

APPENDIX A
CONSTRUCTION CONSIDERATIONS

APPENDIX A1
CONSTRUCTION PLAN AND PROGRAM

TABLE OF CONTENTS

| | | |
|-----|---|--------|
| 1.0 | Introduction | A1- 1 |
| 1.1 | Purpose | A1- 1 |
| 2.0 | Contractor and Agency Coordination | A1- 1 |
| 3.0 | Pre-Construction Activities | A1- 1 |
| 4.0 | Construction Work Force and Schedule | A1- 2 |
| 5.0 | General Construction Activities | A1- 6 |
| 5.1 | Surveying the Transmission Centerline, Other Project Features, and Work Areas..... | A1- 6 |
| 5.2 | Upgrading or Construction of Temporary and Permanent Access Roads... | A1- 7 |
| 5.3 | Clearing and Grading Activities for the Right-of-Way, Tower Sites, Staging Areas and Batch Plants..... | A1- 8 |
| 5.4 | Excavating and Installing Foundations..... | A1- 8 |
| 5.5 | Assembling and Erecting Towers with Temporary, and Permanent Pad Sites | A1- 9 |
| 5.6 | String Conductors, Ground Wires, and Fiber Optic Cable..... | A1- 10 |
| 5.7 | Installing Counterpoise (Tower Grounds) Where Needed..... | A1-11 |
| 5.8 | Substation Construction | A1-11 |
| 5.9 | Cleanup and Reclamation of Affected Areas..... | A1-12 |
| 6.0 | Additional Construction Components..... | A1-12 |
| 6.1 | Construction Storage Yards and Concrete Batch Plants..... | A1-12 |
| 6.2 | Equipment Staging | A1-13 |
| 6.3 | Equipment Refueling | A1-13 |
| 6.4 | Helicopter Use and Refueling..... | A1-13 |
| 6.5 | Military Operating Areas | A1-14 |

LIST OF TABLES

| | | |
|------|---|------|
| A1-1 | 500kV Transmission Line Construction Estimated Personnel and Equipment..... | A1-4 |
| A2-2 | 500kV Substation Construction Estimated Personnel and Equipment..... | A1-5 |

LIST OF FIGURES

| | | |
|------|---|-------|
| A1-1 | Schedule | A1-3 |
| A1-2 | Foundation Installation, Tower Assembly, and Tower Erection | A1-9 |
| A1-3 | Typical Transmission Line Conductor Stringing Activities..... | A1-11 |

1.0 INTRODUCTION

The following appendix describes the process anticipated during the construction of the projects. Included are: considerations for coordination between applicable agencies and the Construction Contractor, the construction workforce and schedule, general construction activities, and additional construction components.

1.1 Purpose

The purpose of the Construction Plan and Program is to provide construction crews, the Compliance Inspection Contractor (CIC), and environmental monitors with specific information concerning construction activities and provide detail on the construction process for the projects.

2.0 CONTRACTOR AND AGENCY COORDINATION

Following the award of the contract, but prior to the initiation of construction, a pre-construction kickoff meeting will be conducted to introduce the contractors and their field representatives, discuss schedules, and identify each agency's point of contact and responsibilities as described in Section 2.1 of the Construction, Operation, and Maintenance Plan (COM Plan). The CIC will preside over the meeting and review the key environmental issues associated with the projects and the required mitigation measures that will be followed. In addition, all supervisory construction personnel will be instructed on the protection of biological, cultural, paleontological, and other resources, including their specific mitigation measures. The process for conducting worker environmental training will also be reviewed.

As construction proceeds, the CIC will continue to monitor construction activities and to ensure compliance with general and specific resource mitigation measures. If any modification to the approved projects is required, the CIC will be notified and the process for addressing deviations during construction will be followed (refer to Section 4.4 of the COM Plan).

Following completion of construction, the transmission line and substations will be mapped "As-Built" and the plans will be submitted to the Bureau of Land Management (BLM) for review and comment. A project close-out meeting will be held following the completion of construction and prior to operation of the transmission lines.

3.0 PRE-CONSTRUCTION ACTIVITIES

Prior to construction, several surveys were completed to identify sensitive resources and determine potential mitigation. Investigations included: (1) Desert Tortoise surveys, (2) rare and sensitive plant surveys, (3) noxious weed surveys, (4) cultural resource surveys, and (5) Section 404 permitting studies. Mitigation measures to address potential issues associated with the construction of the project relative to these resources are included in this COM Plan.

Prior to construction of the projects, additional surveys will be required, including geological investigations, in conjunction with final engineering in order to evaluate potential geotechnical hazards, and specific requirements for foundation construction. The engineering geologist will evaluate the nature of steep slopes and or unstable soil hazards at tower sites and in the

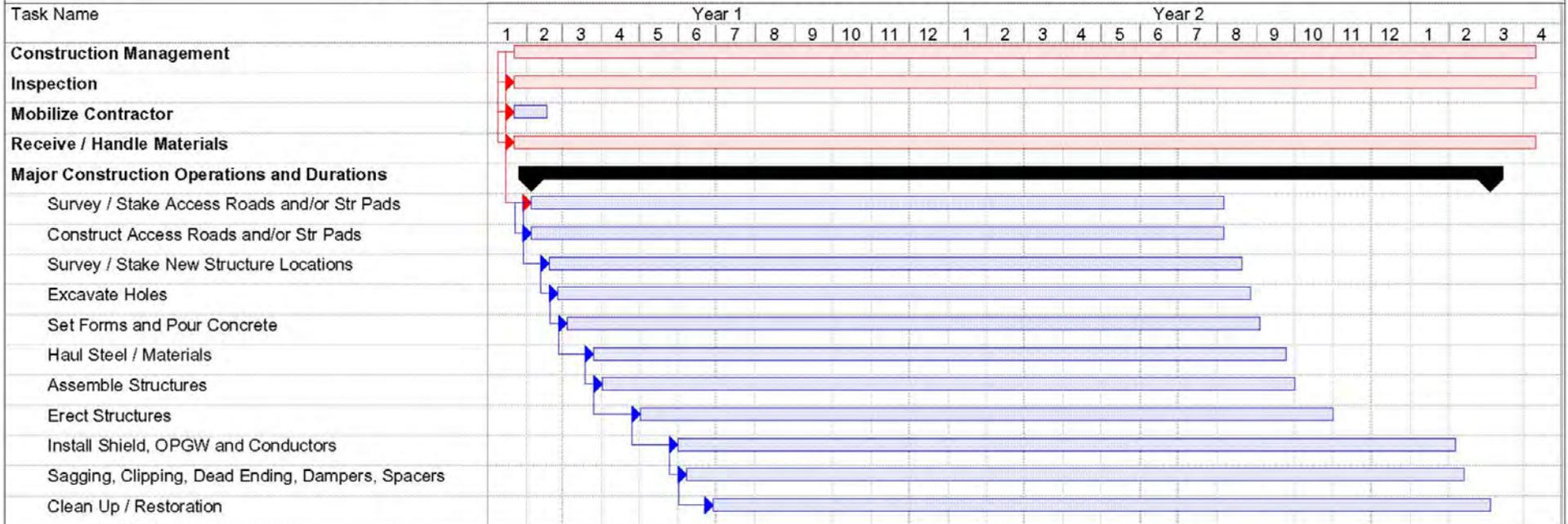
immediate vicinity to allow options for avoiding the hazards for both projects. The evaluation should be based on an inspection of all sites where towers or roads will be constructed on steep slopes or in areas identified for instability hazards. Any additional field studies required will be coordinated with the BLM and the appropriate clearances will be obtained. Soil testing will be conducted, if needed to determine conditions, and consideration for hazards both upslope and downslope of the site. The geotechnical engineer will prepare a report that includes recommendations for moving the towers or roads, or identify construction methods to stabilize the site or off-site areas that will threaten the hazard sites if the structures cannot be moved. These recommendations will be incorporated into the COM Plan, including construction details for grading, drainage, and specialized slope treatments, and the Construction Contractor will implement the plans. The CIC will inspect and certify that the slopes have been constructed and stabilized in accordance with the details in the COM Plan.

4.0 CONSTRUCTION WORK FORCE AND SCHEDULE

It is anticipated that total construction time for both of the transmission lines combined could be up to three years, concurrent with substation construction, as shown in Figure A1-1. If built separately, it is anticipated that the SWIP – Southern Portion could be constructed over a 24 to 48 month period, and the SWIP – Central Portion constructed over a 12 to 36 month period. Table A1-1 represents the estimated workforce and equipment required for the construction of the SWIP – Southern Portion, and would also be applicable to the SWIP – Central Portion if it was constructed during the same mobilization. If a separate mobilization was performed for only the SWIP – Central Portion, the number of crews and the equipment required for assembly may be reduced. Estimated workforce and equipment requirements associated with substation construction for the SWIP – Southern Portion are shown in Table A1-2.

Construction will occur in phases at different locations throughout the construction process and in some cases at the same time at different locations. Regular field meetings will be held with the CIC and environmental monitors to coordinate construction activities with monitoring requirements.

