



# Conduct of Engineering Request for Variance or Alternate Method

To display the VAR Request Metadata pane for this document, click File > Info > Properties > Show Document Panel.

## 1.0 General

|  |                      |                                    |  |
|--|----------------------|------------------------------------|--|
| 1.1 Document Number: VAR-10281                                 |                      | 1.2 Revision: 0                    |  |
| 1.3 Brief Descriptive Title: Certification of Pressure Systems |                      |                                    |  |
| 1.4 Affected Program: Engineering Standards                    |                      | 1.5 Request Type: Alternate Method |  |
| 1.6a Affected Tech Area 99                                     |                      | 1.6b Affected Buildings Sitewide   |  |
| 1.7 Requestor: Cover, Matthew Organization: ES-EPD             |                      |                                    |  |
| 1.8 Revision History   |                      |                                    |  |
| Revision Number  | Changes and Comments |                                    |  |
| 0  | Initial issue.       |                                    |  |

## 2.0 Affected Conduct of Engineering Program/Documents

|   |   |
|---|---|
| 2.1 Affected "P" Document:<br>P342 Engineering Standards<br><br>If against the P document itself, revision (or N/A):<br>N/A   | 2.2 Subordinate or related document(s) [AP, master spec, LANL ESM chapter & section; or code, Order, standard, etc.]: Document Title/No.: Engineering Standards Manual Chapter 17, Pressure Safety, Section GEN-1 – Definitions and Acronyms<br><br>Revision 1<br>Document Title/No.: Section ADMIN-1, Administrative Requirements<br><br>Revision 1<br>Document Title/No.: Enter text..<br><br>Revision Enter text.. |
| 2.3 Section/Paragraph: GEN-1 – Definitions and Acronyms, Certification; ADMIN-1 C. Pressure System Certification Process  |   |
| 2.4 Specific Requirement(s) as Written in the Document(s):<br>Certification: All requirements of this document have been met and CPSO or delegate has approved pressure system for use. Is not to be understood as an ASME or NBIC certification, it is only a permit to operate the pressure system, granted by the CPSO.<br>Pressure System Certification Process: Multiple chapter requirements. |   |
| 2.5 Contractual, preference, or other basis for requirement in 2.4:<br>Certification is a self-imposed LANL method whereby a Pressure Safety Officer (PSO) reviews pressure system design, fabrication, testing and maintenance and determines whether it is satisfactory; this ensures that worker health and safety requirements as outlined by 10 CFR 851 have been observed.                    |   |

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| 2.6 Type of VAR from ESM Chap 1, Z10 <i>[Applies only to standards variances]</i><br><br><p style="text-align: center;">Type 2</p> | 2.7 Discipline<br><br><p style="text-align: center;">Pressure Safety</p> |
|  |  |

### 3.0 Request Information & Comments

|  |   |
|--|---|
| 3.1 NCR required (work has occurred)? <b>No</b><br>If Yes, NCR Number: <i>Enter text.</i>  |   |
| 3.2 System/Component Affected<br>OpSystem Acronym & Name <i>[Select OpSysAcronymAndName]</i><br>System Number or Name <i>[Select SystemNumberOrName]</i>   | 3.3 Highest ML Level<br><br><p style="text-align: center;">ML-3</p> |
| 3.4 Proposal with Justification/Compensatory Measures:<br><b>Proposal</b><br><p>Due to the complexity of ESM Chapter 17, the ability to certify pressure systems to ensure that “all requirements of this document have been met” is not easily executable. Thus, this variance requests a change to the definition requirements of the term “certification” by adding an additional definition for ML-3 and ML-4 systems as follows:</p> <p style="padding-left: 40px;"><b>Certification</b> (ML-3 and ML-4) – The LANL-specific process by which a LANL Pressure Safety Officer (PSO) confirms that sufficient documentation has been provided by the system owner that indicates that the pressure system was designed, fabricated, tested, and inspected to applicable and sound engineering principles. Application of the “active” sticker onto the Pressure System Identification tag indicates that the intent of ESM Chapter 17 (e.g., sufficient over-pressurization protection) has been met and the PSO has ensured that the pressure system, in the as-provided configuration (i.e., configuration provided upon initial certification request or renewal), constitutes sufficient evidence to ensure that methods used to reduce or prevent occupational injuries, illnesses, and accidental losses has been provided. This definition does not apply to ML -1 or ML-2 systems.</p> <p><b>Justification</b><br/>         As stated in 2.5 above, certification is a self-imposed LANL method whereby a Pressure Safety Officer (PSO) reviews pressure system design, fabrication, testing and maintenance and determines whether it is satisfactory; this ensures that worker health and safety requirements as outlined by 10 CFR 851 have been observed.<br/>         Modifying the language for certification of ML-3 and ML-4 systems will enable PSOs for same to complete their review and approval with a reasonable and appropriate level of effort and assurance.</p> <p>This Alternate Method is in consonance with ensuring that pressure systems are designed, fabricated, tested and inspected in accordance with applicable and sound engineering principles; this portion of 10 CFR 851</p> |   |

does not require 100% verification of code compliance.

