

PARSONS

SALT WASTE PROCESSING FACILITY PROJECT PROCEDURE

Procedure Number:	PP-CM-8103
Procedure Title:	SWPF System Turnover from Construction to Commissioning
Revision:	2 (Complete Rewrite - No Revision Bars Used)
Change:	N/A
Document Owner:	Skip Singer
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Document Approver: Skip Singer
COMMISSIONING AND TESTING
MANAGER

ANN. S.
SIGNATURE

5/22/14
DATE

1.0 PURPOSE/SCOPE

This Salt Waste Processing Facility (SWPF) Project Procedure (PP) establishes requirements and responsibilities that ensure the safe and orderly transition of jurisdictional control from Construction to Commissioning and Testing (C&T) for the systems identified in Appendix A, *SWPF Startup System Turnover Package List*.

This PP applies to the turnover of systems identified in Appendix A from the responsible releasing organization (Construction) to the accepting organization (C&T).

An additional procedure will be issued covering the transition of systems identified in Appendix A from C&T to Operations.

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2.0 PROCEDURE

2.1 General

- [1] C&T Organization will define, and then obtain Construction concurrence, on the system turnover boundaries.
 - [a] The system boundaries are depicted on System Scoping Drawings prepared and maintained by C&T.
 - [b] System Commodity Lists are prepared and maintained by C&T.
 - [c] System turnover boundaries may be adjusted, as required to account for ease of isolation and physical location within the construction area. Any adjustments will be incorporated as a revision to the existing System Scoping Drawings that are affected by the change to ensure a complete turnover of all SWPF systems and facilities.
 - [d] A list of systems/packages for turnover is given in Appendix A. This list identifies buildings/areas or systems (or a cross grouping of systems) that provide a functionally testable entity that can be appropriately isolated from other systems. The list is intended to ensure a complete turnover of systems and facilities from Construction to C&T.
 - [2] For each Turnover Package to be developed:
 - [a] C&T will provide the following:
 - (1) Turnover Package Number,
 - (2) System Scoping Drawing Index and Drawings, and
 - (3) System Commodity Lists.
 - [b] Construction will provide the following:
 - (1) Form SWPF-590, *Turnover Package Index*;
 - (2) Form SWPF-436, *Turnover Package Acceptance Form*;
 - (3) Turnover Punch List;
 - (4) Work Package List with applicable sections annotated;
 - (5) List of applicable Construction Acceptance Tests as defined by the Inspection and Test Plans (ITPs);
 - (6) List of applicable Quality Control Inspection Report (QCIR) ;
 - (7) Vendor Manual List;
 - (8) Construction Lockout/Tagout (LO/TO) List.
 - [c] Maintenance will provide the following:
 - (1) Listing of preventive maintenance and current status.
 - [3] Each Turnover Package is assigned a unique number for tracking purposes.
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2.2 Turnover

2.2.1 Turnover Package Preparation

- [1] Construction, with support from Configuration Management, will assemble the Turnover Package that includes the following index sections with specific lists of items for each applicable system corresponding to the scoped drawings:
- [a] Section 1 – Form SWPF-590, *Turnover Package Index*;
 - [b] Section 2 – Form SWPF-436, *Turnover Package Acceptance Form*;
 - [c] Section 3 – Turnover System Punch List;
 - [d] Section 4 – System Scoping Index and Drawings;
 - [e] Section 5 – Cable List;
 - [f] Section 6 – Equipment List;
 - [g] Section 7 – Instrument List;
 - [h] Section 8 – Line List;
 - [i] Section 9 – Manual Valve List;
 - [j] Section 10 – Heating, Ventilating, and Air Conditioning (HVAC) Equipment List;
 - [k] Section 11 – Specialty Items List;
 - [l] Section 12 – Work Package List;
 - [m] Section 13 – Construction Acceptance Test (CAT) List (as defined by the ITPs);
 - [n] Section 14 – QCIR List;
 - [o] Section 15 – Vendor Manual List;
 - [p] Section 16 – Construction LO/TO List;
 - [q] Section 17 – Listing of required preventive maintenance (PM) and current status; and
 - [r] Section 18 – Other documentation as required by mutual agreement between Construction and C&T.
- [2] Any section identified as not applicable to a specific Turnover Package shall have a single page inserted behind the appropriate section divider stating “This section is not applicable to Turnover Package XXX-0X”.