Great Basin Transmission Time Line for Construction SWIP - Southern Portion 500kV Transmission Project



Project: Rod -LS Power
Date: 1/22/07

Critical



Task



Split



Summary



Figure A1-1

| TABLE A1-1 500KV TRANSMISSION LINE CONSTRUCTION ESTIMATED PERSONNEL AND EQUIPMENT | | | |
|---|---------------------------|---------------------------------------|---|
| Activity | People | Quantity and Type of Equipment | |
| Survey Crew | 4 | 2 | pickup trucks |
| Road Construction Crew | 4-8 | 1 | bulldozer (D-8 Cat or equivalent) |
| | | 2 | motor graders |
| | | 2 | pickup trucks |
| | | 3 | water trucks (for construction and maintenance) |
| Footing Installation Crew | 28 | 6 | hole diggers |
| | | 2 | bulldozers |
| | | 3 | trucks |
| | | 6 | concrete trucks |
| | | 2 | dump trucks |
| | | 6 | pickup trucks |
| | | 1 | carry all |
| | | 2 | hydraulic cranes |
| | | 1 | wagon drill |
| Structure Steel Haul Crew | 6 | 4 | steel haul trucks |
| | | 2 | pickup trucks |
| | | 3 | yard and field cranes |
| | | 3 | fork lifts |
| Structure Assembly Crews 4-6 Crews | 40 | 4 | pickup trucks |
| | | 6 | carry alls |
| | | 4 | cranes (rubber tired) |
| | | 3 | trucks (2 ton) |
| Structure Erection Crews 1-2 Crews | 14 | 2 | cranes (120 - 300 ton) |
| | | 1 | 2 ton truck |
| | | 2 | pickup trucks |
| | | 2 | carry alls |
| Wire Installation Crew | 36 | 6 | wire reel trailers |
| | | 6 | diesel tractors |
| | | 4 | cranes (2) 20 ton, (2) 30 ton |
| | | 4 | trucks (5 ton) |
| | | 4 | pickup trucks |
| | | 2 | splicing trucks |
| | | 4 | 3-drum pullers (2 medium, 2 heavy) |
| | | 1 | single drum puller (large) |
| | | 2 | double bull-wheel tensioner (1 light and 1 heavy) |
| | | 2 | sagging equipment (D-8 Cat) |
| | | 6 | carry alls |
| 2 | static wire reel trailers | | |
| Clean-Up Crew | 4 | 3 | trucks |
| | | 1 | pickup trucks |
| | | 1 | (D-6 Cat) |
| Road Rehabilitation Crew (Right-of-Way Restoration) | 4 | 1 | bulldozer |
| | | 1 | motor grader |
| | | 2 | pickup trucks |
| Estimated personnel required for all tasks including maintenance, management, and quality control personnel = 250 | | | |

**TABLE A1-2
500kV SUBSTATION CONSTRUCTION
ESTIMATED PERSONNEL AND EQUIPMENT**

| Activity | People | Quantity of Equipment | |
|--|----------------------|------------------------------|----------------------|
| Survey Crew | 4 | 2 | pickup trucks |
| Site Management Crew | 10-12 | 4 | office trailers |
| | | 4 | pickups |
| | | 4 | All-terrain vehicles |
| | | 4 | generators |
| Site Development-Civil Work Crew | 30-35 | 4 | scrapers |
| | | 2 | dozers (ripper) |
| | | 2 | motor graders |
| | | 2 | roller compactors |
| | | 2 | excavators |
| | | 4 | dump trucks |
| | | 3 | water trucks |
| | | 1 | mechanics truck |
| | | 1 | fuel truck |
| | | 2 | pickup trucks |
| | | 6 | carry alls |
| Fence Installation Crew | 8-10 | 1 | pickup truck |
| | | 1 | boom truck |
| | | 2 | carry alls |
| | | 1 | backhoe |
| | | 1 | concrete truck |
| | | 1 | reel stand truck |
| Equipment Footings Installation Crew | 24-30 | 2 | bobcats |
| | | 2 | hole diggers |
| | | 2 | boom trucks |
| | | 1 | excavator |
| | | 3 | concrete trucks |
| | | 1 | dump truck |
| | | 1 | roller compactor |
| | | 2 | plate compactors |
| | | 1 | backhoe |
| | | 2 | bobcats |
| | | 1 | mechanics truck |
| | | 1 | fuel truck |
| | | 1 | water truck |
| | | 2 | pickup trucks |
| 4 | carry alls | | |
| 2 | all-terrain vehicles | | |
| Cable Trench, Conduits, and Station Grounding Crew | 12-16 | 2 | trenchers |
| | | 2 | dozers (ripper) |
| | | 2 | roller compactors |
| | | 2 | plate compactors |
| | | 2 | excavators |
| | | 1 | boom trucks |
| | | 3 | pickup trucks |
| | | 2 | flatbed trucks |
| | | 4 | carry alls |
| | | 1 | air compressor |
| | | 1 | backhoe |
| | | 1 | mechanics truck |
| | | 1 | fuel truck |
| 1 | dump truck | | |

| TABLE A1-2 500kV SUBSTATION CONSTRUCTION ESTIMATED PERSONNEL AND EQUIPMENT | | | |
|--|--------|-----------------------|----------------------------|
| Activity | People | Quantity of Equipment | |
| | | 1 | reel stand truck |
| Steel Structure and Bus Installation Crew | 16-20 | 2 | crane, RT |
| | | 4 | boom trucks |
| | | 6 | manlifts |
| | | 4 | welder trucks |
| | | 2 | boom trucks |
| Control Building and Wiring Crew | 20-24 | 4 | manlifts |
| | | 3 | wire pullers-small |
| | | 2 | reel stand trucks/trailers |
| | | 4 | vans |
| | | 4 | pickup trucks |
| | | 2 | carry alls |
| | | 1 | splicing van |
| | | 2 | concrete trucks |
| | | 1 | bobcat |
| | | 1 | trencher |
| | | 2 | plat compactors |

The above table reflects estimated personnel requirements, which may reach as high as 150 for substation construction, including maintenance, management, and quality control personnel.

5.0 GENERAL CONSTRUCTION ACTIVITIES

Following is a sequential description of the activities associated with the construction of the major and ancillary facilities of the projects. These activities include the following tasks:

- Surveying the transmission centerline, other project features, and work areas
- Upgrading or construction of temporary and permanent access roads
- Clearing and grading activities for the right-of-way, tower sites, staging areas and batch plants
- Excavating and installing foundations
- Assembling and erecting towers with temporary and permanent pad sites
- Stringing conductors and ground wires
- Installing counterpoise (tower grounds) where needed
- Cleanup and reclamation of affected areas

5.1 Surveying the Transmission Centerline, Other Project Features, and Work Areas

Ground survey and staking will be performed to locate tower centers, right-of-way boundaries, new access roads, spur roads to tower sites, overland access and temporary work areas. Environmental monitoring activities will be in place during this phase. Specific flagging and staking procedures are described in detail in the Flagging, Fencing and Signage Plan (refer to Appendix A4). Flagging will be maintained until final cleanup and/or reclamation is completed, after which they will be removed.

5.2 Upgrading or Construction of Temporary and Permanent Access Roads

The appropriate agencies and private landowners will be consulted before road construction begins. Roads will be upgraded or constructed in accordance with agency requirements and the applicable mitigation measures (refer to Appendix A2 – Transportation Management Plan). The general locations of proposed new and existing access roads are shown in COM Plan Volume II Map Sets 1 and 2.

Where possible, existing paved and unpaved highways and roads will be used for the initial transportation of materials and equipment from the staging and storage areas to locations where they will be needed along the transmission line right-of-way. If necessary, existing roads will be upgraded, and all roads utilized will be left in a condition equal to or better than their condition prior to construction (see Appendix A2 – Transportation Management Plan). Where possible, existing access roads will be used and, as required new spur roads to tower sites will be constructed and located to minimize impacts. The number of new spur roads will be held to a minimum, consistent with their intended use (e.g., structure construction or conductor stringing and tensioning). Where required, new bladed roads will be built, but they typically would not include an improved ditch drainage system. New bladed roads will be built to the minimum necessary width, but will not exceed a maximum width of 20 feet with 2 feet of berm on each side. If improved existing access has been identified for use, it is assumed that most of these roads are approximately 10 feet wide (e.g. two-track roads) and could require up to 14 feet of additional improvement for equipment access (i.e. widening of existing). These roads (with the exception of side-hill roads) will not exceed 24 feet maximum and will be flagged to identify the width of road to be used. For areas that do not require new access roads on the right-of-way, overland access will be used.

Due to rough terrain conditions, new roads that must be graded for access along steep slopes (side-hill roads) will most likely exceed a 24-foot width, with the total disturbed width varying from 24 to 100 feet depending on the amount of displaced soil. In addition, meandering roads may be required in specific areas due to geologic conditions or to avoid sensitive resources. As-built drawings showing these and other necessary deviations will be submitted to BLM upon completion of construction of the project. To the maximum extent possible, drainages will be crossed at grade (referred to as an Arizona crossing). Where Arizona crossings are not feasible, culverts will be constructed. Any culverts constructed within drainages will be temporary in nature and not exceed a 1/10th acre of disturbance within the wash channel. Any permanent disturbances over a 1/10th acre will require consultation and approval by the CIC, BLM and US Army Corp of Engineers and special permits will be required.

During construction, dust control measures will be implemented on all roads as determined by the Authorized Officer. Methods to minimize dust and erosion control associated with existing and new access is presented in Appendix A5 – Erosion, Dust Control, and Air Quality Plan.

Additional linear facilities have been proposed for the utility corridor to be occupied by the project. Consolidation of access within the corridor may result in an overall reduction of access related concerns and/or impacts to the environmental resources within and near the utility corridor. At the appropriate time the BLM, in coordination with the Proponent and other potential users of the utility corridor, will determine which of the newly constructed access roads will be closed, restored, or retained for operation and maintenance activity. New access roads not required for operation and maintenance of the projects and/or other planned facilities may be closed using the most effective and least environmentally damaging methods appropriate to that

area. Where access is to be restored, the practices identified in this COM Plan will be implemented accordingly.

5.3 Clearing and Grading Activities for the Right-of-Way, Tower Sites, Staging Areas and Batch Plants

Clearing of natural vegetation will be required for construction purposes (access road, tower sites, pulling and tensioning areas, and concrete batch plants/laydown areas), clearances for electrical safety, long-term maintenance, and reliability of the transmission line. Within the rights-of-way, mature vegetation will be selectively removed under or near the conductors to provide adequate electrical clearance as required by National Electrical Safety Code (NESC) and as described in Appendix F – Right of Way Preparation, Restoration and Rehabilitation. Trees that could fall onto the transmission line, affect the transmission line during wind-induced conductor swing or otherwise present an immediate hazard to the transmission line, or have the potential to encroach within safe distance to the conductor as a result of bending, growing, swinging, or falling toward the conductor, will be removed. These trees, referred to as “danger trees,” may also occur adjacent to the rights-of-way. If this is the case, any clearing of “danger trees” outside of the approved rights-of-way will require the approval of the CIC and BLM in accordance with the clearing practices outlined in Appendix F. Where required in selective areas, planned removals and selective clearing plans will be submitted to the CIC for review and BLM for approval.

5.4 Excavating and Installing Foundations

Vertical excavations for foundations will be made with power drilling equipment. Where soils permit, a vehicle-mounted power auger or backhoe will be used. In rocky areas, the foundation holes will be excavated by drilling or blasting methods, or installing special rock anchors. Foundation holes left open or unguarded will be covered to protect the public and wildlife. If practical, fencing may be used. All safeguards associated with using explosives (e.g., blasting mats) will be employed. Blasting activities will be coordinated with the appropriate agencies, particularly for purposes of safety and protection of sensitive areas and biological resources (refer to Appendix A3 – Blasting Plan Methodology). In extremely sandy areas, water or a BLM approved gelling agent will be used to stabilize the soil before excavation.

