SCE&G • Santee Cooper
Shaw • Westinghouse Electric Company

Report ITAAC

August 16, 2012

Overview

- “Report” ITAAC rely on a technical report to satisfy the acceptance criteria of the ITAAC
- Examples of Report ITAAC include:
  - Equipment Qualification
    - Environmental Qualification
    - Functional Qualification
    - Seismic Qualification
  - ASME
    - Piping/Component Design
    - Piping/Component As-Built
    - Weld NDE/hydrostatic tests

ASME Report ITAAC

- Typically satisfied by the N-5 Code Data Report
- N-5 Code Data Report can be defined as
  - *A document that certifies that [materials, design, fabrication, examination, testing, and inspection] of an item are in accordance with the requirements of ASME Section III*
- Example ITAAC from Appendix C of the VCS Unit 2 COL:

2.1.02.03a	3.a) Pressure boundary welds in components identified in Table 2.1.2-1 as ASME Code Section III meet ASME Code Section III requirements.	Inspection of the as-built pressure boundary welds will be performed in accordance with the ASME Code Section III.	A report exists and concludes that the ASME Code Section III requirements are met for non-destructive examination of pressure boundary welds.

Piping System Construction Process & Documentation

[Note] – This is ASME “Construction” which is an all-inclusive term

- Initial Design – Design Specification
- Material Procurement – CMTRs/CofCs
- Fabrication – Welding/Mechanical Data Sheets
- Examination – NDE Reports
- Testing – Pressure Test Reports
- Inspection – ANI oversight
- As-built reconciliation – Dimensional checks
- Final Design Report – Design meets Design Specification
- Certification and Stamping – The Code Data Report

N-5 Report Attributes

- Represents an index to (as applicable):
  - Design Specification
  - CMTRs/CofCs
  - Welding/Mechanical Data Sheets
  - NDE Reports
  - Pressure Test Reports
  - ANI oversight
  - As-built reconciliation
  - Final Design Report
  - Certification and Stamping – The Code Data Report

ASME ITAAC CLOSURE

- Based on the contents and comprehensive nature of the Data Report process, the N-5 Data Report will serve as the basis for closure of these ASME-related ITAAC issues.

The Final Product – Data Report
N-5 Form – The Index

FORM N-5 CERTIFICATE HOLDER'S DATA REPORT FOR INSTALLATION OR SHOP ASSEMBLY OF NUCLEAR POWER PLANT COMPONENTS, SUPPORTS, AND APPURTENANCES*

As Required by the Provisions of the ASME Code, Section III, Division 1

Pg. 1 of 11

1. Installed and certified by: Shaw Nuclear, 7828 River Road, Waynesboro, GA 30830 (name and address of N or NA Certificate Holder)

2. Installed for: Southern Nuclear, Plant Vogtle Unit 3, 7828 River Road, Waynesboro, GA 30830 (name and address of Purchaser)

3. Location of Installation: Plant Vogtle Unit 3, 7828 River Road, Waynesboro, GA 30830 (name and address)

4. System Identification					
Main Steam (system name)	SV3-RCS-1 (Cert. Holder's serial no.)	See Attachment A (drawing no.)	N/A (CRN)	N/A (National Bd. No.)	2011 (year installed)

5. ASME Code, Section III, Division 1				
1998 (edition)	2000 (addenda date)	2 & 3 (Class)	0 (Code Case no.)	

6. N Certificate Holder having overall responsibility: Westinghouse Electric Corporation (name and address)

7. Nuclear components, parts, appurtenances, and supports installed: (List each item and attach copies of N Certificate Holders' Data Reports and NPT Certificate Holder's Data Reports.)

