Bases:

In 2007, Mitsubishi Heavy Industries, Ltd. (MHI) submitted a DC application for the US-APWR design. Subsequently, the applicant provided a list of risk-significant components for which design specifications would be complete and available for the NRC audit. The list is included in the MHI Letter UAP-HF-13043, "List of Risk Significant ASME Section III Piping Systems and Components Associated with Revised Design Completion Plan for US-APWR Piping Systems and Components," dated March 1, 2013.

Request for Additional Information (RAI) 1015-7054, Question 03.09.03-31, tracks the need for the applicant to make available for audit design specifications and other design documents for ASME Class 1, 2, and 3 components.

In NUREG-0800, the Standard Review Plan (SRP), Section 3.9.3, "ASME Code Class 1, 2, and 3 Components and Component Supports, and Core Support Structures," Section 7 of Appendix A provides guidance that the staff may request the submission of the Code-required design documents (such as design specifications, design reports, load capacity data sheets, or other related material or portion thereof), in order to establish that the design criteria, analytical methods, and functional capability satisfy the guidance provided by SRP Section 3.9.3. This

includes verification that the design information described in the DCD was adequately translated into documentation for each of the components designed to ASME *Boiler and Pressure Vessel Code* (ASME Code) Section III, Class 1, 2, and 3 requirements.

In addition, the NRC staff will review the design and procurement specifications for selected components in support of its reviews of the following SRP sections:

- Section 3.9.4, "Control Rod Drive Systems"
- Section 3.9.5, "Reactor Pressure Vessel Internals"
- Section 3.9.6, "Functional Design, Qualification, and Inservice Testing Programs for Pumps, Valves, and Dynamic Restraints"
- Section 3.11, "Environmental Qualification of Mechanical and Electrical Equipment"

The NRC staff will review the classification of components in support of its review of the US-APWR DC application using SRP Sections 3.2.1, "Seismic Classification," and 3.2.2, "System Quality Group Classification." In conducting the review of the US-APWR DC application, the NRC staff requested that the applicant make available the design and procurement specifications and documents of component quality groups and classification (e.g. P&IDs, equipment classification documents) for the NRC staff to confirm the implementation of the US-APWR DCD provisions for the design and qualification of these components.

The audit basis is to confirm that the US-APWR component design and qualification are being performed and are consistent with the commitments made in the US-APWR DC application.

Scope:

The primary scope of this audit is the review of design and procurement specifications for components categorized as ASME Code Section III, Class 1, 2, and 3 components, component supports, and core supports and to verify that the component design is in accordance with the methodology and criteria described in the US-APWR DCD and ASME Code Section III. The staff will also review the documents of equipment classifications, quality groups and design process for other plant components of safety significance.

The reviewers will focus the audit on the areas shown in the list below:

- Verify that the design of ASME Code Section III, Class 1, 2, and 3 components reflects the US-APWR DCD.
- Verify that the design documents have been adequately prepared in accordance with the ASME Code, Section III, NCA-3250 for design specifications and other codes and standards needed to satisfy General Design Criterion (GDC) 1 and

GDC 2. This includes classification documents that establish the design basis for seismic and quality group classifications pertaining to risk-significant systems and importance to safety and safety related components.

- Verify that the component design meets the design criteria and that the analytical methods and functional capability are in accordance with the commitments made in the US-APWR DCD.

The staff has included Table 1: "List of Risk Significant Components" as Enclosure 1 and Table 2: "List of Planned Procurement Specifications" as Enclosure 2 with tentative NRC staff reviewers of the specifications.

Audit Team:

Staff from the Mechanical Engineering Branch (MEB) knowledgeable in US-APWR DCD, as well as SRP Sections 3.2.1, 3.2.2, 3.9.3, 3.9.4, 3.9.5, 3.9.6 and 3.11, will comprise the audit team.

- Tuan D. Le, Mechanical Engineer, Audit Lead (NRC)
- Thomas G. Scarbrough, Sr. Mechanical Engineer (NRC)
- James Strnisha, Mechanical Engineer (NRC)
- Sardar Ahmed, Mechanical Engineer (NRC)
- Jason J. Huang, Mechanical Engineer (NRC)
- Project Manager (NRC) (TBD)

Information and Other Materials Needed for the Audit:

The NRC staff and the applicant have agreed that the audit will be conducted via an electronic reading room. The following design documents should be available to the audit team in the electronic reading room.