Cast-in-place footings will be installed by placing reinforcing steel and a tower stub into the foundation hole, positioning the stub, and encasing it in concrete. Spoil material (excavated subsoil) will be used for fill where suitable and the remainder will be spread at the tower site or along graded access roads or in locations previously agreed upon by the Project Proponent and the BLM. In areas where H-frame structures are being used, increased volumes of spoils (based on foundation size and depth) may require spreading of spoils beyond the general disturbance area in order to maintain grades and runoff, and to facilitate restoration. In these areas, the topsoil will be salvaged and set aside to be placed over the subsoil material during restoration. (See Appendix F – Right-of-Way Preparation, Rehabilitation and Restoration Plan). These locations will be mitigated on a case by case basis and tracked by the CIC. The foundation excavation and installation will require access to the site by power augers or drills, cranes, material trucks, and ready-mix concrete trucks.

5.5 Assembling and Erecting Towers with Temporary and Permanent Pad Sites

5.5.1 Conventional Method of Assembly and Erection

Bundles of steel members and associated hardware (and often times insulators, hardware and stringing sheaves) will be transported to each tower site by truck. Wood blocking is hauled to each location and laid out, then the tower steel bundles are opened and laid out for assembly by sections and assembled into subsections of convenient size and weight. Typically, the leg extensions for the structures are assembled and erected by separate crews with smaller cranes to make ready for setting of the main structure assembly. The assembled subsections are then hoisted into place by means of a large crane and fastened together to form a complete tower. A follow-up crew then tightens all the bolts in the required joints. Refer to Figure A1-2 for a general illustration of this procedure.

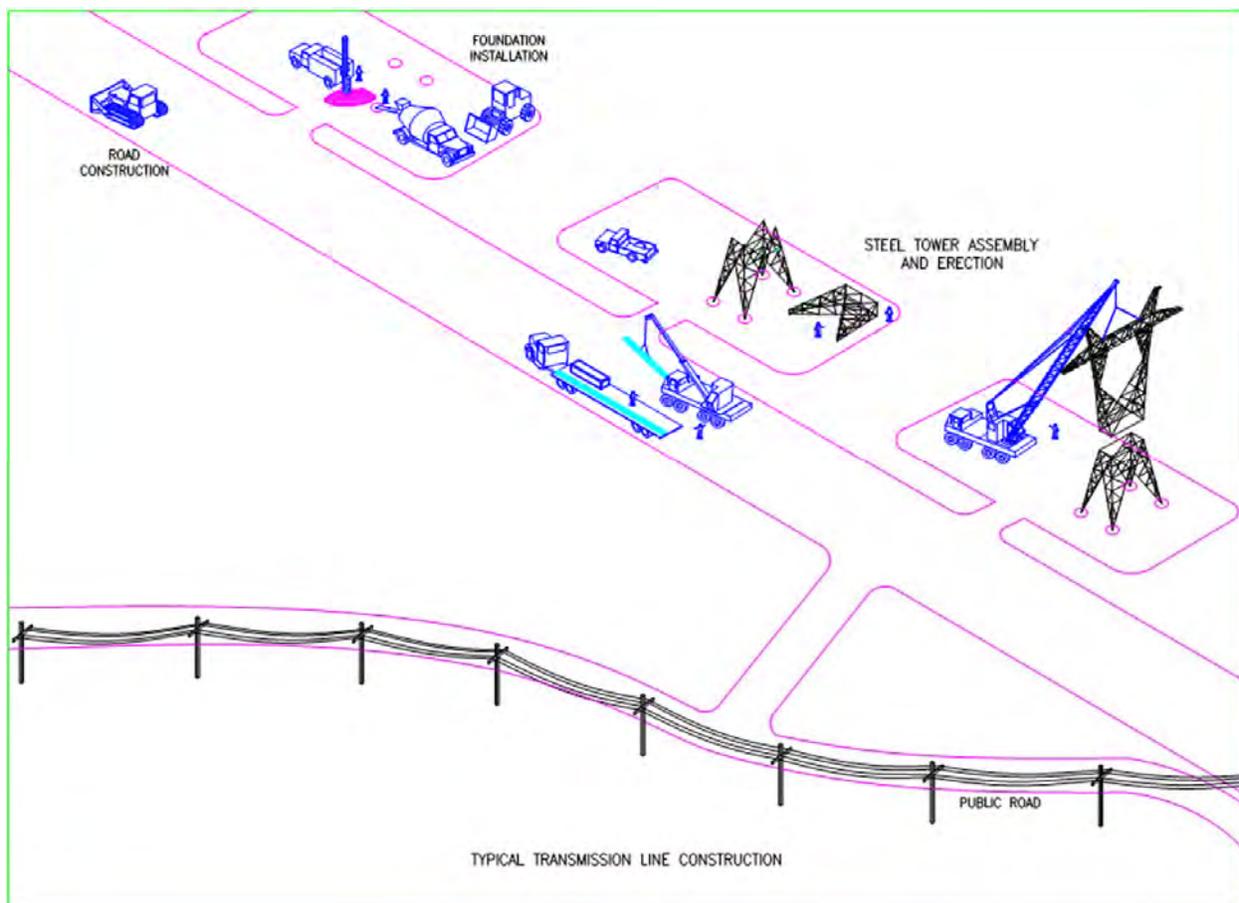


Figure A1-2 Foundation Installation, Tower Assembly, and Tower Erection

5.5.2 Helicopter Method of Assembly and Erection (optional)

For the optional helicopter method of erection, bundles of steel members and associated hardware for up to 15 to 20 structures (and often times insulators, hardware and stringing sheaves) are shipped to a centralized area by truck. Wood blocking is hauled to the area and

laid out, then the tower steel bundles are opened and laid out for assembly and assembled into subsections of convenient size and weight according to the helicopter's lifting capabilities. Steel members are then assembled into complete structures, with the exception of the leg extensions, which are typically hauled to the individual structure locations and assembled and erected in place by crews with smaller cranes. After a planned amount of structures are completely assembled, the helicopter is mobilized to the project, and within a few days will set all the planned structures within a given section. A follow-up crew then tightens all the bolts in the required joints. See Section 6.4 (below) for additional details on the use and refueling of helicopters during construction.

5.6 String Conductors, Ground Wires, and Fiber Optic Cable

Insulators, hardware, and stringing sheaves will be delivered to each tower site. The towers will be rigged with insulator strings and stringing sheaves at each ground wire and conductor position.

For protection of the public during wire installation, guard structures will be erected over highways, railroads, power lines, structures, and other barriers. Guard structures will consist of H-frame wood poles placed on either side of the barriers or by using boom trucks raising a guard cross beam. These structures will prevent ground wires, conductors, or equipment from falling across obstacles. Equipment for erecting guard structures will include augers, backhoes, line trucks, boom trucks, pole trailers, and cranes. Guard structures may not be required for small roads. In such cases other safety measures such as barriers, flagmen, or other traffic control will be used. Following stringing and tensioning of all conductors, the guard structures will be removed, and the area restored.

Pilot lines will be pulled (strung) from tower to tower by either a helicopter or land operated equipment and threaded through the stringing sheaves at each tower. Following pilot lines, a stronger, larger diameter line will be attached to conductors to pull them onto towers. This process will be repeated until the ground wire or conductor is pulled through all sheaves.

Ground wires, fiber optic cable and conductors will be strung using powered pulling equipment at one end and powered braking or tensioning equipment at the other end of a conductor segment. Sites for tensioning equipment and pulling equipment will be approximately two to three miles apart as identified in COM Plan Volume II (Map Set 2). The tensioning and pulling sites will be an area approximately 200 feet by 400 - 600 feet depending on the structure's purpose (e.g., mid-span or dead end). Tensioners, pullers, line trucks, wire trailers, dozers, pickups and tractors needed for stringing and anchoring the ground wire or conductor will be located at these sites. The tensioner, in concert with the puller, will maintain tension on the ground wire or conductor while they are fastened to the towers.

Tension will be maintained on all insulator assemblies to assure positive contact between insulators, thereby avoiding sparking. Caution also will be exercised during construction to avoid scratching or nicking the conductor surface, which may provide points for corona to occur. Refer to Figure A1-3 for a general illustration of this procedure.

