

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-10326	1.2 Revision: 1								
1.3 Brief Descriptive Title: Chapter 21 (Software) activity and form approvals for Safety Basis and Nuclear Criticality Safety Divisions									
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: Sartor, Ray Organization: NCS									
1.8 Revision History <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 15%;">Revision Number</th> <th style="text-align: left;">Changes and Comments</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>Initial Issue; addressed approval of Form 2033</td> </tr> <tr> <th style="text-align: left;">Revision Number</th> <th style="text-align: left;">Changes and Comments</th> </tr> <tr> <td>1</td> <td>Expanded to approval of all Chapter 21 forms and activities, including processes and procedures invoked by same.</td> </tr> </tbody> </table>		Revision Number	Changes and Comments	0	Initial Issue; addressed approval of Form 2033	Revision Number	Changes and Comments	1	Expanded to approval of all Chapter 21 forms and activities, including processes and procedures invoked by same.
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2.0 Affected Conduct of Engineering Program/Documents

2.1 Affected "P" Document: P342 Engineering Standards If against the P document itself, revision (or N/A): <p style="text-align: center;">N/A</p>	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 STD-342-100 Chapter 21 Software Revision SOFT-GEN r1; SOFT-ACQUIRE r1; Soft-DESIGN r1; SOFT-V&V r1; SOFT-INV r1; SOFT-MAINT r1; and corresponding forms and processes Document Title/No.: AP-341-703, Commercial Grade Dedication Revision 4 Document Title/No.: Enter text.. Revision Enter text..
2.3 Section/Paragraph: Form Section 5.3 (approvals) is typical.	
2.4 Specific Requirement(s) as Written in the Document(s): This variance is for all references to FDAR approval of software quality management (SQM) activities and forms in Chapter 21, including processes and procedures invoked by Chapter 21, e.g., Commercial Grade Dedication. As one example of form inclusion of FDAR, Section 5.3 of Form 2033 includes:	

"As the Facility Design Authority Representative (FDAR) for my representative facilities, as the LANL Design Authority (DA), or, as the Responsible Associate Director (RAD), I have reviewed and approve ...

"Note: The RAD is authorized to review and approve Form 2033 (rather than the FDAR or DA) for software, as determined by the FDAR or DA, the FDAR or DA does not have the knowledge and/or a reasonable connection to the software."

Guidance (backside): "...The RAD is authorized to review and approve Form 2033 (rather than the FDAR or DA) for software where, as determined by the FDAR or DA, the FDAR or DA does not have the knowledge or a reasonable connection to the software."

2.5 Contractual, preference, or other basis for requirement in 2.4:

Ch 21 FDAR or DA approval is based largely on DOE O 414.1D, Attachment 4, SAFETY SOFTWARE QA REQUIREMENTS FOR NUCLEAR FACILITIES, paragraph 2. A. (1): "Involve the facility design authority, as applicable, in: the identification of; requirements specification; acquisition; design; development; verification and validation (including inspection and testing); configuration management; maintenance; and, retirement." Also, according to the form's IQPA author, part of the logic to have the DA approve was to drive consistency and correctness. However, there are situations where the DA does not have the knowledge or a reasonable connection to the software to approve Form 2033 and other software forms. (As quoted above, the approval of Form 2033 can be delegated to the RAD in this situation.)

2.6 Type of VAR from ESM Chap 1, Z10 [*Applies only to standards variances*])

Type 2

2.7 Discipline

Safety Basis
Nuclear Criticality Safety

3.0 Request Information & Comments

3.1 NCR required (work has occurred)? **No**

If Yes, NCR Number: [Enter text.](#)

3.2 System/Component Affected

OpSystem Acronym & Name **N/A**

System Number or Name **N/A**

3.3 Highest ML Level

ML-1

3.4 Proposal with Justification/Compensatory Measures:

For the implementation of Chapter 21 (Software) of the Engineering Standards Manual (STD-342-100) by the Safety Basis Division and the Nuclear Criticality Safety Division, FDAR responsibilities be delegated to the Senior Director of the Nuclear Safety Program. Implementation of Chapter 21 includes all forms referenced by Chapter 21 (e.g., Form 2033, SOFT-GEN forms, etc.) and the commercial grade dedication of software using AP-341-703.

Safety Basis and the Nuclear Criticality Safety are special disciplines, with special software. The LANL FDAR and DA are not knowledgeable about the software for these disciplines and would have difficulty responsibly approving the SQM activities and forms related to this software. The Senior Director of the Nuclear Safety Program has the requisite knowledge of such software's potential nuclear safety role and an interest in ensuring that the inputs for safety analysis calculations have sound SQM pedigree. In this regard, the position is more applicable than the Design Authority (and comparable to that of the former Responsible Associate Director position, now called Responsible Associate Laboratory Director). Therefore, the most appropriate position to approve SQM activities and forms for software in the Safety Basis and the Nuclear

Criticality Safety Divisions is the Senior Director of the Nuclear Safety Program (however, since this is an Alternate Method, Facility Design Authority may continue to sign when necessary).

When this VAR is issued and employed, the practice of citing "per VAR-10326 R1" with the approval signature will provide a tie to this authorization but is not mandatory (furthermore, incorporation of this VAR into affected document[s] would render this practice unnecessary).

[Enter text..](#)

3.5 Attachments

Document Title or Description **None**

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>Oruch, Tobin H</p>	<p>Organization</p> <p>ES-FE</p>	<p>Signature</p>
<p>4.2 Facility Design Authority Representative</p> <p>[FDARName]</p> <p>FDAR signature not required <input checked="" type="checkbox"/></p>	<p>Organization</p> <p>Enter text..</p>	<p>Signature</p>

<p>4.3 LANL Owing Manager (FOD or R&D/Program)</p> <p>[FODorPrgmMgrName]</p> <p>FOD or Program Manager signature not required <input checked="" type="checkbox"/></p>	<p>Organization</p> <p>Enter text..</p>	<p>Signature</p>
<p>4.4 Quality Reviewer's Name:</p> <p>[QPAName]</p> <p>QPA review/signature not required <input checked="" type="checkbox"/></p>	<p>Organization</p> <p>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>Streit, Jim</p> <p>SMPO signature not required (Type 1 variance) <input type="checkbox"/></p>	<p>Organization</p> <p>ES-DO</p>	<p>Signature</p>
<p>4.6 Additional Signer 1</p> <p>[AdditionalSigner1]</p> <p>Role: Enter text.</p>	<p>Organization</p> <p>Enter text.</p>	<p>Signature</p>
<p>4.7 Additional Signer 2</p> <p>[AdditionalSigner2]</p> <p>Role: Enter text.</p>	<p>Organization</p> <p>Enter text.</p>	<p>Signature</p>
<p>4.8 CoE Administrator Signature</p> <p>Salazar-Barnes, Christina L</p> <p>NOTE: 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>	