



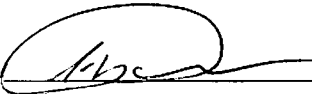
## Savannah River Site

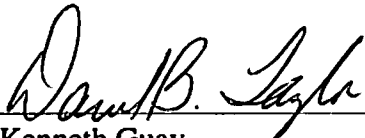
### Salt Waste Processing Facility Construction Turnover to Testing and Commissioning Oversight

SWPF-15-DI-001, Rev. 1

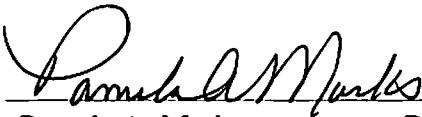
September, 2015

SIGNATURE PAGE

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<b>REV A</b>	<b>Internal Review by DOE Construction and Turnover Group</b>
<b>REV B</b>	<b>SWPF Project Office Review</b>
<b>REV C</b>	<b>Comments incorporated from SWPF Project Office Review</b>
<b>REV 0</b>	<b>Initial Issue</b>
<b>Rev 1</b>	<ul style="list-style-type: none"><li>• Changed Affidavit to Affirmation throughout document</li><li>• Updated section 5 to reflect improvements (use of OneNote) and process additions (after turnover reviews/LMRB) to the process</li><li>• Updated Attachment 1 to delete redundancies, and provide more detail in some sections</li><li>• Updated Attachments 2 and 3 to reflect actual templates being used.</li><li>• All others were minor editorial changes.</li></ul>

1.0 PURPOSE..... 5

2.0 SCOPE..... 5

3.0 TURNOVER OVERSIGHT ORGANIZATION ..... 5

4.0 DOCUMENTING THE TURNOVER OVERSIGHT PROCESS..... 9

5.0 INSTRUCTIONS..... 10

5.1 Approximately two months prior to initial walkdown, perform the following..... 10

5.2 Beginning approximately two months prior to and up to initial walkdown, perform the following: ..... 10

5.3 At initial walkdown perform the following:..... 10

5.4 Punchlist Management ..... 10

5.5 Between Initial Walkdown and Final Walkdown, perform the following: ..... 11

5.6 At the Final Walkdown: ..... 11

5.7 After system is turned over: ..... 11

5.8 Systemic or open issues after or during a system turnover: ..... 12

5.9 Document handling and communications instructions: ..... 13

6.0 REFERENCES ..... 14

7.0 ACRONYMS ..... 14

8.0 ATTACHMENTS ..... 15

## **1.0 PURPOSE**

This procedure establishes an oversight process for the Salt Waste Processing Facility Project Office (SWPFPO) Integrated Project Team (IPT) personnel assigned to perform oversight of system turnover from Construction to Commissioning and Testing. The turnover oversight process provides the mechanisms, and documentation requirements to ensure the Parsons' performance of system turnovers and the subsequent declaration of Construction Complete (CC) was performed satisfactorily by the Salt Waste Processing Facility (SWPF) contractors and meets the requirements of Modification 116, Attachment 3 to Contract DE-AC09-02SR22210.

## **2.0 SCOPE**

The construction complete project milestone will be achieved once all systems identified in PP-CM-8103, SWPF System Turnover from Construction to Commissioning, Appendix A are turned over to Parsons' Commissioning and Testing (C&T). Construction complete and Type A and B Items are defined in SWPF Contract Mod 116, Attachment 3. Per SPD-SWPF-P-0018, SWPF Certification and Verification Plan, (CVP), the SWPFPO IPT will review 100% of the Construction Turnover Packages to validate completeness of each system turnover. This review will consist of participation in the initial and final walk downs, and a review of the 18 sections of each of the turnover packages.

DOE's approach is to utilize the different skill sets within the SWPFPO IPT which include Construction and Startup (C&SU), and Engineering and Quality Assurance (QA) personnel. The systems were divided among different resources based on expertise in the prevalent discipline required for that system. The turnover package sections have been divided between the IPT personnel to align with their areas of expertise.

## **3.0 TURNOVER OVERSIGHT ORGANIZATION**

The systems were logically assigned into one of 12 areas. Each area was then assigned a Department Of Energy (DOE) IPT Turnover System Lead (SL), and a DOE IPT Engineering System Lead (ENG). Alternates were assigned for both leads. (See Table 1)