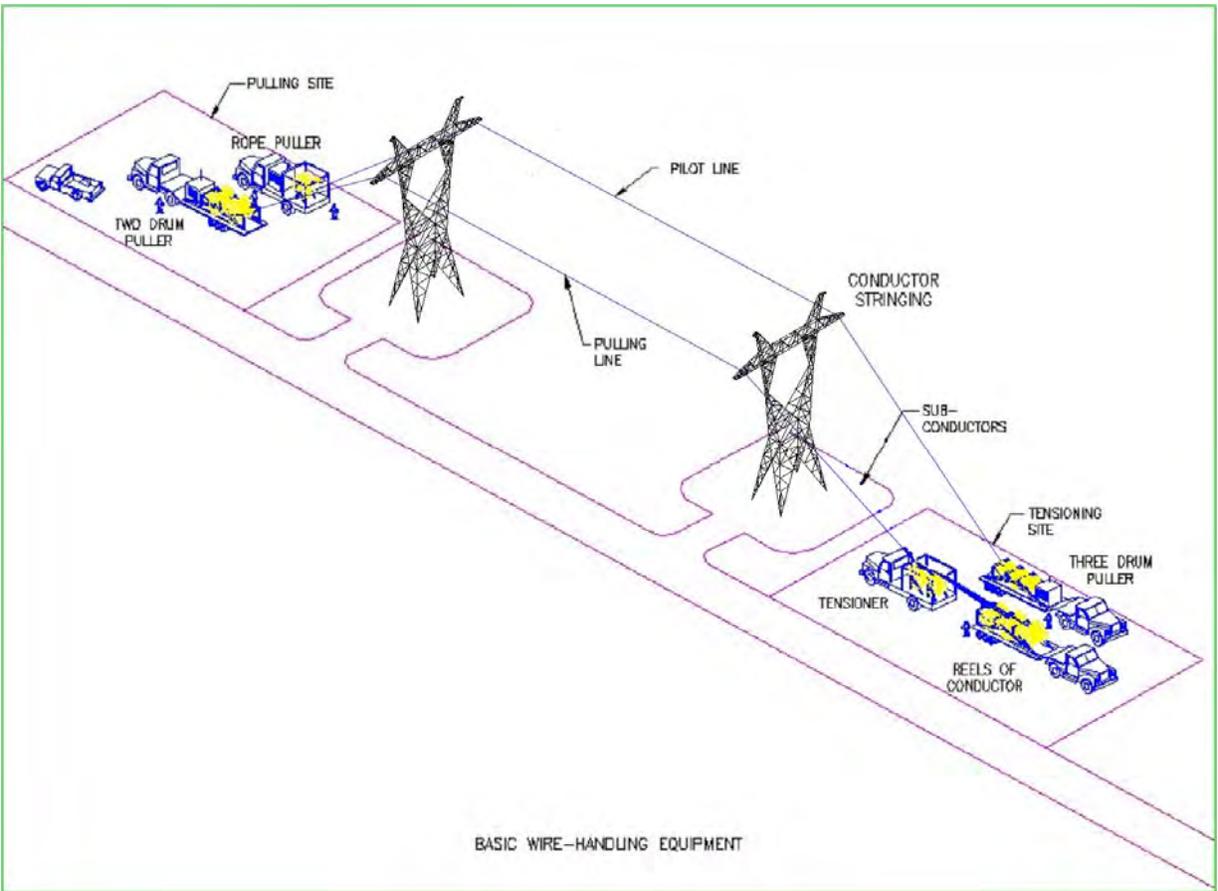


Figure A1-3 Typical Transmission Line Conductor Stringing Activities

5.7 Installing Counterpoise (Tower Grounds) Where Needed

Part of standard construction practices prior to conductor installation will involve measuring the resistance of the ground to electrical current near the tower structures. If the measurements indicate a high resistance, counterpoise will be installed, which will consist of trenching in-ground wire to a depth of 12 inches in non-cultivated land and 18 inches in cultivated land, with a ground rod driven at the end. The counterpoise will be contained within the limits of the rights-of-way and may be altered or doubled back-and-forth to meet the requirements of the projects. Typical equipment used for installing ground rods includes line trucks, backhoes and trenchers, etc.

5.8 Substation Construction

The construction of the Thirtymile Substation will initially consist of survey work, geotechnical sample drillings approximately 30 feet deep and soil resistivity measurements that will be used in the final design phases of the station. Once the near final design of the station has been completed a civil contractor will mobilize to perform site development work including grubbing and then reshaping the general grade to form a relatively (1 percent slope) flat working surface.

This effort also will include the all weather access roads. An 8-foot-tall chain link fence will be erected around the perimeter of the substation to prevent unauthorized personnel from accessing the construction and staging areas. The perimeter fence will be permanent feature to protect the general public from accessing the substation. The excavated and fill areas will be compacted to the required densities to allow structural foundation installations. Following the foundation installation, underground electrical raceways and copper ground grid installation will take place, followed by steel structure erection and area lighting. The steel structure erection will overlap with the installation of the insulators and bus bar, as well as the installation of the various high-voltage apparatus typical of an electrical substation. The installation of the high-voltage transformers will require special high-capacity cranes and crews (as recommended by the manufacturer) to be mobilized for the unloading, setting into place, and final assembly of the transformers. While the above mentioned activities are taking place the enclosure that contains the control and protection equipment for the substation, will be constructed, equipped, and wired. A final crushed rock surfacing will be placed on the subgrade to make for a stable driving and access platform for the maintenance of the equipment. After the equipment has been installed, testing of the various systems will take place, followed by electrical energization of the facility. The energization of the facility generally is timed to take place with the completion of the transmission line work and other required facilities.

Substation additions at the Harry Allen Substation will include a new bay and potentially a new transformer. Final determination of additions to the Harry Allen Substation will be made prior to initiation of construction.

5.9 Cleanup and Reclamation of Affected Areas

Construction sites, material storage yards, and access roads will be kept in an orderly condition throughout the construction period. Refuse and trash will be removed from the sites and disposed of in an approved manner (e.g., in an approved landfill). In remote areas, trash and refuse could be removed to a construction staging area and contained temporarily until such time as it could be hauled to an approved site. No open burning of construction trash would occur. Contaminants such as oils, hydraulic fluids, antifreeze and fuels will not be dumped on the ground, and all spills will be cleaned up (refer to Appendix A7 – Hazardous Materials Management Plan).

The right-of-way will be restored as near to its original condition as practicable when construction is complete as specified in Appendix F – Right of Way Preparation, Rehabilitation and Restoration Plan.

6.0 ADDITIONAL CONSTRUCTION COMPONENTS

The following are additional components for the construction of the projects that will be used in conjunction with the general construction activities discussed previously.

6.1 Construction Storage Yards and Concrete Batch Plants

Previously disturbed BLM lands and/or private property will be used to the maximum extent practicable for construction staging and personnel reporting. It is estimated there will be 10 to 12

of these areas for the SWIP – Southern Portion, and 2 of these areas for the SWIP – Central Portion. These areas will be long-term (duration of project) material storage yards for these projects, ranging in size from five to seven acres each. These yards will be used throughout the duration of the project for receiving, storage and transfer of required materials. Yards designated for long-term storage of materials in Desert Tortoise habitat, associated with the SWIP – Southern Portion will have tortoise-proof fencing and be gated.

Concrete for use in the structure foundations will be dispensed from portable concrete batch plants located at approximately 15- to 20-mile intervals along the right-of-way. It is estimated there will be 2 to 3 portable batch plant locations required for the SWIP – Central Portion and 16 for the SWIP – Southern Portion, ranging in size from 2-3 acres each. Equipment typically required at a batch plant site includes generators, concrete trucks, front end loaders, Bobcat loaders, dump trucks, transport trucks and trailers, water tanks, concrete storage tanks, scales and job site trailers. Rubber tired trucks and flatbed trailers will be used to assist in relocating the portable plant along the right-of-way. Commercial ready-mix concrete may be used when access to tower construction sites is economically feasible. Batch plant sites, although temporary in nature, will also be fenced with temporary tortoise proof fencing and be gated in areas of Desert Tortoise habitat in the SWIP – Southern Portion area (see Appendix B2 – Biological Protection Plan).

The construction yards and batch plants may also serve as field offices, reporting locations for workers, parking areas for vehicles and equipment and locations for equipment maintenance. All required permits and approvals needed for additional construction storage yards and batch plants not previously identified will be obtained by the Construction Contractor.

6.2 Equipment Staging

Staging of equipment will be located at pulling and tensioning sites or work areas previously described. These areas will be used to temporarily lay out equipment to be used for work on specific project activities at nearby locations.

6.3 Equipment Refueling

The contractor will implement standard refueling procedures for heavy equipment that is left on the rights-of-way for long periods of time, such as cranes, blades, dozers, drill rigs, etc. This equipment will be refueled in place. As a rule, no personal or light duty vehicles will be allowed to refuel on the right-of-way. Procedures and precautions similar to those used for helicopter refueling (discussed below) would be utilized (also see Appendix A7 – Hazardous Materials Management Plan).

6.4 Helicopter Use and Refueling

A helicopter may be used for construction activities (e.g. moving personnel and equipment, tower erection, conductor stringing). Helicopters will set down in areas previously identified to receive temporary disturbance. Travelers will be dropped on pulling and tensioning sites or other work areas previously described. Spill protection measures will be in place and all Federal Aviation Administration regulations will be followed. Notification will be made to coordinate the

air space with other possible helicopters or aircraft in the area (i.e., seeding operations, fire support and Military Operation Areas [MOAs]).

If needed, additional temporary use sites within close proximity or on the right-of-way will be identified by the contractor and approved by the BLM for landing and refueling the helicopter. When and where required, prior to and during landing and refueling, a biological monitor will be dispatched to the site to clear sensitive species. Each fuel truck will be equipped with automatic shutoff valves and will carry spill kits. In addition to the required preventive spill measures a water truck may be required to spray the site to reduce dust. The CIC will also be dispatched to the fueling site when required. All persons accessing the right of way, including helicopter pilots and fuel delivery personnel, will be tortoise trained when working in areas south of the Delamar Lake on the SWIP – Southern Portion. The contractor is responsible for cleanup of any materials released on the right-of-way. Any accidental spills will be handled according to the guidelines presented in Appendix A7 – Hazardous Materials Management Plan.

6.5 Military Operating Areas

The SWIP-Southern Portion will be located within portions of MOAs that are used by military aircraft for flight and tactical training operations. These MOAs, operated by Nellis Air Force Base (AFB), include: Reveille MOA, Caliente MOA, and Sally Corridor MOA. These MOAs have an above-ground-limit (AGL) of 200 feet. Construction in these areas will require contact with Nellis AFB control tower during construction activities within MOAs when cranes and helicopters will be required.

APPENDIX A2

TRANSPORTATION MANAGEMENT PLAN

TABLE OF CONTENTS

| | | |
|-----|---|-------|
| 1.0 | Introduction | A2- 1 |
| 1.1 | Purpose | A2- 1 |
| 2.0 | Regulatory..... | A2- 1 |
| 3.0 | Traffic Management Practices | A2- 1 |
| 4.0 | Levels of Right-of-Way Access | A2- 2 |
| 5.0 | Transportation Mitigation Measures | A2- 4 |
| 5.1 | Generic and Selective Mitigation Measures | A2- 4 |
| 5.2 | Vehicle Operation and Mitigation Measures..... | A2- 6 |

1.0 INTRODUCTION

This Transportation Management Plan addresses regulatory compliance, traffic management practices, levels of right-of-way access and mitigation measures to help reduce impacts related to transportation and the construction of temporary and long-term access within the vicinity of the projects.

1.1 Purpose

The purpose of this plan is to provide the BLM and other public agencies, the CIC, and the Construction Contractor with a description of the type of access associated with the construction, operation, and maintenance of the projects and make evident the potential impacts which could be created by construction and operation of the projects. The goal of this plan is to ensure that impacts from construction of the transmission line and any associated access are kept to a minimum through the use of management practices and mitigation measures described throughout this appendix. These practices and measures are intended to mitigate the effects of transportation on environmental resources, roads, traffic, travel, and road safety.

2.0 REGULATORY

A number of agencies have jurisdiction over the transportation-related components of the projects. These include the BLM, Nevada Department of Transportation (NDOT), local law enforcement and road departments in Clark, Lincoln, Nye, and White Pine counties, and the Nevada Highway Patrol. Encroachment permit applications will need to be filed with appropriate road agencies for those areas where the transmission line crosses public roads (e.g., US 93, US 6, US 50, and SR 318) prior to construction.