- Design and procurement specifications of the risk significant components, including the applicant's supporting documents listed in each specification.
- All classification documents related to the design specifications identified in Enclosure 1, including engineering drawings.
- Other documents that the applicant deems necessary to support the NRC staff's audit.

The applicant is also requested to prepare a list of the documents that have been made available via the electronic reading room during the audit, including the document titles, identifying numbers, and revisions.

Logistics:

The NRC staff and the applicant have agreed that the audit will be conducted via an electronic reading room. In support of this approach, the applicant has agreed to make knowledgeable

staff available to discuss preliminary audit findings via teleconference at the beginning of the second and third days of the audit. The staff requests that the applicant briefly identify the primary and supporting documents provided in the electronic reading room prior to the audit. A teleconference is tentatively scheduled for 8:00 a.m., Thursday, January 30, 2014, for this purpose.

The audit is tentatively scheduled for February 3 - 5, 2014, between 7:15 a.m. and 4:00 p.m., concluding with an exit teleconference at 8:00 a.m. on February 6, 2014, to provide the applicant with the summary of preliminary audit findings. The staff requests that all design documents be uploaded into the electronic reading room one week prior to the first audit day. The NRC staff will have internal meetings between 2:30 p.m. through 3:00 p.m. each audit day to summarize preliminary findings. A summary of daily audit preliminary findings will be provided to the applicant via email for discussion on the following morning.

Schedule and Deliverable:

A summary report of the audit will be prepared and issued in accordance with NRO-REG-108 within 45 days following completion of the audit.

References:

1. NRO Office Instruction NRO-REG-108 (Revision 0), "Regulatory Audits."
2. MHI Letter UAP-HF-13043, "List of Risk Significant ASME Section III Piping Systems and Components Associated with Revised Design Completion Plan for US-APWR Piping Systems and Components" dated March 1, 2013.
3. ASME Boiler and Pressure Vessel Code, Section III, Division 1, "Rules for Construction of Nuclear Facility Components."
4. SRP Section 3.9.3, "ASME Code Class 1, 2, and 3 Components and Component Supports, and Core Support Structures."
5. SRP Section 3.9.4, "Control Rod Drive Systems."
6. SRP Section 3.9.5, "Reactor Pressure Vessel Internals."
7. SRP Section 3.9.6, "Functional Design, Qualification, and In-service Testing Programs for Pumps, Valves, and Dynamic Restraints."
8. SRP Section 3.11, "Environmental Qualification of Mechanical and Electrical Equipment."

9. SRP Section 3.2.1, "Seismic Classification."
10. SRP Section 3.2.2 "System Quality Group Classification."

Docket No. 52-021

cc: See next page

9. SRP Section 3.2.1, "Seismic Classification"

10. SRP Section 3.2.2 "System Quality Group Classification"

Docket No. 52-021

cc: See next page

DISTRIBUTION:

PUBLIC	RidsNroLACSmith	RidsOpaMailCenter	SAhmed, NRO
LB2 R/F	RidsAcrcAcnwMailCenter	RidsNroDnrILb2	JHuang, NRO
D081	RidsOgcMailCenter	TClark, NRO	JStrnisha, NRO
TLe, NRO	TScarbrough, NRO	DGalvin, NRO	

ADAMS Accession No.: ML13353A159

NRC-001

OFFICE	DNRL/LB2: PM	DNRL/LB2: LA	DNRL/LB2: PM	DNRL/LB2: PM
NAME	DGalvin	CMurphy*	PBuckberg*	DGalvin (PBuckberg for)
DATE	12/20/2013	12/19/2013	12/23/2013	12/23/2013

OFFICIAL RECORD COPY

DC Mitsubishi - US APWR Mailing List
cc:

(Revised 07/25/2013)

Mr. Robert E. Sweeney
IBEX ESI
4641 Montgomery Avenue
Suite 350
Bethesda, MD 20814

Mr. Gary Wright, Director
Division of Nuclear Facility Safety
Illinois Emergency Management Agency
1035 Outer Park Drive
Springfield, IL 62704