**Table 1. Area/System Responsibility Matrix provides the Detailed System Assignments**

Area	System Turnover ID	Title	DOE IPT Turnover System Lead		DOE Design Authority System Lead	
			Primary	Alternate	Primary	Alternate
<b>Electrical</b>	<b>ELEC-00</b>	<b>Electrical</b>	<b>SL</b>	<b>SL</b>	<b>ENG</b>	<b>ENG</b>
	<b>DG-00</b>	<b>Standby Diesel Generator</b>				
	<b>UPS-00</b>	<b>Uninterruptable Power Supply</b>				
	<b>PMS-00</b>	<b>Power Monitoring System</b>				
<b>BPCS/SIS</b>	<b>ICP-00</b>	<b>Instrument Control Panels</b>	<b>SL</b>	<b>SL</b>	<b>ENG</b>	<b>ENG</b>
	<b>BPCS-00</b>	<b>Basic Process Control System</b>				
	<b>CTV-00</b>	<b>CCTV</b>				
	<b>RPS-00</b>	<b>Radiation Monitoring</b>				
	<b>SIS-00</b>	<b>Safety Instrumented System</b>				
<b>HVAC</b>	<b>HV-00</b>	<b>Process Building Ventilation</b>	<b>SL</b>	<b>SL</b>	<b>ENG</b>	<b>ENG</b>
	<b>HV-01</b>	<b>Alpha Finishing Facility Ventilation</b>				
	<b>HV-03</b>	<b>Control Room Ventilation</b>				
	<b>HV-04</b>	<b>Cold Chemical Area Ventilation</b>				
	<b>HRS-00</b>	<b>Heat Recovery System</b>				
	<b>PVV-00</b>	<b>Process Vessel Ventilation</b>				
	<b>PVV-01</b>	<b>Process Vessel Ventilation – AFF Segments</b>				
	<b>PMV-00</b>	<b>Pulse Mixer Vent</b>				
<b>Plant Air/Gas/Dilution</b>	<b>AIR-00</b>	<b>Plant Air</b>	<b>SL</b>	<b>SL</b>	<b>ENG</b>	<b>ENG</b>
	<b>AIR-01</b>	<b>Plant Air – AFF Segments</b>				
	<b>ADS-00</b>	<b>Air Dilution</b>				
<b>Material Handling</b>	<b>MHD-00</b>	<b>Material Handling Equipment</b>	<b>SL</b>	<b>SL</b>	<b>ENG</b>	<b>ENG</b>
<b>Lab Sample</b>	<b>AL-00</b>	<b>Sample Pumps</b>	<b>SL</b>	<b>SL</b>	<b>ENG</b>	<b>ENG</b>
	<b>AL-01</b>	<b>Hot Cells, Lab Glove boxes &amp; Radio Hoods</b>				
	<b>LC-00</b>	<b>Laboratory Collection</b>				

Area	System Turnover ID	Title	DOE IPT Turnover System Lead		DOE Design Authority System Lead	
			Primary	Alternate	Primary	Alternate
ASP/AFF Process	AFP-00	Alpha Finishing Process	SL	SL	ENG	ENG
	MSTT-00	MST & Sludge Transfer Tank				
	SSR-00	Sludge/Solids Receipt & Wash Water Hold Tanks				
	ASP-00	Alpha Sorption Process				
	DSS-00	Decontaminated Salt Solution Hold Tank				
	IST-00	Interim Storage Tank				
	CHW-02	Chilled Water Secondary – ASP			ENG	ENG
	CHW-03	Chilled Water Secondary - AFF				
CSSX Process	SSF-00	Salt Solution Feed Tank	SL	SL	ENG	ENG
	CON-00	CSSX Contactors				
	CTW-00	CSSX Tempered Water				
	SHT-00	Solvent Hold Tank				
	CWT-00	Caustic Wash Tank				
	SHE-00	Strip Effluent				
	BA-00	Barium Decay				
	SFD-00	Solvent Strip Feed Tank				
	VMS-00	Vibration Monitoring System				
Diagnostic/Flush	CTS-00	CSSX Drains	SL	SL	ENG	ENG
	AFD-00	Alpha Finishing Drains				
	ASD-00	Alpha Sorption Drains				
	LD-00	Laboratory Drain				
	LLD-00	Low Level Drains				
	FLS-00	Flush Water				
	FLS-01	Flush Water – AFF Segments				

Area	System Turnover ID	Title	DOE IPT Turnover System Lead		DOE Design Authority System Lead	
			Primary	Alternate	Primary	Alternate
<b>Cold Chemical</b>	<b>CMU-00</b>	<b>Caustic</b>	<b>SL</b>	<b>SL</b>	<b>ENG</b>	<b>ENG</b>
	<b>FCS-00</b>	<b>Filter Cleaning Acid System</b>				
	<b>MST-00</b>	<b>MST</b>				
	<b>NIT-00</b>	<b>Nitric Acid</b>				
	<b>NEU-00</b>	<b>Neutralization</b>				
	<b>SMU-00</b>	<b>Solvent Makeup</b>				
<b>Facilities</b>	<b>ACS-00</b>	<b>Access Control</b>	<b>SL</b>	<b>SL</b>	<b>ENG</b>	<b>ENG</b>
	<b>COM-00</b>	<b>Radio &amp; Public Address</b>				
	<b>BLD-02</b>	<b>Compressor Building</b>				
	<b>BLD-03</b>	<b>Process Building</b>				
	<b>OOA-01</b>	<b>Other Outside Areas</b>				
	<b>FD-00</b>	<b>Fire Detection</b>			<b>ENG</b>	<b>ENG</b>
	<b>FS-00</b>	<b>Fire Suppression System</b>				
<b>Utilities</b>	<b>CHW-00</b>	<b>Chilled Water, Primary</b>	<b>SL</b>	<b>SL</b>	<b>ENG</b>	<b>ENG</b>
	<b>CHW-01</b>	<b>Chilled Water – Building Ventilation</b>				
	<b>CHW-04</b>	<b>Chilled Water, Primary – Control Room</b>				
	<b>CHW-05</b>	<b>Chilled Water – Building Ventilation – AFF Segments</b>				
	<b>CHW-06</b>	<b>Chilled Water, Primary – AFF Segments</b>				
	<b>DOM-00</b>	<b>Domestic Water</b>				
	<b>DOM-01</b>	<b>Domestic Water – AFF Segments</b>				
	<b>DIW-00</b>	<b>De-ionized Water Package</b>				
	<b>PSL-00</b>	<b>Seal Flush</b>				
	<b>PSL-01</b>	<b>Seal Flush – AFF Segments</b>				



Each system's Turnover Package consists of 18 sections as denoted in PP-CM-8103. The sections have been divided among the three IPT disciplines as follows:

DOE IPT Turnover System Lead:	Sections 1-4, 15-18
DOE Engineering System Lead:	Sections 5-11
Construction and Start Up:	Sections 12-14

Attachment 1, DOE Turnover Oversight Guidance, provides the detailed section breakdown including the responsible discipline, and guidance for the depth and breadth of the sections review.