Other permits and approvals not directly related to transportation could affect the construction, use, and/or maintenance of roads in certain areas. Persons responsible for project transportation activities must be familiar with all relevant sections and appendices of this COM Plan.

3.0 TRAFFIC MANAGEMENT PRACTICES

Ground travel will be the primary means of transporting construction and maintenance crews and equipment during project construction. However, helicopters will be used as deemed necessary. All vehicles will obey jurisdictional traffic speed regulations and the posted speed limit. Speeds along access roads and spur roads within the right-of-way may be limited to 15 mph in some areas to prevent excessive amounts of construction related dust, as necessary (refer to Appendix A5 – Erosion, Dust Control, and Air Quality Plan).

Before construction, authorized access routes will be clearly marked in the field with signs or flagging (refer to Appendix A4 – Flagging, Fencing, and Signage Plan). The Construction Contractor will review the location of proposed access and will be responsible for ensuring that construction travel is limited to designated areas that clearly identify the limits of disturbance.

Additional linear facilities have been proposed for the utility corridor to be occupied by the SWIP Southern – Portion, and SWIP Central Portion. Consolidation of access within the corridor may result in an overall reduction of access related concerns and/or impacts to the environmental resources within and near the utility corridor. At the appropriate time the BLM, in coordination with the Proponent and other potential users of the utility corridor, will determine which of the newly-constructed access roads will be closed, restored, or retained for operation and maintenance activity. New access roads not required for operation and maintenance of the projects and/or other planned facilities may be closed using the most effective and least environmentally damaging methods appropriate to that area (refer to Appendix F – Right-of-Way Preparation, Restoration and Rehabilitation Plan).

All field personnel will attend an environmental training program. Through this program field personnel will be instructed to use only approved access roads, drive within the delineated road limits, and obey jurisdictional and posted speed limits to minimize potential impacts to biological, paleontological, and cultural resources.

Every effort will be made to minimize the effects of project construction activities on public transportation and to provide for public safety. The Construction Contractor, the CIC, and all environmental monitors will maintain a communications network that consists of one or both of the following devices: two-way radios or cellular phones. This will allow for coordination of equipment traffic along existing access roads such that public safety and traffic impacts are minimized.

In general, the number of construction vehicles needed for the projects is not expected to substantially increase traffic volumes. Similarly, road and land closures are anticipated to be minimal, and will most likely occur during conductor stringing activities or during blasting. If road and lane closures are needed (e.g., to pull line across US 93, US 6, US 50, or SR 318) the appropriate regulatory agencies, affected parties, and emergency service providers will be notified in advance of the anticipated closure.

Although construction traffic is not expected to disrupt access to residences along the right-of-way, adjacent landowners will be notified of the construction schedule (where appropriate). Signs will be posted in the project area to notify landowners and others of the construction activity (see Appendix A4 – Flagging, Fencing, and Signage Plan). Construction crews will park only in designated areas and will be shuttled to the appropriate work sites if necessary.

In addition to minimizing the impacts associated with ground travel, the Construction Contractor will coordinate construction activities with jurisdictional utilities and the Federal Aviation Administration, as needed.

4.0 LEVELS OF RIGHT-OF-WAY ACCESS

Access to the transmission line right-of-way and other areas needed for construction, (e.g., staging areas) will be needed for project construction, operation, and maintenance activities. Listed below are five types of access that will be used for this transmission line, the Thirtymile Substation, and the Harry Allen Substation. The levels of access are illustrated in COM Plan Volume II Map Sets 1 and 2.

- **Paved Roads:** These roads are typically highways and state routes (e.g., US 93, US 50, US 6, SR 318) and will be used for travel to existing and new dirt roads to access the right-of-way. No staking will be required for this type of access.
- **Existing Unpaved Roads Not Requiring Improvements:** These are existing dirt or gravel roads that generally will not require any improvements to support construction vehicles to access the right-of-way. Regular maintenance for construction (regarding wash out areas, graveling, and installation of gravel pads for controlling trackout) is allowed in these areas. The outer edge of existing dirt access roads that have been approved for the projects will be staked where necessary. If it is determined that one of these roads does need improvement the CIC must be notified in writing and the necessary environmental inspections (biological, cultural, paleontological) conducted before any improvements can be initiated (refer to COM Plan Section 4.4 – Deviations During Construction). Activities considered as improvements include road widening, road straightening, and installation of culverts. It is important to note that some requests may require additional review and approval periods (over 30 days) if they involve other regulatory agencies.
- **Existing Unpaved Roads Requiring Improvements:** These are existing dirt or gravel roads that may require improvements to support construction vehicles to access the right-of-way and may be widened up to 20 feet with 2-foot berms on either side (maximum 2 feet wide). Improvements to these existing roads may include mowing, blading, realignment, widening cut/fill, tree removal, and bridge/culvert construction. Improvements to these roads may require restoration to pre-construction condition as determined by the BLM Authorized Officer (refer to Appendix F – Rehabilitation and Restoration Plan). Approved access roads that require improvement will be staked to a maximum width of 24 feet wide. In rough terrain conditions, improved roads may require increased grading for access along steep slopes (side-hill roads) and could likely exceed a 24-foot width, varying from approximately 24 to 100 feet wide, depending on the amount of displaced soil.
- **New Access Roads:** These roads are generally up to 20 feet wide with 2-foot berms on either side but can be wider in steep or rugged terrain because of cut and fill and will be constructed where existing access is not sufficient to access the right-of-way. When spur roads are used the turn radius maximum will be no greater than 100 feet. Construction of these new access roads may include mowing, blading, tree removal, and bridge/culvert construction. These new roads will require restoration to pre-construction condition if they are not identified for future operation and maintenance of the transmission line. Methods of clearing for new roads and road restoration are presented in Appendix F – right-of-way Preparation, Rehabilitation, and Restoration Plan. Approved new access roads will be staked to a standard width of up to 24 feet wide, however, due to rough terrain conditions, new roads that must be graded for access along steep slopes (side-hill roads) will most likely exceed a 24-foot width, varying from approximately 24 to 100 feet wide, depending on the amount of displaced soil.
- **Overland Access:** In areas where no grading will be needed to access work areas, the Construction Contractor will use overland access to the greatest extent possible. Overland access will consist of “drive and crush” and/or “clear and cut” travel. Drive and crush is vehicular travel to access a site without significantly modifying the landscape. Vegetation is crushed but not cropped. Soil is compacted, but no surface soil is

removed. Even though vegetation may be damaged or destroyed, this creates vertical mulch upon the surface soil and leaves the seed bank in place. Crushed vegetation will likely resprout after temporary use is stopped. Clear and cut is considered as brushing off (removal) of all vegetation in order to improve or provide suitable access for equipment. All vegetation is removed using above ground cutting methods that leave the root crown intact. Soils are compacted, but no surface soil is removed. Prior to work beginning, overland access routes will be staked to a maximum width of 24 feet wide.

The Project Proponent has identified access that requires improvements inside and out of the 200-foot-wide right-of-way. If construction of additional access not identified on the maps in the COM Plan Volume II is needed; proper approvals will be acquired through the procedures outlined in the COM Plan (see Section 4.4 – Deviations During Construction).

5.0 TRANSPORTATION MITIGATION MEASURES

This section describes practices intended to mitigate potential environmental, traffic, and traffic safety-related impacts associated with access to and from the transmission line.

5.1 Generic and Selective Mitigation Measures

Following are generic and selective mitigation measures to reduce potential impacts resulting from ground disturbance and increased levels of public access associated with the construction and operation of the transmission line.

Generic mitigation measures are to be applied to all affected project areas to help reduce potential access related impacts. Listed below are transportation-related generic mitigation measures that are to be implemented by the Contractor during construction of the project facilities:

- Generic Mitigation 1 - All construction vehicle movement outside the right-of-way will normally be restricted to predesignated access, contractor acquired access, or public roads
- Generic Mitigation 2 - The areal limits of construction activities will normally be predetermined, with activity restricted to, and confined within, those limits. No paint or permanent discoloring agents will be applied to rocks or vegetation to indicate survey or construction activity limits.
- Generic Mitigation 4 - In construction areas (e.g., marshalling yards, tower sites, spur roads from existing access roads) where ground disturbance is significant or where recontouring is required, surface restoration will occur as required by the land owner or land management agency. The method of restoration will normally consist of returning disturbed areas back to their natural contour, reseeding (if required), cross drains installed for erosion control, placing water bars in the road, and filling ditches.
- Generic Mitigation 13 - Roads will be built as near as possible at right angles to the streams and washes. Culverts will be installed where necessary. All construction and maintenance activities shall be conducted in a manner that will minimize disturbance to

vegetation, drainage channels, and intermittent or perennial streambanks. In addition, road construction will include dust-control measures during construction in sensitive areas. All existing roads will be left in a condition equal to or better than their condition prior to the construction of the transmission line. Towers will be sited with a minimum distance of 200 feet from streams. Note: Any culverts installed for wash crossings will be temporary in nature and must not exceed a 1/10th acre of disturbance within the wash channel (see Appendix A1 – Construction Plan and Program)

- Generic Mitigation 14 - All requirements of those entities having jurisdiction over air quality matters would be adhered to and any necessary dust control plans will be developed, and permits for construction activities would be obtained. Open burning of construction trash would not be allowed unless permitted by appropriate authorities.
- Generic Mitigation 15 - Fences and gates will be repaired or replaced to their original predisturbed condition as required by the land owner or land management agency if they are damaged or destroyed by construction activities. Temporary gates will be installed only with the permission of the land owner or land management agency; and fences will be restored to original predisturbed conditions following removal of said gates.
- Generic Mitigation 20 - Hazardous materials shall not be drained onto the ground or into streams or drainage areas. Totally enclosed containment shall be provided for all trash. All construction waste including trash and litter, garbage, other solid waste, petroleum products, and other potentially hazardous materials shall be removed to a disposal facility authorized to accept such materials. Note: Procedures identified in the BA/BO, Biological Protection Plan and the Hazardous Material Management Plan should be adhered to as they relate to hazardous materials.

