

Appendix M

Framework Blasting Plan

Gateway West Transmission Line Project

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1.0 INTRODUCTION

Rocky Mountain Power and Idaho Power Company (Companies) are proposing to construct and operate approximately 1,000 miles of new 230-kilovolt (kV), 345-kV and 500-kV alternating current electric transmission system, called the Gateway West Transmission Line Project (Project), consisting of 10 segments between the Windstar Substation at Glenrock, Wyoming, and the Hemingway Substation approximately 30 miles southwest of Boise, Idaho. The proposed transmission line is needed to supplement existing transmission lines in order to relieve operating limitations, increase capacity, and improve reliability in the existing electric transmission grid, allowing for the delivery of up to 1,500 megawatts of additional energy for the Companies' larger service areas and to other interconnected systems. The Project includes ground-disturbing activities associated with the construction of above-ground, single-circuit transmission lines involving towers, access roads, multiuse areas, fly yards, and pulling sites as well as associated substations, communication sites, and electrical supply distribution lines. The Project crosses private land and public lands administered by the Bureau of Land Management (BLM), U.S. Forest Service (Forest Service), and the states of Idaho and Wyoming.

The Framework Blasting Plan outlines methods to mitigate risks and potential impacts associated with blasting procedures that may be required for construction of the Project. This document provides a template for the detailed Final Blasting Plan to be developed by the Construction Contractor.

2.0 PURPOSE

Once completed, the Blasting Plan will provide construction crews, the Compliance Inspection Contractor (CIC), and environmental monitors with project-specific information concerning blasting procedures, including the safe use and storage of explosives. The objective of the Blasting Plan is to prevent adverse impacts to human health and safety, property, and the environment that could potentially result from the use of explosives during project construction.

Blasting may be needed in certain areas with rocky terrain to excavate tower footings, prepare substation pads, and for construction of access roads. Blasting will be used only in areas where traditional excavation and earth moving equipment and practices are unable to accomplish the excavation. In addition, the Construction Contractor may elect to utilize implosive sleeves during line stringing activities to fuse conductor wire together. Areas where blasting will likely occur will be identified based on the geologic setting of the proposed alignment, as identified in the geotechnical investigation for the Project.

3.0 REGULATORY COMPLIANCE AND PROCEDURES

The Blasting Contractor will be responsible for preparing and implementing the Blasting Plan and must comply with all applicable federal, state, and local laws and regulations which pertain to explosives. No blasting operations will be undertaken until approval and appropriate permits have been obtained from the applicable agencies. Failure to comply with such laws could result in substantial financial penalty and/or imprisonment.

1 The Construction Contractor will use a qualified, experienced, and licensed Blasting
2 Contractor that will perform blasting using current and professionally accepted methods,
3 products, and procedures to maximize safety during blasting operations. Blasting
4 procedures will be carried out according to, and in compliance with, applicable laws and
5 will be closely monitored by the CIC.

6 **4.0 BLASTING PLAN GUIDANCE**

7 Prior to blasting, the Blasting Contractor shall prepare a Blasting Plan for review and
8 approval by the BLM, CIC, and any other relevant jurisdictional organization (i.e.,
9 School and Institutional Trust Lands Administration, county, city), as applicable. The
10 plan will address safety as well as design for production and controlled blasting. The
11 Blasting Plan also will contain the full details of the drilling and blasting patterns, as well
12 as the controls the Blasting Contractor proposes to use for both controlled and
13 production blasting. Review of the plan by the parties shall not relieve the Blasting
14 Contractor of the responsibility for the accuracy and adequacy of the Blasting Plan
15 when implemented in the field. A minimum of two weeks should be allowed for review
16 and approval of the Blasting Plan by the BLM and appropriate agencies. If at any time
17 changes are proposed to the Blasting Plan, the Blasting Contractor shall submit them to
18 the BLM and CIC for review and approval.

19 **4.1 Overview of Blasting Principles**

20 **4.1.1 Locations**

21 The Construction Contractor's Blasting Contractor will avoid blasting in potential
22 rockslide/landslide areas to the maximum extent possible and will consult with a
23 geologist before blasting in such areas. A common practice for fusing conductor wire
24 together is the use of implosive sleeves, which utilize explosive materials. The Blasting
25 Contractor will be knowledgeable about this practice and will coordinate with the CIC,
26 particularly with regard to the locations of these practices.

27 **4.1.2 Materials**

28 The Blasting Contractor will determine the specific materials needed for blasting
29 operations. These materials will be included on the hazardous materials list for the
30 Project, and their use and storage will comply with applicable federal, state, and local
31 laws and regulations.