LANL is responsible for ensuring that all pressure vessels, boilers, air receivers, and supporting piping systems conform to the applicable ASME requirements. As stated previously, the purpose of 10 CFR 851 is to ensure the contractor is meeting the requirements for reducing/preventing occupational injuries, illnesses and accidental losses. As such, a contractor is required to conform to the applicable ASME requirements which mitigate occupational injuries, illnesses, and accidental loss. LANL developed ESM Chapter 17 as direction for system owners to document how their pressure system designs meet the intent of 10 CFR 851, including when national consensus codes are not applicable. Further, where ESM Chapter 17 is mute on particular issues, LANL has a variance process to address such circumstances; a process reviewed by the PSO when reviewing pressure system documentation.

### 3.5 Attachments

Document Title or Description [n/a](#)

3.6a Project ID  
[n/a](#)

3.6b: Project Name  
[n/a](#)

3.6c: Code of Record Date  
[n/a](#)

3.7 Duration:  
[Lifetime](#)

3.8a If Finite Period, Start Date:  
[Click to enter a date.](#)

3.8b End Date:  
[Click to enter a date](#)

3.8c Provide the PFITS number for tracking removal/correction: [\[PFITSNum\]](#)

3.9 USQD/USID required (Nuclear, High/Mod Hazard)? [No](#)

If Yes, USQD/USID Number [Click here to enter text.](#)

3.10 QA Review for process change matters potentially affecting LANL's NQA-1 implementation

Is a QPA Determination required?: [No](#) If **Yes**, then: [Choose an item.](#)

QPA Comments: [Enter text..](#)

3.11 POC Determination: [Accept](#)

POC Comments: [Enter text..](#)

3.12 Management Program Owner's (SMPO) Approval for P341 and APs; P342, ESM, ML-1 and -2, and Contract Matters; and P343

SMPO Determination: [Accept](#)

Comments: [Enter text..](#)

**4.0 Participant Signatures** **NOTE:** DO NOT ADD NAMES FROM WITHIN WORD! *Save and close the form first, then do 1-4 below:*

1. From the SharePoint library, select the document, then click the **ellipsis** (...) in the second column; a small dialog appears
2. In the small dialog click the **ellipsis** again
3. Click **Edit Properties** and check out the document if prompted to Enter names using the controls provided, then **Save**

|   |                                      |                  |
|---|--------------------------------------|------------------|
| <p>4.1 POC (Management Program Owner's Representative):</p> <p>Swartz, Ari (Ben)<br/>(signed by Alternate POC)</p>  | <p>Organization<br/>ES-EPD</p>       | <p>Signature</p> |
| <p>4.2 Facility Design Authority Representative</p> <p>[FDARName]<br/>FDAR signature not required <input checked="" type="checkbox"/></p>   | <p>Organization<br/>Enter text..</p> | <p>Signature</p> |
| <p>4.3 LANL Owing Manager (FOD or R&amp;D/Program)</p> <p>[FODorPrgmMgrName]<br/>FOD or Program Manager signature not required <input checked="" type="checkbox"/></p>  | <p>Organization<br/>Enter text..</p> | <p>Signature</p> |
| <p>4.4 Quality Reviewer's Name:</p> <p>[QPAName]<br/>QPA review/signature not required <input checked="" type="checkbox"/></p>  | <p>Organization<br/>Enter text..</p> | <p>Signature</p> |
| <p>4.5 Safety or Security Management Program Owner's Approval for P341 and APs; P342, ESM and Contract Matters; and P343</p> <p>Goen, Lawrence Kenneth<br/>SMPO signature not required (Type 1 variance) <input type="checkbox"/></p> | <p>Organization<br/>ES-DO</p>        | <p>Signature</p> |
| <p>4.6 Additional Signer 1</p> <p>[AdditionalSigner1]<br/>Role: Enter text.</p>   | <p>Organization<br/>Enter text..</p> | <p>Signature</p> |

|  |  |                  |
|--|--|------------------|
| <p>4.7 Additional Signer 2</p> <p>[AdditionalSigner2]</p> <p>Role: <a href="#">Enter text.</a></p> | <p>Organization</p> <p><a href="#">Enter text.</a></p> | <p>Signature</p> |
|--|--|------------------|

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| <p>4.8 CoE Administrator Signature</p> <p>Salazar-Barnes, Christina L</p> <p><u>NOTE:</u> The CoE Admin is always the last signature placed on this document. The date of that signing is the date of this document.</p> | <p>Signature</p> |
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