Selectively recommended mitigation measures to be applied on a site-specific basis to reduce access and transportation-related impacts include the following, to be implemented by the Construction Contractor (refer to COM Plan Volume II):

- Selective Mitigation 1 - No widening or upgrading of existing access roads will be undertaken in the area of construction and operation, except for repairs necessary to make roads passable, where soils and vegetation are very sensitive to disturbance.
- Selective Mitigation 2 - There will be no blading of new access roads in the area of construction and operation. Existing crossings would be utilized at perennial streams, National Recreational Trails, and irrigation channels. Off-road or cross-country access routes would be used for construction and maintenance. This will minimize ground disturbance impacts. These access routes must be flagged with an easily seen marker and the route must be approved in advance of use by the Authorized Officer.
- Selective Mitigation 3 - The alignment of any new access roads or overland route will follow the designated area's landform contours where possible, providing that such alignment does not additionally impact resource values. This will minimize ground disturbance and/or reduce scarring.
- Selective Mitigation 4 - All new access roads not required for maintenance will be permanently closed using the most effective and least environmentally damaging methods appropriate to that area with concurrence of the landowner or land manager

(e.g., stock piling and replacing topsoil, or rock replacement). This will limit new or improved accessibility into the area.

5.2 Vehicle Operation and Other Mitigation Measures

In addition to mitigation measures pertaining to traffic management and the construction of access roads, the following measures also will be implemented in association with the operation of vehicles during construction.

- All vehicles will be equipped with approved spark arresters and appropriate fire suppression equipment (see also Appendix A6 – Fire Protection Plan).
- All vehicle undercarriages will be washed at BLM approved washing stations or sprayed clean with compressed air, as appropriate, to prevent the spread of noxious weeds (see Appendix B3 – Noxious Weed Management Plan).
- All vehicles are to maintain current registration, and will be maintained in a good working condition; including emissions control devices (see also Appendix A5 – Erosion, Dust Control, and Air Quality Plan).
- Vehicle refueling and servicing activities will be performed in designated construction zones located more than 100 feet from wetlands and streams (see Appendix A7 – Hazardous Materials Management Plan).
- Construction Contractor must secure all construction related equipment and storage yards to prevent unauthorized use of equipment that could result in avoidable environmental impacts.
- The public and agencies will be informed regarding construction activity in the area as determined in association with the BLM Authorized Officer.

APPENDIX A3

BLASTING PLAN METHODOLOGY

TABLE OF CONTENTS

| | | |
|-----|---|-------|
| 1.0 | Introduction | A3- 1 |
| 1.1 | Purpose | A3- 1 |
| 1.2 | Regulatory Compliance and Procedures..... | A3- 1 |
| 2.0 | Blasting Plan Guidance | A3- 1 |
| 2.1 | Overview of Blasting Principles | A3- 2 |
| 2.2 | Blasting Plan Contents | A3- 2 |
| 3.0 | Safety Procedures..... | A3- 3 |
| 3.1 | Storage..... | A3- 3 |
| 3.2 | Blasting Notification and Safety Procedures | A3- 4 |
| 3.3 | Fire Safety | A3- 5 |
| 3.4 | Transportation of Explosives | A3- 5 |
| 4.0 | Environmental Protection Measures | A3- 6 |
| 4.1 | Desert Tortoise..... | A3- 6 |
| 4.2 | Species Avoidance Periods..... | A3- 7 |

LIST OF TABLES

| | | |
|------|----------------------------------|------|
| A3-1 | Blasting Avoidance Periods | A3-7 |
|------|----------------------------------|------|

1.0 INTRODUCTION

The Blasting Plan Methodology outlines methods to mitigate risks and potential impacts associated with blasting procedures that may be required for construction of the projects. Also included in this section is a preliminary outline for the Blasting Plan to be prepared by the Construction Contractor and submitted to the BLM for final review and approval, if blasting is required.

1.1 Purpose

Once completed, the Blasting Plan will provide construction crews, the 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.

1.2 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.

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

2.0 BLASTING PLAN GUIDANCE

Prior to blasting, the Blasting Contractor shall prepare a Blasting Plan for review and approval by the BLM, CIC and other applicable parties. The plan will address safety as well as design for production and controlled blasting. The Blasting Plan also will contain the full details of the drilling and blasting patterns as well as controls the Blasting Contractor proposes to use for both controlled and production blasting. Review of the plan by the parties shall not relieve the Blasting Contractor of the responsibility for the accuracy and adequacy of the Blasting Plan when implemented in the field. A minimum of 2 weeks should be allowed for review and approval of the Blasting Plan by the BLM and appropriate agencies. If at anytime changes are

proposed to the Blasting Plan, the Blasting Contractor shall submit them to the BLM and CIC for review and approval.

2.1 Overview of Blasting Principles

2.1.1 Locations

The Construction Contractor's Blasting Contractor will avoid blasting in potential rockslide/landslide areas to the maximum extent possible and will consult with a geologist before blasting in such areas (see Appendix A1 – Construction Plan and Program, Section 3.0 Pre-Construction Activities). A common practice for fusing conductor wire together is the use of 'implosive sleeves,' which use explosive materials. The Blasting Contractor should be knowledgeable about this practice and should coordinate with the CIC, particularly with regard to the locations of these practices.

2.1.2 Materials

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

2.2 Blasting Plan Contents

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

1. Purpose
2. Scope of the Blasting
3. Definitions
4. Responsibilities
 - a. Management Organization
 - b. Authority Responsibility
 - c. Blaster-in-Charge (licensed in Nevada)
5. Location of Blasting Area
 - a. Description of Blasting Area
 - b. Description of Bedrock and Geological Problems
 - c. Description of Adjacent Utility Facilities
6. Environmental Considerations
7. Safety Considerations
 - a. General
 - b. Warning Signs and Signals
 - c. Procedures around Adjacent Utility Facilities
 - d. Traffic Control
 - e. Emergency Blast Initiation
 - f. Safety Publications
 - g. Fire Prevention
 - h. Safety Hazards

- i. Emergency Services and Communication
 - j. Minor or Non-Emergency Medical Care
 - k. First Aid
- 8. Risk Management
 - a. Protection of Adjacent Utility Facilities
 - b. Lightning
 - c. Flyrock (Note: flyrock will be controlled with blasting mats)
 - d. Carbon Monoxide
 - e. Ground Vibrations
 - f. Seismically Sensitive Receptors
 - g. Preblast Survey and Inspection
 - h. Blast Damage Complaints
 - i. Airblast
- 9. Blast Design Concept
 - a. Station limits of proposed shot
 - b. Plan and section views of proposed drill pattern including free face, burden, blasthole spacing, blasthole diameter, blasthole angles, lift height, and subdrill depth
 - c. Loading diagram showing type and amount of explosives, primers, initiators, and location and depth of stemming
 - d. Initiation sequence of blastholes including delay times and delay system
 - e. Manufacturer's data sheets for all explosives, primers, and initiators to be employed
- 10. Procedures
 - a. Delivery of Explosives
 - b. Storage of Explosives and Blasting Agents
 - c. Blast Hole Drilling
 - d. General Handling of Explosives
 - e. Blast Hole Loading
 - f. Notification
 - g. Initiation of Blast
 - h. Misfire Management
 - i. Test Blasting
- 11. Records
- 12. Attachments

3.0 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 them against fire, and to prevent personal injury and property damage. These measures are intended as general guidelines.

3.1 Storage

Explosives must be stored in an approved structure (magazine) and kept cool, dry, and well ventilated. The Project Proponent's Construction Contractor will provide the Bureau of Alcohol, Tobacco, Firearms and Explosives (BATF) Regulatory Enforcement Office in Nevada, with a list

of dates and locations for the explosives and blasting agent storage facilities to be used on the projects 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; and
- 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.

3.2 Blasting Notification and Safety Procedures

The Construction Contractor will obtain a permit from Clark, Lincoln, Nye, and/or White Pine 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, and dates and times that 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 projects. 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.
- Access points to areas where blasting will take place will be blocked, to prevent access by the public, at least 30 minutes prior to blasting. The site shall be swept 5 minutes prior to any shot being put off, to ensure that no unauthorized personnel have wandered onto the site. An audible warning signal, capable of carrying for 1/2 mile, shall be used at least 2 minutes prior to the shot being put off. An “all clear” signal will be given once it has been determined that all danger in the area has passed.

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

Additional safety precautions will be developed to address site-specific conditions at the time of the blast. Special attention will be given to preventing potential hazards in the blasting area

resulting from flying rock, destabilized walls, structures, presence of low flying aircraft, and dispersion of smoke and gases.

3.3 Fire Safety

The presence of explosive materials on the project sites could potentially increase the risk of fire during construction. Special precautions will be taken to minimize this risk in conjunction with Appendix A6 – Fire Protection Plan, including but not limited to:

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

3.4 Transportation of Explosives

Transportation of explosives will comply with all applicable federal, state, and local laws including Title 49 of the Code of Federal Regulations, Chapter III. These regulations are administered by the U.S. Department of Transportation (U.S. DOT) and govern the packaging, labeling, materials compatibility, driver qualifications, and safety of transported explosives. In general, these regulations require that vehicles carrying explosive materials must be well maintained, properly marked with placards, and have a non-sparking floor. Materials in contact with the explosives will be non-sparking, and the load will be covered with a fire- and water-resistant tarpaulin. Vehicles also must be equipped with fire extinguishers and a copy of the Emergency Response Guidebook (U.S. DOT 1993). Every effort will be made to minimize transportation of explosives through congested or heavily populated areas.

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

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

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

4.0 ENVIRONMENTAL PROTECTION MEASURES

Blasting has the potential to cause environmental impacts. Implementing the practices/procedures listed below will mitigate these impacts.

- Avoid potential rockslide/landslide areas to the maximum extent possible and consult the blasting geologist before blasting in such areas
- Design blasts to minimize ground vibrations that can cause slope instability and impact wells and springs
- Limit hours of blasting to Monday through Saturday from 7:00am to 7:00pm when blasting within 3,000 feet of sensitive receptors.
- Avoid blasting within 500 feet of wells/springs to the maximum extent possible
- Adhere to Desert Tortoise stipulations in Section 4.1 below
- Adhere to species avoidance periods in Section 4.2 below

Stipulations developed by BLM and the U.S. Fish and Wildlife Service (USFWS) described below will be followed for protection of Desert Tortoise and other sensitive species as well as the required notification discussed above in Section 3.2. The Construction Contractor will notify the CIC and environmental monitors 24 to 48 hours prior to scheduled blasting and comply with the permit requirements for notification by Clark, Lincoln, Nye, and White Pine counties, including any requirements for dust abatement. Regular field meetings will be held with the CIC and environmental monitors to review the process and its implementation. If changes are needed to the notification process, changes will be made to facilitate protection of environmental resources.