Components

(a) Comp. or Appurt.	(b) Name of Certificate Holder	(c) Serial No.	(d) CRN No.	(e) National Bd. No.	(f) Year Built
See Attachment B					

Piping and part installation

(a) Piping or Part Subassembly	(b) Name of Certificate Holder	(c) Serial No.	(d) CRN No.	(e) National Bd. No.	(f) Year Built—Parts Only
See Attachment C					

Support Installation

(a) Support No.	(b) Name of Certificate Holder	(c) Serial No.	(d) Design Report/Location Capac. Data Sheet	(e) CRN No.	(f) National Bd. No.	(g) Year Built
See Attachment D						

Additional material excluding welding material

(a) Name of Manufacturer	(b) Material Spec. No.	(c) Dimensions—Overall
See Attachment E		

8. Installation in accordance with Procedure or Drawing No.: See Attachment F — Prepared by

9. Hydrostatic Test Pressure: See Attachment G at temp N/A System Design Pressure N/A at temp N/A

10. Remarks: None

* Supplemental information in the form of lists, sketches, or drawings may be used provided: (1) size is 8 1/2 x 11; (2) information in items 1 and 4 on this Data Report is included on each sheet; and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

Note - This Form is Based on ASME Data Report Version (09/06)

FORM N-5 (Back) Pg. 2 of 11

Certificate Holder's Serial No. SV3-RCS-1

CERTIFICATION OF DESIGN FOR PIPING SYSTEM

Design information on file at: Plant Vogtle Unit 3, 7828 River Road, Waynesboro, GA 30830

Design report on file at: Plant Vogtle Unit 3, 7828 River Road, Waynesboro, GA 30830

Design specification certified by: John Doe P.E. State PA Reg. no. 123456

Design report certified by: John Doe P.E. State PA Reg. no. 123456

Design conditions of pressure piping: 1185 psi. Temp. 600 °F.

CERTIFICATE OF INSTALLATION COMPLIANCE

We certify that the statements made in this report are correct and that this installation conforms to the rules for construction of the ASME Code, Section III, Division 1, and was performed in accordance with the documents listed in 8 above.

N or NA Certificate of Authorization No. N-1511-1 Expires 6/30/2013

Date 8/2/11 Name Shaw Nuclear (N or NA Certificate Holder) Signed (authorized representative)

CERTIFICATE OF INSTALLATION INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of GA and employed by HSB-CT of CT have inspected the installation of the items described in this Data Report on 8/11/2011 and state that to the best of my knowledge and belief, the Certificate of Authorization Holder has performed this installation in accordance with the ASME Code, Section III, Division 1.

By signing this certificate neither the inspector nor his employer makes any warranty, expressed or implied, concerning the installation described in this Data Report. Furthermore, neither the inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date Signed (Authorized Nuclear Inspector) Commissions (Nat'l. Bd. (incl. endorsements) and state or prov. and no.)

CERTIFICATE OF COMPLIANCE FOR OVERALL RESPONSIBILITY

Following completion of the above, the Certificate of Authorization Holder accepting overall responsibility for the piping system shall complete the following statement.

We certify that the statements made by this report are correct and that the piping system conforms to the rules for construction of the ASME Code, Section III, Division 1.

N Certificate of Authorization No. N-1149 Expires 11/24/2013

Date 8/8/11 Name Westinghouse (N Certificate Holder) Signed (authorized representative)

CERTIFICATE OF INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of GA and employed by HSBCT of CT have inspected the piping system described in this Data Report on 8/11/2011 and state that to the best of my knowledge and belief, the Certificate Holder has connected this piping system in accordance with the ASME Code, Section III, Division 1.

By signing this certificate, neither the inspector nor his employer makes any warranty, expressed or implied, concerning the piping system described in this Data Report. Furthermore, neither the inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date 8/11/11 Signed (Authorized Nuclear Inspector) Commissions (Nat'l. Bd. (incl. endorsements) and state or prov. and no.)

