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DOCUMENT DEVELOPMENT

WETF-AP-10, Rev. H

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HISTORY OF REVISIONS

Revision	Revision Description	Revision Date	Effective Date
A	<p>This AP supersedes TSE-AP-01, <i>Document Control</i>. New WETF AP to implement P 315, <i>Conduct of Operations</i>, Chapter 16. The following topics are addressed in this procedure which were not fully addressed in TSE-AP-01:</p> <ul style="list-style-type: none"> • Document Action Request (DAR) • Relationship to Integrated Work Documents (IWD) • Immediate Procedure Change (IPC) process • Procedure Verification process • Procedure Validation process (for operations procedures only). • Abnormal Operating Procedures (AOPs). • Alarm Response Procedures (ARPs). • Working copies. • Cancelled procedures. • Deactivated procedures. 	02/26/09	03/09/09
B	<p>Revised the definition of UET. Updated Sections 5.2.3 and 5.2.5 to add the CSE and Design Authority Representative review and approval. Revised section 5.2.5 steps to include all the approvers. Updated the DAR to add UET and Reference checkbox. Deleted hardcopy review board, revised Validation form. Minor editorial corrections. Divided Cancellation and Deactivation sections. Clarified minor revision reviewers. Updated Document Control and Quality responsibilities. Other editorial / minor changes.</p>	09/08/09	09/18/09
C	<p>Added definition for Verify and Ensure. Updated section 5.2.2 for Independent Verification and UET. Updated DAR to add IV step and additional check boxes.</p>	10/26/2009	11/06/09
C.1	<p>Require an annual review for the following documents: DSA, TSR, FSAR, and the Emergency Management Program.</p>	05/11/10	05/15/10
C.2	<p>Closure of F-2.1 Finding from DOE STD-1070-94, <i>Nuclear Facility Training Program Assessment at WETF</i>, dated March 17 through 27, 2008, which requires training review of IWDs that cite training as a control.</p> <p>Added Training and RP review to IWDs.</p>	06/08/10	06/17/10

HISTORY OF REVISIONS (continued)

C.3	<ol style="list-style-type: none"> 1. Updated Section 2 to include P 101-8 2. Added Three bullets to section 4.4.1: 3. In section 4.4.1, fourth bullet, change “Witness Points” to “Hold Points”. 4. Add “SMP” to list of acronyms (Safety Management Programs) 5. Section 5.1.4, step 4, remove parenthetical (Documents past their grace periods will be deactivated by the DCC.) 	6/23/10	6/23/10
D	Incorporated IPCs, revised Section 5.1.4, Step 8 to allow for pen and ink change for periodic review. Editorial changes.	12/10/10	1/18/11
E	JCO-10-03 Add pre-evolution check question #29 to Attachment H, Procedure Validation checklist, page 46.	5/13/11	5/26/11
F	Revise procedure to change “shall” to “may” in referencing the (\$) to be consistent with P315, Chapter 16. Updated the verification checklist to reflect the change. Add to Attachment H, Validation Checklist, Step 29 “in accordance with WETF-TSR-AC-12” and add the procedure to the reference section.	7/20/11	7/21/11
G	Change title to “Document Development”. Remove the Document Control Process, delineate the document process, remove tables, and use the procedure template. Remove forms from attachments, and make them independent, with WETF FORM numbers assigned. Addresses PFITS issues (see PFITS issues listing). This revision is a Total re-write and there are no REV. BARS.	04/04/13	03/10/14
H	Add SAT to References and Acronyms. Clarify 1st Time Use Validation, 1.6 Definitions, NOTE 4, pg 24, and Appendix C. Add WETF-AP-17, <i>Abnormal Operating Procedure use</i> , to the Reference Section and to Appendix E, A.2.2. Qualification/Certification Training Standards have their own template and do <u>NOT</u> follow Appendix E requirements. Remove preliminary approval. Add high hazard activities review	9/16/14	03/17/15

PFITS listing

PFITS Issue Number	Addressed In This Document
2010-2233	Appendix E, C.20
2010-2234	Section 5.2, and Appendix D
2010-2579	Section 2.7.3, and Appendix B
2010-2644 Action 6	Section 2.7.3, and Appendix B
2010-2645 Action 2	Appendix B, 1st sentence
2012-1007 Action 2	Appendix C
2012-2232	Appendix B
2012-2938	Appendix E, A.1
2013-1819	Section 2.7.1/2.7.2, and Appendix E, B.1
2013-1820	Appendix B
2013-1821	Appendix B
2013-1824	Section 2.71/2.7.2, and Listing PFITS issues in the PFITS Listing

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1.0 INTRODUCTION

Tritium activities conducted by the Los Alamos National Laboratory (LANL) Weapons Engineering Tritium Facility (WETF) are performed using approved documents. Documents that describe facility and programmatic operations and configuration at WETF are developed, maintained and controlled to ensure safe, secure, and efficient operations with the primary focus on the safety of personnel and the protection of the environment and the public.

1.1 Purpose

This procedure establishes the responsibilities and requirements for the development, review, verification, validation, approval, and revision of documents. For periodic reviews, deactivations, and cancellation of documents, refer to WETF-AP-29, *WETF Document Control*. This document process ensures WETF documents remain accurate and consistent with the system physical configuration, are usable, current, and readily available, as required by the WETF-TSR-AC-06, *Quality Assurance Program Plan (QAPP)*.

1.2 Scope

This procedure addresses the development of current document types used at WETF, and the content of operations documents used to perform work under Conduct of Operations (CoO). Existing documents will come under full compliance with this process at their next major revision. If future document types are introduced at WETF that are not addressed, they may be managed in a manner similar to existing document types commensurate with the level of rigor appropriate for that type of document until the process is updated to address them.

This procedure implements P315, *Conduct of Operations Manual*, Attachment 16, *Technical Procedures*, and DOE-STD-1029-92, *Writer's Guide for Technical Procedures*, and it complements P300, *Integrated Work Management*.

The Security Responsible Line Manager (SRLM) or the Responsible Line Manager (RLM) determines if the procedure in process will be subject to P300 by evaluating the activity against the P300, Attachment B, *Hazard Grading Table*. If the activity hazard classification is moderate hazard or high-hazard/complex, the SRLM/RLM may do either of the following:

- A. Develop an Integrated Work Document (IWD) in compliance with P300, or
- B. Develop a technical procedure as an IWD Part 1 equivalent work control document in accordance with P315, Attachment 16, and DOE-STD-1029-92.
 1. Integrated Work Management (IWM) Expectations
 - a. Define the work.
 - b. Identify and analyze hazards.
 - c. Develop and implement preventive measures and controls.
 - d. Perform work safely, securely, and in an environmentally responsible manner.
 - e. Provide feedback and strive for continuous improvement.

1.2 Scope (continued)

2. IWDs and IWD equivalent procedures consist of four parts:
 - a. **Part 1**—Activity-Specific Information, Define the work.
 - b. **Part 2**—Work Area Information, Identify hazards and controls.
 - c. **Part 3**—Validation and Work Release, Walk down and approve the work activity.
 - d. **Part 4**—Post-Job Review, Post-Job review and lessons learned at completion of work.

WETF Procedures serve as an IWD Part 1 equivalent. Parts 2 – 4 are required for compliance with P300. Use the language in the WETF Procedure Template.

The WFO Training Team [comprised of appropriate subject matter experts (SMEs) and others with expert knowledge of the operation or activity] must review all documents for training implications.

A review by the Deployed Services Environmental Safety and Health – Weapons Facility Operations (DSESH-WFO) is required for activities in the Radiological Buffer Area (RBA) that have the potential for Radiological Hazards including those which are fully encompassed by WETF-AP-FRPR-34, *Facility Radiation Protection Requirements Weapons Engineering Tritium Facility (TA-16-205 & 450)*.

ESH and/or security review may also be required.

The basis for the determination of hazard classification **SHALL** be documented and included in the Document History File (DHF). This is also incorporated in Section 3.1, Hazards.

This procedure does not address requirements for handling and controlling software or engineering drawings.

Document classification requirements are addressed in P204-2, *Classified Matter Protection and Control Handbook*.

Safety basis documents applicable to WETF are governed by LANL Safety Basis Procedure (SBP) 112 series and SBP 114 series documents.

1.3 Applicability

This Administrative Procedure (AP) applies to most procedures and/or documents developed at WETF.

1.4 References

DOE O 422.1	<i>Conduct of Operations</i>
DOE-STD-1029-92	<i>DOE Standard Writer's Guide for Technical Procedures</i>
NHHO-FORM-002	<i>NHHO-TR Systematic Approach to Training (SAT) Determination Form</i>
P101-8	<i>Explosives Safety</i>
P204-2	<i>Classified Matter Protection and Control Handbook</i>
P300	<i>Integrated Work Management</i>
P315	<i>Conduct of Operations Manual, Chapter 16</i>
P1020-2	<i>Laboratory Document Control</i>
SBP-112-3	<i>Unreviewed Safety Question (USQ) Process</i>
SBP-114-4	<i>Safety Basis Document Review</i>
WETF-AP-FRPR-34	<i>Facility Radiation Protection Requirements Weapons Engineering Tritium Facility (TA-16-205 & 450)</i>
WETF-AP-05	<i>WETF Operations Standard</i>
WETF-AP-11	<i>Alarm Response Procedures Development and Use</i>
WETF-AP-14	<i>Procedure Use</i>
WETF-AP-17	<i>Abnormal Operating Procedure Use</i>
WETF-AP-29	<i>WETF Document Control</i>
WETF-FORM-66	<i>Document Action Request</i>
WETF-FORM-69	<i>Procedure Verification Checklist</i>
WETF-FORM-71	<i>Procedure Validation Checklist</i>
WETF-FORM-73	<i>WETF Training Level Determination Form</i>
WETF-TSR-AC-06	<i>WETF Quality Assurance Program Plan (QAPP)</i>
10 CFR 830.3	<i>Definitions</i>

1.5 Acronyms and Abbreviations

AC	Administrative Control
ALARA	As Low As Reasonably Achievable
AOP	Abnormal Operating Procedure
AP	Administrative Procedure
ARP	Alarm Response Procedure
CoO	Conduct of Operations
CSE	Cognizant System Engineer
DATA	Data Collection Procedure
DAR	Document Action Request
DC	Derivative Classifier

1.5 Acronyms and Abbreviations (continued)

DCC	Document Control Coordinator
DCRM	Document Control Records Management
DHF	Document History File
DMS	Document Management System
DOE	Department Of Energy
DSA	Documented Safety Analysis
DSESH- WFO	Deployed Services Environmental Safety and Health – Weapons Facility Operations
DSME	Document Subject Matter Expert
DTW	Document Technical Writer
EDMS	Electronic Document Management System
EOP	Emergency Operating Procedure
EMP	Emergency Procedure
ERP	Emergency Response Procedure
EX	Exam
EXT	External Document
FOD	Facility Operations Director
IPC	Immediate Procedure Change
ISI	In Service Inspection
IV	Independent Verification
IWD	Integrated Work Document
IWM	Integrated Work Management
LANL	Los Alamos National Laboratory
MDL	Master Document List
P&ID	Piping And Instrumentation Diagram
PLAN	Plan
QAPP	Quality Assurance Program Plan
RBA	Radiological Buffer Area
RLM	Responsible Line Manager
RS	Round Sheet
SAC	Specific Administrative Control
SB	Safety Basis
SD	Software Documentation
SME	Subject Matter Expert
SMP	Safety Management Programs
SP	Specification
SR	Surveillance Requirement
SRLM	Security Responsible Line Manager

1.5 Acronyms and Abbreviations (continued)

SSC	Structure, System, and Component
SAT	Systematic Approach to Training
TLD	Training Level Determination
TP	Technical Procedure
TRN	Training Document
TSR	Technical Safety Requirement
UET	Use Every Time
USQ	Unreviewed Safety Question
USQD	Unreviewed Safety Question Determination
WETF	Weapons Engineering Tritium Facility