32 **4.2 Blasting Plan Contents**

33 The Blasting Plan prepared by the Blasting Contractor shall contain the following
34 minimum information in the following format:

- 35 1. Purpose
- 36 2. Scope of the Blasting
- 37 3. Definitions
- 38 4. Responsibilities
 - 39 a. Management Organization
 - 40 b. Authority Responsibility
 - 41 c. Blaster in Charge (licensed in Wyoming and Idaho)
- 42 5. Location of Blasting Area

- 1 a. Description of Blasting Area
- 2 b. Description of Bedrock and Geological Problems
- 3 c. Description of Adjacent Utility Facilities
- 4 6. Environmental Considerations
- 5 7. Safety Considerations
- 6 a. General
- 7 b. Warning Signs and Signals
- 8 c. Procedures around Adjacent Utility Facilities
- 9 d. Traffic Control
- 10 e. Emergency Blast Initiation
- 11 f. Safety Publications
- 12 g. Fire Prevention
- 13 h. Safety Hazards
- 14 i. Emergency Services and Communication
- 15 j. Minor or Non-Emergency Medical Care
- 16 k. First Aid
- 17 8. Risk Management
- 18 a. Protection of Adjacent Utility Facilities
- 19 b. Lightning
- 20 c. Flyrock (Note: Flyrock will be controlled with blasting mats.)
- 21 d. Carbon Monoxide
- 22 e. Ground Vibrations
- 23 f. Seismically Sensitive Receptors
- 24 g. Pre-blast Survey and Inspection
- 25 h. Blast Damage Complaints
- 26 i. Airblast
- 27 9. Blast Design Concept
- 28 a. Station limits of proposed shot
- 29 b. Plan and section views of proposed drill pattern, including free face, burden,
- 30 blasthole spacing, blasthole diameter, blasthole angles, lift height, and sub-
- 31 drill depth
- 32 c. Loading diagram showing type and amount of explosives, primers, initiators,
- 33 and location and depth of stemming
- 34 d. Initiation sequence of blastholes, including delay times and delay system
- 35 e. Manufacturers' data sheets for all explosives, primers, and initiators to be
- 36 employed
- 37 10. Procedures
- 38 a. Delivery of Explosives
- 39 b. Storage of Explosives and Blasting Agents
- 40 c. Blast Hole Drilling
- 41 d. General Handling of Explosives
- 42 e. Blast Hole Loading
- 43 f. Notification
- 44 g. Initiation of Blast
- 45 h. Misfire Management
- 46 i. Test Blasting
- 47 11. Records
- 48 12. Attachments

5.0 SAFETY PROCEDURES

Safe storage and use of explosive materials will be a top priority during construction. The safety measures discussed in this section are intended to prevent theft and/or vandalism of the explosive materials, protect against fire, and prevent personal injury and property damage. These measures are intended as general guidelines.

5.1 Storage

Explosives must be stored in an approved structure (magazine) and kept cool, dry, and well-ventilated. The Companies' Construction Contractor will provide the Bureau of Alcohol, Tobacco, Firearms and Explosives (BATF) Cheyenne, Wyoming and Boise, Idaho Fields Offices with a list of dates and locations for the explosives and blasting agent storage facilities to be used on the Project at least 14 days before the establishment of such storage facilities.

At a minimum, the following storage requirements will be implemented:

- Explosives must be stored in an approved structure (magazine), and storage facilities will be bullet-resistant, weather-resistant, theft-resistant, and fire-resistant.
- Magazine sites will be located in remote (out-of-sight) areas with restricted access; kept cool, dry, and well ventilated; and will be properly labeled and signed.
- Detonators will be stored separately from other explosive materials.
- The most stringent spacing between individual magazines will be determined according to the guidelines contained in the BATF publication or state or local explosive storage regulations.
- Both the quantity and duration of temporary on-site explosives storage will be minimized.

The Blasting Contractor will handle and dispose of dynamite storage boxes in accordance with relevant federal, state, and local laws.

5.2 Blasting Notification and Safety Procedures

The Construction Contractor will obtain a permit from the appropriate county as needed, for the period when blasting may occur and will comply with the following requirements developed by the BLM:

- The holder shall publish a proposed blasting schedule in the local newspaper one week prior to any blasting taking place. The schedule shall identify the location, dates, and times blasting will occur. No blasting shall occur outside of the published schedule, except in emergency situations.
- The holder shall post warning signs at all entry points for the Project. Warning signs shall include information on blasting, including the general hours blasting might take place, and audible signals to be used warning of impending blasting and to indicate that the site is all clear.