The Final Product – Data Report Drawings – Page 1

Pg. 3 of 11

ATTACHMENT A (Page 1) (DRAWINGS) TO N-5 DATA REPORT

SV3-RCS-1

1. Installed and certified by: Shaw Nuclear, 7828 River Road, Waynesboro, GA 30830 (name and address of N or NA Certificate Holder)

2. Installed for: Southern Nuclear, Plant Vogtle Unit 3, 7828 River Road, Waynesboro, GA 30830 (name and address of Purchaser)

3. Location of installation: Plant Vogtle Unit 3, 7828 River Road, Waynesboro, GA 30830 (name and address)

4. System identification

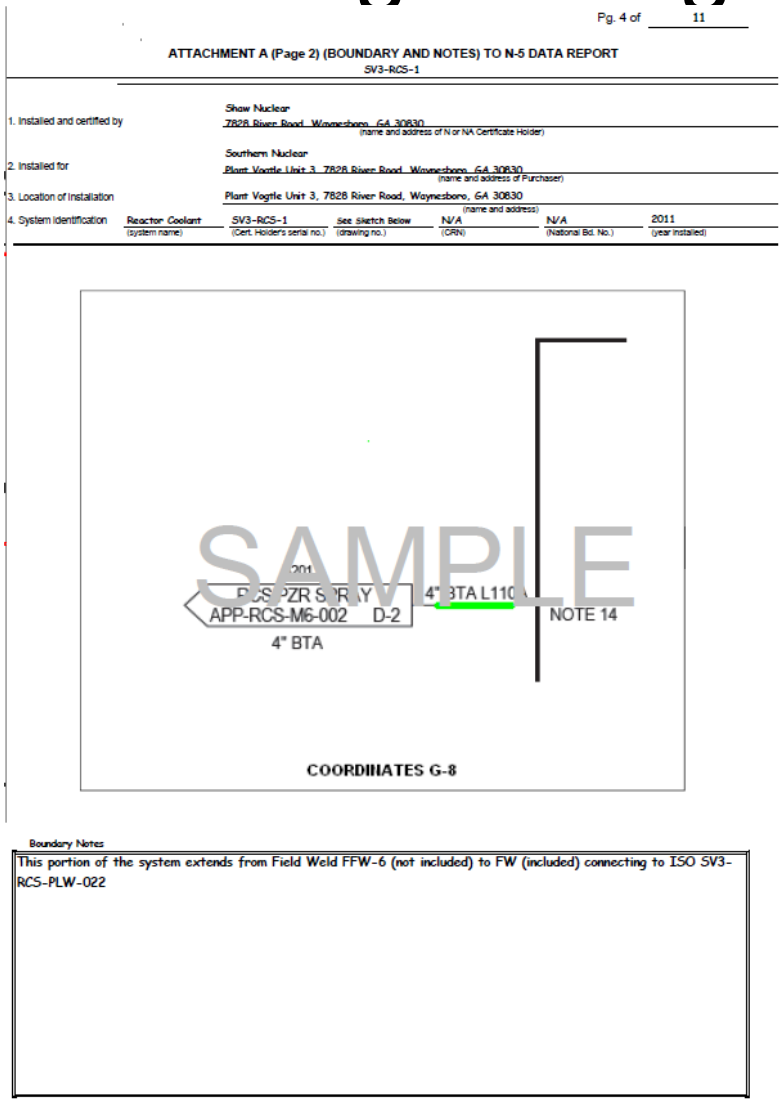
Reactor Coolant	SV3-RCS-1	See List Below	N/A	N/A	2011
(system name)	(Cert. Holder's serial no.)	(drawing no.)	(CRN)	(National Bd. No.)	(year installed)

Drawing Number	Revision	Drawing Number	Revision
SV3-RCS-M6	0		

VCS V.C. SUMMER NEW NUCLEAR PROJECT

SCE&G • Santee Cooper
Shaw • Westinghouse Electric Company

The Final Product – Data Report Drawings – Page 2



Pg. 4 of 11

ATTACHMENT A (Page 2) (BOUNDARY AND NOTES) TO N-5 DATA REPORT
SV3-RCS-1

1. Installed and certified by: Shaw Nuclear, 7828 River Road, Waynesboro, GA 30830 (name and address of N or NA Certificate Holder)
2. Installed for: Southern Nuclear, Plant Vogtle Unit 3, 7828 River Road, Waynesboro, GA 30830 (name and address of Purchaser)
3. Location of installation: Plant Vogtle Unit 3, 7828 River Road, Waynesboro, GA 30830 (name and address)
4. System Identification: Reactor Coolant (system name) | SV3-RCS-1 (Cert. Holder's serial no.) | See Sketch Below (drawing no.) | N/A (CRN) | N/A (National Bd. No.) | 2011 (year installed)