1.6 Definitions

Active	A document that is fully approved and authorized for use within the facility. (See deactivation and cancellation.)
Administrative Documents	<p>Any written or pictorial information managed by WETF describing, defining, specifying, reporting, or certifying activities, requirements, procedures, instructions, or results. Attachments are considered part of a document and will be revised per this procedure.</p> <p>Documents types controlled within WETF are defined below; this list is not all-inclusive. Refer to WETF-AP-29, Appendix A, <i>Document Categories and Types</i>, for a list of document types.</p> <p>AC—An Administrative Control defines the provisions relating to organization and management, procedures, record keeping, assessment, and reporting necessary to ensure safe operation of a facility.</p> <p>AP—An Administrative Procedure describes the steps of processes that are primarily non-technical in nature (e.g. business practices, quality procedures, office and personnel procedures, etc.). APs include documents formally known as Quality Procedures (QPs).</p> <p>EX—An Examination is documentation of a process or technique (e.g., oral, written, or performance evaluations) used to evaluate the knowledge, skills, and performance of personnel working at WETF.</p> <p>FORM—A Form is a document that contains blanks for the insertion of details, information, and/or signatures; it becomes a record when completed.</p> <p>PLAN—A Plan is generated at the inception of a program or project. The plan describes the program and its applicable requirements. A plan typically lists the organizations involved in implementing the described activities. This includes documents formally known as Test Plans.</p> <p>SD—Software Documentation provides information about a software program/application. SDs may include Software Application Code, Software Configuration Management Plan, and Software User Documentation.</p> <p>TRN—A Training document describes training requirements for WETF personnel.</p>

1.6 Definitions (continued)

Approval Date	The date on which an approval authority signifies acceptance that the document development process has been satisfactorily completed.
Cancellation	Cancellation is the permanent removal of a document from active status. Cancelled documents are archived.
Configuration Management	An integrated management process that establishes consistency among design requirements, physical configuration, and facility documentation. This consistency is maintained throughout the life of the facility/system and accounts for changes as they occur.
Controlled Area	Previously referred to as a Vault Type Room (VTR).
Controlled Document	A controlled document is one whose contents are maintained uniformly among the copies by an administrative control system. WETF controlled documents are designated as such by including the words "Controlled Copy" in red on the white cover.
Deactivation	Deactivation is the temporary withdrawal of a document from authorized use. For example, a document might be deactivated for the duration of an activity suspension or during temporary unavailability of a facility. Deactivated documents are exempt from periodic review requirements, but must be reviewed before reactivation if the normal review date has passed.
Document Action Request (DAR)	A form used to document and track the initiation, modification, or cancellation of a document.
Document History File (DHF)	Records that document the development, review, concurrence, and approval of a document in accordance with this procedure.
Document Subject Matter Expert (DSME)	The acknowledged expert in a given subject. The DSME owns the technical content and logistical structure of the document. Additionally, the DSME is responsible for technical content such as; procedural compliance with facility operating envelope (SB), mole limit compliance, Tritium Containment Vessel control, and classification considerations. The SRLM/RLM will identify the DSME on the DAR.
Document Technical Writer (DTW)	An individual familiar with the document preparation and approval process assigned to coordinate the activities associated with developing, revising, deactivating, or cancelling a controlled document as described in this procedure. Ensures document is written in compliance with standards such as P315, Attachment 16.
Editorial Revision	Nonsubstantive modifications to a document that change format, correct grammatical errors, update references or organizational names, or clarify without changing original intent.
Effective Date	The earliest date that any element of a document is approved to be implemented.
Ensure	To confirm and substantiate that an activity or condition has been implemented in conformance with the specified requirements when performing a procedure. Allows for manipulation of equipment, or instrumentation to conform to specified requirements. May be performed by reliable methods other than direct observation.

1.6 Definitions (continued)

First-Time Use Validation	When the SRLM/RLM deems that additional validation of the procedure is warranted, he/she may request that a “first time use” validation be performed. This validation is an actual performance of the procedure at the job site. It does not constitute a validation as described in P315, <i>Conduct of Operations Manual</i> , Section, 16.5.1.g Attachment 16. The results should be documented on WETF-FORM-71, <i>Procedure Validation Checklist</i> , or equivalent. It should be used only as a follow-up to one of the other validation methods. The Facility Operations Director (FOD) must approve first-time use. A hazard analysis must be performed and documented, evaluating the associated risks and defining the controls to compensate for them. FOD approval and restrictions must be documented on the approval page of the procedure. Care should be taken that the user is informed that the first use WILL be a validation, that he or she is attentive to the task, and knows the actions to take if a procedure deficiency is identified. The SRLM/RLM may assign an additional observer to assist the user-validator.
Immediate Procedure Change (IPC)	A change to an issued document made to address urgent operational needs that require expedited processing. Sometimes referred to as a Field Change.
Major Revision	Substantive modifications to a document that change the actual performance of the activity. Examples include changes in the hazard analysis or controls, the content or order of steps, the assignment of functional responsibilities, or the values of process parameters: <ul style="list-style-type: none">• major change in scope,• previously unanticipated hazards or conditions,• failure of controls and/or changes in controls, and• any change that would impact the safety or Safety Basis (SB) of the facility or exceed established facility-operating limits.
Master File	The collection of records for a given version/revision of a document that provides evidence of the document’s basis, accuracy, usability, approval, and proper processing. Also known as the DHF in document development.
Master Document List (MDL)	List of all WETF documents, includes Active, Deactivated, Cancelled, and Superseded documents. A listing of Active documents is available at the front of each controlled binder. An electronic copy may be found in PDMLink.

1.6 Definitions (continued)

Minor Revision Nonsubstantive modifications to a document that change format, correct grammatical errors, update references or organizational names, or clarify without changing original intent. Minor revisions enhance usability but do not change the actual performance of the activity.

NOTE:

Changes in the order of performance that correct obvious administrative errors may be processed as minor revisions with SRLM/RLM approval (documented on the DAR).

Minor Revisions:

- must not increase risk,
- must not alter implementation of a source requirement,
- must not alter the purpose or scope,
- must not eliminate any required reviews or approvals, or
- must not alter the operating, technical, design, process, regulatory, or quality requirements.

Minor Revisions are limited to the following:

- correction of typographical, spelling, punctuation, or grammatical errors: provided the meaning or intent does not change,
- changes to acronyms, definitions, references,
- updates to position titles, individual names, organizational names, and contact information to reflect current responsibilities, changes to identified position titles with similar qualifications, or
- addition of clarifying text or notes to provide additional information or improve the document's readability as long as the work process is not technically changed. Steps cannot be added or deleted, the sequence cannot change and the intent of the step cannot be changed (except as identified above).

Operations Documents

Operations documents (governed by Conduct of Operations) are written to provide specific direction for operating systems and equipment during normal and postulated abnormal and emergency conditions. Refer to WETF-AP-29 for a list of document types. Operations documents include, but are not limited to:

AOP—An Abnormal Operating Procedure describes the action(s) personnel take in response to events that affect several plant systems, threaten the facility safety envelope, or require operator action to mitigate facility damage. The need for an AOP is determined by engineering evaluation of the events that could threaten safe facility operations but are less severe than the events covered by Emergency Operating Procedures (EOPs).

ARP—Alarm Response Procedures are required for alarms that require timely operator action/response to visible and audible alarms.

EXT—An External Document is a controlled document that has been generated by another LANL or non-LANL organization [e.g., Health Safety and (DSESH-WFO) Sandia National Laboratories, etc.] that receives WETF review and signature approval for use at WETF.

1.6 Definitions (continued)

Operations Documents (continued)	<p>EMP—An Emergency Procedure describes the action(s) personnel take in response to an emergency condition which is commonly indicated by an alarm warning.</p> <p>ISI—The In Service Inspection program ensures the performance of design features in safety basis documents. An ISI procedure is used to ensure that these passive design features are inspected and maintained to satisfy the intended safety function.</p> <p>RS—Round Sheet is a record of system parameters that are recorded for equipment and process areas located within the responsibility of a particular operator. Round sheets contain information such as time of observation, maximum and minimum acceptable operating parameters, and normal operating ranges. Round sheets may include a narrative section used as the operating log for that position.</p> <p>SR—A Surveillance Requirement describes the test, calibration, or inspection necessary to ensure the operability and quality of safety Structures, Systems, and Components (SSCs) and their support systems that are required for safe operation are maintained.</p> <p>TP—A Technical Procedure describes the steps of processes that are primarily technical in nature (e.g. operating procedures and instructions, maintenance procedures, etc.). TPs include documents formally known as Acceptance Test Procedures (ATPs), Calibration Instructions (CIs), Calibration Procedures (CPs), Maintenance Instructions (MIs), Maintenance Procedures (MPs), Operating Instructions (OIs), Operating Procedures (OPs), and Standard Operating Procedures (SOPs).</p>
Nuclear Facility	Nonreactor nuclear facility. Those facilities, activities, or operations that involve, or will involve, radioactive and/or fissionable materials in such form and quantity that a nuclear or nuclear explosive hazard potentially exists to workers, the public, or the environment, but does not include accelerators and their operations and does not include activities involving only incidental use and generation of radioactive materials or radiation such as check and calibration sources, use of radioactive sources in research and experimental and analytical laboratory activities, electron microscopes, and X-ray machines. (Ref: 10 CFR 830.3, Definitions)
PDMLink	Software tool used at WETF as the Document Management System (DMS) for the review, approval, and control of documents (e.g., procedures). Also used for management of Records.
Record	A completed document or other media that provides objective evidence of an item, service, or process. Refer to WETF-AP-29 for a detailed definition of a record.
Record File Copy	The original of a document that has been approved by the WETF SRLM/RLM as indicated by his/her signature.

1.6 Definitions (continued)

Reference Procedure	<p>A usage designation for a procedure that is not required to be at the work site during performance of the activity. Reference procedures should be readily available and may be consulted as needed. If the Reference procedure is an IWD-equivalent procedure, it should be present at the job site. Reference procedures describe routine activities, “skill of the craft” activities, or generalized instructional material. These procedures do not require documented verification upon satisfactory completion of the individual steps. The Reference designation is appropriate for activities that can rely on training and expertise for successful performance. Sequential performance is mandatory unless the procedure allows otherwise. Steps must not be added or deleted without going through the formal change or revision process. These procedures may contain data sheets, provided the data sheets, when separated, contain sufficient instruction or detail to function without the entire reference procedure. This method can reduce user encumbrance and allow for minimization of potential waste within radiological areas.</p>
Responsible Line Manager	<p>The Responsible Line Manager is the group-level manager having the responsibility, authority, and accountability to plan, validate, coordinate, approve, execute, and close out work activities in accordance with P300.</p>
Revision Bars	<p>Changes, other than formatting and editorial changes, should be clearly communicated to the user. Place a vertical line (revision bar) in the margin, running the length of all changes. The IPC revision bars should be separate and distinct from any existing revision bars within the document. Only the marks for the most recent revision should appear in the revision. Major revisions do not receive revision bars.</p>
SAC	<p>A Specific Administrative Control provides a specific preventive or mitigating function for accident scenarios identified in the Documented Safety Analysis (DSA) where the safety function has importance similar to, or the same as, the safety function of a safety SSC (e.g. discrete operator actions, combustible loading program limits, hazardous material limits protecting hazard analyses or facility categorization).</p>
SB	<p>Safety basis documents describe those aspects of the facility design basis considered important to the safety of the facility operations and relied on by the Department of Energy (DOE) to authorize operation. These documents include the DSA, Technical Safety Requirements (TSRs), etc.</p>
Structures, Systems, and Components (SSCs)	<p>Structures are elements that provide support and enclosure such as buildings, freestanding tanks, basins, dikes, and stacks. Systems are collections of components assembled to perform a function such as the piping, heating, cooling, and air-handling units that make up the heating, ventilation, and air conditioning system. Components are specific pieces of equipment such as pumps, valves, relays, or elements of a larger array such as computer software, lengths of pipe, elbows, or reducers.</p>

1.6 Definitions (continued)

Subject Matter Expert (SME)	Any individual recognized for technical expertise in a particular subject area or discipline.
STD	A Standard defines the technical requirements and guidelines for the selection, application, and quality assurance of materials that apply to tritium applications for WETF. Standards should provide requirements, which supplement those invoked by national codes and standards.
UET Procedure Use Designation	<p>Use Every Time (UET) – A usage designation that requires the procedure or procedure section to be present and in use for each step performed. Verbatim compliance is required; that is, the procedure steps must be performed sequentially as written and without deviation from the instructions. Exceptions must be specifically identified in the procedure. Initials and/or sign-offs will be made, where required, at the time the step is performed or as provided in the attachment. The UET designation must be considered for a procedure or procedure section that:</p> <ul style="list-style-type: none">• has potential high consequence of error,• is complex,• is infrequently performed,• steps of the activity must be performed in sequence with no omissions,• has data taking or sign-offs required after certain steps during the performance of the activity,• has stringent quality or regulatory documentation requirements, or• an error during performance of the activity would result in unacceptable conditions. <p>UET procedures must be present at the work site, either in the possession of the user or an assistant (Reader). The Reader-Worker method may be used for situations in which it is impracticable for the primary worker to have the procedure in their possession. Examples include glovebox work, work encumbered by Personal Protective Equipment (PPE), or work in adverse environments. In the Reader-Worker Method, the Reader has possession of the procedure. The Reader clearly communicates each step verbatim to the Worker, either by direct voice contact or by alternate means such as radio or two-way intercom. The Worker repeats each step, paraphrasing as appropriate, before performing the action. The Worker reports completion of each step to the Reader. The Reader marks the procedure as required. Entries, initials and/or sign-offs are made, where required, at the time the step is performed, or in special cases, as provided by the procedure. The absence of sign-offs within a procedure does not alter the requirement for procedure compliance. If it is not necessary to meet the conditions above, the procedure should be written as a Reference Procedure or Data Collection Procedure.</p>