DC Mitsubishi - US APWR Mailing List

Email

acpasswater@aol.com (Al Passwater)
APH@NEI.org (Adrian Heymer)
atsushi_kumaki@mhi.co.jp (Atsushi Kumaki)
awc@nei.org (Anne W. Cottingham)
bgattoni@roe.com (William (Bill) Gattoni))
CumminWE@Westinghouse.com (Edward W. Cummins)
cwaltman@roe.com (C. Waltman)
david.hinds@ge.com (David Hinds)
david.lewis@pillsburylaw.com (David Lewis)
DeLaBarreR@state.gov (R. DeLaBarre)
donald.woodlan@luminant.com (Donald Woodlan)
eliza.seedcoalition@gmail.com (Elza Brown)
erg-xl@cox.net (Eddie R. Grant)
erin_wisler@mnes-us.com (Erin Wisler)
ewallace@nuscalepower.com (Ed Wallace)
gcesare@enercon.com (Guy Cesare)
hiroki_nishio@mhi.co.jp (Hiroki Nishio)
james1.beard@ge.com (James Beard)
jerald.head@ge.com (Jerald G. Head)
Joseph_Hegner@dom.com (Joseph Hegner)
joseph_tapia@mnes-us.com (Joseph Tapia)
jrappe@nuscalepower.com (Jodi Rappe)
jrund@morganlewis.com (Jonathan Rund)
karlg@att.net (Karl Gross)
kevin_lynn@mnes-us.com (Kevin Lynn)
KSutton@morganlewis.com (Kathryn M. Sutton)
kwaugh@impact-net.org (Kenneth O. Waugh)
lchandler@morganlewis.com (Lawrence J. Chandler)
lon.burnam@house.state.tx.us (Lon Burnam)
m.goto@mnes_us.com
maria.webb@pillsburylaw.com (Maria Webb)
mark.a.giles@dom.com (Mark Giles)
masanori_onozuka@mnes-us.com (Masanori Onozuka)
masatoshi_nagai@mnes-us.com (Masatoshi Nagai)
matias.travieso-diaz@pillsburylaw.com (Matias Travieso-Diaz)
media@nei.org (Scott Peterson)
michael_melton@mnes-us.com (Michael Melton)
MSF@nei.org (Marvin Fertel)
nirsnet@nirs.org (Michael Mariotte)
Nuclaw@mindspring.com (Robert Temple)
patriciaL.campbell@ge.com (Patricia L. Campbell)
paul.gaukler@pillsburylaw.com (Paul Gaukler)
Paul@beyondnuclear.org (Paul Gunter)

DC Mitsubishi - US APWR Mailing List

pbessette@morganlewis.com (Paul Bessette)
plarimore@talisman-intl.com (Patty Larimore)
rebecca_steinman@mnes-us.com (Rebecca Steinman)
RJB@NEI.org (Russell Bell)
ryan_sprengel@mnes-us.com (Ryan Sprengel)
sabinski@suddenlink.net (Steve A. Bennett)
sfrantz@morganlewis.com (Stephen P. Frantz)
stephan.moen@ge.com (Stephan Moen)
strambgb@westinghouse.com (George Stramback)
Tansel.Selekler@nuclear.energy.gov (Tansel Selekler)
tgilder1@luminant.com (Tim Gilder)
tmatthews@morganlewis.com (T. Matthews)
tom.miller@hq.doe.gov (Tom Miller)
Tony.Robinson@areva.com (Tony Robinson)
trsmith@winston.com (Tyson Smith)
Vanessa.quinn@dhs.gov (Vanessa Quinn)
vijukrp@westinghouse.com (Ronald P. Vijuk)
Wanda.K.Marshall@dom.com (Wanda K. Marshall)
whorin@winston.com (W. Horin)
yoshiki_ogata@mhi.co.jp (Yoshiki Ogata)

