

## 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: <b>VAR-10548</b>	1.2 Revision: <b>0</b>				
1.3 Brief Descriptive Title: <b>ESM Ch. 7 D5020 Elimination of Restrictions on Flexible Cord and Cable</b>					
1.4 Affected Program: <b>Engineering Standards</b>	1.5 Request Type: <b>Variance</b>				
1.6a Affected Tech Area <b>99</b>	1.6b Affected Buildings <b>Sitewide</b>				
1.7 Requestor: <b>Ahmad, Wajdi M</b> Organization: <b>ES-EPD</b>					
1.8 Revision History <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Revision Number</th> <th style="text-align: left; border-bottom: 1px solid black;">Changes and Comments</th> </tr> </thead> <tbody> <tr> <td style="padding: 2px 5px;"><b>0</b></td> <td style="padding: 2px 5px;"><b>Initial issue.</b></td> </tr> </tbody> </table>		Revision Number	Changes and Comments	<b>0</b>	<b>Initial issue.</b>
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<b>0</b>	<b>Initial issue.</b>				

### 2.0 Affected Conduct of Engineering Program/Documents

2.1 Affected "P" Document: <b>P342 Engineering Standards</b>  If against the P document itself, revision (or <b>N/A</b> ): <p style="text-align: center;"><b>N/A</b></p>	2.2 Subordinate or related document(s) [AP, master spec, LANL ESM chapter & section; or code, Order, standard, etc.]: Document Title/No.: <b>ESM Chapter 7, Section D5020, Lighting &amp; Branch Circuit Wiring</b>  Revision <b>5</b> Document Title/No.: <i>Enter text..</i>  Revision <i>Enter text..</i> Document Title/No.: <i>Enter text..</i>  Revision <i>Enter text..</i>
2.3 Section/Paragraph: <b>2.5.B.1</b>	
2.4 Specific Requirement(s) as Written in the Document(s): <b>2.5 Flexible Cord and Cable</b> A. Use flexible cords, cables, and their associated fittings that are UL approved and suitable for the conditions of use. B. Use flexible cords and cable only for the following applications <ol style="list-style-type: none"> <li>1. Pendant receptacles for 15, 20, or 30 amp 120, 120/240, or 208Y/120V circuits.</li> <li>2. Exposed connections for lighting fixtures.</li> <li>3. Connections of portable lamps and appliances using an attachment plug and energized from a receptacle outlet.</li> <li>4. Connections of stationary equipment to facilitate their frequent interchange using an attachment plug and energized from a receptacle outlet that is mounted on the structure.</li> </ol>	

- 5. Connection of appliances where the fastening means and mechanical connections are specifically designed to permit ready removal for maintenance or repair and the appliance is intended or identified for flexible cord connection using an attachment plug and energized from a receptacle outlet.
  - 6. Connection of moving parts.
  - 7. For temporary wiring as permitted by the NEC during construction, remodeling, repairs, emergencies, tests, experiments, and developmental work. Remove temporary wiring immediately upon completion of the construction, remodeling, repair, emergencies, tests, experiments, or developmental work for which it was installed.
- C. Use flexible cords and cables containing a green insulated equipment-grounding conductor to provide an effective ground-fault current path.
- D. Use flexible cords and cables only in continuous lengths without splices or taps.
- E. Flexible cords and cables used at LANL shall be limited to the "hard service" cords, "junior hard service" cords, and "portable power" cables listed in NEC Table 400.4 except where the cord or cable is supplied as part of an NRTL listed appliance.
- F. Flexible power cords used under raised floors (e.g. computer rooms, server rooms) must be Type DP in accordance with UL 1690 – Standard for Data Processing Cables.

2.5 Contractual, preference, or other basis for requirement in 2.4:  
 LANL preferences and clarifications or, in some cases, repetition of NFPA 70 for emphasis.

2.6 Type of VAR from ESM Chap 1, Z10 [Applies only to standards variances)  Type 2	2.7 Discipline  Electrical
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**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 <b>ES - Electrical Supply</b> System Number or Name <b>EP</b>	3.3 Highest ML Level  ML-1
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3.4 Proposal with Justification/Compensatory Measures:  
 Delete 2.5 in its entirety. It is largely a copy of NFPA 70, 400.10 Used Permitted (with LANL’s additional restriction of not allowing pendant receptacles at the 480/277 volt level, which is not warranted).  
 The next version of D5020, including this simplification, has been reviewed and accepted by the Technical Committee and Engineering Standards Board.

3.5 Attachments  
 Document Title or Description [Enter text...](#)

3.6a Project ID N/A	3.6b: Project Name N/A	3.6c: Code of Record Date N/A
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3.7 Duration: Lifetime	3.8a If Finite Period, Start Date: <a href="#">Click to enter a date.</a>	3.8b End Date: <a href="#">Click to enter a date</a>
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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: [This restriction has already been removed from the next version of D5020 \(r6\).](#)

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**

4.1 POC (Management Program Owner's Representative):  <a href="#">Stromberg, Eric R</a>	Organization <a href="#">ES-DE-CON</a>	Signature
4.2 Facility Design Authority Representative  [FDARName] FDAR signature not required <input type="checkbox"/>	Organization <a href="#">Enter text..</a>	Signature
4.3 LANL Owning Manager (FOD or R&D/Program)  [FODorPrgmMgrName] FOD or Program Manager signature not required <input type="checkbox"/>	Organization <a href="#">Enter text..</a>	Signature
4.4 Quality Reviewer's Name:  [QPAName] QPA review/signature not required <input type="checkbox"/>	Organization <a href="#">Enter text.</a>	Signature
4.5 Safety or Security Management Program Owner's Approval for P341 and APs; P342, ESM and Contract Matters; and P343  <a href="#">Apperson, Jason Wesley</a> SMPO signature not required (Type 1 variance) <input type="checkbox"/>	Organization <a href="#">ES-DO</a>	Signature

<p>4.6 Additional Signer 1</p> <p>[AdditionalSigner1]</p> <p>Role: <a href="#">Enter text.</a></p>	<p>Organization</p> <p><a href="#">Enter text.</a></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>

<p>4.8 CoE Administrator Signature</p> <p>Salazar-Barnes, Christina L</p> <p><b><u>NOTE:</u></b> 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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