

Use of Explosives on the Hanford Site

MSC-RD-11227

Revision 0

Effective Date: February 17, 2010

Topic: Fire Protection

Use of Explosives on the Hanford Site

1.0 PURPOSE AND SCOPE

This Level 2 Requirements Document establishes requirements for the use of explosives on the Hanford Site. It applies to all companies or persons who plan to use explosives on the Hanford Site. This requirements document shall not apply to weapons or explosive materials maintained by the Hanford Patrol.

2.0 REQUIREMENTS

2.1 Requests to Use Explosives

NOTE: For the tables in this section under the requirement "type" column, "V" means verbatim and "I" means interpreted.

#	REQUIREMENT	TYPE V or I	SOURCE
1.	Personnel transporting, handling or detonating explosives on the Hanford Site shall obtain a prohibited/controlled article pass approved by the Director, U.S. Department of Energy (DOE), Richland Operations Office (RL), Security and Emergency Services. Prohibited/controlled article passes are issued in accordance with MSC-PRO-417 , <i>Controlling Prohibited and Controlled Articles</i> .	I	CRD M 470.4-2, Chg 1 (Supp Rev 1)
	NOTE: Charges for propellant actuated devices/tools (e.g., Hilti tools) are not subject to this requirement. They are subject to Fire Marshal permitting in accordance with MSC-RD-8589 .		
2.	A written request to the Hanford Site Fire Marshal by the applicable contractor for the use, detonation, and storage of explosives on the Hanford Site shall be submitted to the Hanford Site Fire Marshal at least 30 days prior to the actual need date. The request must provide the following:	I	29 CFR 1910.109
	<ul style="list-style-type: none"> • Description and justification for proposed use, including specific location(s) where explosives will be used. 	I	NFPA 1; 65.9
	<ul style="list-style-type: none"> • Type and quantity of explosives and detonators to be used. Include Material Safety Data Sheet (MSDS) for each type. 	I	29 CFR 1910.1200
	<ul style="list-style-type: none"> • Maximum quantity of explosives and detonators to be onsite at any one time. 	I	NFPA 1; 65.9
	<ul style="list-style-type: none"> • Maximum quantity of explosives to be detonated at any one time. 	I	NFPA 1; 65.9
	<ul style="list-style-type: none"> • Period of time for which approval is requested. 	I	NFPA 1; 65.9
	<ul style="list-style-type: none"> • Listing of safety codes and standards to be followed. 	I	NFPA 1; 65.9
	<ul style="list-style-type: none"> • Documentation that each person responsible for explosives activities is a Washington State licensed blaster. 	I	WAC 296.52

Use of Explosives on the Hanford Site

	<ul style="list-style-type: none"> Description of storage facilities to be used if explosives/detonators are to be stored on-site. (Magazines must comply with standards for explosives storage with separation/compatibility requirements.) 	I	29 CFR 1910.109; NFPA 495
	<ul style="list-style-type: none"> Description of method to be used to keep unauthorized personnel from entering any area where explosives are being handled, detonated, or stored and a description of the method to be used to warn personnel in the blast area of any impending detonation. 	I	29 CFR 1910.109; 10 CFR 851, App A, Section 3,
	<ul style="list-style-type: none"> Type of conveyance to be used for transport of explosives. 	I	29 CFR 1910.109; 49 CFR 173
	<ul style="list-style-type: none"> Procedure for removal of unused explosives and detonators. 	I	NFPA 1; 65.9
	<ul style="list-style-type: none"> Name of each person who requires a prohibited/controlled article pass. 	I	DOE M 473.1-1, Chap. V, Para. 1.a
	<ul style="list-style-type: none"> Name of each person who is to be authorized access to explosives magazines. Only licensed blasters may have direct access to explosive magazines. 	I	29 CFR 1910.109
	<ul style="list-style-type: none"> Procedure for notification to nearby facility/utility landlords immediately prior to detonation. 	I	29 CFR 1910.109
	<ul style="list-style-type: none"> Procedure for control of radio frequency hazards. 	I	NFPA 495
	<ul style="list-style-type: none"> Assurance that a current inventory of the contents of each storage magazine will be kept, including each entry and withdrawal. 	I	NFPA 495
<p>NOTE: <i>In the event a security or safety concern dictates the immediate use of explosives, e.g., destruction of unstable chemicals, suspicious items, etc., the aforementioned written request is not required. Such activities may be initiated upon verbal authorization by the Director, DOE-RL Security and Emergency Services Division, and verbal notification to the Hanford Site Fire Marshal.</i></p>			

2.2 Evaluation and Approval of Written Request

1.	Each request shall be evaluated by the Hanford Site Fire Marshal, Mission Support Alliance (MSA) Physical Security, appropriate contractor Security and Safety representatives, and when applicable, responsible Radiological Control support organization to resolve any safety or security concern. Final approval or denial of the request shall be by the Hanford Site Fire Marshall, who shall forward a copy of each approved permit to DOE-RL Security and Emergency Services and Safety and Engineering Divisions.	I	NFPA 495
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Use of Explosives on the Hanford Site