2.2.2 System Walkdown and Punch List Development

- [1] Prior to the scheduled Turnover date, Construction, Cognizant System Engineer (CSE), and C&T will jointly perform an initial walkdown (see Appendix C, *SWPF Walkdown Guidelines*) to:
- [a] Determine system readiness for turnover,
 - [b] Confirm system turnover boundaries, and
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[c] Identify/validate incomplete or unresolved items (both hardware and documentation).

NOTE: Initial walkdowns will be scheduled and notifications made at least 10 working days in advance to allow sufficient time for planning attendance for both required and non-required participants. Management will assign personnel knowledgeable in the area being reviewed to participate in the walkdown. Identified items will be entered on Form SWPF-437, *Turnover Punch List Item Identification Form*, by walkdown participants.

- [2] An Environmental, Safety, and Health (ESH) safety representative should participate in the initial walkdown to identify Occupational Safety and Health Administration (OSHA) or 10 CFR 851, *Worker Safety and Health Program*, concerns or deficiencies.
- [3] An Operations representative should participate in the initial walkdown.
- [4] A Quality representative should participate in the initial walkdown to identify Quality related issues.
- [5] The U.S. Department of Energy (DOE) shall be notified 10 working days prior to initial walkdowns and will participate at their discretion.
- [6] Construction shall compile the results of the initial walkdown by recording open items on the Turnover Punch List. Punch list items will be entered into a controlled database designed to meet the requirements of PP-DC-3002, *Records Management*.

NOTE: Open Nonconformance Reports (NCRs) will have a disposition and open Construction Requests for Information (CRFIs) will have a response to facilitate punch list item categorization.

- [7] Construction shall complete the punch list by adding open NCRs, open Construction Request for Information, open non-installed Design Change Notices/Field Change Notices (DCNs/FCNs), installed construction LO/TO, or other known incomplete or open items.
- [8] C&T shall categorize punch list items in accordance with this procedure.
- [9] Punch list items shall be categorized as follows:
 - [a] “A” punch list items – Items that are required to be completed by Construction prior to turnover. Examples of Type A items include but are not limited to:
 - (1) Inoperable equipment (e.g. pumps, valves, switches) required for component or system testing.
 - (2) Other items that must be complete for safe completion of component or system testing.
 - (3) Complete component labeling necessary for system testing.

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[b] “B” punch list items – Items that are identified as incomplete, but may be held until after turnover (at the discretion of C&T) to be completed by Construction. The objective is to ensure that “B” punch list items are at a manageable level. Examples of Type B items include but are not limited to:

- (1) Minor elements of work which remain unfinished, or are yet to be performed by the contractor, which do not prevent the utilization of the facility, in part and in whole, for its intended purpose, such as cosmetic items (e.g. painting, insulation), and
- (2) Other items that have no impact on system or component operability or safety function.

[10] Upon completion of “A” punch list items, Construction shall notify C&T.

[11] Construction, C&T, and the CSEs shall perform a final walkdown. This walkdown is an inspection to verify that “A” punch list items are complete and that no additional punch list items have been identified.

[a] DOE, Quality Assurance (QA), Operations, and ESH will be notified 10 working days prior to final walkdown. Their participation in the final walkdown is not mandatory.

2.2.3 Document Review

[1] Construction shall provide C&T with the Turnover Package assembled per Section 2.2.1, including the most current listing of :

- [a] Work packages used in the installation of the turned over system,
- [b] Confirmation of completion, along with the QCIRs documenting associated test results, for all CATs (as defined in the ITP).

[2] QA will review this documentation on behalf of C&T for accuracy and completeness. This review will include but is not limited to confirmation that all Turnover Packages are properly completed and transmitted to Engineering, Procurement, and Construction Document Control (EPCDC). Any noted document deficiencies, missing documents, or non-retrievable documents shall be added to the Punch List as “A” or “B” items.

