LANL Review Processes

RECORD OF REVISIONS

Rev	Date	Description	POC	RM
0	9/17/2014	Initial issue. Rev of material formerly in Section I Rev. 3 Article 9; implementation plan is new.	Ari Ben Swartz, *ES-EPD*	Larry Goen, *ES-DO*
1	3/15/2016	Removed reference to ML1 and ML2 when discussing NCRs	Ari Ben Swartz, *ES-EPD*	Larry Goen, *ES-DO*

Contact the Standards POC for upkeep, interpretation, and variance issues.

Chapter 17	**Pressure Safety POC and Committee**

This document is online at http://engstandards.lanl.gov

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A. PRID

1. If the CSPO determines that his/her early involvement in projects is necessary to ensure that they are aware of and properly execute this chapter's requirements, then CPSO shall be identified as an SME by the Permits Requirements Identification (PRID) tool at appropriate stages(s).[1]

2. *Guidance: The PRID process is a project planning tool used by project leaders to identify required permits, requirements, and facilitate SME reviews in the early planning stages of a project.*

3. *More information is located at this LANL web site.*

B. Project Pressure Safety Implementation Plan (PSIP) [2]

1. Each project must assess and plan for compliance with ESM Chapter 17 Pressure Safety. The project-specific PSIP shall be submitted to the CPSO or designee for review and approval in the early stages of project design (e.g., 30% complete) and resubmitted at later review phases (e.g., 60%, 90%) if/as it matures. The PSIP shall address all areas of pressure safety compliance including the following items:

   a. Design pressure and temperature ranges to the extent known

   b. Identification of the code(s) of record

   c. Design output expectations (designer qualifications, specifications, drawings, calculations)

   d. Fabrication expectations (methods and qualification of fabrication personnel)

   e. ASME quality (procurement, inspection, examination, and testing requirements)

   f. Required records (manufacturers data reports, examiner procedures and qualifications, welder/brazing/soldering qualifications and procedures, and ADMIN-1-1 Forms 1 through 10)

C. Pressure System Certification Process

1. General

[1] Lessons learned, RLUOB and other projects.
[2] The PSIP's submittals purpose is allow LANL to confirmation that the design agency understands the requirements of this chapter at an early stage.

a. The pressure system certification process is a formal review of pressure systems by the PSO. The program also includes recertification of a pressure system if a major modification is performed to ensure continued compliance with the program (e.g., configuration control, documentation accuracy, and compliance with the codes). It is not an ASME certification.

b. Pressure System Certification is the end of a review process that provides documentation that the pressure system has demonstrated compliance to this chapter.

c. For a new pressure system or a new modification of existing pressure system Pressure System Certification means the following:

1) New pressure systems (and new modification of existing pressure systems) must be must be fabricated as required by this chapter:

a) Code construction

b) Approved Equivalency Construction

2) System documentation meeting ADMIN 1-4

3) Maintenance of relief devices, vessels, and flex hoses have been added to an automated maintenance tracking system

d. For an existing pressure system, Pressure System Certification means:

1) Fabrication meets the minimums established by this chapter

2) System documentation meeting Attachment ADMIN-1-3

3) Maintenance of relief devices, vessels, and flex hoses have been added to an automated maintenance tracking system

2. Review Process (see Process Flow Chart below)

a. The system owner is responsible for creating the required documentation and submitting it for review to the PSO.

b. The PSO is responsible for reviewing the information and identifying any non-compliance (code or non-code) if any.

c. The system owner is responsible for addressing the issues in three ways:

1) Correct the deficiency in accordance with ESM Chapter 17 requirements

2) Deactivate the pressure system

3) Request a Variance or Alternative Method per ESM Chapter 1 Sect. Z10.

d. A Variance or Alternative Method may be requested for two cases:

1) Temporary allowance for a deviation from the requirements for a finite duration to allow for correction of the deficiency while the system continues to operate.