2.3 General Restrictions/Requirements

1.	The use, transportation and storage of explosives on the Hanford Site shall comply with the applicable requirements of the following documents:		
	<ul style="list-style-type: none"> DOE M 440.1-1A, Att. 2, "DOE Explosives Safety Manual", Sections 16.0 "Transportation" and 17.0 "Storage". 	V	CRD M 440.1-1A (Supplemented Rev. 0)
	<ul style="list-style-type: none"> NFPA 495 "Explosive Materials Code" 	I	CRD O 420.1B (Supplemented Rev. 4)
	<ul style="list-style-type: none"> NFPA 490 "Code for the Storage of Ammonium Nitrate" 	I	CRD O 420.1B (Supplemented Rev. 4)
	<ul style="list-style-type: none"> NFPA 498 "Standard for Safe Havens and Interchange Lots for Vehicles Transporting Explosives" 	I	CRD O 420.1B (Supplemented Rev. 4); NFPA 1, 65.9
2.	Subcontractors who transport, store or use explosives on the Hanford Site shall be appropriately licensed or permitted in accordance with 18 United States Code, Chapter 40.		NFPA 495, 4.1.7
3.	The following requirements/restrictions are general in nature and are not to be considered as all-inclusive:		
	<ul style="list-style-type: none"> Blasting operations in the proximity of overhead power lines, communication lines, utility services or other services or structures shall not be conducted until the appropriate landlords/owners have been notified and measures for safe control have been taken. 	I	29 CFR 1926.900, SubPart U
	<ul style="list-style-type: none"> Smoking, matches, open-flame lamps or other fires, flames, or heat producing devices and sparks shall not be allowed near explosives, magazines, or conveyances at any time. 	I	29 CFR 1910.109
	<ul style="list-style-type: none"> Explosives shall not be left unattended at any time unless secured within an approved magazine. 	I	29 CFR 1926.900, Subpart U
	<ul style="list-style-type: none"> On-site escort requirements (e.g., Patrol, pilot car) shall be determined on a case-by-case basis and coordinated between the explosives contractor and MSA Physical Security. 	I	NFPA 1; 65.9
	<ul style="list-style-type: none"> The Patrol Operations Center (POC) on 373-3800 shall be notified of any transportation of explosives on the Hanford Site at least one hour in advance. The notification shall include the destination and route. The POC shall also be notified at the time the shipment departs and upon its arrival. 	I	NFPA 1; 65.9
	<ul style="list-style-type: none"> Transportation of explosives on Hanford Site roads during peak traffic periods (0500 to 0800 hours, and 1500 to 1700 	I	29 CFR 1910.109

Use of Explosives on the Hanford Site

	hours) is prohibited with the exception of training aids transported by Hanford Patrol K-9 teams.		
	<ul style="list-style-type: none"> A Hanford Site pre-job safety orientation shall be provided to all blasting and security personnel prior to start of work. The orientation shall include Hanford Site safety/security requirements, emergency notification and reporting, evacuation, etc. 	I	NFPA 1; 65.9
	<ul style="list-style-type: none"> The POC on 373-3800 shall be notified at least four hours prior to the detonation of any explosives. The size and number of charges to be fired shall be included in this notification. 	I	NFPA 1; 65.9
	<ul style="list-style-type: none"> A representative from the Hanford company with contract responsibility over the blasting subcontractor shall be on the job site whenever explosives are present outside of a locked magazine and the representative shall have an approved method of contacting the POC. (As an alternative, the Hanford Patrol may be used to fulfill this requirement). 	I	NFPA 1; 65.9
	<ul style="list-style-type: none"> The representative from the responsible Hanford company shall have final concurrence immediately prior to any detonation. 	I	NFPA 1; 65.9

2.4 Explosives near Nuclear Facilities

1.	If explosives will be stored or used in the vicinity of nuclear facilities, inform the facility management to ensure all the required reviews, including screening under the Unreviewed Safety Question (USQ) process, are completed prior to proceeding with the activity.	I	NFPA 1; 65.9
<p>NOTE: <i>If the activity represents a USQ, then the activity may not occur unless DOE-RL approves a change to the safety basis of the affected facility.</i></p>			

3.0 REFERENCES

3.1 Source References

NFPA 1, *Uniform Fire Code* (2006 Ed)

Chapter 296.52 WAC - *Washington State Safety Standards for the Possession and Handling of Explosives*

CRD M 470.4-2, *Chg 1 (Supp Rev 1), Physical Protection*

29 CFR 1910.109 - *Explosives and Blasting Agents*

29 CFR 1910.1200 – *Hazard Communication*

29 CFR 1926.900 through 914 - *Blasting and the Use of Explosives*

Use of Explosives on the Hanford Site

49 CFR 173 – *General Requirements for Shipments and Packagings*

NFPA 495 - *Explosive Materials Code*

10 CFR 851, App. A, Section 3, *Worker Safety and Health Program*

DOE M 440.1-1, *DOE Explosives Safety Manual* (2006 Ed)

CRD M 440.1-1A, (Supp Rev 0), *DOE Explosives Safety Manual*

3.2 Working References

[MSC-PRO-417](#), *Controlling Prohibited and Controlled Articles*

[MSC-RD-8589](#), *Hanford Fire Marshall Permits*