APP-RCS-M6-002 D-2
4" BTA
NOTE 14

COORDINATES G-8

Boundary Notes

This portion of the system extends from Field Weld FFW-6 (not included) to FW (included) connecting to ISO SV3-RCS-PLW-022

The Final Product – Data Report Components

Pg. 5 of 11

ATTACHMENT B (COMPONENTS/APPURTENANCES) TO N-5 DATA REPORT

SV3-RCS-1

1. Installed and certified by: Shaw Nuclear, 7828 River Road, Waynesboro, GA 30830 (name and address of N or NA Certificate Holder)

2. Installed for: Southern Nuclear, Plant Vogtle Unit 3, 7828 River Road, Waynesboro, GA 30830 (name and address of Purchaser)

3. Location of Installation: Plant Vogtle Unit 3, 7828 River Road, Waynesboro, GA 30830 (name and address)

4. System Identification

Reactor Coolant (system name)	SV3-RCS-1 (Cert. Holder's serial no.)	See Attachment A (drawing no.)	N/A (CRN)	N/A (National Bd. No.)	2011 (year installed)

Component or Appurtenance	Manufacturer	Serial Number	Year Built	Identification
Valve	ACME Valve Company	12345	2011	SV3-RCS-V011A

The Final Product – Data Report Subassemblies

Pg. 6 of

ATTACHMENT C (PIPING SUBASSEMBLIES) TO N-5 DATA REPORT

SV3-RCS-1

1. Installed and certified by: Shaw Nuclear, 7828 River Road, Waynesboro, GA 30830 (name and address of N or NA Certificate Holder)

2. Installed for: Southern Nuclear, Plant Vogtle Unit 3, 7828 River Road, Waynesboro, GA 30830 (name and address of Purchaser)

3. Location of installation: Plant Vogtle Unit 3, 7828 River Road, Waynesboro, GA 30830 (name and address)

4. System identification

Reactor Coolant	SV3-RCS-1	See Attachment A	N/A	N/A	2011
(system name)	(Cert. Holder's serial no.)	(drawing no.)	(CRN)	(National Bd. No.)	(year installed)

Subassembly Number	Manufacturer	Serial Number	Year Built
SV3-RCS-PLW-021-1	B. F. Shaw	SV3-RCS-PLW-021-1	2011
SV3-RCS-PLW-021-2	B. F. Shaw	SV3-RCS-PLW-021-2	2011

VCS V.C. SUMMER NEW NUCLEAR PROJECT

SCE&G • Santee Cooper
Shaw • Westinghouse Electric Company

The Final Product – Data Report Supports

Pg. 7 of 11

ATTACHMENT D (SUPPORTS) TO N-5 DATA REPORT

SV3-RCS-1

1. Installed and certified by: Shaw Nuclear, 7828 River Road, Waynesboro, GA 30830 (name and address of N or NA Certificate Holder)

2. Installed for: Southern Nuclear, Plant Vogtle Unit 3, 7828 River Road, Waynesboro, GA 30830 (name and address of Purchaser)

3. Location of installation: Plant Vogtle Unit 3, 7828 River Road, Waynesboro, GA 30830 (name and address)

4. System Identification

Reactor Coolant	SV3-RCS-1	See Attachment A	N/A	N/A	2011
(system name)	(Cert. Holder's serial n	(drawing no.)	(CRN)	(National Bd. No.)	(year installed)

Description	Manufacturer	Serial Number	Year Built	Identification
Standard Support	Lisega	98765	2011	SV3-RCS-PH-11R00731