2) Permanent allowance for a deviation from the requirements.

e. Prior to working any issue, the Management Level Determination of the pressure system must be made in accordance with AP-341-502, Management Level Determination. This determination is required information as part of Form 1 (FM01).

f. Whenever code non-compliance deficiencies are found, the PSO or system owner must initiate a Nonconformance Report (NCR) when required by LANL Procedure P330-6.

g. After any non-compliances (code or non-code), if any, are resolved the PSO reviews the systems and the documentation and the CPSO or designee approves the system.

h. The PSO or designee inputs the data into the data repository for maintenance; the maintenance process is now instituted that will notify personnel when the pressure safety maintenance items are due (relief devices retest/replacement, vessel inspections, flex-hose inspection)

i. The CPSO or designee issues the Active sticker to the system owner or PSO who places it on the system identification tag.

Note: This system is now certified

3. Authorization to Operate Pending Certification for New Low Risk Systems

a. Authorization to Operate Pending Certification may be applied to low risk programmatic systems that meet all of the following criteria:

1) ASME B31.3 Fluid Category Normal or D (does not include steam, Category M, or high pressure).

2) The system pressure is not greater than 150 psig, based on the relief device set point.

3) Operation is within the temperature and pressure ratings of the manufactures.

4) Pressure cycles are less than 100,000 for all system components.

5) Corrosion is not a significant factor.

6) Mechanical assembly using listed components, ASME VIII stamped equipment, and/or CPSO approved components.

7) The system components have exhibited successful service experience under comparable conditions with similarly proportioned components of the same or like materials.

b. For Authorization to Operate Pending Certification, an Owner's Inspector or a Duty Area B qualified PSO must perform the following:

1) Inspect the low risk pressure system and be sure the system is adequate for the pressure or has appropriate sized relief protection.

2) Observe the code leak test, and fill out the appropriate Owner's Inspector check list.

3) Verify any necessary examination is performed.

4) Call the CPSO for a pressure system identification tag for the system.

c. The CPSO office will:

1) Issue the non-repeating pressure system number to the PSO.

2) Log the pressure system into the database.

3) Approve a 6-month operational period for the pressure system.

4) Attach an Active sticker to the system indicating the "Due Date" of the pressure system certification.