[a] The documentation review should include but is not limited to the following:

- (1) Installation completion records,
 - (2) CAT records (as defined in the ITP),
 - (3) Open and final disposition of closed NCRs,
 - (4) QCIRs
 - (5) PM records, and
 - (6) Construction Field Change Notices (as-built data).
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NOTE: It may be necessary for C&T documentation review to continue right up to actual turnover is executed as new documents may be generated as construction completion continues and punch list items are closed. A graded approach (based on functional classification, importance to safety, and importance to facility mission of the system being turned over) may be applied by C&T during the document review process.

2.2.4 Turnover

- [1] Upon resolution of “A” punch list items (both hardware and documentation), and reduction of “B” punch list items to a manageable number, Construction and C&T will acknowledge jurisdictional transfer by completing Section II of Form SWPF-436.
- [2] Upon turnover acceptance, the Turnover Package is transferred to C&T.
- [3] C&T assumes jurisdictional control over the turnover system, along with control of the Turnover Punch List.
- [4] C&T will apply jurisdictional tags (see Appendix B, *Example Turnover Tagging*) after system acceptance.
 - [a] In some cases, judicious placement of tags at the boundaries of a jurisdictional area may be used to document jurisdictional control of components within those areas.
 - [b] In other cases turnover signs prominently displayed on doors and access ways may be used to document turnover boundaries/jurisdictional control (i.e., rooms, buildings).
 - [c] In either of these cases, it may not be necessary to tag each component within a room or building.
- [5] Final disposition of accepted Turnover Package for turnover shall be handled in accordance with Project records requirements as provided in PP-DC-3002.

2.2.5 Work Authorization

- [1] Closure of the Turnover Punch List “B” items remains the responsibility of Construction. Execution of these punch list items is coordinated through C&T. However, C&T may elect to use Plant Maintenance Personnel to close Turnover Punch List “B” items, with the concurrence of the Director of Construction.
- [2] C&T may opt to initiate Form SWPF-438, *Modification/Equipment Turnback (MET) Form*, for returning an item back to Construction for processing, in accordance with the Construction work control process. In cases where a MET is not utilized, Construction will perform the work according to C&T work control processes.

NOTE: LO/TO required for the completion of METs is performed under the procedures of the group having jurisdiction of the system.

- [3] The MET is assigned a unique number for tracking purposes. MET numbers shall be obtained from C&T, and are maintained, by C&T, in the MET Log.
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- [4] A MET may be initiated for a turnback of other than a Turnover Punch List “B” item (e.g., testing reveals need for a design change or latent defect).
- [5] C&T completes Form SWPF-438, with assistance from Construction as required. The applicable turnover system drawing will be marked to indicate the portions of the system included in the turn back and attached to Form SWPF-438. The C&T Manager then signs Form SWPF-438 to signify release of the item to the jurisdiction of Construction.
- [6] The Director of Construction then signs Form SWPF-438 to signify receipt of the item into their jurisdiction and acceptance of responsibility for completion of the work specified. The item is then re-tagged with green construction tags to indicate it is under the jurisdiction of Construction.
- [7] Once work specified in an MET has been completed, the Director of Construction signs Form SWPF-438 to signify such and to release the item to the jurisdiction of C&T.
- [8] C&T reviews the work and the C&T Manager signs Form SWPF-438 to signify acceptance of the completion of work and receipt of the item back into their jurisdiction. An element of the C&T review is to identify any required retesting and/or additional testing caused by the construction activity. The item is then re-tagged to indicate it is under the jurisdiction of C&T.
- [9] On successful completion of a MET associated with a punch list item, then that item is closed.
- [10] Quality Control (QC) participation for the work conducted by Construction will be completed using QC procedures.
- [11] Form SWPF-438 is a record and shall be handled in accordance with the Project records requirements provided in PP-DC-3002.

3.0 DEFINITIONS

- [1] System Scoping Drawing: These drawings are annotated Piping and Instrument Diagrams (P&IDs), HVAC Air Flow and Control Diagrams, and Single Line Diagrams that identify system turnover boundaries.