Table 1: List of Risk Significant Components¹

Design Specifications						
System and PSCs	Risk Significant ²	Equipment Class	ASME Code Class	Design Specification	Document Number	Staff ³
Reactor System						
Upper core support assembly	Table 17.4-1 #23-4	3	CS	Core Support Structure Design Specification	N0-EC40001	TL
Lower core support Assembly		3	CS	Core Support Structure Design Specification	N0-EC40001	TL
Control rod drive mechanism latch housing	Table 17.4-1 #23-3	1	1	Control Rod Drive Mechanism Design Specification	N0-EC50001	JH, TL
Control rod drive mechanism rod travel housing		1	1	Control Rod Drive Mechanism Design Specification	N0-EC50001	JH, TL
Internal structure	Table 17.4-1 #23-4	5	CS	Reactor Internals Function Requirements	N0-EC40002	JH, TL
Reactor Coolant System						
Reactor vessel	Table 17.4-1 #29-5	1	1	General Design Specification For Class 1	N0-FB10L01	TL
				Reactor Vessel Design Specification	N0-F100L01	TL
Reactor vessel head	Table 17.4-1 #29-5	1	1	General Design Specification For Class 1	N0-FB10L01	TL
				Reactor Vessel Design Specification	N0-F100L01	TL
Reactor coolant pump casing	Table 17.4-1 #29-4	1	1	General Design Specification For Class 1	N0-FB10L01	TL
				Reactor Coolant Pump Design Specification	N0-F600001	TL
Reactor coolant pump main flange	Table 17.4-1 #29-4	1	1	General Design Specification For Class 1	N0-FB10L01	TL
				Reactor Coolant Pump Design Specification	N0-F600001	TL
Reactor coolant pump thermal barrier heat exchanger	Table 17.4-1 #29-4	1	1	General Design Specification For Class 1	N0-FB10L01	TL
				Reactor Coolant Pump Design Specification	N0-F600001	TL
Reactor coolant pump #1 seal housing	Table 17.4-1 #29-4	1	1	General Design Specification For Class 1	N0-FB10L01	TL
				Reactor Coolant Pump Design Specification	N0-F600001	TL
Reactor coolant pump #2 seal housing	Table 17.4-1 #29-4	2	1	General Design Specification For Class 1	N0-FB10L01	JS
				Reactor Coolant Pump Design Specification	N0-F600001	JS
Reactor coolant pump pressure	Table 17.4-1	1	1	General Design	N0-FB10L01	SA

Design Specifications						
System and PSCs	Risk Significant ²	Equipment Class	ASME Code Class	Design Specification	Document Number	Staff ³
retaining bolting	#29-4			Specification For Class 1		
				Reactor Coolant Pump Design Specification	N0-F600001	SA
Pressurizer	Table 17.4-1 #19-4	1	1	General Design Specification For Class 1	N0-FB10L01	TL
				Pressurizer Design Specification	N0-F500L01	TL
Pressurizer piping upstream of and including the pressurizer safety valves RCS-SRV-120,121,122,123, safety depressurization valves RCS-MOV- 117A,B, and depressurization valves RCS-MOV-119	Table 17.4-1 #19-5	1	1	Class 1 Piping ASME Design Specification (Excluding Reactor Coolant Loop Piping)	N0-GB00002	SA
Letdown line piping upstream of and including the letdown line stop valves RCS-VLV-021	Table 17.4-1 #29-2	1	1	Class 1 Piping ASME Design Specification (Excluding Reactor Coolant Loop Piping)	N0-GB00002	SA
Steam generator tube side	Table 17.4-1 #29-1	1	1	General Design Specification For Class 1	N0-FB10L01	TL
				Steam Generator Design Specification	N0-F400L01	TL
Steam generator shell side	Table 17.4-1 #29-1	2	2	General Design Specification For Class 1	N0-FB10L01	TL
				Steam Generator Design Specification	N0-F400L01	TL
Reactor coolant piping	Table 17.4-1 #29-2	1	1	General Design Specification For Class 1	N0-FB10L01	SA
				Reactor Coolant Loop Piping Design Specification	N0-F700L01	SA
Pressurizer surge line piping	Table 17.4-1 #29-2	1	1	Class 1 Piping ASME Design Specification (Excluding Reactor Coolant Loop Piping)	N0-GB00002	SA
Pressurizer spray line piping	Table 17.4-1 #19-5	1	1	Class 1 Piping ASME Design Specification (Excluding Reactor Coolant Loop Piping)	N0-GB00002	SA
Chemical And Volume Control System						
Charging pumps	Table 17.4-1 #2-4	3	3	Charging Pump Design Specification	N0-FB24001	JS, TS