- 1 • Access points to areas where blasting will take place will be blocked to prevent
2 access by the public at least 30 minutes prior to blasting. The site shall be swept
3 5 minutes prior to blasting to ensure no unauthorized personnel have wandered
4 onto the site. An audible warning signal, capable of carrying for one-half mile,
5 shall be used at least 2 minutes prior to blasting. An “all-clear” signal will be given
6 once it has been determined the area is safe.
- 7 • Blasting in the vicinity of pipelines will be coordinated with the pipeline operator
8 and will follow operator-specific procedures, as necessary.
- 9 • Damages that result solely from the blasting activity will be repaired or the owner
10 fairly compensated.

11 A determination of all clear danger will be derived once the blasting area has been
12 inspected for undetonated or misfired explosives. The blasting area will also be
13 inspected for hazards such as falling rock and rock slides. Once the area has been
14 inspected and these issues have been addressed, the all-clear signal as described
15 above will sound and persons will be able to safely re-enter the blast zone.

16 Additional safety precautions will be developed to address site-specific conditions at the
17 time of the blast. Special attention will be given to preventing potential hazards in the
18 blasting area resulting from flying rock, destabilized walls, structures, presence of low
19 flying aircraft, and dispersion of smoke and gases.

20 **5.3 Fire Safety**

21 The presence of explosive materials on the Project site could potentially increase the
22 risk of fire during construction. Special precautions will be taken to minimize this risk in
23 conjunction with the Framework Fire Prevention and Suppression Plan (Appendix O of
24 the Plan of Development), including but not limited to:

- 25 • Prohibiting ignition devices within 50 feet of explosives storage areas.
- 26 • Properly maintaining magazine sites so they are clear of fuels and combustible
27 materials, well ventilated, and fire-resistant.
- 28 • Protecting magazines from wildfires that could occur in the immediate area.
- 29 • Posting fire suppression personnel at the blast site during high fire danger
30 periods.
- 31 • Prohibiting blasting during extreme fire danger periods.

32 **5.4 Transportation of Explosives**

33 Transportation of explosives will comply with all applicable federal, state, and local laws,
34 including Title 49 of the Code of Federal Regulations, Chapter III. These regulations are
35 administered by the U.S. Department of Transportation (USDOT) and govern the
36 packaging, labeling, materials compatibility, driver qualifications, and safety of
37 transported explosives. In general, these regulations require vehicles carrying explosive
38 materials must be well-maintained, properly marked with placards, and have a non-
39 sparking floor. Materials in contact with the explosives will be non-sparking, and the
40 load will be covered with a fire- and water-resistant tarpaulin. Vehicles also must be
41 equipped with fire extinguishers and a copy of the Emergency Response Guidebook

1 (USDOT 2008). Every effort will be made to minimize transportation of explosives
2 through congested or heavily populated areas.

3 Prior to loading an appropriate vehicle for carrying explosives, the vehicle shall be fully
4 fueled and inspected to ensure its safe operation. Refueling of vehicles carrying
5 explosives shall be avoided. Smoking shall be prohibited during the loading,
6 transporting, or unloading of explosives. In addition, the following specific restrictions
7 apply to transport of other items in vehicles carrying explosives:

- 8 • Tools may be carried in the vehicle, but not in the cargo compartment.
- 9 • Detonation devices can, in some cases, be carried in the same vehicle as the
10 explosives, but they must be stored in a specially constructed compartment(s).
- 11 • Batteries and firearms shall never be carried in a vehicle with explosives.
- 12 • Vehicle drivers must comply with the specific laws related to the materials being
13 transported.

14 Vehicles carrying explosives shall not be parked or left unattended except in designated
15 parking areas with approval of the State Fire Marshall. When traveling, vehicles carrying
16 explosives will avoid congested areas to the maximum extent possible.

17 **5.5 Other Specific Stipulations and Methods**

18 Blasting has the potential to cause environmental impacts. Implementing the protection
19 measures listed Appendix Z of the POD will mitigate these impacts.

20 Stipulations developed by BLM will be followed for protection of sensitive species as
21 well as the required notification discussed above in Section 5.2. The Construction
22 Contractor will notify the CIC and environmental monitors 72 hours prior to scheduled
23 blasting and comply with the permit requirements for notification by appropriate
24 counties, including any requirements for dust abatement. Regular field meetings will be
25 held with the CIC and environmental monitors to review the process and its
26 implementation. If changes are needed to the notification process, changes will be
27 made to facilitate protection of environmental resources.

28 **6.0 LITERATURE CITED**

29 USDOT (U.S. Department of Transportation). 2008. Emergency Response Guidebook.
30 Available online at <http://www.ehso.com/hmerg.php>