



Conduct of Engineering Request for Variance or Alternate Method

Assigned by SMPO or SMPOR: [] Alternate Method [x] Variance

Tracking number VAR- 2013 - 111

1.0 Affected Document(s)

Form with checkboxes for Engineering Processes, Standards, and Training, and fields for Subordinate document title and revision.

Section/Para NA

Specific Requirement(s) as Written in the Document(s) NA - New information is to be added to the ESM chapter 8 pending a full modification to the ESM

2.0 Request

Brief descriptive title: Require all new Building Automation Systems to implement Night Set Back

NCR required (work has occurred)? [] Yes [x] No If Yes, NCR Number

TA-Bldg-(Room) and/or Project Affected Site Wide System/Component Affected Building Automation Systems

Proposal Currently the LANL ESM, Chapter 6, D30, Section 1.3.E requires the implementation of "ASHRAE 90.1, Energy Standards for Buildings Except for Low Rise Residential Buildings" for all HV AC systems installed at LANL.

- The ESM, chapter 8, Table 3-1 shall effectively be modified by this variance to include the following: - The table is modified to include a new Component/Function row defined as "Building Automation Systems".

To clarify the implementation and provided additional requirements to ASHRAE 90.1 the following shall be added to section 5.0 Energy Conservation / Sustainable Design:

D. Setback Controls Implementation- All building automation systems (BAS) installed at LANL shall provide setback control of zone temperatures per ASHRAE 90.1. Section 6.4.3.2.2. When programmatic needs require a constant, unchanging temperature, a variance to the requirement for setback control may be granted...

*Basis: Due to the ever changing nature of work at LANL, many areas requiring constant temperature control at the time of construction may change their function and not require constant temperature control in the future.

Justification/Compensatory Measures A recent AG audit of LANLs energy savings measures found the labs to be lacking in such simple to implement measures like the use of setback controls within its HVAC systems.

In response to the AGs findings LANL agreed to emphasize the need to implement high payback energy conservation measures like setback controls. Although the requirement was always present in the ESM, this variance pulls the requirement from the mechanical requirements to the control system requirements to clarify that BOTH the mechanical AND the control systems must be designed and implemented together

to provide energy savings. It also adds an exception to allow temperature sensitive areas to be excluded from setback controls, but gives a path forward for changing use of lab spaces.

Duration of Request:	Start Date: Date approved	End Date:	<input checked="" type="checkbox"/> Lifetime	
Requestor Allen Hayward	Z Number 206979	Organization ES-DE	Signature Signature on file	Date 8/26/13
USQD/USID required (Nucl. High/Mod Hazard)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		If Yes, USQD/USID Number		
Design Authority Representative Lawrence K. Goen	Z Number 106351	Organization ES-DO	Signature Signature on file	Date 9/12/13
LANL Owing Manager (FOD or Programmatic) NA- Labwide	Z Number	Organization	Signature	Date

3.0 Safety Management Program Owner (SMPO) Representative (SMPOR/POC)

<input type="checkbox"/> Decline <input type="checkbox"/> Accept <input checked="" type="checkbox"/> Accept Labwide <input type="checkbox"/> with Modification:			
POC Allen Hayward	Z Number 206979	Signature Signature on file	Date 9/12/13

4.0 Additional Approval for P341 and APs; P342, ESM, Code, and Regulation Matters; and P343

<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Accepted with comments <input type="checkbox"/> Declined			
Comments:			
Safety or Security Management Program Owner Lawrence K. Goen	Z Number 106351	Signature Signature on file	Date 9/12/13

Instructions

(Backside, need not print, not part of record)

Purpose of Form (Request)

Per PD340 Conduct of Engineering (CoE), work for LANL shall not deviate from any contractually required LANL CoE documents in practice (execution) or in written direction to any LANL subcontractor unless the Laboratory has formally granted variance or approval of an alternate method to the project, program, or facility. This form provides the means for such an action.

When a clarification or interpretation is needed, refer to Form 2176 instead of this one.

The responders will categorize as an alternate method or variance; both boxes may be checked if proposal includes both and request or responses is clear on intent. Responders will also provide number; these are currently obtained from ES-DO (6-0600) and are in the format VAR-YEAR-XXX.Y, where XXX is a sequential number and Y is the rev (e.g., VAR-2010-001.0).

Alternate Method	A deviation from a requirement that includes compensatory measures that accomplish the desired intent or results but using a different approach with alternative method/technique, materials, design, or methods of construction or equipment.
Variance	A deviation from the written expectations. An exception.

1.0 Affected Document(s)

1. Check all that apply; however, requests requiring multiple POCs can have lengthened approval cycles and are discouraged.
2. When PD340 Conduct of Engineering is affected, follow the Policy Office's variance process.

Use continuation sheets and attachments as necessary, and reference or number as appropriate.

2.0 Request

Title: Create a short descriptive subject

NCR: List NCR number(s) when these are required (e.g., when Engineering Standards were not followed; when ML-1, 2, or 3, etc.).

System/Component Affected: Indicate what/where the request affects

Proposal: Describe what will not be explicitly met, and why.

Justification/Compensatory Measures: Describe why the proposal provides equal or adequate safety, cost-effectiveness, etc., and is in the best interests of LANL.

Duration of Request: Indicate whether temporary (start/end dates), or lifetime (end date is N/A)

Requestor: This is the originator of the request and must be a LANL employee.

USQ/USID: These are required when there may be a safety basis impact of a design change (including for repair and use-as-is NCRs).

Design Authority Representative: Defined by P313 and PD340. This is often the LANL Engineering Manager or Project Engineer, but others may be designated by LANL's Design Authority (Site Chief Engineer).

LANL Owning Manager (FOD or Programmatic): The LANL owner (future owner of project result) must indicate concurrence with the proposal since it may involve acceptance of a compromise or lesser outcome.

Requesting organization forwards to appropriate SMPOR/POC to complete Recommendation section.

3.0 Safety or Security Management Program Owner Representative (SMPOR/POC)

1. Here, the document's point of contact provides a recommendation to the final approver; affirmative recommendation is generally required for approval. Standards SMPOs and SMPORs are listed at <http://engstandards.lanl.gov>. SMPORs for Engineering Processes and T&Q are the program managers listed on the CENG-OFF website, and the SMPO is the Office Director. The final approver may N/A signatures for the SMPOR.
2. SMPORs shall consider the technical, cost-benefit, and DOE-contractual ramifications for not meeting established requirements and documents. Fire protection equivalencies and exemptions may have additional or alternative forms (contact Fire Marshal).
3. SMPOR forwards for final action whether or not they are concurring, when required below.

4.0 Additional Signature

1. For the Engineering Standards Program only, final approval is delegated to the SMPOR for non-code/contract, lower-tier standards such as the Master Specifications – and this marked N/A; see ESM Chapter 1 Section Z10 article "Clarifications..." for specific requirements. For all other actions on CoE documents, SMPO signature is required.
2. In some cases, copies of the request will be sent to LASO for oversight purposes (e.g., certain pressure safety equipment). Also, when a request affects non-delegated LANS/LASO contractual code or regulatory compliance, DOE approval is required.
3. Distribution: Requestor, SMPO, SMPOR, CENG-OFF Program Manager
4. Copies of all requests (approved and otherwise) will be retained in CoE-accessible records by ES-DO. Those providing value to multiple projects may be posted on the CoE webpages until affected documents are updated to incorporate the approved change.