1.6 Definitions (continued)

Unreviewed Safety Question Determination (USQD)	<p>The USQ process allows the facility to make changes to support day-to-day operations. It also provides a mechanism for keeping the facility safety basis current by reviewing potential USQs, reporting positive USQDs to DOE, and obtaining approval from DOE prior to taking any action that involves a USQ. Refer to SBP 112-3, <i>Unreviewed Safety Question (USQ) Process</i>.</p> <p>The following document types are being considered for exclusion from the USQ process:</p> <ul style="list-style-type: none">• EX-training examinations.• FORM-forms that do not contain work instructions.
Validation	<p>A field review, usually performed as a walkdown or simulation, to confirm that a procedure can be used as written in the environment where the task is to be performed.</p>
Verification	<p>A table-top review performed to ensure that a document is technically accurate and meets editorial standards. A review performed to ensure that a document is compliant with P 315, Attachment 16 and DOE-STD-1029.</p>
Verify	<p>To confirm and substantiate that an activity or condition has been implemented in conformance with the specified requirements when performing a procedure. Manipulation of equipment or instrumentation to conform to the specified requirements is not permitted. Formal methods other than direct observation may be used.</p>

2.0 RESPONSIBILITIES

2.1 Security Responsible Line Manager/Responsible Line Manager

NOTE 1: Gas Transfer Systems Group (W-7) Group Management is designated as the WETF SRLM. The WETF Operations Manager is designated as the WETF RLM.

NOTE 2: The following are guidelines to help determine the approval authority:

If the activity being performed is in the Controlled Area or affects the Controlled Area [previously referred to as a Vault Type Room (VTR)] of Building 205, W-7 must have the opportunity to review and approve any documents, Radiological Work Permits (RWPs), and Work Packages.

If the document involves Program Operations such as Function Tester, Auxiliary Maintenance Integrated Gas Operation system (AMIGOS), Gas Analyses System (GAnS), Materials control and Accountability (MC&A), Material Balance Area (MBA)-OP, Packaging, and training documents affiliated with these documents, W-7 SRLM (could also be the RLM for these activities) must be the primary approver and RLM for Operations the secondary approver on the DAR.

If the activity or procedure is being performed outside the Controlled Area, then only RLM approval is required.

The SRLM/RLM is responsible for the following:

- Determine the need for a procedure (see Appendix A, *Procedure Need Flow Chart*)
- Determine if procedure is "UET," "Reference," or "Data Collection"
- Determine the level of detail in procedure considering the skill level of the performer. This determination should be made for procedure revisions as well as for new procedures.
- Determine if the procedure will be subject to P300, *Hazard Grading Matrix*, by evaluating the activity against P300.
- Determine the appropriate organizations for review (used to promote documents in PDMLink).
- Ensure the method, extent, and scope of the Validation process is specified, as applicable.
- Ensure documents address applicable commitments [e.g., Price-Anderson, Performance Feedback and Improvement Tracking System (PFITS), etc.].
- Act as approval authority for assigned documents.
- Ensure hazard analyses is performed for new and revised procedure changes with hazards and resulting controls identified, dispositioned and incorporated into the document as part of the revision process.

2.1 Security Responsible Line Manager/Responsible Line Manager (continued)

- Ensure documents are generated and controlled in accordance with this procedure and WETF-AP-29.
- Ensure a high level of management attention is focused on document development: review, validation, verification, concurrence, Derivative Classifier (DC) review, final verification, USQ review, and final approval to ensure quality documents are produced.
- Assign documents to groups or individuals having primary responsibility for performance of a given procedure.
- Ensure DSMEs are responsible for the technical content of their documents.
- Specify review personnel or levels of authority for document review/concurrence for their respective organization.
- Review the proposed document for Independent Verifications (IV), or other critical step that warrants an independent confirmation prior to proceeding.
- Ensure appropriate resources are available to complete the document review and approval process.

2.2 Document Control Coordinator (DCC)

The DCC is responsible for coordinating document control activities. The DCC responsibilities include:

- Provide guidance, assistance, and consultation to the organization's personnel in the area of document control.
- Maintain the organization's DMS/Electronic Document Management System (EDMS), which manages and controls all organizational documents and records, as appropriate. The following is a list of DCC document management specific responsibilities at WETF.
 - Maintain configuration management of documents utilizing the PDMLink tool.
 - Assign WETF document numbers to new documents and ensure the current revision sequence is followed.
 - Perform a document quality check before finalizing a document. A quality check should include, but is not limited to the following:
 - Ensure proper numbering, labeling, formatting of the document.
 - Ensure the document bears the appropriate classified markings.
 - All changes require the approval of the DSME and DTW.
 - The SRLM/RLM and the DSME and DTW must determine if additional review is required (e.g. DC and USQ).
 - Assist in the tracking of documents through the finalization of a document utilizing PDMLink to complete the process.

2.2 Document Control Coordinator (DCC) (continued)

- Verify review and concurrence has been completed by all required reviewers, apply all proper signatures and obtain final DAR approval before controlling a document.
 - Ensure all history documentation has been completed prior to final approval of document. [Training Level Determination (TLD), validation if required, verification, DC review and USQ review].
 - Upload “final approved” document (in both PDF and native formats) to PDMLink along with any history documentation and relate references.
 - Ensure the distribution of WETF controlled documents to the two designated locations; TA-16, Building 824, Room 161 and TA-16, Building 205, Room 110.
 - File completed package in the Master File in accordance with LANL Records Management and Conduct of Operations requirements.
 - Notify WETF personnel when documents have been approved.
 - Maintain the WETF Master Document List (MDL).
 - Establish initial periodic review dates for documents based on the original approval date and the criteria provided in WETF-AP-29, Section 10.0, *Periodic Reviews*, as appropriate.
- Serve as the organization’s main point of contact for all organizational documents that are submitted by local document owners/users.
 - Participate in the organization’s management assessments of document control activities and assists management in the development of corrective action plans, as appropriate. This also includes providing feedback to management for the continuous quality improvement of document control activities.
 - Ensure adequate protection and access controls to documents (and records) in the organization’s DMS/EDMS.
 - Participate in and maintain document control training as required.
 - Ensure WETF-AP-29 is up-to-date in accordance with P1020-2, Laboratory Document Control, and P315.

2.3 Document Subject Matter Expert (DSME)

The DSME is designated by the SRLM/RLM, and is responsible for the technical content of the document. The DSME is responsible for the following:

- Develop a draft, for new or revised document.
- Ensure technical adequacy including accuracy of specified limits, entry conditions and symptom information, precautions and limitations, and acceptance criteria.
- Ensure incorporation of appropriate LANL requirements.
- Ensure hazards and their resulting controls identified as part of the IWD process are addressed in new and revised procedures.

2.3 Document Subject Matter Expert (continued)

- Complete the NHHO-FORM-002, *NHHO-TR Systematic Approach to Training (SAT) Determination Form*, to help with the initial decision whether formal training is required of new or revised documents, processes or activities. This form is intended as a first step in what can lead to an end product consisting of formal training, Conduct of Operations dissemination of information through briefings or required reading, or no action required.
- Complete the TLD WETF-FORM-73, *WETF Training Level Determination Form*, with training staff, when applicable.
- Ensure applicable measuring and test equipment (MT&E) is identified in the procedure.
- Identify document validator.
- Review the proposed document for the need of witness points.
- Review the proposed document for safeguards and security concerns or other issues as appropriate.

2.4 Document Technical Writer (DTW)

The DTW is responsible for the following:

- Follow the document preparation requirements of this document.
- Coordinate reviews, validation, verification, concurrence, DC review, final verification, USQ review, and final approval of documents.
- Ensure hazards and their resulting controls identified as part of the IWD process are addressed in new and revised procedures.
- Prepare the document to ensure applicable facility and LANL requirements (with DSME input) are incorporated.
- Identify document verifier.
- Track the document through the development process (reviews, validation, verification, concurrence, DC review, final verification, USQ review, and final approval).
- Coordinate and administer the comment resolution process with the oversight of the DSME. Resolving technical comments and document structure must be done with the consent of the DSME.
- Ensure verifications and validations are completed as required.
- Ensure the document has received a review for classification.
- Ensure proper numbering, labeling, and formatting of the document before its approval and distribution.
- DSME and DTW keep document on track to meet schedules.
- Provide management the status of documents including the number in routing for review and approval.
- Provide any hardcopy history documentation to the Document Control Records Management (DCRM).
- Independent DTW performs verifications (WETF-FORM-69, *Procedure Verification Checklist*).

2.5 WETF Personnel

WETF Personnel are responsible for:

- Identify the need for new documents or revisions to existing documents.
- Report procedural errors or deficiencies to their immediate management, and initiating a DAR, WETF-FORM-66, *Document Action Request*.

2.6 Document Reviewers

2.6.1 Subject Matter Experts

As determined on the DAR, SMEs review of the document may include the following (within their area of expertise):

- Review the new/revised document against the source documents for technical adequacy including accuracy of specified limits, entry conditions and symptom information, precautions and limitations, and acceptance criteria.
- Review the document to ensure incorporation of appropriate LANL requirements.
- Review the document for the need of any hold points, IV, or other critical step that warrants an independent confirmation prior to proceeding.
- Review the document history of revisions or document development records to ensure key steps added to the document are not inadvertently deleted.
- Participate in Validations (WETF-FORM-71) when assigned.

2.6.2 Cognizant System Engineers

As determined on the DAR, CSEs review of the document may include the following (within their area of expertise):

- Ensure Technical Safety Requirement (TSR)/Safety Management Programs (SMPs) requirements are correctly implemented (e.g. Pressure Safety, Emergency Management, and Hazard Material). These SMPs may be applicable to specific systems (e.g. Pressure Safety concerns with the Tritium Waste Treatment System and Tritium Gas Containment System) thus requiring the CSE and Safety Basis review.
- Ensure acceptance criteria not derived directly from the TSR's have approved calculations and are listed in the reference section of the procedure.
- Review the new/revised document against the source documents for technical adequacy including accuracy of specified limits, entry conditions and symptom information, precautions and limitations, and acceptance criteria.
- Review the document to ensure incorporation of appropriate LANL requirements.
- Review the document history of revisions or document development records to ensure key steps added to the document are not inadvertently deleted.

2.6.2 Cognizant System Engineers (continued)

- Evaluate any new or changed document that includes operations or experiments that involve heating which could lead to over pressurization, material failure or material compromise by over-temperature to ensure that over-temperature protection devices are installed in accordance with AC 5.6.9, *Pressure Safety Program*, of the WETF TSR.
- Identify events that require an Abnormal Operating Procedure (AOP) or an Alarm Response Procedure (ARP).
- Perform Validations (WETF-FORM-71) when assigned.

2.6.3 Environmental, Safety and Health (ES&H) Representative(s)

- Review the proposed document for safety, health, environmental concerns.
- Evaluate the document for as low as reasonably achievable (ALARA) considerations such as:
 - waste,
 - personnel exposures, and
 - tritium releases to the environment or to the applicable waste-processing stream.
- Ensure the Industrial Hygiene and Safety Division's SME on the Explosives Safety Program reviews all new and revised procedures involving explosives operations and materials. This review includes compliance with the requirements in P101-8, *Explosives Safety*, and safety issues that could present a danger to workers or the environment.
- Specify inspection requirements and appropriate acceptance criteria in procedures.
- Ensure DSESH-WFO review is required for documents involving radiological work. A DSESH-WFO representative for WETF reviews the document as an SME reviewer focusing on the associated radiological concerns and notifies the DSME/DTW of the need for any radiological hold points or if the DSESH-WFO representative will need to review and sign the document.

2.6.4 Electrical Safety Officer

Review is required on documents involving the installation, removal, or maintenance of electrical work. The WETF Electrical Safety Officer reviews the document as an SME reviewer focusing on the potential electrical energy hazards.

2.6.5 Training Staff

Perform a training determination assessment on the document based on the Systematic Approach to Training (SAT).

- Review documents for training implications based on SAT determination.
- Ensure proper training requirements have been established (e.g., required reading, on-the-job training, etc.).
- Develop training documentation in support of documents.