#### **4.0 DOCUMENTING THE TURNOVER OVERSIGHT PROCESS**

To provide consistent and effective system turnover oversight, a streamlined documentation process is utilized. The process consists of three documents:

Attachment 2: SWPF DOE Turnover to Commissioning and Testing Checklist

Attachment 3: SWPF DOE Turnover to Commissioning and Testing Affirmation of System Construction Complete

Attachment 4: Site Tracking Analysis and Reporting System (STAR) Assessment report for Turnover Oversight

These Attachments are described in more detail below:

##### **SWPF DOE Turnover to Commissioning and Testing Checklist**

The checklist is the working level document. This document will capture all the activities performed by the reviewers, and their comments. The data entered in this document will need to support the declarations made in the Affirmation of System Construction Complete, and STAR Assessment.

##### **SWPF DOE Turnover to Commissioning and Testing Affirmation**

The Affirmation of System Construction Complete is the document that provides the reviewers' declaration to the SWPFPO Federal Project Director (FPD), and the Contracting Officer (CO), and subsequently the Line Management Review Board (LMRB) that the system is CC.

##### **STAR Assessment Report for Turnover Oversight**

The assessment report summarizes the system turnover oversight effort and provides a records repository for the checklist and Affirmation of System Construction Complete.

**NOTE:** The intent of the process is to have an assessment for each turnover system with an attached checklist and Affirmation of System Construction Complete with no open findings. This assessment will clearly declare that the system is CC as defined in Contract DE-AC09-02SR22210 Mod 0116, Attachment 3.

## **5.0 INSTRUCTIONS**

- 5.1 Approximately two months prior to initial walkdown, perform the following
  - 5.1.1 (SL) Prepare the SWPF DOE Turnover to Commissioning and Testing Checklist for the scheduled system in Microsoft OneNote (OneNote).
  - 5.1.2 (SL) Initiate STAR assessment.
- 5.2 Beginning approximately two months prior to and up to initial walkdown, perform the following:
  - 5.2.1 (ALL) Begin reviews of assigned sections per Table 1 as documents are available.
  - 5.2.2 (ALL) Document system related turnover oversight activities in the checklist.
  - 5.2.3 (SL) Ensure that all parties involved with the system are notified and updated on the initial walkdown dates.
- 5.3 At initial walkdown perform the following:
  - 5.3.1 (SL) Participate in the scheduled walk down observing Parsons' performance.
  - 5.3.2 (ENG/C&SU) Perform a walkdown either with the scheduled walkdown or independently.
  - 5.3.3 (ALL) Document performance of walkdown in the checklist.
- 5.4 Punchlist Management
  - 5.4.1 (ALL) Ensure that all punchlist items from DOE are sent to the DOE IPT System Turnover Lead using Parsons Form SWPF-437, Turnover Punchlist Item Identification Form.
  - 5.4.2 (SL) Ensure that punchlist items identified by DOE are listed on form SWPF-437, and sent to Cheri Defigh-Price or designee and copy the SWPF Document Control Administrator (SWPFDCA).
  - 5.4.3 (SL) Verify that all Punchlist A items are validated by Parsons C&T, and documented properly in the Parsons' punchlist database.
  - 5.4.4 (SL) Ensure that Punchlist B items that are turned over are at a manageable level.
  - 5.4.5 (SL) Continue to monitor Punchlist B items.

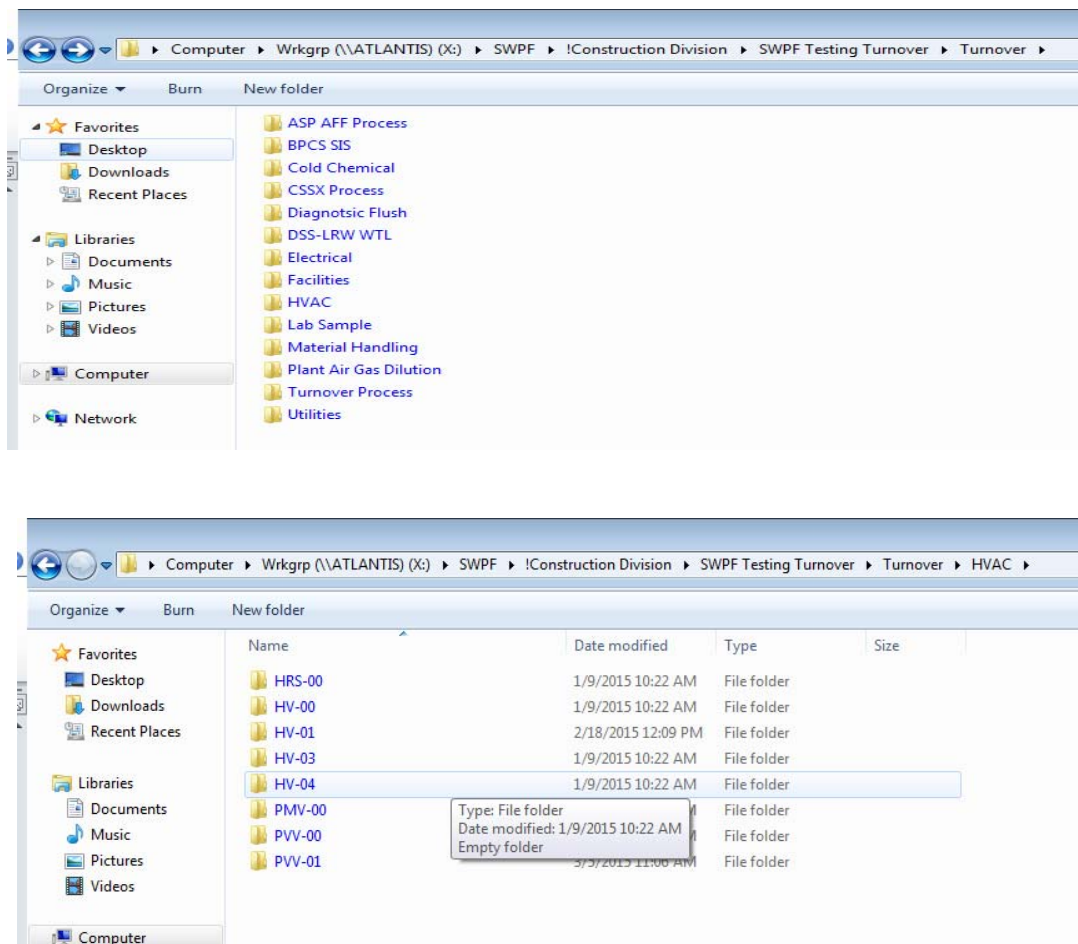
- 5.4.6 (SL) After CC is declared, monitoring of the Punchlist B items will be turned over to the SWPFPO IPT Testing Lead.
- 5.5 Between Initial Walkdown and Final Walkdown, perform the following:
  - 5.5.1 (ALL) Complete reviews of turnover package sections as assigned in Table 1.
  - 5.5.2 (ALL) Document Table 1 activities in the checklist.
- 5.6 At the Final Walkdown:
  - 5.6.1 (SL) Participate in the scheduled walkdown observing Parsons' performance.
  - 5.6.2 (ENG/C&SU) Perform a walkdown either with the scheduled walkdown, or independently.
  - 5.6.3 (ALL) Document performance of walkdown in the checklist.
- 5.7 After system is turned over:
  - 5.7.1 (ALL) Review and finalize checklist entries in OneNote.
  - 5.7.2 (ALL) Provide input into the assessment in STAR.
  - 5.7.3 (SL) Review the checklist for completeness and accuracy.
  - 5.7.4 (SL) Ready the Assessment for review with a draft status in STAR.
  - 5.7.5 (SL) Present the Assessment to SWPFPO Engineering & QA, and C&SU Directors.
  - 5.7.6 (SL) If there are no findings, then continue to next step; else perform section 5.8 and return to this step.
  - 5.7.7 (SL) Complete the Affirmation of System Construction Complete including obtaining all signatures.
  - 5.7.8 (SL) Present the Assessment to SWPFPO FPD and CO. Resolve any issues identified.
  - 5.7.9 (SL) Present the Assessment to the LMRB.