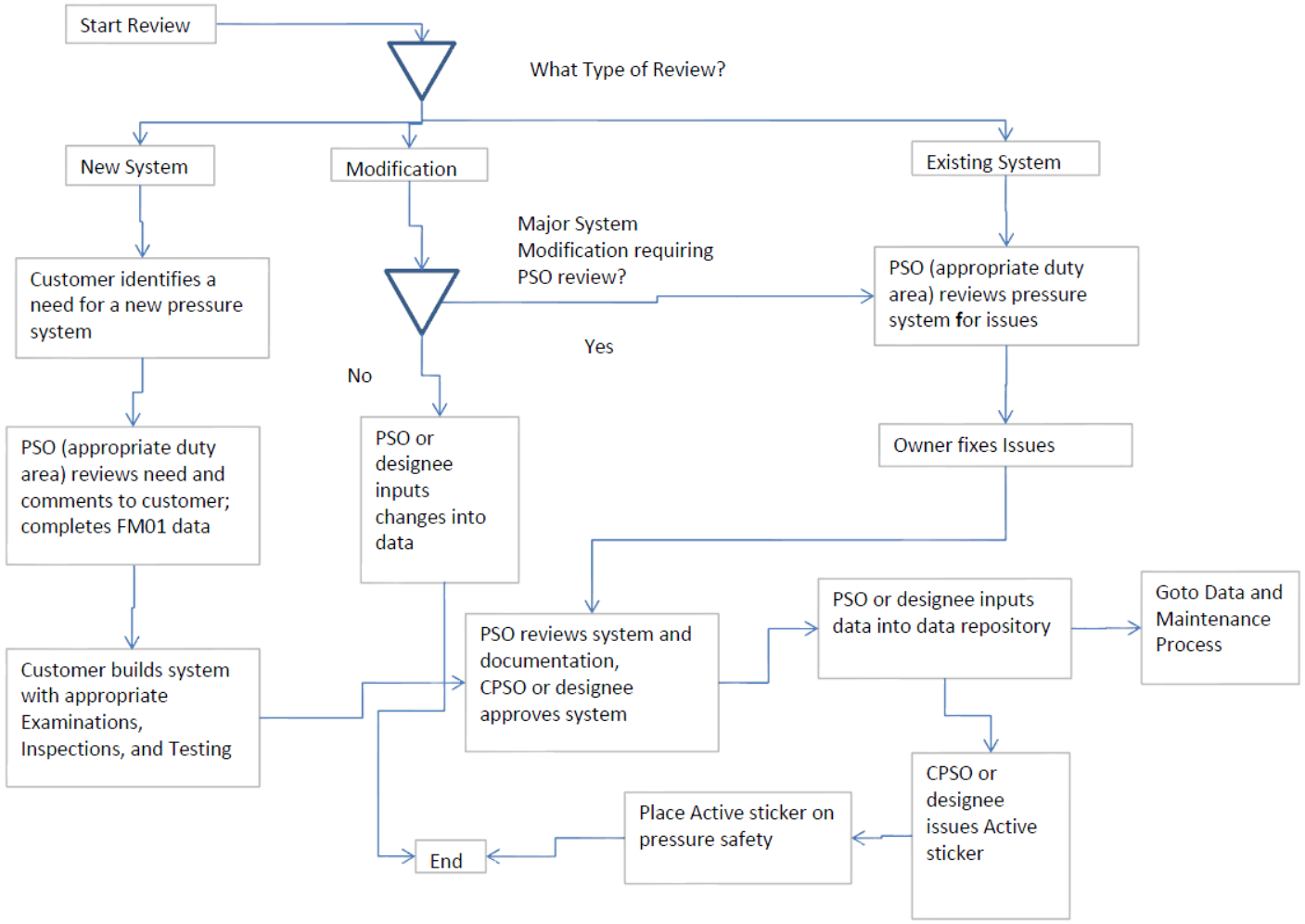
d. After six months the system is required to be certified using the normal process or the pressure system must be disconnected and disassembled.