2.6.6 WETF Quality Assurance (QA)

QA personnel are responsible for the following:

- Review documents for compliance with the WETF Quality Assurance Program Plan (QAPP) and governing quality management documents.
- Review documents for the need of any QA Hold Points.
- Review and concur on all documents.
 - Ensure applicable MT&E is identified in the procedure.
 - Review all IPC changes.
 - Review documents that involve installation of quality components.

3.0 PRECAUTIONS AND LIMITATIONS

None

4.0 PREREQUISITES

None

5.0 PROCEDURAL STEPS

NOTE 1: *Per WETF-AP-29 under NO circumstances are controlled documents to be altered, changed, or revised without the required review and approval process.*

NOTE 2: *Sections in this procedure are independent of each other and may be performed as needed based on the activity required. Per WETF-AP-29, a change to the process may only be considered to meet time sensitive deliverables or for minor revisions. For more detailed information regarding changes to the process see WETF-AP-29.*

NOTE 3: *Formatting and content requirements and guidelines for WETF documents are addressed in Appendix E, Document Content and Format.*

5.1 Document Development/Processing

5.1.1 Determine need for document

Document Subject Matter Expert (DSME)/Anyone

[1] Use Appendix A, *Procedure Need Flow Chart*, to determine the need for a procedure.

5.1.2 Initiate DAR

NOTE 1: *A NHHO-TR Systematic Approach to Training (SAT) Determination Form **MUST** be completed by the DSME for all Document Types in this procedure. This will help determine Training's role in the document process.*

NOTE 2: *A DAR form **MUST** be submitted to the Document Control Coordinator (DCC) for any document action (new, revision, deactivation, cancellation, etc. (for IPCs GO TO Appendix D, IPC Changes) regardless of the trigger. Triggers include upcoming review date, new or changed processes or requirements, new information, an assessment, or an event.*

NOTE 3: *New and revised documents received from external sources are assigned a unique WETF document control number, attach a WETF document cover sheet and insert a history of revisions page. External documents **WILL** only undergo a Verification, USQ evaluation, and management approval.*

Anyone/Originator

- [1] WHEN the need has been identified for a new document,
OR a revision to an existing document,
THEN With guidance from the DSME, Complete form NHHO-FORM-002 to determine Training's role in the document process,
AND Initiate and Submit a DAR, WETF-FORM-66, as follows:
- Complete Section # 1, *Originator Request*, of the DAR.
 - IF this is a new document,
THEN Request a document number and revision number from the DCC.
 - Enter a detailed description for the new document,
OR changes to an existing document.
 - IF the change CANNOT be fully captured on the DAR,
THEN Attach a draft or marked-up copy of the document to the DAR, showing proposed changes.
 - IF the document is a procedure,
THEN Determine if it will be a UET or reference procedure.
 - IF the procedure is UET,
THEN Identify which sections will be UET.
 - IF the document is a procedure,
THEN Determine if any steps will require IV and list the details on the DAR.
 - IF the document is NOT a procedure,
THEN Check N/A in Block 3 of Section # 1
AND No for IV.

5.1.2 Initiate DAR (continued)

Anyone/Originator

- With guidance from the DSME, complete Section # 2, *Affected Operation and/or System [to be completed by Weapon Engineering and Experiments Directorate (ADW) Representative]*.
- With guidance from the DSME, complete Block 1 of Section # 3, *ADW SRLM or NHHO RLM Approval for Processing*.
- Complete Section # 4, *Hazard Grading*, using the guidance in Section 1.2, *Scope*, of this procedure.
- Submit the DAR to the SRLM/RLM for review and approval.

SRLM/RLM

NOTE: *W-7 Group Management is designated as the WETF SRLM and RLM for W-7 activities. The WETF Operations Manager is designated as the WETF RLM.*

- [2] Review the DAR for adequacy, accuracy, and necessity.
- [3] Ensure that the activity or process being described is graded for hazard level according to P300, Attachment B, *Hazard Grading Table*, and WETF-AP-FRPR-34, *Facility Radiation Protection Requirements Weapons Engineering Tritium Facility (TA-16-205 & 450)*.
- [A] IF the activity is classified as Moderate Hazard or High Hazard/Complex, THEN the document **SHALL** meet the requirements for an IWD Part 1 equivalent procedure as described in P300, including a documented hazard analysis.
- [4] Identify the required reviewers in Section # 5, *Required Reviewers*.
- [A] Use Appendix B, *Document Reviewers*, to select reviewers for the document.
- [5] IF the DAR is acceptable, THEN Sign and Date.
- [A] Forward the approved DAR to the DCC.
- [6] IF the DAR is rejected, THEN Record the reason for the rejection, Initial the form, and Return it to the Originator.
- [A] IF additional pages are used, THEN Reference additional pages in the Comment field (e.g., "see attached pages").
- [B] IF a new document number was issued, THEN Notify DCRM of the rejection.
- [C] Terminate the document process.

5.2 DAR/Document Processing

NOTE 1: *For External documents GO TO Section 5.5, Final Verification.*

NOTE 2: *If a DAR is for the Deactivation, Cancellation, or for Periodic Review requirements for a document, refer to WETF-AP-29 for processing.*

NOTE 3: *This section is used for the following types of document actions:*

- *New Document*
- *Major revision*
- *Minor revision*
- *Immediate Procedure Changes (IPCs), see Appendix D, IPC Changes*
- *Roll up of multiple IPCs*

NOTE 4: *IPC Rollup SHOULD be initiated when:*

- *The procedure is no longer workable, initiate a DAR in accordance with Section 5.1.2*
- *Five permanent IPCs have been received for any one procedure, initiate a DAR in accordance with Section 5.1.2*
- *Permanent IPCs have been active for six months; initiate a DAR in accordance with Section 5.1.2*

NOTE 5: *Further guidance on procedure content is provided in Appendix E, Procedure Content and Format, DOE Order 422.1, Conduct of Operations, Attachment 2, Program Requirements, 2. Specific Requirements, p. Technical Procedures, and P 315, Conduct of Operations Manual, Attachment 16, Technical Procedures. Where specific formatting conventions are NOT addressed, users are encouraged to apply the formatting guidelines in DOE-STD-1029-92, DOE Standard Writer's Guide for Technical Procedures, as applicable. For additional content and formatting, always use the latest procedure template, WETF Procedure Template, located in PDMLink in the WETF library in the Templates folder.*

NOTE 6: *The Review and Concurrence steps in the process may be combined with documented approval from the SRLM/RLM. See WETF-AP-29.*

Document Technical Writer (DTW)

- [1] WHEN the DAR is received from DCC,
THEN Contact the DSME for a draft of the proposed document, if a draft was NOT provided by DCC.

5.2 DAR/Document Processing (continued)

NOTE: *The following types of documents MAY require a TLD:*

- *Administrative Controls*
- *Administrative Procedures*
- *Abnormal Operating Procedures*
- *Alarm Response Procedures*
- *Technical Procedures*
- *Emergency Procedures*
- *Emergency Operating Procedures*
- *In Service Inspections*
- *Plans*

DSME

[2] Coordinate with the WETF Training Office to determine if a TLD is required.

[A] IF a TLD is required,
THEN Complete a TLD, WETF-FORM-73 and Submit to DCRM staff.

DTW

[3] Develop the new document

OR Make changes to an existing document as described on the DAR.

[4] For minor changes, IPCs and IPC rollups, changes are annotated with revision bars during the revision process.

DSME

[5] Review the document and Determine readiness to start the approval process (review, validation, verification, concurrence, DC review, approval, USQ, and issue).

5.3 Upload the Document into PDMLink

DTW

[1] Upload the document into PDMLink.

5.4 Document Review, Concurrence and Approval

NOTE: *Validation and Verification are part of the review process.*

DTW

[1] Promote the document for Review in PDMLink.

5.4 Document Review, Concurrence and Approval (continued)

Reviewers

- [2] Perform a Review of the document promoted in PDMLink (refer to WETF-AP-29, Appendix B, for guidance on locating the document in PDMLink).
- [3] IF you have comments,
THEN Download (copy function) the document from PDMLink to your desktop.
 - [A] Document your comments in Microsoft WORD using TRACK changes,
OR Provide hardcopy comments to the DTW.
 - [B] Upload a copy of the document with TRACKED changes (your comments) into PDMLink (refer to WETF-AP-29, Appendix B, for guidance on uploading the document into PDMLink),
OR Provide hardcopy comments to the DTW.

DSME and DTW

- [4] DTW **WILL** contact the DSME and together they **WILL** resolve and incorporate comments from reviewers.

DTW

- [5] Ensure the latest version of the revised document (All comments and corrections incorporated) is loaded into PDMLink.

NOTE 1: *The Validation process only applies to active operations procedures (subset of Operations Documents). Cancellations and deactivations are exempt from Validation.*

NOTE 2: *See Appendix C, Methods of Validation, for more information.*

NOTE 3: *Unapproved procedures CANNOT be used to manipulate equipment or components.*

NOTE 4: *First Time Use Validation SHOULD be used only as a follow-up to one of the other validation methods. When the SRLM/RLM deems that additional validation of the procedure is warranted, he/she may request that a “first time use” validation be performed. This validation is an actual performance of the procedure at the job site. It does not constitute a validation as described in Conduct of Operations Manual, Attachment 16, Section 16.5.1.g. The results should be documented on WETF-FORM-71.*

- [6] Promote the document for Validation in PDMLink.
 - [A] Prepare WETF-FORM-71 for the Validator.

5.4 Document Review, Concurrence and Approval (continued)

Validator

- [7] Perform a Validation (review) of the document promoted in PDMLink (refer to WETF-AP-29, Appendix B, for guidance on locating the document in PDMLink).
- [8] IF you have comments,
THEN Download (copy function) the document from PDMLink to your desktop.
- [A] Document your comments in Microsoft WORD using TRACK changes,
OR Provide hardcopy comments to the DTW.
- [B] Upload a copy of the document with TRACKED changes (your comments) into PDMLink (refer to WETF-AP-29, Appendix B, for guidance on uploading the document into PDMLink),
OR Provide hardcopy comments to the DSME and DTW.
- [9] Complete WETF-FORM-71,
AND Obtain the SRLM/RLM signature.
- [A] Return the form to the DTW,
OR DCC for inclusion in the DHF.

DSME and DTW

- [10] DTW **WILL** contact the Document Subject Matter Expert (DSME)/CSE and together they **WILL** resolve and incorporate comments from Validation.

DTW

- [11] Ensure the latest version of the revised document (All comments and corrections incorporated) is loaded into PDMLink.
- [12] Promote the document for Verification in PDMLink.

Verifier

- [13] Perform a Verification (review) of the document promoted in PDMLink (refer to WETF-AP-29, Appendix B, for guidance on locating the document in PDMLink).
- [A] Complete WETF-FORM-69,
AND Return the form to the DTW,
OR DCC for inclusion in the DHF.

DSME and DTW

- [14] DTW **WILL** contact the DSME and together they **WILL** resolve and incorporate comments from Verification.

5.4 Document Review, Concurrence and Approval (continued)

DTW

- [15] IF NO comments were received during the review process, this includes validation, AND first verification, THEN with written approval from the RLM GO TO Step 5.4[22].
- [16] Ensure the latest version of the revised document (All comments and corrections incorporated) is loaded into PDMLink AND Upload a Concurrence redline as an attachment.
- [17] Promote the document for Concurrence in PDMLink.

Concurrers

- [18] Perform a review of the document promoted in PDMLink (refer to WETF-AP-29, Appendix B, for guidance on locating the document in PDMLink).
- [19] Address any document concerns with the DSME and DTW.

DSME and DTW

- [20] DTW **WILL** contact the DSME and together they **WILL** resolve and incorporate comments from Concurrers.

DSME, DTW, and SRLM/RLM

- [21] IF comments are incorporated, THEN the DSME, DTW, and SRLM/RLM will determine if Re-concurrence is required, AND IF required GO TO Step 5.4[11].

DTW

- [22] Ensure the latest version of the revised document (All comments and corrections incorporated) is loaded into PDMLink, AND Upload a DC Review redline as an attachment.
- [23] Promote the document for DC Review in PDMLink.

DC Reviewer

- [24] Perform a DC review (refer to WETF-AP-29, Appendix B, for guidance on locating the document in PDMLink), AND Complete your promotion request in PDMLink

5.4 Document Review, Concurrence and Approval (continued)

DSME and DTW

[25] DTW **WILL** contact the DSME and together they **WILL** resolve and incorporate comments from DC review.