4.1 Desert Tortoise

If blasting is necessary the following mitigation measures will be performed by a Biological Monitor for the SWIP – Southern Portion:

- Prior to blasting, a 200-foot area around the blasting site will be surveyed for Desert Tortoises using 100-percent coverage survey techniques.
- All tortoises located within 100 feet of the blast site will be removed and temporarily relocated in accordance with Desert Tortoise handling protocol, prior to blasting.
- Prior to any blasting, all tortoise burrows or cover sites within a 200-foot radius of the blast site will be located and the entrances carefully stuffed with crumpled newspaper or other material approved by BLM and USFWS. After blasting is completed, all burrows and cover sites will be inspected for damage, and stuffing material will be removed. If a burrow or cover site has collapsed and there is a possibility that it could be occupied, it will be excavated to ensure that no tortoises have been buried and are in danger of suffocation.
- Tortoises in burrows at a distance of 100 to 200 feet from the blasting site will be left in their burrows. Burrow locations will be flagged and recorded using a global positioning system unit and burrows will be stuffed with newspaper. Immediately after blasting, newspaper and flagging will be removed.

- In addition, all applicable biological stipulations in the Biological Opinion will be adhered to, as described in Appendix B1 – Terms and Conditions of the Biological Opinion.

4.2 Species Avoidance Periods

Blasting will be scheduled to avoid sensitive wildlife areas and seasons as identified in the Table A3-1 and as illustrated in the COM Plan Volume II (Map Sets 1 and 2). In addition, should pre-construction bird surveys identify occupied nests, appropriate avoidance periods will be established as agreed upon by the BLM¹.

| TABLE A3-1 BLASTING AVOIDANCE PERIODS | | |
|--|--|--------------------------------|
| Resource | Avoidance Period | Buffer Zone (miles) |
| Sage Grouse Leks | 10/1-10/31 (from 2 hours before dawn until 10:00 a.m.) | 2 |
| Mule Deer | 11/1-4/15 | Crucial Mule Deer Winter Range |

¹ If pre-construction surveys find nests are not occupied, blasting may be allowed in the buffer zones during the avoidance period.

APPENDIX A4

FLAGGING, FENCING, AND SIGNAGE PLAN

TABLE OF CONTENTS

| | | |
|-----|---|-------|
| 1.0 | Introduction | A4- 1 |
| 1.1 | Purpose | A4- 1 |
| 2.0 | Methods | A4- 1 |
| 2.1 | Flagging..... | A4- 1 |
| 2.2 | Fencing..... | A4- 2 |
| 2.3 | Signage | A4- 3 |
| 3.0 | Installation, Monitoring, Maintenance, and Removal of Flagging, Fencing, and Signage | A4- 3 |

LIST OF TABLES

| | | |
|------|---|------|
| A4-1 | Flagging Plans | A4-2 |
| A4-2 | Sign Standards for Project Features | A4-3 |

1.0 INTRODUCTION

This Flagging, Fencing and Signage Plan describes the methods that will be used in the field to delineate project features and sensitive environmental resources areas and warnings during project construction. These methods are intended to ensure that ground disturbance is limited to previously approved areas, to ensure that project personnel stay on approved access routes and within approved work areas, and to establish project notifications (i.e., warning, speed limit and sensitive area signs). The measures described in this plan are an integral part of the environmental compliance program for avoiding and minimizing impacts to sensitive resources.

1.1 Purpose

The purpose of this plan is to provide information on the field markings (i.e., flagging, staking, fencing, and signage) that will be used to identify approved project work areas, as well as sensitive resource areas where construction is to be excluded. It serves as an informational guide on restrictions and safety precautions to all individuals that will have access to the project rights-of-way. This Flagging, Fencing, and Signage plan will help to avoid adverse impacts to the environment, human health and safety, and property that could potentially result from the activities associated with the construction of the projects.

Many of the mitigation measures in the SWIP Environmental Impact Statement (EIS) require adequate field marking of sensitive resource areas to avoid or reduce impacts. Several mitigation measures include flagging or fencing requirements to help minimize the amount of ground disturbance and protect vegetative cover and habitat, water quality, cultural resources, and special-status species, and to minimize the spread of invasive plant species. In addition, guidelines prepared by the U.S. Department of the Interior acknowledge the importance of flagging or fencing during construction.

2.0 METHODS

Signs, flags, and/or fencing will be used to delineate and protect sensitive environmental resources in the vicinity of construction activities. No paint or permanent discoloring agents will be applied to rocks or vegetation to indicate limits of survey or construction activity. A system of standardized and simplified exclusion markings will be used to reduce potential confusion during construction, and to minimize the risk of highlighting types of sensitive resources that could be targeted by vandals (e.g., if exclusions around archaeological sites were marked differently than those around sensitive natural resource areas, the sites would be at a higher risk of unauthorized artifact collecting or other disturbance).

2.1 Flagging

The aerial limits of construction activities will be predetermined (e.g., with activity restricted to and confined within those limits). Standard survey flags and stakes will be installed before the start of project construction. Structure sites (e.g., tower locations, work areas, pole locations, anchor points, reference points) will be marked by the Construction Contractor. Designated project access roads, spur roads, parking areas and pullout areas will be marked to facilitate

travel to and from the right-of-way. Substation site locations and substation improvements will be delineated, and helicopter fly yards, wire stringing areas and material yards will be demarcated as necessary to indicate the limits of the approved work area. The Construction Contractor will stake the boundaries of the maximum area needed for work areas and will provide the dimensions to the CIC.

Table A4-1 provides standards that will be used for marking project features needed for construction and features to be avoided.

| TABLE A4-1 FLAGGING PLANS | | |
|--------------------------------------|---|--|
| Colors | Meaning | What to do |
| Yellow/Green | Avoidance Area-Desert Tortoise, sensitive plant resource and/or sensitive environment areas (cultural etc.) | Avoid these items/areas-do not drive vehicles or equipment near flagged items or within flagged areas |
| Orange/Green | Joshua trees, yuccas and most cacti-these are protected plant species that will be transplanted within work areas but out of harm's way | Avoid these plants, do not destroy or move |
| Pink | Proposed structure locations | Do not disturb survey stakes |
| Pink/White | Structure offsets | Do not disturb survey stakes |
| Blue/White | Temporary work areas, including pulling and tensioning, guard structure and helicopter refueling sites | Do not drive vehicles/equipment or conduct activities outside of temporary use areas, unless authorized to do so |
| | Construction access points and roads | Verify the right of entry has been obtained before flagging for use |
| Red | Outer boundaries of permitted right-of-way | Do not drive vehicles/equipment or conduct construction activities outside of permitted right of way, unless authorized to do so |
| Many Colors | Cadastral survey points | Protect in place |

2.2 Fencing

To delineate the limits of construction near sensitive resources that require a high level of protection from inadvertent project disturbance, a combination of one or more of the following fencing materials will be installed by the Construction Contractor:

- Rope (1/4-inch diameter in yellow or orange coloring)
- Plastic or fabric tape
- Safety fencing (plastic orange or red mesh at least 24-inches wide and at least 18 inches off the ground to address travel by small animals)

Roping with periodic marking by exclusionary signs or lengths of tape is a highly visible and effective exclusion devise. Roping, tape and safety fence will be installed using metal posts for increased durability. In most cases, it is anticipated that the materials will be installed at the margins of the sensitive resource (including any required buffers), rather than at the edge of the work area.

2.3 Signage

Signs will be used to help identify project features such as access roads and certain project facilities. Signs will be a minimum of 8.5- by 11-inches on laminated (7 mil or greater) white/colored paper for protection from the elements. Signs will be installed on metal posts, wooden stakes, or attached to exclusion fencing/roping, as appropriate. Background colors will vary to enhance sign recognition from a distance. Table A4-2 provides some standards for marking project features that will be needed during project construction. Signs for sensitive resource areas will be oriented for visibility from both directions of likely travel. Temporary warning signage will be employed to alert the public of blasting as required (refer to Appendix A3 – Blasting Plan Methodology).

| TABLE A4-2 SIGN STANDARDS FOR PROJECT FEATURES | | | |
|--|----------------------|--|--|
| Feature | Feature Color | Sign Text | Comments |
| Speed limit signs | White | Speed Limit 15 - 20 miles per hour Strictly Enforced | To be located at various locations along the approved project access road depicting allowed speed limits. |
| Direction sign | White | Structure 95 Ahead On Line | To be located along the approved project access road and points of intersection to provide direction to current structures being constructed |
| Cultural sites, special-status wildlife areas, wetlands, drainages, and invasive weed infestations adjacent to construction areas. | Yellow | Sensitive Resource Area Keep Out | Signs to be installed, as needed, in addition to exclusion fencing and flagging. |
| Areas temporarily closed to construction due to special-status wildlife breeding, nesting, or seasonal use range. | Yellow | Sensitive Resource Area Keep Out | Signs to be installed, as needed, at logical points of entry (i.e., access road and/or centerline travel route) to excluded zone. |
| Invasive weed cleaning stations | Yellow | Weed Cleaning Station | Signs to be installed at logical points of entry. |
| Top soil stock piling | Yellow | Top Soil Do Not Disturb | Sign to be placed at the pile, clearly visible for work area. |
| Unapproved access road, closed roads | Yellow | Do Not Enter | To be located at juncture of approved access roads. |
| Blasting Areas | Orange | Caution – Blasting Zone Ahead | Located at appropriate points to warn the public of blasting activities. |

3.0 **INSTALLATION, MONITORING, MAINTENANCE, AND REMOVAL OF FLAGGING, FENCING, AND SIGNAGE**

The success of this Flagging, Fencing and Signage Plan hinges on the proper installation, monitoring and maintenance of staking, flagging, and fencing. The Construction Contractor or his designated Surveying Contractor(s) will be responsible for the installation and maintenance of the field marking of construction features (e.g., towers, work area boundaries, anchors, substations). These markings will be installed in advance of construction activities in the area,

maintained during the course of construction, as necessary, and removed during clean-up activities.

Environmental exclusions, signs, flags, and fencing, for general inventory purposes and to denote exclusionary zones will be installed by Flagging and Fencing Crew(s), along with the assistance of appropriate resource specialists (e.g., botanists, biologists, paleontologists, archaeologists) as necessary. These environmental exclusions will be installed prior to the start of construction within a work area. Resources Specialists will be consulted if there is uncertainty as to the type or location of needed exclusion devices for botanical, wildlife, wetlands, springs, streams, or archaeological sites.