- 5.7.10 (SL) Once the LMRB accepts the system turnover, then submit the assessment for approval in STAR.
- 5.7.11 (SL) Send approved STAR Assessment to SWPFDCA.
- 5.7.12 (SWPFDCA) Transmit the completed STAR Assessment to Parsons.
- 5.7.13 (SL) Update Turnover Metrics in SWPF's Daily Activity Report.
- 5.8 Finding(s) on the system after Parsons has turned over:
  - 5.8.1 (SL) Submit the assessment for approval in STAR with Finding(s).
  - 5.8.2 (SWPFDCA) Transmit the completed STAR Assessment to Parsons.
  - 5.8.3 (SL) When the findings are closed by Parsons, then validate that the closure of the finding(s) is satisfactory.
  - 5.8.4 (SL) Close the finding(s) in STAR
  - 5.8.5 (SL) Update the checklist and Affirmation as applicable.
  - 5.8.6 (SL) Present the Assessment to SWPFPO Engineering and QA and C&SU Directors.
  - 5.8.7 (SL) If the closure of the Finding(s) is acceptable, then return to the previous section as applicable, else repeat this section.

## 5.9 Document handling and communications instructions:

- 5.9.1 The forms used in this process are all located in OneNote, any other documents used for review or objective evidence shall be saved (i.e. objective evidence of finding closure) in a common folder on the X Drive noted below.
- 5.9.2 Electronic folders are set up for each of the 12 areas in Table 1, the individual system folders will be set up as the turnover process progresses (See Illustration below):

**Illustration 1: Screen Shots showing File Path**



File Path: <X:\\SWPF\\!Construction Division\\SWPF Testing Turnover\\Turnover>

## 6.0 REFERENCES

Contract DE-AC09-02SR22210 Mod 0116, Attachment 3

SPD-SWPF-P-0018, SWPF Certification and Verification Plan (CVP)

PP-CM-8103, SWPF System Turnover from Construction to Commissioning

PP-CM-8104, Turnover Punchlist Item Processing

DI-CM-026, System Boundary Documents

DI-CM-027, Turnover Walkdown Guidelines

DI-EN-043, System Turnover

## 7.0 ACRONYMS

ALL	Represents the grouping of (SL, ENG, and C&SU)
BPCS	Basic Plant Control System
CAT	Construction Acceptance Testing
CC	Construction Complete
C&SU	Construction and Start Up reviewer
C&T	Commissioning and Testing
CO	SWPF Contracting Officer
CRFI	Construction Requests For Information
CSE	Cognizant System Engineer
CVP	Certification and Verification Plan
DOE	Department of Energy
ENG	DOE IPT Engineering System Lead
EQ	Environmental Qualification
FPD	Federal Project Director
HVAC	Heating Ventilation and Air Conditioning
IPT	Integrated Project Team
ITP	Inspection Test Plan
LMRB	Line Management Review Board
LO/TO	Lock Out/Tag Out
M&TE	Measuring and Test Equipment
NCR	Non Conformance Report
NPH	Natural Phenomena Hazard
OIM	Operations Instruction Manual (Vendor Manual)
P&ID	Piping and Instrumentation Diagram
PDSA	Preliminary Documented Safety Analysis
PRDVR	Pressure Relief Device Verification Record
PM	Preventative Maintenance
PVVR	Process Vessel Verification Record
QCIR	Quality Control Inspection Report
QA	Quality Assurance
SIL	Safety Integrity Level