Design Specifications						
System and PSCs	Risk Significant ²	Equipment Class	ASME Code Class	Design Specification	Document Number	Staff ³
Regenerative heat exchanger	Table 17.4-1 #2-24	3	3	Regenerative Heat Exchanger Design Specification	N0-FB22502	TL
Reactor coolant pump seal water injection piping and valves downstream of including valves CVS-VLV-180A, B, C, D	Table 17.4-1 #2-42	3	1	Class 1 Piping ASME Design Specification (Excluding Reactor Coolant Loop Piping)	N0-GB00002	SA
Charging lines from and including valves CVS-VLV-158 and CVS-AOV-159 to their penetration into the reactor coolant system	Table 17.4-1 #2-42	1	1	Class 1 Piping ASME Design Specification (Excluding Reactor Coolant Loop Piping)	N0-GB00002	SA
Auxiliary spray line from and including valves CVS-AOV-155 to the penetration into the RCS	Table 17.4-1 #29-2	1	1	Class 1 Piping ASME Design Specification (Excluding Reactor Coolant Loop Piping)	N0-GB00002	SA
Safety Injection System						
Safety injection pumps	Table 17.4-1 #11-9	2	2	Safety Injection Pump Design Specification	N0-FB34001	JS, TS
Safety injection piping and valves between the System penetration and including the second check valve SIS- VLV-012A, B, C, D upstream of the direct Vessel Injection penetration	Table 17.4-1 #11-12	1	1	Class 1 Piping ASME Design Specification (Excluding Reactor Coolant Loop Piping)	N0-GB00002	SA
Hot leg injection piping downstream of and including the motor operated valves SIS-MOV-014A, B, C, D	Table 17.4-1 #11-12 Table 17.4-1 #29-3	1	1	Class 1 Piping ASME Design Specification (Excluding Reactor Coolant Loop Piping)	N0-GB00002	SA
Accumulator	Table 17.4-1 #1-6	2	2	Accumulator Design Specification	N0-F000L01	TL
Accumulator piping and valves on the reactor coolant system side of and including the second check valves SIS-VLV-102A, B, C, D	Table 17.4-1 #1-5	1	1	Class 1 Piping ASME Design Specification (Excluding Reactor Coolant Loop Piping)	N0-GB00002	SA
Emergency letdown isolation valves SIS-MOV-031A, 031D, 032A, 032D and piping between valves	Table 17.4-1 #29-8	1	1	Class 1 Piping ASME Design Specification (Excluding Reactor Coolant Loop Piping)	N0-GB00002	SA, TS
Residual Heat Removal System(Rhrs)						
Containment Spray/Residual Heat Removal pumps	Table 17.4-1 #21-6	2	2	Containment Spray/Residual Heat Removal Pump Design	N0-FB44001	TS, JS

Design Specifications						
System and PSCs	Risk Significant ²	Equipment Class	ASME Code Class	Design Specification	Document Number	Staff ³
				Specification		
Containment spray/residual heat removal heat exchangers - tube side	Table 17.4-1 #21-8	2	2	Containment Spray/Residual Heat Removal Heat Exchanger Design Specification	N0-FB42501	TL
Containment spray/residual heat removal heat exchangers - component cooling water side	Table 17.4-1 #21-8	3	3	Containment Spray/Residual Heat Removal Heat Exchanger Design Specification	N0-FB42501	TL
Residual heat removal suction piping and valves on the reactor coolant system side between the hot legs, up to and including the second motor operated valves RHS- MOV-002A, B, C, D	Table 17.4-1 #21-13	1	1	Class 1 Piping ASME Design Specification (Excluding Reactor Coolant Loop Piping)	N0-GB00002	TL
Residual heat removal discharge piping and valves on the reactor coolant system side between the cold legs, up to and including the second check valves RHS-VLV- 027A,B,C,D	Table 17.4-1 #21-13	1	1	Class 1 Piping ASME Design Specification (Excluding Reactor Coolant Loop Piping)	N0-GB00002	SA
Emergency Feed Water System (EFWS)						
Emergency feed water pumps	Table 17.4-1 #6-3	3	3	Emergency Feedwater Pump (Motor Driven) Design Specification	N0-FB54001	JS, TS
	Table 17.4-1 #6-4	3	3	Emergency Feedwater Pump (Turbine Driven) Design Specification	N0-FB54002	JS, TS
Main Steam Supply System (MSS)						
Main steam piping and valves including branch pipe from steam generators up to and including the following valves: 4 Nitrogen supply piping valves MSS-VLV-531A, B, C, D Main steam isolation valves MSS-SMV-515A, B, C, D Main steam bypass isolation valves MSS-HCV-565, 575,585, 595 Main steam relief valves MSS-PCV-515, 525, 535, 545 Main steam depressurization valves MSS-MOV- 508A,B,C,D	Table 17.4-1 #18-3	2	2	Class 2 Main Steam Piping ASME Design Specification	N0-GB00004	SA

