



IME

institute of makers of explosives

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UPDATE

Guide to Obtaining DOT Approval of Jet Perforating Guns using AESC/IME Perforating Gun Specifications (AESC/IME JPG Standard) Ver. 02, September 1, 2017

Background. The AESC/IME JPG Standard (“the standard”) was developed in 2008 by IME, AESC, and PHMSA¹ to provide an efficient and economical mechanism to obtain explosives approvals of jet perforating guns in compliance with the PHMSA Hazardous Materials Regulations (HMR)². Applications that are prepared and submitted using the standard are processed by PHMSA with minimal delay and without the need for expensive and time-consuming testing.

Update. In October 2017, IME and AESC submitted a rulemaking request to incorporate by reference (IBR) the Version 2 of AESC/IME’s JPG standard. In April 2018, PHMSA advised that the IBR petition had merit and that it would be added to the docket of a future rulemaking³.

What’s changed? Ver. 02 of the standard differs from the 2008 version as follows:

- 1.4D (UN0494) JPG classifications have been removed. 1.1D (UN0124) JPG classifications are issued with a note that the approved 1.1D perforating gun system can be transported as 1.4D in accordance with Special Provision 114⁴.
- 1.1D (NA0124) and 1.4D (NA0494) “with detonator” JPG classifications have been removed. Such JPG systems are subject to testing⁵ prior to approval.
- A JPG Kodiak™ system has been added; however, applications for this system will not be accepted until the IBR is completed. Prior to that, such systems may be approved using a separate JPG standard⁶.

¹ Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation

² Title 49 CFR Parts 100-185

³ The advance notice of proposed rulemaking is expected late summer or early fall 2018

⁴ 49 CFR 172.102

⁵ 49 CFR 173.56(b)

⁶ See: <http://www.ocsresponds.com/ref/perfgun.htm#perfgunkodiak>.

Effect on approvals issued based on the original standard. With the implementation of Ver. 02 of the standard, PHMSA has indicated that certain adjustments may be necessary for those approvals:

System	Adjustment	Comments & Suggested Action
1.1D (UN0124)	None, unless note authorizing 1.4D under SP 114 is desired ⁷	<ul style="list-style-type: none"> Return EX letter with request to add note allowing 1.4D under SP 114. Email request to approvals@dot.gov.
1.4D (UN0494) (holder also has 1.1D (UN0124) approval)	Surrender EX and request termination ⁸	<ul style="list-style-type: none"> No longer needed since 1.1D can be shipped as 1.4D under SP 114. Email surrender request to approvals@dot.gov.
1.4D (UN0494) (holder does not have 1.1D (UN0124) approval)	Surrender EX and request amendment to 1.1D (UN0124) ⁹	<ul style="list-style-type: none"> No longer needed since 1.1D can be shipped as 1.4D under SP 114. Email surrender request to approvals@dot.gov.
1.1D w/detonator (NA0124)	Surrender EX and request termination ⁸	<ul style="list-style-type: none"> No longer authorized. Email surrender request to approvals@dot.gov.
1.4D w/detonator (NA0494)	Surrender EX and request termination ⁸	<ul style="list-style-type: none"> No longer authorized. Email surrender request to approvals@dot.gov.

New approvals issued based on Ver. 02 of the standard. With the implementation of Ver. 02 of the standard, the approval process is simplified. Please see the table on the following page.

System	Comments	Required Action
1.1D (UN0124)	Submit following the instructions in Section 5 of the IME/AESC JPG Standard (Ver. 02)	<ul style="list-style-type: none"> Submit application using PHMSA's online system¹⁰.
1.4D (UN0494)	Do not submit	<ul style="list-style-type: none"> Submit application for 1.1D (UN0124). PHMSA will add a note that 1.4D is authorized under SP 114.
1.1D w/detonator (NA0124)	Do not submit	<ul style="list-style-type: none"> Have system examined and tested by DOT approved lab. Submit lab report for approval using PHMSA's online system¹⁰.
1.4D w/detonator (NA0494)	Do not submit	<ul style="list-style-type: none"> Have system examined and tested by DOT approved lab. Submit lab report for approval using PHMSA's online system¹⁰.

⁷ SP 114 applies whether noted on the EX letter or not; however, it is recommended that the note be added to existing 1.1D approvals.

⁸ PHMSA has indicated that if this is not done, at some point in the future, they will issue "show cause" letters advising that the approval will be terminated unless the EX holder provides data to support retention of the EX.

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¹⁰ See: <https://portal.phmsa.dot.gov/PHMSAPortal2/>

Resources.

- IME Website:
<https://www.ime.org/>
- AESC Website:
<http://www.aesc.net/>
- IME/AESC JPG Standard, Ver. 02, September 1, 2017:
[https://www.ime.org/uploads/public/PerfGunClassification\(2017.09.01\).pdf](https://www.ime.org/uploads/public/PerfGunClassification(2017.09.01).pdf)
- IME/AESC Rulemaking (IBR) Request:
https://www.ime.org/uploads/public/PHMSA/JPGRequest_2017.10.11.pdf
- IBR Acceptance Letter:
https://www.ime.org/uploads/public/PHMSA/JPGAcceptance_P-1710_2018.04.17.pdf
- PHMSA Hazardous Materials Regulations:
http://www.ecfr.gov/cgi-bin/text-idx?SID=1d49a3b137cb1b6fc45251074e634b44&tpl=/ecfrbrowse/Title49/49tab_02.tpl
- PHMSA Explosives Approval Information:
<https://www.phmsa.dot.gov/hazmat/energetic-materials-approvals/explosives>
- PHMSA Online Application System:
<https://portal.phmsa.dot.gov/PHMSAPortal2/>
- PHMSA Approvals Search (used to view status of application and download approvals):
<https://www.phmsa.dot.gov/approvals-and-permits/hazmat/approvals-search>