4.0 FORMS

- [1] SWPF-436, *Turnover Package Acceptance Form*
- [2] SWPF-437, *Turnover Punch List Item Identification Form*
- [3] SWPF-438, *Modification/Equipment Turnback (MET) Form*
- [4] SWPF-590, *Turnover Package Index*

5.0 APPENDICES

Appendix A. SWPF Startup System Turnover Package List

Appendix B. Example Turnover Tagging

Appendix C. SWPF Walkdown Guidelines

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6.0 REFERENCES

- [1] 10 CFR 851, Energy: Chapter III: Department of Energy: *Worker Safety and Health Program*.
 - [2] PP-DC-3002, *Records Management*
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Appendix A. SWPF Startup System Turnover Package List

SYSTEM TURNOVER ID	TITLE
ACS-00	Turnover - Access Control System
ADS-00	Turnover - Air Dilution System
AFD-00	Turnover - Alpha Finishing Drains
AFP-00	Turnover - Alpha Finishing Process
AIR-00	Turnover - Plant Air
AIR-01	Turnover - Plant Air - AFF Segments
AL-00	Turnover - Sample Pumps
AL-01	Turnover - Hot Cells, Lab Glove Boxes & Radio Hoods
AL-02	Turnover - Sample Pumps - AFF Segments
ASD-00	Turnover - Alpha Sorption Drains (ASD)
ASP-00	Turnover - Alpha Sorption Process (ASP)
BA-00	Turnover - Barium Decay System
BLD-02	Turnover - Compressor Building
BLD-03	Turnover - Process Building
BPCS-00	Turnover - Basic Process control System (BPCS)
CHW-00	Turnover - Chilled Water, Primary
CHW-01	Turnover - Chilled Water - Building Ventilation
CHW-02	Turnover - Chilled Water Secondary - ASP
CHW-03	Turnover - Chilled Water Secondary - AFF
CHW-04	Turnover - Chilled Water Primary - Control Room
CHW-05	Turnover - Chilled Water - Building Ventilation - AFF Segments
CHW-06	Turnover - Chilled Water, Primary - AFF Segments
CMU-00	Turnover - Caustic System
COM-00	Turnover - Radio & Public Address System
CON-00	Turnover - CSSX Contactors
CTS-00	Turnover - CSSX Drains
CTV-00	Turnover - CCTV System

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Appendix A. SWPF Startup System Turnover Package List (cont.)

SYSTEM TURNOVER ID	TITLE
CTW-00	Turnover - CSSX Tempered Water
CWT-00	Turnover - Caustic Wash Tank System
DG-00	Turnover - Standby Diesel Generator
DIW-00	Turnover - De-ionized Water Package
DOM-00	Turnover - Domestic Water
DOM-01	Turnover - Domestic Water - AFF Segments
DSS-00	Turnover - Decontaminated Salt Solution Hold Tank System
ELEC-00	Turnover - Electrical System
FCS-00	Turnover - Filter Cleaning Acid System
FD-00	Turnover - Fire Detection System
FLS-00	Turnover - Flush Water
FLS-01	Turnover - Flush Water - AFF Segments
FS-00	Turnover - Fire Suppression System
HRS-00	Turnover - Heat Recovery System
HV-00	Turnover - Process - Building Ventilation
HV-01	Turnover - Alpha Finishing Facility Ventilation
HV-03	Turnover - Control Room Ventilation
HV-04	Turnover - Cold Chemical Area Ventilation
ICP-00	Turnover - Instrument Control Panels (ICPs)
IST-00	Turnover - Interim Storage Tank System
LC-00	Turnover - Laboratory Collection System
LD-00	Turnover - Laboratory Drain System
LLD-00	Turnover - Low Level Drains Systems
MHD-00	Turnover - Material Handling Equipment
MST-00	Turnover - MST System
MSTT-00	Turnover - MST & Sludge Transfer Tank System
NIT-00	Turnover - Nitric Acid System
NEU-00	Turnover - Neutralization System

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Appendix A. SWPF Startup System Turnover Package List (cont.)