SAMPLE

The Final Product – Data Report Materials

ATTACHMENT E (MATERIAL) TO N-5 DATA REPORT

SV3-RCS-1

1. Installed and certified by: Shaw Nuclear (name and address of N or NA Certificate Holder)

2. Installed for: Southern Nuclear (name and address of Purchaser)

3. Location of installation: Plant Vogtle Unit 3, 7828 River Road, Waynesboro, GA 30830 (name and address)

4. System identification: Reactor Coolant (system name) | SV3-RCS-1 (Cert. Holder's serial no.) | See Attachment A (drawing no.) | N/A (CRN) | N/A (National Bd. No.) | 2011 (year installed)

Name of Manufacturer	Heat Number	Material Description, Type, and Grade
0	0	Flange, WN, 4", 2500#, SA-182 F316L
0	0	Pipe, 4", Schedule 120, SA-312, TP316L
0	0	Elbow, 4", Schedule 120, SA-403, WP316L
0	0	Pipe, 4", Schedule 120, SA-312, TP316L
0	0	Elbow, 4", Schedule 120, SA-403, WP316L
0	0	Pipe, 4", Schedule 120, SA-312, TP316L
0	0	Elbow, 4", Schedule 120, SA-403, WP316L
0	0	Pipe, 4", Schedule 120, SA-312, TP316L
0	0	Cap, BW, 4", Schedule 120, SA-403, WP316L

The Final Product – Data Report Welds

ATTACHMENT F (FIELD WELDS) TO N-5 DATA REPORT

SV3-RCS-1

1. Installed and certified by: Shaw Nuclear, 7828 River Road, Waynesboro, GA 30830 (name and address of N or NA Certificate Holder)

2. Installed for: Southern Nuclear, Plant Vogtle Unit 3, 7828 River Road, Waynesboro, GA 30830 (name and address of Purchaser)

3. Location of Installation: Plant Vogtle Unit 3, 7828 River Road, Waynesboro, GA 30830 (name and address)

4. System Identification: Reactor Coolant (system name) | SV3-RCS-1 (Cert. Holder's serial no.) | See Attachment A (drawing no.) | N/A (CRN) | N/A (National Bd. No.) | 2011 (year installed)

Control Drawing/Field Weld Number	Control Drawing/Field Weld Number	Control Drawing/Field Weld Number	Control Drawing/Field Weld Numbe
Control Drawing SV3-RCS-PLW-021, Rev. 6			
SV3-RCS-PLW-021-1			
SV3-RCS-PLW-021-2			
SV3-RCS-PLW-021-3			
SV3-RCS-PLW-021-4			
SV3-RCS-PLW-021-5			
SV3-RCS-PLW-021-6			
SV3-RCS-PLW-021-7			
SV3-RCS-PLW-021-8			

The Final Product – Data Report Pressure Tests

ATTACHMENT G (HYDROSTATIC TESTS) TO N-5 DATA REPORT

SV3-RCS-1

1. Installed and certified by: Shaw Nuclear, 7828 River Road, Waynesboro, GA 30830 (name and address of N or NA Certificate Holder)

2. Installed for: Southern Nuclear, Plant Vogtle Unit 3, 7828 River Road, Waynesboro, GA 30830 (name and address of Purchaser)

3. Location of Installation: Plant Vogtle Unit 3, 7828 River Road, Waynesboro, GA 30830 (name and address)

4. System Identification

Reactor Coolant (system name)	SV3-RCS-1 (Cert. Holder's serial no.)	See Attachment A (drawing no.)	N/A (CRN)	N/A (National Bd. No.)	2011 (year installed)

Hydrostatic Test Package	Test Pressure (psig)	Working Pressure (psig)	Working Temperature (°F)
SV3-HYDRO-1	3106	2485	600

The Final Product – Data Report
N-5 Data Reports for Shop Assembly

Pg. 11 of 11

ATTACHMENT H (N-5 DATA REPORTS FOR SHOP ASSEMBLY) TO N-5 DATA REPORT

SV3-RCS-1

1. Installed and certified by: Shaw Nuclear, 7828 River Road, Waynesboro, GA 30830 (name and address of N or NA Certificate Holder)