Design Specifications						
System and PSCs	Risk Significant ²	Equipment Class	ASME Code Class	Design Specification	Document Number	Staff ³
Main steam safety valves MSS-SRV-509A,B,C,D, 510A,B,C,D, 511A,B,C,D, 512A,B,C,D, 513A,B,C,D, 514A,B,C,D						
Component Cooling Water System (CCWS)						
Component cooling water pumps	Table 17.4-1 #3-2	3	3	Component Cooling Water Pump Design	N0-FC04001	TS, JS
Component cooling water surge tanks	Table 17.4-1 #3-44	3	3	Shop Fabricated Tanks Design Specification	N0-FC01501	TL
Component cooling water heat exchangers	Table 17.4-1 #3-3	3	3	Plate Heat Exchangers Design Specification	N0-FC02501	TL
Spent Fuel Pit Cooling And Purification System (SPFCS)						
Spent fuel pit pumps	Table 17.4-1 #26-10	3	3	Safety Related Horizontal Centrifugal Pumps Design Specification	N0-FC14U01	TS, JS
Spent fuel pit heat exchangers	Table 17.4-1 #26-9	3	3	Plate Heat Exchangers Design Specification	N0-FC02501	SA
Essential Service Water System (ESWS)						
Essential service water pumps	Table 17.4-1 #25-2	3	3	Vertical Centrifugal Pumps Design Specification	N0-FC24U01	TS, JS
Refueling Water Storage System						
Refueling water recirculation pumps	Table 17.4-1 #22-7	3	3	Safety Related Horizontal Centrifugal Pumps Design Specification	N0-FC14U01	TS, JS
Containment System						
Containment vessel	Table 17.4-1 #4-1	2	CC	Prestressed Concrete Containment Vessel (PCCV) Design Specification	N0-FH00001	SA
Equipment hatch	Table 17.4-1 #4-4	2	MC	Equipment Hatch Of Containment Vessel Design Specification	N0-FH00202	SA
Personnel airlock	Table 17.4-1 #4-4	2	MC	Airlocks Of Containment Vessel Design	N0-FH00201	SA
Essential Chilled Water System						
Essential chiller units Evaporator side Condenser side	Table 17.4-1 #24-1	3	3	Design Specification For Essential Chiller Unit (Safety Related)	N0-FE34002	SA
Essential chilled water pumps	Table 17.4-1 #24-2	3	3	Safety Related Horizontal Centrifugal Pumps Design	N0-FC14U01	TS, JS

Design Specifications						
System and PSCs	Risk Significant ²	Equipment Class	ASME Code Class	Design Specification	Document Number	Staff ³
				Specification		
Essential chilled water compression tanks	Table 17.4-1 #24-3	3	3	Shop Fabricated Tanks Design Specification	N0-FC01501	SA

Notes:

1. From MHI-supplied list of risk significant components for regulatory audit
2. Risk significant components were detailed from DCD Tier 2, Table 17.4.
3. Tentative Staff Reviewers (also applies to Table 2):

TL Tuan D. Le
JH Jason J. Huang
JS James Strnisha
SA Sardar Ahmed
TS Thomas G. Scarbrough

Table 2: List of Planned Procurement Specifications

Procurement Specifications		
Document Title	Document Number	Staff
General Air Operated Valve Procurement Specification (Safety Related)	N0-GC00043	TS, JS
General Motor Operated Valve Procurement Specification (Safety Related)	N0-GC00026	TS, JS
Check Valve Procurement Specification (Safety Related)	N0-GC00065	TS, SA
Safety Injection Pump Procurement Specification	N0-FB34001	TS, JS
Steam Generator Support Procurement Specification	N0-EF10S02	TS, TL
General Equipment Qualification Specification	N0-EK10012	TS, JS
Valve Equipment Qualification Specification (Safety Related)	N0-GC00103	TS, JS
Pump Equipment Qualification Specification (Safety Related)	N0-FB00100	TS, JS
Dynamic Restraint Qualification Specification (Safety Related)	N0-EF10S05	TS, TL