SIS	Safety Instrumented System
SL	DOE IPT System Turnover Lead
SS	Safety Significant
STAR	Site Tracking Analysis, and Reporting System
SWPF	Salt Waste Processing Facility
SWPFDCA	Salt Waste Processing Facility Document Control Administrator
SWPFPO	Salt Waste Processing Facility Project Office
TOB	Turnover Boundary Drawings

## **8.0 ATTACHMENTS**

- Attachment 1: DOE Turnover Oversight Guidance for Completion of the System Checklist
- Attachment 2: SWPF DOE Turnover to Commissioning and Testing Checklist
- Attachment 3: SWPF DOE Turnover to Commissioning and Testing Affirmation of System Construction Complete
- Attachment 4: STAR Assessment Report Template for Turnover Oversight

**ATTACHMENT 1: DOE Turnover Oversight Guidance for Completion of the System Checklist**

Below is a list of the 18 sections per PP-CM-8103, SWPF System Turnover from Construction to Commissioning that will be part of each of the turnover packages. For the purpose of a complete oversight review other reviews may be added after Section 18 in this Table. As part of the CVP plan, each of these turnover packages will be reviewed by the DOE SWPF IPT. The table below lists each of the sections and guidance on reviewing of each section.

Any section identified as not applicable to a specific turnover will be identified in the Turnover Package.

**Note:** In general, all verifications listed below are intended to be by sampling reviews. The review should consider including all SS items as part of the sampling scope.

Reviewer should indicate sampling size as related to total size (i.e. 4 of 10 QCIRs reviewed) include the reviewed document numbers

<b>T/O Section</b>	<b>Reviewer</b>	<b>Description</b>	<b>Depth and Breadth of Review</b>
<b>1</b>	<b>SL</b>	<b>SWPF-590, Turnover Package Index</b>	<ul style="list-style-type: none"> <li>• <b>Cursory review</b></li> </ul>
<b>2</b>	<b>SL</b>	<b>SWPF-436, Turnover Package Acceptance Form</b>	<ul style="list-style-type: none"> <li>• <b>Cursory review</b></li> </ul>
<b>3</b>	<b>SL</b>	<b>Turnover System Punch list</b>	<ul style="list-style-type: none"> <li>• <b>Detailed review of Punchlist A items and disposition/validation adequacy</b></li> <li>• <b>Punchlist B items entered and assigned correctly</b></li> </ul>
<b>4</b>	<b>SL</b>	<b>System Scoping Index and Drawings</b>	<ul style="list-style-type: none"> <li>• <b>Detailed review of Drawings</b></li> <li>• <b>Attention to boundaries (sampling of checking other TOB boundaries)</b></li> </ul>



**ATTACHMENT 1: DOE Turnover Oversight Guidance for Completion of the System Checklist**

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T/O Section	Reviewer	Description	Depth and Breadth of Review
5	ENG	Cable List	<ul style="list-style-type: none"> <li>• Cross-check the cables listed versus the system TOB drawings and the source design documents (single lines [E-E2-J-xxxxx] and schematics [E-E4-J-xxxxx]) to verify that cables within the boundary are listed</li> <li>• Verify that the other information associated with the cables is correct (cable ‘to’ component and drawing, cable ‘from’ component and drawing, one-line drawing)</li> <li>• Cross-check the Cable List with the Equipment List (section 6) to verify that cables associated with electrical equipment in the system scope are included in this section</li> <li>• Verify that supporting electrical calculations (load studies, sizing, arc-flash, etc.) are complete and consistent with final design and installation state (e.g. arc flash labels, fuse sizes, etc.)</li> </ul>

**ATTACHMENT 1: DOE Turnover Oversight Guidance for Completion of the System Checklist**

Below is a list of the 18 sections per PP-CM-8103, SWPF System Turnover from Construction to Commissioning that will be part of each of the turnover packages. For the purpose of a complete oversight review other reviews may be added after Section 18 in this Table. As part of the CVP plan, each of these turnover packages will be reviewed by the DOE SWPF IPT. The table below lists each of the sections and guidance on reviewing of each section.

Any section identified as not applicable to a specific turnover will be identified in the Turnover Package.

**Note:** In general, all verifications listed below are intended to be by sampling reviews. The review should consider including all SS items as part of the sampling scope.

Reviewer should indicate sampling size as related to total size (i.e. 4 of 10 QCIRs reviewed) include the reviewed document numbers

T/O Section	Reviewer	Description	Depth and Breadth of Review
6	ENG	Equipment List	<ul style="list-style-type: none"> <li>• Cross-check the equipment listed versus the system TOB drawings to verify that equipment within the boundary is listed</li> <li>• Verify that the other information associated with the equipment is correct (Electrical One Line, Equip. Schedule Drawingg, P&amp;ID, Schematic, Functional Class, Room)</li> <li>• For pressure vessels (tanks, filters, etc.), verify supporting calculations are complete and consistent with final design (ASME Boil &amp; Pressure Vessel Code calculations, PVVR, tank sizing calculations, etc.)</li> <li>• For pumps, agitators, heat exchangers, verify supporting calculations are complete and consistent with final design (sizing calculations, etc.)</li> <li>• For vendor-supplied equipment verify that equipment installation is consistent with vendor recommendations (See Turnover Section 15 for Vendor Manuals)</li> </ul>

**ATTACHMENT 1: DOE Turnover Oversight Guidance for Completion of the System Checklist**

Below is a list of the 18 sections per PP-CM-8103, SWPF System Turnover from Construction to Commissioning that will be part of each of the turnover packages. For the purpose of a complete oversight review other reviews may be added after Section 18 in this Table. As part of the CVP plan, each of these turnover packages will be reviewed by the DOE SWPF IPT. The table below lists each of the sections and guidance on reviewing of each section.