DSME, DTW, and SRLM/RLM

[26] IF comments are incorporated,
THEN the DSME, DTW, and SRLM/RLM will determine if Re-concurrence is required,
AND IF required GO TO Step 5.4[11].

DTW

[27] Complete your Change Notice Task in PDMLink.

5.5 Final Verification

NOTE 1: *NO technical content **WILL** be changed; verification is for formatting, grammar, etc. ONLY.*

NOTE 2: *Document will be automatically routed to the assigned reviewer for a verification review, complete WETF-FORM-69. Any formatting or grammar changes may be made that do NOT change the technical content of the document, the form is submitted to the DCRM office as part of the history documentation.*

Verifier

[1] Perform a Verification of the document in PDMLink (review task on your home page).

[A] SLRM/RLM and the DSME **MUST** review any change to determine if the document needs reprocessing (Re-validation, Re-verification, Re-concurrence, Re-DC review, and Re-submittal to DCRM).

DTW/Verifier

[2] Ensure the latest version of the revised document (All comments and corrections incorporated) is loaded into PDMLink

5.6 DCRM Final processing

Document Control Coordinator

[1] Finish processing document for final approval and Issue (refer to WETF-AP-29, for a more detailed description of finalizing a document for release).

6.0 REQUIRED RECORDS

No records are generated by the performance of WETF-AP-10, however; records are generated by the applicable implementation documents.

7.0 APPENDICES

Appendix A, *Procedure Need Flow Chart*

Appendix B, *Document Reviewers*

Appendix C, *Methods of Validation*

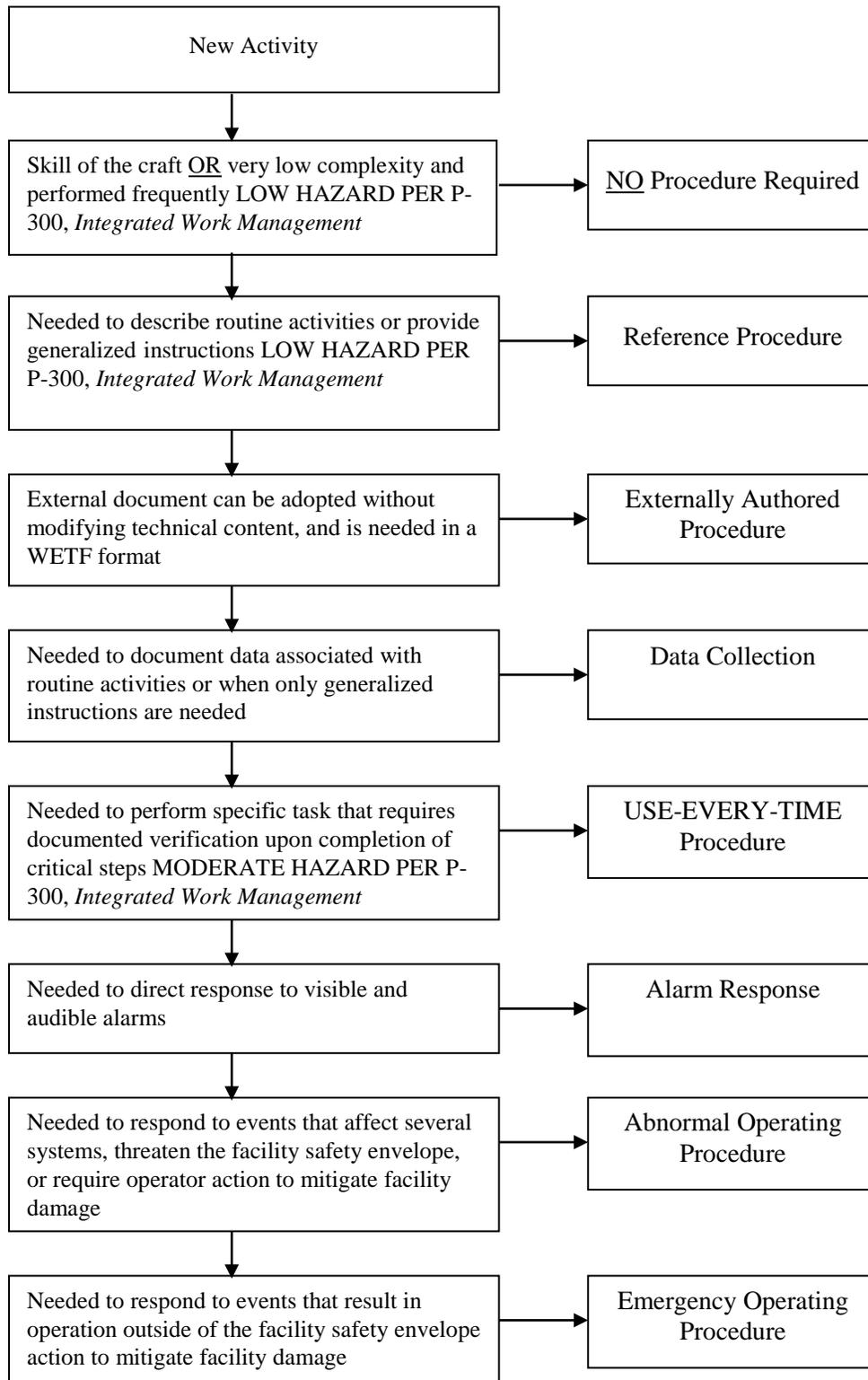
Appendix D, *IPC Changes*

Appendix E, *Procedure Content and Format*

8.0 ATTACHMENTS

None

APPENDIX A: PROCEDURE NEED FLOWCHART



APPENDIX B: DOCUMENT REVIEWERS

When initiating a DAR, coordinate with the SRLM/RLM (approval signature on the DAR) as needed to determine the appropriate reviewers.

IF the document is a procedure,
AND is a new or major revision,
THEN the minimum set of reviewers SHOULD be the following:

- Cognizant System Engineer (CSE) for documents that implement safety basis requirements (Vital Safety Systems).
- SME or person with thorough knowledge of the subject for documents that implement non-safety basis requirements.
- ES&H representative.
- A quality specialist.
- Operations representative.
- Training representative as determined by the SAT.
- Other engineering representatives, as applicable.
- Other appropriate members from a High Hazard Analysis Team.
- Management review is performed concurrent with approval.

IF the document is NOT a procedure or is a minor revision to a procedure,
THEN the minimum set of reviewers is:

- Operations representative as determined by the SAT.
- Training representative.
- A quality specialist.
- One SME/CSE or person with thorough knowledge of the subject.
- Management review is performed concurrent with approval.

IF the change needed is an IPC,
THEN the minimum set of reviewers is:

- The SRLM/RLM reviews the IPC and determines DSME/CSE review as deemed necessary to ensure the need, technical accuracy, and completeness of the proposed document modification.
- Training representative as determined by the SAT.
- A quality specialist.
- Management review is performed concurrent with approval.

APPENDIX C: METHODS OF VALIDATION

Determine Validation scope as follows:

- Major revisions that involve manipulation of systems or equipment typically require validation of the entire procedure.
- The Validation can be limited to select sections where the change(s) occur provided the changes do NOT impact other (unchanged) sections.

Select the appropriate Validation method or combination of methods:

- Walkdown Validation Method
- Simulation (if a simulator or mock-up is available)
- Tabletop Validation Method
- First Time Use Validation (performed after formal approval).

IF the Validation method selected is the First Time Use Validation (used only to supplement a formal validation),

THEN Perform the following:

- a. Handle the document as a classified document (i.e., confidential or secret), if validating a document which was confidential or secret after data entry and data was entered as part of the validation.
- b. Obtain FOD approval to perform the First Time Use Validation.
- c. Ensure WETF Management has verified the CSE has reviewed the procedure and the USQ process has been implemented as required by SBP 112-3, *Unreviewed Safety Question (USQ) Process*.
- d. Stamp or write “APPROVED FOR VALIDATION USE ONLY” AND Initial and Date on cover page of the Validation copy.
- e. Validate by actual performance.
- f. Perform the procedure as often as necessary to ensure it is correct for all equipment and tasks covered.
- g. Identify any additional hazards and necessary protective measures.
- h. Complete all applicable data forms.
- i. Correct all errors that prevent the procedure from being performed as written.
- j. Submit Validation comments.
- k. Forward a copy of validated procedure and applicable forms to the procedure preparer for resolution of comments.

APPENDIX C: METHODS OF VALIDATION (continued)

Method:	Walkdown/Simulation Validation	Tabletop Validation	First Time Use Validation
Description	<p>A walkdown involves user(s) of the procedure performing a systematic enactment of procedure actions with no changes to facility configuration or operational conditions, reading the procedure line by line, and enacting procedure performance by walking to each device, control, or control station in the described sequence. The actual facility equipment is addressed but manipulation of equipment is dramatized or simulated. The Validation Checklist is completed.</p> <p>A simulation involves the use of a simulator or mock-up.</p>	<p>A review of the procedure using a talk-through process. This method is selected when equipment manipulated by the procedure is inaccessible or where ALARA considerations, safety considerations, or facility status do <u>NOT</u> allow for a walkdown. The procedure is read/evaluated line by line and performance is talked-through by knowledgeable individuals including intended procedure users using the following as applicable: P&IDs; electrical or other approved system drawings; system descriptions; vendor information; modification package(s); photographs; current effective copy of the subject procedure; integrated system diagrams.</p>	<p>This validation is actual performance of the procedure at the job site. It <u>SHOULD</u> be used only as a follow-up to one of the other validation methods. Care <u>SHOULD</u> be taken that the user is informed that the first use will be a validation, that he or she is attentive to the task, and knows the actions to take if a procedure deficiency is identified. The Responsible Manager may assign an additional observer to assist the user-validator. Performed only after formal approval.</p>
Evaluates:	<ul style="list-style-type: none"> - Information contained in the procedure is adequate. - Information contained in the procedure is understandable and easy to comprehend. - The procedure is compatible with the facility configuration. - The procedure is compatible with the specified manpower. - The sequence of procedure steps is correct and efficient. - The communication methods used in the procedure are adequate. - Hazard identification and mitigating controls included in the procedure are appropriate and adequate. 		

Evaluate for the following during Validation:

- During procedure validation, all equipment/tools/components necessary to perform the evolution are required to be present in the field for validations. It is recommended that procedure validation not occur without all of the required equipment/tools/components. Mock ups should be used when available and simulations of steps should be as close to the performance of steps as possible (e.g. touching valves without manipulating).
- A procedure writer (not directly involved in procedure development) or an independent qualified performer (not involved in the procedure development process) should be involved with the procedure validation in the field. The validation should involve workers at all levels of experience and not always the SME or most senior worker. A graded approach should be applied as to when a procedure writer/independent person is required to be present during validation (e.g. major revision or new procedure).

APPENDIX C: METHODS OF VALIDATION (continued)

Evaluate for the following during Validation (continued):

- Steps in the procedures should be simple and provide flexibility through general notes and statements (such as “as necessary”, “as required”, “steps may be repeated/worked out of order”, etc...). The use of bulleted lists should be utilized instead of a sequential list of steps when appropriate. Too much detail in steps is often provided, but not necessarily required.
- The use of flow charts should be used for complex procedures or new procedures to illustrate the process flow and assist in the development and validation of procedures. This also assists when “do loops” exist.
- Usability of the procedure, including operational effectiveness, access requirements, response time, and environmental conditions (temp, contamination, ergonomics, etc.).
- Accuracy of task performance, which is a measure of the extent to which a task is completed without error, where an error is defined as any action which exceeds the limits of tolerance for the system. For the purposes of procedure validation, this definition is expanded to include any aspect of the technical content, structure, organization or language of the procedure which has the potential to diminish the probability of meeting the stated objective of the procedure.
- Errors of commission in which a step is performed incorrectly. This includes both performing the correct step in an incorrect manner; performing a step correctly, but out of sequence; and performing a step correctly, and in the right sequence, but taking more time than is available.
- Errors of omission in which a step is skipped.
- Navigational errors in which the user branches to the wrong procedure, or to the wrong step within the right procedure. Navigational errors may take the form of errors of commission or omission.
- Incorrect or incomplete directions within the procedure.
- Inconsistent terminology with equipment and systems the procedure references.
- Vague, ambiguous, or non-standard terminology is used in the procedure.
- Response time, which refers to the elapsed time from an initiating event to an effective system response. Some facility operations, particularly those involving responses to emergency situations, may be constrained in terms of the amount of time available to perform the operation. For procedure Validation, there are two separate and distinct response times of interest:
 - The response time required for the user to read and interpret the content of the procedure, which is an indication of procedure usability, and
 - The response time required for the user to perform the actions dictated by the procedure, which is an indication of procedure complexity.