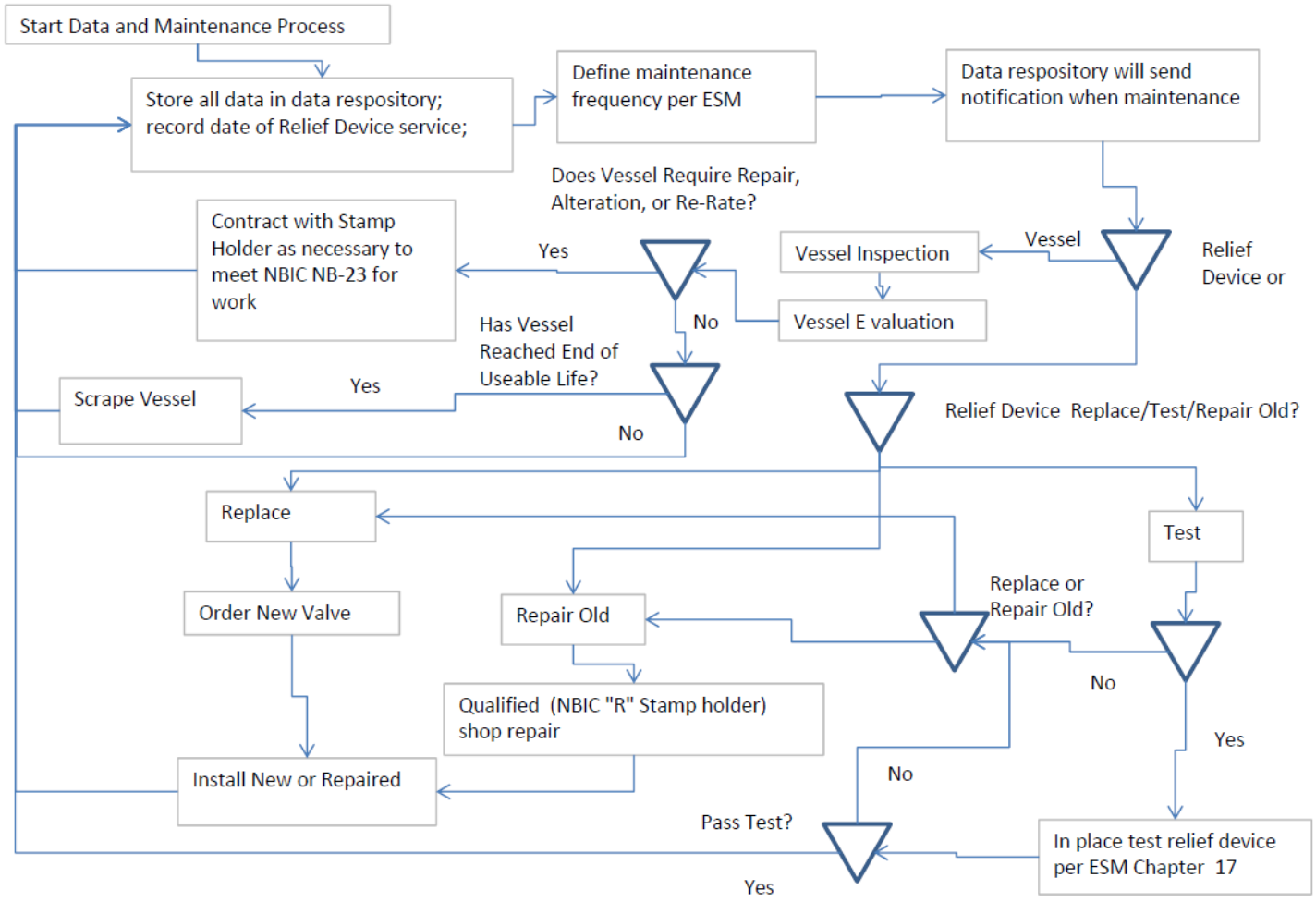
4. Other Issue Resolution

a. Inactive, deactivated, or other non-active pressure systems may be operated in order to achieve active status (e.g., perform leak checks) after the PSO has reviewed the system design, configuration, and documentation package to verify there are not safety issues.

b. Any system found to be unsafe in the opinion of the System Owner, PSO, or CPSO must be reported to the system owner and the appropriate FOD and/or RAD. Appropriate action must be taken to insure the safety of personnel.

5. Certification Process Flow Chart




Start Data and Maintenance Process
Store all data in data respository; record date of Relief Device service;
Define maintenance frequency per ESM
Data respository will send notification when maintenance
Does Vessel Require Repair, Alteration, or Re-Rate?
Contract with Stamp Holder as necessary to meet NBIC NB-23 for work
Yes
Vessel Inspection
Vessel
Relief Device or
No
Vessel E valuation
Has Vessel Reached End of Useable Life?
Yes
Scrape Vessel
No
Relief Device Replace/Test/Repair Old?
Replace
Test
Order New Valve
Repair Old
Replace or Repair Old?
No
Yes
Qualified (NBIC "R" Stamp holder) shop repair
No
Install New or Repaired
Pass Test?
In place test relief device per ESM Chapter 17
Yes

6. Conflict of Interest

   a. If a PSO owns or uses pressure systems, they may not review or approve their own systems. They must be reviewed by an uninvolved PSO.

   b. When the CPSO has designated certification approval the CPSO and the PSO cannot be the same person to prevent conflict of interest.

7. Documenting Non-conformances

   a. Forms FM03 and FM04 or equal must be completed for all deficiencies.

   b. A completed copy an applicable NCR (Form 2082) shall be maintained in the system documentation package.