Any section identified as not applicable to a specific turnover will be identified in the Turnover Package.

**Note:** In general, all verifications listed below are intended to be by sampling reviews. The review should consider including all SS items as part of the sampling scope.

Reviewer should indicate sampling size as related to total size (i.e. 4 of 10 QCIRs reviewed) include the reviewed document numbers

T/O Section	Reviewer	Description	Depth and Breadth of Review
7	ENG	Instrument List	<ul style="list-style-type: none"> <li>• Cross-check the instrumentation listed versus the system TOB drawings to verify that instruments within the boundary are listed</li> <li>• Verify that the other information associated with the instrument is correct (Tag class, Service, Location drawing, Location, Datasheet, P&amp;ID, Wiring diagram, Line number, Functional Class)</li> <li>• Verify that scaling sheets have been developed for the instrument as appropriate (instruments with alarms to BPCS/SIS should have scaling as a minimum)</li> <li>• Verify that in-line instruments meet ASME B31.3 requirements</li> <li>• Verify that supporting instrument calculations (control valve sizing, relief valve sizing, PRDVR, etc.) are complete and consistent with final design</li> <li>• Verify that design documentation captures instrument specific-software or hard switch settings</li> <li>• For SS instruments, review NPH/EQ documentation and any associated SIL calculations for consistency with the final design and construction of the system. Note: These documents may not be final at system turnover for testing: <ul style="list-style-type: none"> <li>- SIL calculations</li> <li>- Documentation of NPH/EQ</li> <li>-</li> <li>- Active SS instruments are denoted with a 'Z' symbol on the P&amp;ID</li> </ul> </li> </ul>

**ATTACHMENT 1: DOE Turnover Oversight Guidance for Completion of the System Checklist**

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Any section identified as not applicable to a specific turnover will be identified in the Turnover Package.

**Note:** In general, all verifications listed below are intended to be by sampling reviews. The review should consider including all SS items as part of the sampling scope.

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<b>T/O Section</b>	<b>Reviewer</b>	<b>Description</b>	<b>Depth and Breadth of Review</b>
<b>8</b>	<b>ENG</b>	<b>Line List</b>	<ul style="list-style-type: none"> <li>• Cross-check the lines listed versus the system TOB drawings to verify that lines within the boundary are listed</li> <li>• Verify that the other information associated with the line is correct (Pipe size and schedule, Fluid description, 'To' and 'From' information, P&amp;ID, Room, Isometric)</li> <li>• Use the isometric drawings to verify that either: <ul style="list-style-type: none"> <li>- Piping does not require stress analysis per the criteria given in G-ESR-J-00002 and Table 7-1 of P-CLC-J-00616, or</li> <li>- The required stress analysis calculation is complete and consistent with final design</li> </ul> </li> <li>• Use the isometric drawings to verify that either: <ul style="list-style-type: none"> <li>- Supports are standard supports evaluated in standard support calculations (P-CLC-J-00141, -00144, etc.), or</li> <li>- The required special support calculation is complete and consistent with final design</li> </ul> </li> <li>• Walkdown a sampling of isometric drawings to verify that the field matches the design</li> <li>• Verify that any non-standard piping components meet ASME B31.3 requirements (unlisted component evaluation)</li> </ul>

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<b>T/O Section</b>	<b>Reviewer</b>	<b>Description</b>	<b>Depth and Breadth of Review</b>
<b>9</b>	<b>ENG</b>	<b>Manual Valve List</b>	<ul style="list-style-type: none"> <li>• Cross-check the manual valves listed versus the system TOB drawings to verify that valves within the boundary are listed</li> <li>• Verify that the other information associated with the valve is correct (valve code, size, type, service, line identification, datasheet, P&amp;ID, Room)</li> </ul>
<b>10</b>	<b>ENG</b>	<b>HVAC Equipment List</b>	<ul style="list-style-type: none"> <li>• Cross-check the HVAC equipment listed versus the system TOB drawings to verify that dampers within the boundary are listed</li> <li>• Verify that the other information associated with the damper is correct (service, damper type, operator type, function, failure position, P&amp;ID, Room)</li> </ul>
<b>11</b>	<b>ENG</b>	<b>Specialty Items List</b>	<ul style="list-style-type: none"> <li>• Cross-check the specialty items listed versus the system TOB drawings to verify that specialty items within the boundary are listed</li> <li>• Verify that the other information associated with the specialty item is correct (description, size, line number, service, location, data sheet, P&amp;ID, isometric, room)</li> <li>• Verify that the specialty item installation is consistent with vendor recommendations (see Turnover Section 15 for Vendor Manuals)</li> <li>• Verify that specialty items that constitute a piping pressure boundary meet ASME B31.3 requirements</li> </ul>
<b>12</b>	<b>C&amp;SU</b>	<b>Work Package List</b>	These three sections are closely related and as such one review of the three sections will be performed SS items will be included in the sampling scope <ul style="list-style-type: none"> <li>• Mechanically</li> </ul>
<b>13</b>	<b>C&amp;SU</b>	<b>CAT (As defined by ITPs)</b>	

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T/O Section	Reviewer	Description	Depth and Breadth of Review
14	C&SU	QCIR list	<ul style="list-style-type: none"> <li>- Sampling of completed portions of work packages identified in list</li> <li>• Electrically :               <ul style="list-style-type: none"> <li>- Sampling of completed portions of work packages identified in list</li> </ul> </li> <li>• Required CAT testing during construction as well as those not done at site were completed and are consistent with requirements and the acceptance criteria were met.</li> <li>• Ensure all M&amp;TE was within periodicity when used, and was appropriate for application.</li> </ul>
15	SL	Vendor Manual List	<ul style="list-style-type: none"> <li>• Sampling that all of the equipment has an OIM manual as applicable</li> </ul>
16	SL	Construction LO/TO list	<ul style="list-style-type: none"> <li>• Cursory Review</li> </ul>
17	SL	Preventative Maintenance and Status	<ul style="list-style-type: none"> <li>• Asset Preservation PM's were performed and documented</li> <li>•</li> </ul>
18	SL	Other	Formulate review plan for this section based on the content of this section and document in the checklist. ENG/C&SU may be asked to review all or part of this section.