APPENDIX D: IPC CHANGES

NOTE: *Immediate Procedure Changes (IPCs)*

- *An IPC CANNOT be used to change EOPs, the purpose or scope of procedures, to approve total rewrites of any procedure, or to approve new procedures.*
- *IPC changes are limited to those required to continue work in progress (may be an administrative procedure), support temporary modifications, for critical activities as identified by the procedure preparer, or where a major revision is in process and an IPC is required to correct the procedure.*
- *For IPCs, the Responsible Manager role may be delegated to the Shift Operations Supervisor, Shift Operations Manager, Operations Manager, Person-In-Charge (PIC), or other on-shift manager.*
- *Content that is safety-basis related CANNOT be changed without required Safety Basis reviews.*
- *An IPC changes the existing revision number on the modified procedure (only for the page that the change is on, and the History of Revisions). For example: revision A becomes A.1, or revision B.2 becomes B.3.*
- *A USQ is required for IPCs of procedures at WETF.*

Process the IPC, using WETF-FORM-67, *Immediate Procedure Change (IPC)*.

Mark up a copy of the procedure as follows (typed or hand-written in ink):

- a. Make all changes on a current copy of the affected procedure.
- b. Draw a single line through the information to be deleted or changed.
- c. Enter changes as close as possible to where they apply in the procedure.
- d. Make permanent changes as follows:
 - Update the history of revisions of the procedure.
 - Place the IPC revision number in the header of the affected page(s) of the procedure (example Rev. A becomes Rev. A.1).
 - Place a change bar in the right hand margin that runs the length of the change.
 - Identify all steps changed by the IPC by recording the IPC number next to the change bar (example IPC #1).

APPENDIX D: IPC CHANGES (continued)

If it is NOT practical to enter all information due to space restrictions or other reasons, attach a copy of the changes as insertable pages and associate each affected step in the procedure, for example – “See IPC Number _____”; or, physically cut and paste the changes into the procedure and adjust the page numbers (i.e., 5a, 5b, 5c, etc.).

- e. Procedure writer will get concurrence from the reviewers listed on Section 2 of the IPC Form. Hardcopy signatures.
- f. Procedure writer will get the training staff to complete the training section at bottom of the IPC form
- g. Procedure writer will incorporate changes per WETF-AP-10 and upload the IPC into PDMLink. Since the document will be at a release state, the procedure writer will need to change the state to “In Work.”

NOTE: *If the IPC is needed after normal work hours or weekends, and there is no DCRM staff available, the procedure writer may promote the IPC to USQ and obtain the final signatures on the IPC Form.*

- h. Procedure Writer will notify DCRM that the IPC is ready to be promoted to USQ for review, and turn in the completed IPC form to DCRM.

APPENDIX E: PROCEDURE CONTENT AND FORMAT

A. Procedure Types

Procedure types are identified in the definitions section of this procedure.

Further guidance on procedure content is provided in DOE Order 422.1, *Conduct of Operations, Attachment 2, Program Requirements, 2. Specific Requirements, p. Technical Procedures*; and P315, Attachment 16. Where specific formatting conventions are NOT addressed, users are encouraged to apply the formatting guidelines in DOE-STD-1029-92, as applicable. For additional content and formatting, always use the latest procedure template, *WETF Procedure Template*, located in PDMLink in the WETF library under the TAB Templates.

There are two types of procedures discussed in this guidance; operations procedures (subset of Operations Documents) and administrative procedures. The following sections in this appendix provide guidance/expectations for developing both types of procedures.

WETF has other types of controlled documents (e.g. training documents, administrative controls, System Design Descriptions, etc.). Templates for these documents can also be found in the PDMLink WETF library or in the Engineering Standards Manual. WETF management may specify and/or tailor other formats or templates as appropriate. Qualification/Certification Training Standards have their own template and do NOT follow Appendix E requirements.

A.1 Technical Procedures

Tps are based on design controls (specifications, drawings), operational controls (DSA, technical specifications), management controls (industrial safety, training), and experience (lessons learned). They provide direction and information on how to accomplish the technical tasks. Lockout/Tagouts identified in the procedure will include independent verification.

A.2 Emergency and Alarm Response Procedures

Emergency and Alarm Response Procedures define the action steps to take when an abnormal condition exists and are deemed a type of operations procedure.

Emergency Procedures (EMPs) address conditions that require immediate and absolute attention to mitigate problems, reestablish safety boundaries, and bring operations and equipment back within established operating parameters.

ARPs define the action steps trained/qualified operators are required to take in response to an alarm, annunciator, or other type of facility display that indicates an abnormal condition.

EMPs and ARPs SHOULD be readily accessible by operators who use them. They SHOULD be brief (typically one or two pages) and focus on the immediate and subsequent actions necessary to properly respond to and recover from the specific abnormal condition.

Emergency procedures SHOULD be formatted differently from other procedures to readily distinguish them from other document types.

A.2.1 Emergency Operating Procedures (EOPs) Content

EOPs are developed for events that would result in operation outside the facility safety envelope. The need for an EOP is determined by an engineering evaluation from the design basis events identified in the Safety Analysis Report.

The CSE determines any required inspection criteria for the facility due to damage caused by severe natural phenomena and any actions required to put the facility in a safe condition after such damage. These requirements may be put into an EOP.

The Facility Manager may identify other events outside of those identified by the CSE.

A.2.2 Abnormal Operating Procedures (AOPs) Content

AOPs are developed for events that affect several plant systems, threaten the facility safety envelope, or require operator action to mitigate facility damage. The need for an AOP is determined by engineering evaluation of the events that could threaten safe facility operations but are less severe than the events covered by EOPs.

The CSE determines any required inspection criteria for the facility due to damage caused by severe natural phenomena and any actions required to put the facility in a safe condition after such damage. These requirements may be put in an AOP.

The Facility Manager may identify other events outside of those identified by the CSE.

Additional details on the use and control of WETF AOPs is provided in WETF-AP-17, *Abnormal Operating Procedure Use*.

A.2.3 Alarm Response Procedures (ARPs) Content

This section provides guidelines for ARP content and administration for all organizations producing ARPs. Process Control Status Lights (On, Off, etc.) and advisory alarms do NOT require ARPs.

ARPs have five major functions:

- direct the response of personnel to visible and audible alarms
- provide corrective action(s) to respond to the alarm condition, or send the operator to the document that has the corrective action(s) to respond to the alarm condition
- provide information that enhances the operating crew's ability to respond to alarms when no preplanned strategy has been developed or those developed are inadequate
- provide a reference source for plant information specifically related to the system or equipment in the alarm condition
- supplement operator training and reduce the amount of memorized material required for correct operator response

Alarms are evaluated to determine ARP needs.

A.2.3 Alarm Response Procedures (ARPs) Content (continued)

ARPs are developed such that the required operator response is clearly defined.

NOT all alarms require operator action. Examples of alarms, which may require development of an ARP, are:

- alarms on Operations Center annunciator panels.
- alarms displayed electronically which require action (e.g., Computer Control Systems (CCS), Process Logic Controls (PLC), or Distributive Control Systems (DCS)).
- alarms on local control panels, including lighted alarms that show deviation from normal running conditions.
- summary alarms on Operations Center panels indicating alarm status on a local panel.

ARPs may be stand-alone procedures or refer personnel to another procedure after alarm confirmation. A single procedure may be used for multiple alarms for which the alarm responses are similar (i.e., high sump level, tritium room monitor alarm, fire alarm, etc.).

ARPs SHOULD be limited to short exact instructions:

- level of detail SHOULD be consistent with the scope of operator training
- spaces for check offs or initials are NOT required

ARPs do NOT duplicate Emergency Response or Abnormal Operating Procedures.

ARPs have a unique identification system. ARPs **WILL** list entry condition information as follows:

- Alarm – this provides the alarm device(s) identification number directly related to the alarm, such as a Level Switch Loop number.
- Setpoint – this provides the alarm setpoint(s). Equipment, whose alarm setpoints may constantly vary (such as storm water monitors) may provide an acceptable nominal range, which establishes satisfactory performance parameters.
- Alarm Wording – each ARP **WILL** have the exact wording and letter case as shown on the alarm window or screen display.

ARPs contain the following operator action:

- steps to place system in safe configuration.
- steps to ensure Automatic Functions are completed.

Probable Causes and References are optional sections. Probable Causes or the conditions likely to have caused the alarm may be listed in order of severity. References may be listed to indicate the major documents available in the Operations Center or other designated areas that can provide additional alarm response information for troubleshooting the alarm cause. These may include procedures, sketches, manuals, etc. Additional details on the use and control of WETF ARPs is provided in WETF-AP-11, *Alarm Response Procedures Development and Use*.

A.3 Administrative Procedures

Administrative procedures provide formal direction for accomplishing interactions, maintaining communications, and ensuring consistency of operations. They describe management's philosophy of operation and how operations will be accomplished. Administrative procedures define processes required to ensure the goals and objectives of the organization's programs are implemented. They are NOT directly used to operate or maintain facilities or equipment; they translate policy into action.

B. Developing a Procedure

Before actually writing a procedure, it is important to research requirements, assess the application of the procedure, and recognize the users' needs for each procedure. Answers to the following questions are a beginning step to determine those needs:

- What requirements are to be met? How does the procedure fulfill technical and management control requirements and commitments?
- What materials, equipment, and facilities are to be used? What is necessary for the activities to be performed?
- What tasks are to be accomplished? What precisely must be done?
- What are the hazards, and how do you control them? What hazards must be monitored and recorded?
- Why must the tasks be accomplished? What is the relationship of this procedure or task to other related procedures or tasks?
- Are there specific times or circumstances that dictate when to use the procedure? How are the tasks to be performed? Are there different methods or techniques available to complete the tasks?

B.1 Preparing to Write a Procedure

A procedure provides a process (method) to accomplish a specific task.

Use information gathered in the process analysis to define the process, define the activities that make up the process, and organize the activities into related sections. These sections will become the subsections and action steps within the procedure. The following list describes the activities that SHOULD be completed before writing a procedure.

1. Establish the research and planning process.
 - Identify the type of procedure to be written. Is it a technical or administrative procedure?
 - Plan the research process.
 - Document the technical basis of the procedure.
 - Establish a record of the methods, calculations, user feedback, and other pertinent data collected during the development process.

B.1 Preparing to Write a Procedure (continued)

2. Determine the requirements applicable to the procedure, with an understanding of the technical and administrative control basis of the procedure.
 - Research upper-tier documents, such as DOE Orders and LANL and facility policies to determine administrative requirements and commitments.
 - Determine the technical requirements that may apply by examining the following:
 - approved vendor information
 - other procedures that perform similar functions, including those that may be obtained from outside organizations
 - technical literature and specifications
 - engineering documents
 - records of the basis for and development of methods and calculations
 - nuclear safety documents, such as operational safety requirements and safety analysis reports
3. Ensure the technical adequacy and accuracy of the process and equipment information in the procedure by performing a detailed check.
 - Watch as someone uses a similar, existing procedure, and identify any information that is NOT apparent when reading the procedure.
 - Research and identify potential hazards and problems in performing the activities by conducting a job safety analysis or other hazard analysis.
 - Interview potential users to assess varying degrees of experience.
 - Learn about past problems.
 - Obtain suggestions on ways to improve the process.
 - Determine how often and to what extent the procedure must be used.
 - Consider the consequences of improperly performing the procedure.
 - Identify the administrative processes, such as verifications, inspections, and notifications that interact with the procedure processes.
 - Ensure all pertinent safety rules are included or other appropriate sources are referenced.

B.1 Preparing to Write a Procedure (continued)

4. Perform an analysis of the activities that make up the process to identify the requirements of the activity and the functions that **MUST** be accomplished to meet the process objectives. While performing a process analysis, consider the rationale behind the activities, activity frequency and complexity, the consequences of an error, and the relationship of training to successful performance of the activity. The activities are translated into action steps in the performance sections of the procedure. Determine the following as applicable:
 - The principal users of the procedure and other participants in the process, including support functions such as health physics and LANL services.
 - The level of detail to be used in writing the procedure based on user training and qualifications.
 - Assess
 - The performer's familiarity with terms, abbreviations, acronyms, and symbols.
 - The completed general and specific training, as well as additional training needed by the principal performers.
 - The comprehension level of the performers based on their expected training and qualifications.
 - Research potential hazards, problems, and controls, in performing the activities by conducting a job safety analysis or other hazard analysis in accordance with P 300.
5. Develop the process section of the procedure:
 - Divide the process into activities, divide the activities into tasks, and divide the tasks into step-by-step actions.
 - Determine the responsible parties for each of the actions and validation requirements.
 - Establish a detailed outline containing
 - A clear statement of the overall purpose, as well as clear purposes for each activity or section of the procedure
 - Other documents, forms, and definitions that are necessary for understanding or performing the requirements or processes or the procedure
 - Detailed section/subsection headings
 - Group activities in order of performance.