8. Deactivating a Pressure System

   a. The responsible System Owner deactivates the particular pressure system as follows:

      1) Remove hazardous materials from the system.

      2) Reducing system pressure to ambient

      3) Physically disconnect the system from all pressure sources.

   b. The PSO reviews the system and if the deactivation is acceptable updates the certification tracking database with date of deactivation.

   c. The PSO submits note into pressure system documentation package that system is not active, and maintains package in IRM document control repository.

   d. The PSO annotates the Pressure System Certification Status Form with the date the system became inactive and places the “Inactive” sticker on the system identification tag.

   e. PSO informs the CPSO that the pressure has been deactivated, and inactivates the related components in CMMS.

   f. CPSO or delegate updates certification tracking database showing the system as inactive.

   g. If system is to be disassembled perform the following:

      1) Notify IRM that documentation may be archived.

      2) The database tracking system entries must be archived.

      3) The identification tag must be returned to the CPSO.

9. Pressure System Identification Tag

   a. Pressure systems must be marked with a system identification tag (see below), which will be supplied by the CPSO.

   b. The purpose of this tag is to provide a means of identification and inventory of the system. The identification number on this tag must match the pressure system documentation package identification number. This system identification number is unique to each individual system.
   Guidance: The tag should be attached using stainless lock-wire or zip-ties anywhere on the system in open view, where the most visible portion of the pressure system is located. To be attached by the PSO or designee.

   c. Tags must not be placed on removable components such as gas cylinders. Further, tags may not be removed from the system without notifying the CPSO.

10. Status Stickers

   a. Status indication "stickers" may only be generated by CPSO-approved method (i.e., system owner may not print their own "stickers"). System certification dates will be tracked through the Pressure Safety Certification System (PSCS) database.

   b. "Inactive" stickers must be issued for those pressure systems that have been removed from the pressure source, are not designated to be disassembled, and are considered to become operational in the future. Inactive systems must be physically disconnected from the pressure source.

   c. "Active" stickers must be issued for those pressure systems that have been certified and approved to operate as per the requirements of this document.

   d. *Guidance: "Stickers" should be covered with UV-resistant tape such as Kapton® or other similar transparent, UV-resistant tape, after being applied to the identification tag*.

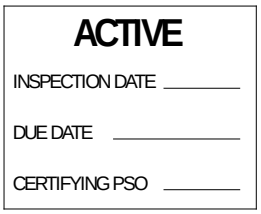
   e. Damaged or lost stickers can be replaced through request to the CPSO, who will verify certification status in the pressure systems database prior to issuing a new sticker.

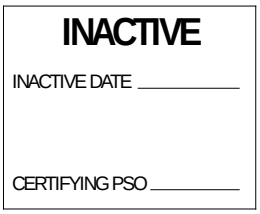
   f. LANL does not issue "Excluded" stickers instead the word "Excluded" is written on the inventory tag, and the data repository is marked as "Excluded".

   g. LANL does not issue "Exempt" stickers instead the word "Exempt" is written on the inventory tag, and the data repository is marked as "Exempt".

SYSTEM IDENTIFICATION AND CERTIFICATION TAG

STICKER EXAMPLES





11. System Relocation/Disassembly Notification Process

a. If a pressure system is to be relocated on laboratory property, have the PCSC updated with the new location.

b. If a pressure system is to be relocated off LANL property, updated the PSCS to indicate the system has been removed from LANL

c. When a system is to be disassembled and removed from service, have the PSCS updated to indicate that the system has been removed from service.

ATTACHMENTS

Attachment ADMIN-1-1, Pressure Safety Forms (FM01 - FM10)

Attachment ADMIN-1-2, Form Directions (FM01 - FM10)

Attachment ADMIN 1-3, Existing Pressure System Documentation

Attachment ADMIN 1-4, New Pressure System Documentation

Attachment ADMIN 1-5, Pressure System Owner Checklist (Guidance)

Attachment ADMIN-1-6, Risk-Based Certification Processing and Maintenance (Guidance)