**Other Oversight Activities/Reviews added by SWPFPO:**

**Additional turnover review items not explicitly covered in PP-CM-8103**

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T/O Section	Reviewer	Description	Depth and Breadth of Review
ENG-1	ENG	General	<ul style="list-style-type: none"> <li>• Verify that any permits required for testing of the system are in-place</li> <li>• Obtain a copy of the completed System Turnover CSE Review Checklist (form SWPF-643) from the Parsons CSE and review the CSE confirmations (design documents, NCRs, CRFIs, Engineering Open Items, and installed equipment configuration) to verify no open items against system or open items are captured appropriately in the Punchlist</li> <li>• Safety basis (required for every turnover): For “PDSA: System Description”, review the design and installation of the system to ensure they are consistent with the description of the system in the PDSA and make a statement attesting to this. The applicable PDSA section should be referenced. For “PDSA Safety Attributes of the system”, describe the credited safety attributes of the system as described in the PDSA (with reference to the applicable PDSA sections) and discuss the system design/installation characteristics demonstrating compliance with the required attributes. If the system has no credited safety functions, this should be stated explicitly (as opposed to marking the section “N/A”)</li> </ul>
N/A	ALL	Initial Walkdown	<ul style="list-style-type: none"> <li>• Oversight: <ul style="list-style-type: none"> <li>- Attendees per PP-CM-8103</li> </ul> </li> <li>• Electrical Scope: <ul style="list-style-type: none"> <li>- Verify cables and terminations are consistent with design drawings</li> <li>- Verify labeling of cables and other electrical equipment</li> <li>- Verify presence of arc-flash labels and information consistent with arc-flash calculation (where labels are required)</li> </ul> </li> </ul>

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T/O Section	Reviewer	Description	Depth and Breadth of Review
			<ul style="list-style-type: none"> <li>- Verify fuses are per design</li> <li>- Installation and grounding per required codes/standards</li> <li>• <b>Equipment:</b> <ul style="list-style-type: none"> <li>- Verify installed per manufacturer's recommendations</li> <li>- Verify configuration is consistent with the P&amp;ID (M-M6-J-xxxxx) or Operating Diagram (M-MA-J-xxxxx)</li> <li>- Verify labeling</li> <li>- For pressure relief valves, verify that the device has been tested within the required frequency</li> </ul> </li> <li>• <b>Instrumentation</b> <ul style="list-style-type: none"> <li>- Verify installed per manufacturer's recommendations</li> <li>- Verify configuration is consistent with the P&amp;ID and other design drawings</li> <li>- Verify labeling</li> </ul> </li> <li>• <b>Lines, Supports, and Manual Valves</b> <ul style="list-style-type: none"> <li>- Verify configuration is consistent with the P&amp;ID</li> <li>- Verify configuration is consistent with isometric drawings</li> </ul> </li> <li>• <b>HVAC</b> <ul style="list-style-type: none"> <li>- None</li> </ul> </li> <li>• <b>Specialty Items</b> <ul style="list-style-type: none"> <li>- Verify specialty items are installed consistent with the P&amp;ID and other design</li> </ul> </li> </ul>



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**Any section identified as not applicable to a specific turnover will be identified in the Turnover Package.**

**Note: In general, all verifications listed below are intended to be by sampling reviews. The review should consider including all SS items as part of the sampling scope.**

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<b>T/O Section</b>	<b>Reviewer</b>	<b>Description</b>	<b>Depth and Breadth of Review</b>
			<b>drawings</b> - <b>Verify installed in accordance with manufacturer's instructions (e.g. correct orientation relative to flow)</b>
<b>N/A</b>	<b>ALL</b>	<b>Final Walkdown</b>	• <b>Verify 'A' Punchlist items have been appropriately addressed</b>

ATTACHMENT 2: SWPF DOE Turnover to Commissioning and Testing Checklist				
SWPF DOE Turnover to Commissioning and Testing Checklist				
SPD-SWPF-P-0018, Certification and Verification Plan				
System	[Name] System (XXX-XX)			
System Lead				
Assessment #	2015-SA-00XXXX			
Walk Down Activities				
Activity	DOE Participate	Comments	Resolutions	Notes
Initial Walkdown				
Final Walkdown				
Schedule				
Actual W/D Date		Scheduled Turnover Date	Actual Turnover Date	Comments
Initial				
Final				
<b>PDSA: System Description</b>				
<b>PDSA Safety Attributes of the system:</b>				
Turnover Package Review				
Section	Comments	Resolutions	Notes	
1 – Index				
2 – Accp Frm				
3 – PL			X A items. X B items, X remain open	
4 – TOB			Reviewed X of X TOB documents.	
5 – Cable				
6 – Eqpt				
7 – Inst.				
8 – Line				
9 – Man Vlv				
10 – HVAC				
11 – Spec Item				
12 – WP 13 – CATs 14 – QCIR			X Work Packages (WPs) Listed – Reviewed the following X: X CATs/ITPs Listed – Reviewed all of the following X: X QCIRs Listed – Reviewed the following X: X were welding, etc.	
15 – O/M				
16 – LOTO				
17 – PM				
18 – Other				
Other Issues:				
Attachments:				
Document ID	Document Title	Notes/Comments		