C. Operations Procedure Content

Further guidance on procedure content is provided in DOE Order 422.1, *Conduct of Operations*, Attachment 2, *Program Requirements*, 2. *Specific Requirements*, p. *Technical Procedures*, and P315, Attachment 16. Where specific formatting conventions are NOT addressed, users are encouraged to apply the formatting guidelines in DOE-STD-1029-92, as applicable. For additional content and formatting, always use the latest procedure template, *WETF Procedure Template*, located in PDMLink in the WETF library under the TAB Templates.

C. Operations Procedure Content (continued)

To provide uniformity in procedures (subset of Operations Documents), the content of procedures SHOULD conform to the above guidelines. The procedure aspects described above SHOULD be followed when developing, surveillance requirements, in-service inspections, round sheets, and any “procedure” document except for administrative procedures.

C.1 Preparing a Revision History

The revision history provides a history of the procedure and specifies the revision designator, description, and date of the revision. Affected pages may also be included for ease of identification of where the changes have occurred. Although the revision history may be initiated at any point in developing a procedure, it CANNOT be completed until the procedure is approved. Revision history description entries that no longer provide a benefit to users may be replaced with “On Record”.

- Provide a specific statement of the reason for the revision. Generalizations, such as general revision, do NOT provide meaningful information.
- List the procedure(s) that the new procedure replaces or requirements that the procedure implements.
- If the number of the procedure changes, cite the old number in the revision history to provide appropriate history and cross referencing.
- Add the approval date to the description of the revision for use in tracking periodic reviews.

C.2 Section Headings

- Headings break the text of the procedure into sections of related information. Sections help users locate information in the procedure, break up long series of actions into manageable portions, and track their progress through the procedure. Each type of procedure has its own defined set of first-level headings; second- and third-level headings are left to the discretion of the author and are based on the content of the procedure.
- Limit the number of heading levels to three, for example, 1.1.1. Excessive levels result in complex section numbers.
- Identify first-, second-, and third-level headings by a decimal numbering system.
- Begin all levels of headings at the left margin of the text block.
- Identify all first-level headings with all capital letters and bold type (see appropriate procedure template attached to this document for more details).
- Identify second- and third-level headings with initial capital letters of words (excluding prepositions, articles, conjunctions) and bold type.
- Be consistent in the grammatical form of the verbs used in all headings (e.g., all gerunds [verb form ending in “ing”], all action verbs [open, close] etc.)
- Use lists to organize material other than action steps under headings and action steps.

C.3 Prerequisites

- Detail prerequisites and initial conditions. Give careful consideration to the location of this information within the procedure in order to help ensure that the intent of the procedure is understood. In addition, verify any hoses, tools, or other temporary testing equipment as operable, calibrated, or inspected and in good condition where possible, before implementing any test procedure, to ensure that they function as expected during the test. Identify these verifications in the prerequisite section, with completion sign-offs required.

C.4 Level of Detail

- Ensure procedures contain sufficient but NOT excessive detail. Write procedures to a level of detail consistent with the qualifications and training of the expected users, the level of risk and complexity of the task, the frequency of task performance, and the degree of standardization desired. Job task analyses and training records provide information useful in assessing the level of detail required. When in doubt, write to the lowest common denominator. For ease of use and to reduce confusion, only include information in the procedure that relates directly to completing the task that is the subject of the procedure. Excessive detail may prompt users to ignore instructions and perform tasks from memory which is inappropriate. Too little detail can force users to seek outside assistance or can cause tasks to be performed inconsistently or incorrectly.
- Clearly delineate “Hold” points (requiring independent verification and/or approval). Hold point sign offs may be in the body of the procedure or in Attachments.
- Answer the following questions to determine if the amount and kind of information provided is adequate for the intended users:
 - Can the procedure be performed in the sequence it is written?
 - Can the user locate and identify all equipment referred to in the procedure?
 - Can the user explain in detail how to perform general instructions?
- Be specific on component or system shutdown and restoration requirements following shutdown or a surveillance or test activity controlled by the procedure.
- Develop procedures with consideration for the human-factor aspects of their intended use. For example, references to components SHOULD exactly match drawing and label-plate identifiers, units SHOULD be the same as those marked on applicable instrumentation, and make charts and graphs easily read and interpreted. Highlight important factors (such as operating limits, warnings, cautions, attentions, etc.).
- Provide technical and administratively accurate procedures (i.e., provide correct instructions and information; correctly identify referenced documents; and present necessary instructions to guide the user when transferring between procedures).
- Tables, figures, illustrations, charts, or graphs SHOULD be provided as applicable.
- The procedure DSME and DTW with concurrence of WETF management determines the necessary level of procedure complexity. To determine the appropriate level the “skill of the craft,” as defined above, the performer **MUST** be considered.
- Ensure document contents are legible, consistently formatted, clearly organized, and minimize the use of referencing and branching.

C.5 Writing Style, Language, Terms, Definitions, Acronyms, and Abbreviations

Narrative prose and paragraph style are inappropriate for writing procedures.

Users of some types of procedures may be working under difficult or stressful conditions, therefore procedures SHOULD be written so that users can grasp the intended meaning quickly and easily. Use the following guidelines when writing the procedure:

- Facility-specific terms, definitions, acronyms, and abbreviations SHOULD be used to ensure consistent interpretation by the user.
- Define terms used in the procedure that are beyond skill of the craft.
- Use action statements to communicate procedure instructions to users.
- Maintain consistency in language (words, definitions) and format among instrument labeling, procedures, and training.
- Write instructions clearly. The users SHOULD NOT have to infer the meaning.
- Select vocabulary carefully. Use simple, common vocabulary that accurately reflects intended meaning and which is common and familiar in the context of the training users receive. Use technical terms when they are the most common and familiar terms to the users.
- Adhere to grammatical conventions and to the punctuation rules of standard American English, where practical.
- If necessary, rewrite sentences to avoid excessive punctuation.
- Avoid ambiguous words (e.g., “the right valve” SHOULD be rephrased as the “right-hand valve” and augmented by the specific valve name or number).
- Avoid vague adjectives and adverbs that are subject to interpretation. Specify quantities whenever possible (e.g., “Draining the tank at 10 gallons/minute” is preferable to “Drain the tank slowly”).
- Limit the use of acronyms and abbreviations, particularly for short, simple words and terms. If an acronym or abbreviation is used, it **MUST** have a standardized and unique meaning and be easily understood by the users.
- Use emphasis techniques (e.g., bold, italics, or underlining) to highlight important information, with the following constraints:
 - Do NOT use all capital letters for blocks of text
 - Do NOT capitalize the first letter of any words unless they are formal, proper nouns in accordance with standard American English usage or they are the first word of a sentence
 - avoid the overuse of multiple emphasis techniques
- Avoid using a separate section devoted to terms, definitions, and acronyms in technical procedures. Users SHOULD be adequately trained and familiar with the terms used in the technical procedure.

C.6 Numerical Information

- Maintain consistency in using numbers (e.g., 0, 1, 2) and spelled-out numbers (e.g., zero, one, two). Use spelled-out numbers when one number (less than 10) without a specified unit of measure is followed directly by one with a unit of measure (e.g., “Energize one 4.16 kV bus”).

C.7 Basic Action Steps

The basic element of an action step is a command to perform a specific action. An action step answers the question “what is to be done?” Different types of action steps add precision to instructions.

- If someone other than the primary procedure user is responsible for performing an action step, identify the person to perform the task directly above the affected action step.
- Start the basic action step with a singular present tense action verb such as “open”.
- Write action steps using words that are easily understandable by the users.
- Complete the basic action step with supportive information about the action and the object of the action. Supportive information includes further description of the object.
- Use main action steps to allow users to quickly comprehend the purpose of the action step. Use action sub-steps to provide specific details for performance. Identify each action step with bold typeface number (e.g., 1, 2, etc.) and each action sub-step with bold typeface lower-case letters (e.g., a, b, etc.).
- Restructure the actions as needed to avoid using action sub-sub-steps. Break one section into two or more sections to simplify the action step structure if necessary.
- Include articles (a, an, the) when referring to a general item; omit the article when referring to specific items (e.g., “Open the valve,” “Open valve V-167”).

C.8 Conditional Action Steps

Conditional action steps are used when a decision is based upon the occurrence of a condition or a combination of conditions. The use of conditional action steps is extremely important in technical procedures as they structure the decisions required by the operator. Describe the condition first and then the action to be taken if that condition applies.

Conditional action steps use the following logic terms:

- IF or WHEN to present the condition to the user
- THEN to present the action
- OR or AND to present more complex conditions
- NOT to negate the condition

C.8 Conditional Action Steps (continued)

Additional rules for conditional action steps:

- Emphasize conditional terms in procedures.
- If two conditions are required and both of these conditions **MUST** be met, then place the conditional term AND between the conditions. Begin a new line when presenting the second condition and begin it with THEN and the action.
- If two conditions are involved and one or both of these conditions **MUST** be met before the action is taken, place the conditional term OR between the conditions. Begin a new line when presenting the second condition and begin it with THEN and the action.
- If there are more conditions described, consider using a decision table or a listing format.
- Avoid using AND or OR in the same conditional statement as the resulting logic can be ambiguous and difficult to understand.
- Use only AND and OR to join conditions that include both a subject and a verb. If two subjects apply to the same verb (e.g., “IF temperature and pressure are stable...”) or one subject takes two verbs (e.g., “IF level is stable or falling,...”) use the unemphasized conjunctions “and” or “or” rather than the special emphasized logic terms.
- For a negative condition, use the conditional term NOT. Avoid using NOT if a single word can be used and the condition can be stated in a positive manner (e.g., “IF the valve is open...” is preferable to “IF the valve is NOT closed...”).

Other words (e.g., except, unless, but, only) **SHOULD** never be used to present conditional information.

C.9 Non-sequential Action Steps

- Procedure users SHOULD perform the action steps in the order they are written unless they are specifically directed to perform action steps in another order. When the objectives of the action steps will be met regardless of the sequence they are performed, then sequence the action steps according to usability criteria, such as according to equipment or layout, to reduce opportunities for error. Use a NOTE before the action steps to identify that the next series of action steps can be performed non-sequentially.

C.10 Time-dependent Action Steps

- Some action steps contain actions that impose time requirements on the user by specifying the duration of actions or actions that **MUST** be completed within a specific period of time. Include guidance to identify the actions to take in the event that the time-dependent action step CANNOT be performed within the specified time. Use a NOTE before the actions steps to be timed in order to alert the user.

C.11 Concurrent Action Steps

- Concurrent action steps contain actions that **MUST** be performed at the same time. For example, parameters may have to be monitored or checked while the user accomplishes another action, or two performers in different locations may have to execute actions simultaneously.
- If concurrent action steps are to be performed by one person, place those actions in one action step that describes precisely the relationship between the action steps.
- If concurrent action steps are to be performed by more than one person, place a NOTE before the first concurrent action step, as appropriate, identifying:
 - concurrent action steps,
 - personnel needed to perform each concurrent action step,
 - locations where the action steps are performed, and/or
 - means of communication between locations.

C.12 Continuous Action Steps

- Continuous action steps are conditional action steps where the conditions they describe **MUST** be monitored throughout a procedure or a portion of a procedure. For example, a user may need to monitor a gauge and take a specific action if the gauge, at any point during the procedure, indicates a reading above or below a specific level.
- Place continuous action steps in the procedure at the point at which they first apply. Repeat the action steps periodically, as appropriate. Format continuous action steps as conditional action steps and state the portion of the procedure during which they are applicable. (e.g., **IF** at any time while performing Action steps [9] through [17] condition X exists, **THEN** take action Y.)
- Notify the user when continuous action steps are to be discontinued.

C.13 Action Steps Containing Verifications, Ensure Statements, Checks, Notifications, and Data Recording

- Verification action steps assure a specific activity has occurred or a stated condition exists.
 - If the condition to be verified or checked is **NOT** found, provide the appropriate actions to take.
 - Specify required independent verification and inspection action steps (the number of independent verification and inspection action steps increase as the consequences of performance error increase).
- Ensure action steps allow for manipulation by the user.
- Check action steps call for a comparison with stated requirements; and no manipulation by the user occurs.