SYSTEM TURNOVER ID	TITLE
OOA-01	Turnover - Other Outside Areas
PMS-00	Turnover - Power Monitoring System
PMV-00	Turnover - Pulse Mixer Vent System
PSL-00	Turnover - Seal Flush System
PSL-01	Turnover - Seal Flush System - AFF Segments
PVV-00	Turnover - Process Vessel Ventilation
PVV-01	Turnover - Process Vessel Ventilation - AFF Segments
RPS-00	Turnover - Radiation Monitoring System
SFD-00	Turnover - Solvent Strip Feed Tank System
SHT-00	Turnover - Solvent Hold Tank System
SHE-00	Turnover - Strip Effluent System
SIS-00	Turnover - Safety Instrumented System (SIS)
SMU-00	Turnover - Solvent Makeup System
SSF-00	Turnover - Salt Solution Feed Tank System
SSR-00	Turnover - Sludge/Solids Receipt & Wash Water Hold Tanks System
UPS-00	Turnover - Uninterruptable Power Supply (UPS)
VMS-00	Turnover - Vibration Monitoring System

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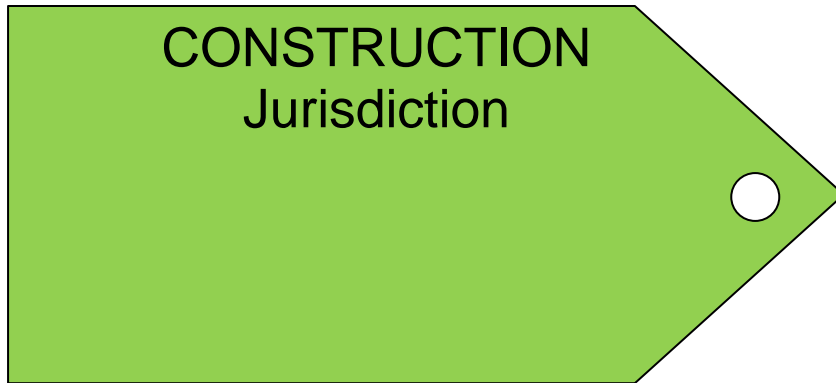
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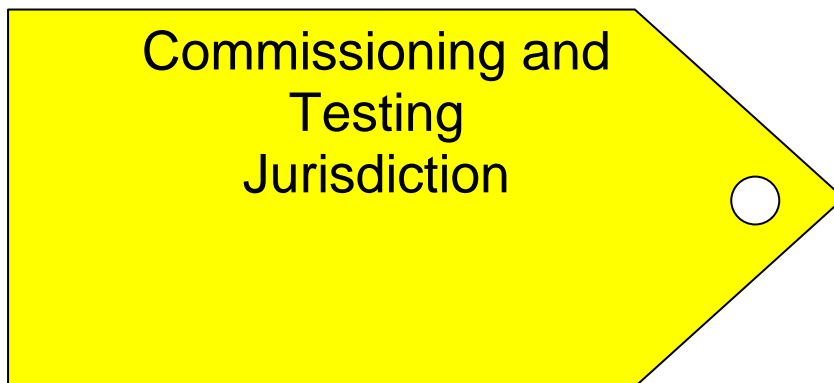
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Appendix B. Example Turnover Tagging

Green (Construction)



Yellow (Commissioning and Testing)



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Appendix C. SWPF Walkdown Guidelines

The following is a list of suggested items to look for during walkdowns of the SWPF facility. Note that this list is not exclusive or comprehensive:

- [1] No signs of arc strikes
- [2] Rod hangers are fully threaded
- [3] Completion of installation of equipment/components
- [4] Correct installation, configuration, and orientation of equipment/components
- [5] Junction box covers properly installed
- [6] Couplings made up and guards properly installed
- [7] Good general housekeeping and cleanliness
- [8] Piping insulated as specified
- [9] Components properly and permanently labeled
- [10] No temporary equipment/components
- [11] Component base plates properly grouted
- [12] Temporary supports removed
- [13] Painting completed
- [14] Components properly grounded
- [15] Manual Valves correctly packed
- [16] No evidence of suspect/counterfeit items