### ATTACHMENT 3: SWPF DOE Turnover to Commissioning and Testing Affirmation of System Construction Complete

SWPF DOE Turnover to Commissioning and Testing Affirmation of System Construction Complete SPD-SWPF-P-0018, Certification and Verification Plan			
<b>System</b>			
<b>System Lead</b>			
<b>Assessment #</b>			
<b>Activity</b>	<b>Oversight Activities/Reviews</b>	<b>Validation Y/N</b>	<b>Initials / Date</b>
<b>Summary</b>			
Initial Walk down	Participate in initial system walkdown per PP-CM-8103. Ensure contract requirements are implemented to ensure proper classification of punchlist items. Verify punchlist items are input into applicable data base and classification approved by the Parsons C&T Director.		
Final Walk down	Participate in final system walk down per PP-CM-8103. Ensure that all Punchlist A items are properly validated- and that Punchlist B items are at a manageable level.		
Turn over Package Review (SALT PCP)	Ensure all documentation required in Form 590, Turnover Package Index and Form 436, Turnover Package Acceptance Form is completed.		
Turnover Date			
Notes/Comments:			
Attachments:			
DOE SWPFPO IPT System Lead performed oversight in accordance with SPD-SWPF-P-0018, Certification and Verification Plan. Supporting documentation is attached. The System Lead declares that this system was turned over from Parsons Construction to Parsons C&T per PP-CM-8103 and the system is installed and all required checks and tests are completed to the degree necessary for SOT activities to begin.			
_____	_____	_____	
Print Name	Signature	Date	
SWPFPO IPT Engineering Lead Concurrence:			
_____	_____	_____	
Print Name	Signature	Date	
SWPFPO IPT Construction and Start Up Director recommends to the SWPF Federal Project Director and the Contracting Officer that this system is construction complete.			
_____	_____	_____	
Print Name	Signature	Date	

## ATTACHMENT 4: STAR Assessment Report for Turnover Oversight

## Assessment Summary

Assessment No. 2015-SA-003648

SWPF Project

Linked to: 2015-PLAN-000301

☐ Show applicable STAR Actions

INITIATION				
<b>2015-SA-003648</b> (Management Directed)	<b>Assessment Unit:</b> DOE:SWPFPO	<b>Facility Assessed:</b> Sub:PARSONS	<b>Schd:</b> 12/31/2018	<b>Status:</b> SCHEDULED
<b>Title:</b> System Name (XXX-XX) System Turnover to Commissioning			<b>Program Doc No:</b> SWPF-15-DI-00	
<b>Assessment Type:</b> Operational Awareness	<b>Activity Type:</b> <input type="checkbox"/> FR <input type="checkbox"/> SSO <input checked="" type="checkbox"/> MFO	<b>Project:</b> SWPF	<b>Evaluation Date(s):</b> -	
<b>Functional Area Mgr/Approver:</b> Guay, Kenneth (H0504)		<b>Assessment Coordinator/Delegate:</b> Davis, Doris (A3372)		
<b>Assessor/Team Members:</b> 1 Kriley, Cynthia (I7656) 2 Maak, Siegfried (Y6571) 3 Howell, Jeffery (I7268) 4 Boyd, Robert (O6458) 5 Ryan, Paul (B7816) 6 Bell, Melissa (E8633)		<b>Functional Area:</b> 02 Construction Activities		
<b>Personnel Contacted:</b> None		<b>Documents Reviewed:</b> None		
<b>Purpose/Scope</b> Purpose: This surveillance was conducted to document the oversight and review performed for System Turnover from Construction to Commissioning. This surveillance is part of DOE's plan, SPD-SWPF-P-0018, Certification and Verification Plan, and upon completion will declare that the contractor adequately provided a turnover package, and completed the turnover process per PP-CM-8103. Scope: XXX-XX, [System Description], System to verify installation and construction complete with no outstanding 'A' punch list items such that SOT activities on this system are ready to begin.				
<b>Assessment Results:</b> This surveillance was conducted by the DOE SWPFPO IPT members assigned to this system and/or their designated alternates. Each turnover goes through a process and each step of this process is captured in the attached SWPF DOE Turnover to Commissioning and Testing Checklist. All comments, document reviews, personnel interviews, and oversight activities are documented in the attached SWPF DOE Turnover to Commissioning and Testing Checklist. The checklist will show that DOE participated in the system initial and final walkdowns, performed reviews at some level of sampling for each of the applicable sections of the turnover package, and observed the contractors' performance and execution of PP-CM-8103 System Turnover from Parsons Construction to Parsons Commissioning. DOE LEAD Summary Statement: DOE DESIGN AUTHORITY Summary Statement:				
<b>Noteworthy Practices:</b>				
DOE-SR Assessment Information				
<b>Contractor Notification</b> Sent By: Sent Dt:		<b>External Assessment Contact Info:</b>		
<b>CAS Effectiveness:</b>	<b>CAS Elements:</b> <input type="checkbox"/> Assessment <input type="checkbox"/> Management <input type="checkbox"/> Lessons Learned <input type="checkbox"/> Event Reporting <input type="checkbox"/> Measures <input type="checkbox"/> Worker Feedback			
Criterion / LOIs				
No.	Grade	Description	Topic	
1		Cursory review.	SWPF-590, Turnover Package Index	
<b>Results:</b>				
<b>Finding 1</b>		Spec. Req.:	Contact: Kriley, Cynthia (I7656)	
No OFIs Identified				
No.	Grade	Description	Topic	
2		Cursory review.	SWPF-436, Turnover Package Acceptance Form	

**ATTACHMENT 5: SWPF Construction Turnover to Testing and Commissioning Oversight Process Flow Diagram**