C.13 Action Steps Containing Verifications, Ensure Statements, Checks, Notifications, and Data Recording (continued)

- Notification action steps require reporting when given criteria are met. Include directions for notifying other personnel as discrete action steps. Actions requiring notifications of others often include:
 - Systems to be removed from or returned to service.
 - Alarms and alarm setpoints that may annunciate as a result of performing the procedure.
 - Equipment actuations that are expected to occur during performance of the procedure.
- The effects of precautions and limitations on the operating conditions, noting which equipment will be inoperative and which lights, alarms, or annunciators will react.
- Data recording action steps assure desired data are recorded.
- Provide an appropriate space or table for entering data, preferably in a data sheet attachment to the procedure.

C.14 Actions Steps Directing Users Elsewhere – Branching and Referencing

To perform a task, sometimes users must branch or reference another procedure, section, or appendix. Branching routes the procedure user to other action steps or sections within the procedure or to other procedures, and the user does NOT return to the original position.

Referencing routes the procedure user to other action steps or sections within the procedure or to other procedures and, then back to the original position in the base procedure.

Branching and referencing increase the potential for error that could have safety and administrative consequences. Therefore, they are highly discouraged. Use branching and referencing only when it is necessary to direct the user to information that is vital to the performance of the activity and it is NOT appropriate to incorporate that information into the base procedure.

- Evaluate the following to determine if branching or referencing is appropriate. If the answer to all of the following is “NO”, then branching or referencing may be appropriate.
 - Can action steps be readily incorporated rather than referenced?
 - Will branching and referencing decrease user comprehension and ease of use?
 - Will users be directed to small, isolated sections, rather than whole procedures or appendixes?
 - Will branching and referencing cause users to bypass prerequisites or precautions and limitations that affect the section to which they are being directed?

C.14 Actions Steps Directing Users Elsewhere – Branching and Referencing (continued)

- If branching or referencing is appropriate, then use the following methods.
- Make it clear to the users that they are being directed to other material. Do NOT expect them to know implicitly that other material is being referenced.
- Fully specify the location the user is to go when cross-referencing. If the user is being sent to another procedure, identify the procedure number, title, and section of the procedure. If the user is being sent to another location in the base procedure, identify the specific location in the procedure.
- If referencing, use the term “GO TO” presented in all capital letters to indicate departure from the base procedure and use the term “RETURN TO” to indicate the reentry point in to the base procedure. These terms are to be used in the same action step.

C.15 Action Steps with Acceptance Criteria

- Acceptance criteria provide a basis for determining the success or failure of an activity. Acceptance criteria may be qualitative (specify a given event that does or does NOT occur) or quantitative (specify a value or value range).
- State the location of acceptance criteria, whether located at individual action steps (used when criteria are satisfied at the time of performance) or located in data sheets. Include instructions for notifications to be made or actions to be taken immediately by the user, in the event that specified acceptance criteria are NOT met. Ensure these actions are consistent with administrative instructions.

C.16 Lists

- Nonsequential lists use bullets when the order of performance is NOT mandatory.
- Sequential lists use numbers or alphabetic characters when the order of performance is mandatory.

C.17 Warnings, Cautions, Attentions, and Notes

Warnings, cautions, attentions, and notes SHOULD be easily identifiable (each highlighted in a distinct, consistent manner) and SHOULD NOT contain action statements. Warnings, cautions, attentions and notes precede the step or steps to which they apply and **SHALL** appear on the same page.

C.17.1 Warnings and Cautions

Warnings and cautions attract attention to information that is essential to safe performance; they usually consist of the conditions, design limitations, practices, and procedures to be complied with to avoid loss of life, personal injury, health hazards, or damage to equipment.

- Warnings alert users to potential hazards to personnel.
- Cautions alert users to potential hazards to products or equipment.
- Warnings and cautions SHOULD provide a description of the hazardous condition, the consequences of failing to heed the warning or caution, and any critical time considerations.

C.17.2 Notes

Notes call attention to important supplemental information. The information can be a reminder of preparatory information needed to perform the activities of a procedure or action step. Notes pertain to action steps and precede the step or steps to which it applies. Place notes after warnings and cautions whenever more than one type is used at the same point in a procedure.

- Use notes to present information that assists the user in making decisions or improving task performance.
- Position notes so they are complete on one page and appear immediately before and on the same page as the action step(s) to which they apply.
- Do NOT include action steps in notes. Embedded actions are removed from the note and written as action steps.
- Include only one topic in each note.
- Avoid overuse of notes.

C.18 Instrument/Component Information

- Refer to instruments and components using both the equipment name and number. The equipment name is the verbatim equipment label. Ideally, there SHOULD only be one name in use for any given piece of equipment. Set the numeric identifier apart from the equipment name by placing it in parentheses after the common usage name.
- Do NOT require users to interpret ambiguous descriptors, such as “approximately” and “slowly” when referring to instrument information,
- Specify numbers in procedures at the same precision and the same units of measure that they are presented on instrument panel displays.
- Avoid requiring users to make conversions from one unit of measure to another whenever possible. Provide an aid for the user if conversions are essential.

C.19 Styles for Procedure Elements

Further guidance on procedure content is provided in DOE Order 422.1, *Conduct of Operations*, Attachment 2, *Program Requirements*, 2. *Specific Requirements*, p. *Technical Procedures*; and P315, Section 16. Where specific formatting conventions are NOT addressed, users are encouraged to apply the formatting guidelines in DOE-STD-1029-92, as applicable. For additional content and formatting, always use the latest procedure template, *WETF Procedure Template*, located in PDMLink in the WETF library under the TAB Templates. Qualification/Certification Training Standards have their own template and do NOT follow Appendix E requirements. Procedure Margins: Top 1.00”, Bottom 1.00”, Left 1.00”, Right 1.00”.

<u>Cover (Title Page) Sheet</u>	
TITLE	Font: Arial, 16 pt, Bold, All Caps, Centered, Line spacing: At least 12 pt, Space Before: 24 pt, After: 30 pt
Document Number	Font: Arial, 16 pt, Bold, All Caps, Centered, Line spacing: At least 12 pt, Space Before: 0 pt, After: 26 pt
Effective/Next Review Date	Font: Arial, 12 pt, Indent: Left 3.25”, Line spacing: At least 12 pt, Before 0 pt, After 12 pt
Hazard Class	Font: Arial, 12 pt, Indent: Left, Line spacing: At least 12 pt, Before 0 pt, After 12 pt
Usage Mode	Font: Arial, 12 pt, Indent: Left, Line spacing: At least 12 pt, Before 0 pt, After 12 pt
Signatures	Font: Arial, 12 pt, Indent: Left, Line spacing: At least 12 pt , Before 0 pt, After 12 pt
Users have the ultimate responsibility...	Font: Arial, 12 pt, Bold, All Caps, Font Color: Dark red, Centered, Line spacing: At least 12 pt, Before 0 pt, After 12 pt
<u>History of Revisions</u>	
Header	Font: Times New Roman, 10 pt, Line spacing: At least 12 pt <i>Title</i> : Italic, Left Number, Before 0 pt, After 0 pt, Right, Date, Before 0 pt, After 0 pt, Right, Page: Before 0 pt, After 0 pt Underlined, Right, After 6 pt
Table Heading	Font: Times New Roman, 12 pt, Bold, Centered, Line spacing: At least 12 pt Space Before: 0 pt, After: 12 pt
Table Column Headers	Font: Times New Roman, 12 pt, Bold, Centered, Line spacing: At least 12 pt, Space Before: 3 pt, After: 3 pt,
Table Text	Font: Times New Roman, 12 pt, Left, Line spacing: At least 12 pt, Space Before: 3 pt, After: 3 pt

C.19 Styles for Procedure Elements (continued)

<u>Table of Contents</u>	
Header	Font: Times New Roman, 10 pt, Line spacing: At least 12 pt <i>Title</i> : Italic, Left Number, Before 0 pt, After 0 pt, Right, Date, Before 0 pt, After 0 pt, Right, Page: Before 0 pt, After 0 pt Underlined, Right, After 6 pt
Heading	Font: Times New Roman, 12 pt, Bold, Centered, Line spacing: At least 12 pt, Space Before: 0 pt, After: 12 pt
Table of Contents Text	Font: Times New Roman, 11 pt, Left, Font Color: Black, Hyperlink, Line spacing: At least 12 pt LEVEL ONE HEADING: ALL CAPS, Space Before: 0 pt, After: 6 pt Level Two Heading: Capitalize Each Word, Left Indent: 0.5", Space Before: 0 pt, After: 4 pt Level Three Heading: Left Indent: 1.00", Space Before: 0 pt, After: 4 pt
<u>Procedure</u>	
Header	Font: Times New Roman, 10 pt, Line spacing: At least 12 pt <i>Title</i> : Italic, Left Number, Before 0 pt, After 0 pt, Right, Date, Before 0 pt, After 0 pt, Right, Page: Before 0 pt, After 0 pt Underlined, Right, After 6 pt, continuous page numbering
SECTION LEVEL 1.0 HEADER	Font: Times New Roman, 12 pt, ALL CAPS, Bold, Left, Line spacing: At least 12 pt, Space Before: 0 pt, After: 12 pt
Section Level 1.1 Header	Font: Times New Roman, 12 pt, Bold, Left, Line spacing: At least 12 pt, Space Before: 0 pt, After: 12 pt
Section Level 1.1.1 Header	Font: Times New Roman, 12 pt, Bold, Left, Line spacing: At least 12 pt, Space Before: 0 pt, After: 12 pt
Body Text	Font: Times New Roman, 12 pt, Left, Line spacing: At least 12 pt, Space Before: 0 pt, After: 12 pt
Numbered List	Font: Times New Roman, 12 pt, Left 0.5", Hanging: 0.25", Line spacing: At least 12 pt, Space Before: 0 pt, After: 4 pt
• Bullet List Level 1	Font: Times New Roman, 12 pt, Left 0.5", Hanging: 0.25", Line spacing: At least 12 pt, Space Before: 0 pt, After: 4 pt, Bullet aligned: 0.5", Tab after: 0.25", Indent: 0.75"

C.19 Styles for Procedure Elements (continued)

<i>Procedure (continued)</i>	
➤ Bullet List Level 2	Font: Times New Roman, 12 pt, Left 0.75”, Hanging: 0.25”, Line spacing: At least 12 pt, Space Before: 0 pt, After: 4 pt, Bullet aligned: 0.75”, Tab after: 0.25”, Indent: 1.00”
– Bullet List Level 3	Font: Times New Roman, 12 pt, Left 1.00”, Hanging: 0.25”, Line spacing: At least 12 pt, Space Before: 0 pt, After: 4 pt, Bullet aligned: 1.00”, Tab after: 0.25”, Indent: 1.25”
Figure Caption	Font: Times New Roman, 12 pt, Bold, Centered, Line spacing: At least 12 pt, Space Before: 6 pt, After: 12 pt,
Table Caption	Font: Times New Roman, 12 pt, Bold, Centered, Line spacing: At least 12 pt, Space Before: 6 pt, After: 12 pt,
Table Column Headings	Font: Times New Roman, 12 pt, Bold, Centered, Line spacing: At least 12 pt, Space Before: 3 pt, After: 3 pt,
Table Title	Font: Times New Roman, 12 pt, Bold, Centered, Line spacing: At least 12 pt, Space Before: 3 pt, After: 3 pt,
Table Text	Font: Times New Roman, 12 pt, Left, Line spacing: At least 12 pt, Space Before: 3 pt, After: 3 pt,
Attachment/Appendix Title	Font: Times New Roman, 12 pt, Bold, Centered, Line spacing: At least 12 pt, Space Before: 0 pt, After: 12 pt,
Attachment/Appendix Text	Font: Times New Roman, 12 pt, Left, Line spacing: At least 12 pt, Space Before: 0 pt, After: 12 pt,

C.20 Use-Every-Time (UET) Procedure

Use-Every-Time (UET) procedures are used to perform specific evolutions or activities. These procedures provide step-by-step instructions for the performance of an activity or evolution, and require documented verification upon completion of selected steps. UET **SHALL** be placed in the header (for the applicable Sections or Attachments) to alert the user. UET procedure **MUST** be in hand during the performance of the procedure.

C.21 Data Collection Procedure

Data collection procedures are used when data **MUST** be collected, but only generalized instructional material is needed. Data Collection procedures are written to allow documentation of data and decisions made while performing steps. Data collection steps are written in accordance with reference procedure content. Performance of action steps can be done in accordance with reference procedure guidelines with data recording in accordance with Use-Every-Time procedure guidelines.

Round Sheets are NOT considered Data Collection Procedures.

C.22 Reference Procedure

Reference procedures describe routine activities, often referred to as generalized instructional material. These procedures do NOT require documented verification upon satisfactory completion of the individual steps or the complete task. Reference procedures are NOT required to be located at the work location but **MUST** be readily available upon request.