2. Installed for: Southern Nuclear, Plant Vogtle Unit 3, 7828 River Road, Waynesboro, GA 30830 (name and address of Purchaser)

3. Location of installation: Plant Vogtle Unit 3, 7828 River Road, Waynesboro, GA 30830 (name and address)

4. System identification

Reactor Coolant	SV3-RCS-1	See Attachment A	N/A	N/A	2011
(system name)	(Cert. Holder's serial no.)	(drawing no.)	(CRN)	(National Bd. No.)	(year installed)

Installer	Serial Number	Year Built
B. F. Shaw	SV3-RCS-BF-1	2011

The Final Product – Data Report

ATTACHMENT J (NAMEPLATE) TO N-5 DATA REPORT

SV3-RCS-1

1. Installed and certified by: Shaw Nuclear, 7828 River Road, Waynesboro, GA 30830 (name and address of N or NA Certificate Holder)

2. Installed for: Southern Nuclear, Plant Vogtle Unit 3, 7828 River Road, Waynesboro, GA 30830 (name and address of Purchaser)

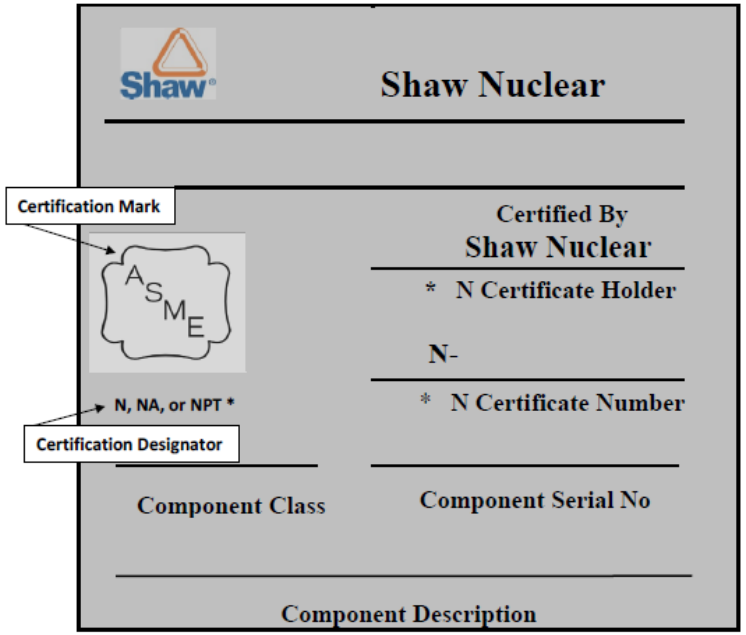
3. Location of installation: Plant Vogtle Unit 3, 7828 River Road, Waynesboro, GA 30830 (name and address)

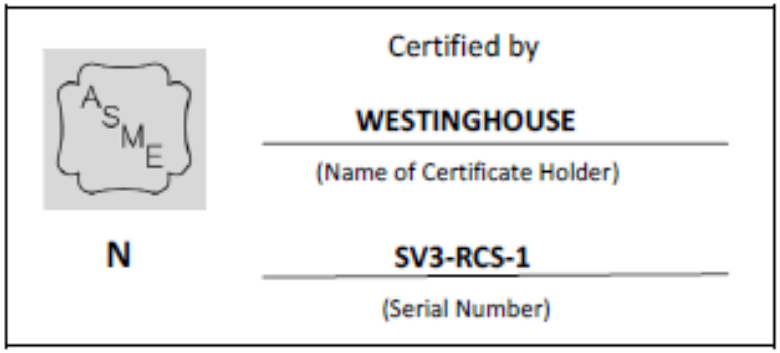
4. System identification

Reactor Coolant	SV3-RCS-1	See Attachment A	N/A	N/A	2011
(system name)	(Cert. Holder's serial no.)	(drawing no.)	(CRN)	(National Bd. No.)	(year installed)

SHAW NUCLEAR CODE NAMEPLATE – WITHOUT NATIONAL BOARD REGISTRATION (SAMPLE)

Data Report/System





NOTE: Items marked with an asterisk (*) will be changed to reflect the applicable type of Certificate of Authorization (i.e. N, NA, or NPT). Actual image used for Attachment J to the N-5 Data Report shall be a photo of the actual nameplate.

The Final Product – Data Report Preservice Inspection

ATTACHMENT K (Preservice Inspection) TO N-5 DATA REPORT

SV3-RCS-1

1. Installed and certified by: Shaw Nuclear, 7828 River Road, Waynesboro, GA 30830 (name and address of N or NA Certificate Holder)

2. Installed for: Southern Nuclear, Plant Vogtle Unit 3, 7828 River Road, Waynesboro, GA 30830 (name and address of Purchaser)

3. Location of installation: Plant Vogtle Unit 3, 7828 River Road, Waynesboro, GA 30830 (name and address)

4. System identification: Reactor Coolant (system name) | SV3-RCS-1 (Cert. Holder's serial no.) | See Attachment A (drawing no.) | N/A (CRN) | N/A (National Bd. No.) | 2011 (year installed)

Control Drawing/Field Weld Number	Preservice Report Number	Control Drawing/Field Weld Number	Preservice Report Number
Control Drawing SV3-RCS-PLW-021, Rev. 6			
SV3-RCS-PLW-021-1	Report A		
SV3-RCS-PLW-021-2	Report B		
SV3-RCS-PLW-021-3	Report C		
SV3-RCS-PLW-021-4	Report D		
SV3-RCS-PLW-021-5	Report E		
SV3-RCS-PLW-021-6	Not Required		
SV3-RCS-PLW-021-7	Not Required		
SV3-RCS-PLW-021-8	Not Required		

EQUIPMENT QUALIFICATION

EQ Report ITAAC

- Satisfied by Equipment Qualification Data Package(s) (EQDP) and Equipment Qualification Summary Report(s)
- Appendix 3D – Attachment A of the AP1000 DCD contains a sample EQDP
- Example ITAAC from Appendix C of the VCS Unit 2 COL:

2.1.02.07a.i	7.a) The Class 1E equipment identified in Table 2.1.2-1 as being qualified for a harsh environment can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.	i) Type tests, analyses, or a combination of type tests and analyses will be performed on Class 1E equipment located in a harsh environment.	i) A report exists and concludes that the Class 1E equipment identified in Table 2.1.2-1 as being qualified for a harsh environment can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.

EQDP & EQSR

- **EQ Data Package** – Provides description of the overall qualification program for that component/commodity, and a summary of the type testing and analysis results.
- **EQ Summary Report** – Summarizes the details of the qualification work performed

- Together, the EQDP and EQSR provide all of the information required by AP1000 DCD Appendix 3D.
- Together, the EQDP and EQSR for each component/commodity are the “report that exists and concludes” the equipment is qualified

EQDP Contents

1. **Specifications** – Equipment identification and requirements
2. **Qualification Program** – Description of overall program
3. **Qualification by Test** – Test Plan and Summary of Results
4. **Qualification by Analysis** – Analysis Methods and Results
5. **Qualification Program Conclusion**

EQSR Contents

1. **Introduction**
2. **Equipment to be Qualified** – Equipment description, identification, performance specifications, qualification requirements (Seismic, DBA, QME-1, etc.), qualification program
3. **Type Testing Performed** – General Description, Specific test names, descriptions, procedures, results and anomalies
4. **Analyses Performed** – General Discussion, specific name and description of each analysis, its scope, methodology, and results
5. **Qualification Basis** – Qualification Basis, statement of qualified lifetime/operating cycles
6. **Installation Requirements and Maintenance, Surveillance, and Replacement Program –** Limitations on installation, and maintenance/surveillance/replacement requirements
7. **Summary and Conclusions**