Routine project monitoring by the CIC will include an on-going assessment of the need for replacement or repair of exclusionary flagging or fencing. Maintenance needs related to exclusionary devices will either be corrected at the time of observation by the CIC or Resource Specialist, or will be documented as a future need. If maintenance of an exclusionary device is needed within an active construction area, corrective action will be taken within one workday. Maintenance of signs, flagging and fencing within dormant areas will be implemented as necessary. Upon completion of construction activities, and following cleanup and/or reclamation, all staking and flagging will be removed and disposed of by the Construction Contractor.

APPENDIX A5

EROSION, DUST CONTROL, AND AIR QUALITY PLAN

TABLE OF CONTENTS

| | | |
|-----|--|-------|
| 1.0 | Introduction | A5- 1 |
| 1.1 | Purpose | A5- 1 |
| 1.2 | Regulatory Compliance | A5- 1 |
| 2.0 | Environmental Concerns | A5- 2 |
| 2.1 | Soil Conservation and Erosion | A5- 2 |
| 2.2 | Air Quality and Dust Control | A5- 2 |
| 3.0 | Mitigation | A5- 3 |
| 3.1 | Mitigation | A5- 3 |
| 3.2 | Other Specific Stipulations and Methods..... | A5- 5 |
| 4.0 | Monitoring | A5- 8 |
| 4.1 | Construction and Reclamation Phase | A5- 8 |
| 4.2 | Operation and Maintenance Phase | A5- 9 |

1.0 INTRODUCTION

This Erosion, Dust Control, and Air Quality Plan addresses regulatory compliance, environmental concerns, mitigation recommendations and monitoring. This plan will be utilized for the construction of the projects to ensure that impacts associated with construction activities are minimized as they relate to soil conservation and air quality.

1.1 Purpose

This plan provides measures to be utilized by the BLM, CIC, and the Construction Contractor to ensure the protection of the soils and air quality that will be affected by the projects, and to be implemented during the construction, operation, and maintenance phases of the projects. These measures are intended to address (1) soil erosion and sedimentation, and (2) minimize dust and emissions from construction-related activities.

This plan describes a number of mitigation measures that can be used to achieve these goals. Determination of the appropriate control measures to use in a particular area will depend on a variety of factors including weather conditions, selected construction techniques, site characteristics, extent of area to be disturbed, and other factors.

1.2 Regulatory Compliance

Construction, operation and maintenance activities for the projects are subject to various regulations designed to protect environmental resources and the public from erosion, dust and other possible effects to air quality. The following permits and documents contain requirements for preventing accelerated erosion and minimizing dust and emissions. Refer to these documents along with this plan when assessing which mitigation measures are appropriate for a specific area. At a minimum, the Project Proponent/Construction Contractor will need to adhere to or obtain the following permits.

1.2.1 Federal

- BLM - SWIP Right-of-Way Grants NVN-85210 and NVN-85211, and Use Permits

1.2.2 State

Nevada Department of Environmental Protection

- Bureau of Water Quality Planning - Clean Water Act, Section 401 (Water Quality Certification)
- Bureau of Water Pollution Control - General Stormwater Permit (Notice of Intent and Stormwater Pollution Prevention Plan) and General Rolling Stock Permit
- Bureau of Air Quality - Surface Area Disturbance Permit

1.1.3 County

- Clark County Dust Permit

2.0 ENVIRONMENTAL CONCERNS

2.1 Soil Conservation and Erosion

Soil conservation for the projects includes minimizing impacts that could potentially affect soils from the construction and operation of the proposed transmission line, such as minimizing wind and water erosion, soil compaction, surface disturbance, and construction activities in wet soils. Prior to ground disturbance, geotechnical studies will be conducted and a report for affected areas will be prepared to provide more specific detail/measures regarding soil conservation for the projects.

Erosion potential is the result of several factors including slope, vegetation cover, climate, and the physical and chemical characteristics of the soil. Increased soil erosion may occur when vegetation is removed during construction or in areas where the surface is disturbed by heavy equipment. Increased water erosion often occurs during high-intensity or long-duration rainstorms and may reduce the productivity of the soil as well as affect water quality of streams by accelerating sediment loading. Wind is also an erosion factor throughout portions of the project areas. Soil compaction could also be a concern if there is repeated traffic use on sections of access roads.

Where disturbance is anticipated in areas of steep terrain with high potential for erosion, vegetation clearing and grading will be conducted in a manner that minimizes these effects, and soil stabilization and reclamation practices will be implemented in order to reduce erosion. In select locations, helicopter construction may be used to further reduce these impacts. In areas of soil compaction (e.g. temporary access roads) soil treatment and restoration will be implemented as directed in Appendix F – Right-of-Way Preparation, Rehabilitation and Restoration Plan. In these areas, care should be taken to avoid any installed grounding or counterpoise.

2.2 Air Quality and Dust Control

Construction of the transmission line and related facilities will cause a temporary and minimal increase in fugitive dust. Ambient levels of nitrogen oxides, hydrocarbons, and carbon monoxide near the construction zone will also be temporarily increased due to emissions from heavy construction equipment. Related facilities will cause a minimal increase in fugitive dust.

Air quality control measures are intended to minimize fugitive dust and air emissions and to maintain conditions as free from air pollution as is practical. All requirements of those entities having jurisdiction over air quality matters will be adhered to and any permits needed for construction activities will be obtained. The Construction Contractor will not proceed with any construction activities without taking reasonable precautions to prevent excessive particulate matter from becoming airborne and creating nuisance conditions.

Excessive exhaust emissions from vehicles and heavy equipment will be prevented by proper maintenance, and no open burning of construction trash will be allowed unless permitted by the BLM Authorized Officer.

Where necessary, water may be used for dust control during construction, including the grading of roads or the clearing of land and of the right-of-way, and will be applied on unpaved roads, material stockpiles, and other surfaces, which can create airborne dust. Where application of water is not possible, material stockpiles will be enclosed or covered. In addition, open-bodied trucks transporting materials likely to become airborne will be covered. Earth or other materials that may become airborne will promptly be removed from paved roads. Where required, matting will be used in rock blasting operations to minimize and control dust (see Appendix B3 – Blasting Plan Methodology).

3.0 MITIGATION

The mitigation measures described in this section are applicable to project construction, reclamation, operation and maintenance of the projects. If new disturbances occur during the operation and maintenance phases of these projects, or if erosion control and air quality measures implemented during construction and reclamation are not effectively minimizing accelerated erosion and reducing dust these mitigation measures will be reviewed and where necessary reimplementation will occur under the direction of the BLM Authorized Officer, CIC, and Construction Contractor.

3.1 Mitigation

Because of potential impacts from construction activities, several measures may be necessary to mitigate particular impacts. The following are generic mitigation measures that will be adhered to during construction on a project area-wide basis.

3.1.1 Generic Mitigation

- Generic Mitigation 1 - All construction vehicle movement outside the right-of-way will normally be restricted to predesignated access, contractor acquired access, or public roads.
- Generic Mitigation 2 - The areal limits of construction activities will normally be predetermined, with activity restricted to and confined within those limits. No paint or permanent discoloring agents would be applied to rocks or vegetation to indicate survey or construction activity limits.
- Generic Mitigation 3 - In construction areas where recontouring is not required, vegetation will be left in place wherever possible and original contour would be maintained to avoid excessive root damage and allow for resprouting.
- Generic Mitigation 4 - In construction areas (e.g., marshalling yards, tower sites, spur roads from existing access roads) where ground disturbance is significant or where recontouring is required, surface restoration would occur as required by the landowner

or land management agency. The method of restoration will normally consist of returning disturbed areas back to their natural contour, reseeding (if required), cross drains installed for erosion control, placing water bars in the road, and filling ditches.

- Generic Mitigation 13 - Roads will be built as near as possible at right angles to the streams and washes. Culverts would be installed where necessary. All construction and maintenance activities shall be conducted in a manner that would minimize disturbance to vegetation, drainage channels, and intermittent or perennial streambanks. In addition, road construction would include dust-control measures during construction in sensitive areas. All existing roads would be left in a condition equal to or better than their condition prior to the construction of the transmission line. Towers will be sited a minimum distance of 200 feet from streams. Note: Any culverts installed for wash crossings will be temporary in nature and must not exceed a 1/10th acre of disturbance within the wash channel (see Appendix A1 – Construction Plan and Program).
- Generic Mitigation 14 - All requirements of those entities having jurisdiction over air quality matters will be adhered to and any necessary dust control plans will be developed, and permits for construction activities will be obtained. Open burning of construction trash would not be allowed unless permitted by appropriate authorities.

3.1.2 Selective Mitigation

In selective areas, and on a case-by-case basis, the following mitigation measures will be implemented by the Construction Contractor.

- Selective Mitigation 1 - No widening or upgrading of existing access roads would be undertaken in the area of construction and operation, except for repairs necessary to make roads passable, where soils and vegetation are very sensitive to disturbance.
- Selective Mitigation 2 - There will be no blading of new access roads in the area of construction and operation. Existing crossings will be utilized at perennial streams, National Recreational Trails, and irrigation channels. Off-road or cross-country access routes would be used for construction and maintenance. This will minimize ground disturbance impacts. These access routes must be flagged with an easily seen marker and the route must be approved in advance of use by the BLM Authorized Officer.
- Selective Mitigation 3 - The alignment of any new access roads or overland routes will follow the designated area's landform contours where possible, providing that such alignment does not additionally impact resource values. This will minimize ground disturbance and/or reduce scarring (i.e., visual contrast).
- Selective Mitigation 4 - All new access roads not required for maintenance will be permanently closed using the most effective and least environmentally damaging methods appropriate to that area with concurrence of the landowner or land manager (e.g., stock piling and replacing topsoil, or rock replacement). This will limit new or improved accessibility into the area.

3.2 Other Specific Stipulations and Methods

3.2.1 Working in Wet Soils

Construction, operation, and maintenance activities will be restricted when the soil is too wet to adequately support construction or maintenance equipment (i.e., when heavy equipment creates ruts in excess of 5 inches deep, over a distance of 100 feet or more in wet or saturated soils). This standard will not apply in areas with silty soils, which easily form depressions even in dry weather. Where the soil is deemed too wet, one or more of the following measures will apply:

- When feasible, re-route all construction or maintenance activities around the wet areas so long as the route does not cross into sensitive resource areas, and at the approval of the CIC.
- If wet areas cannot be avoided, implement use of wide-track or balloon-tire vehicles and equipment, or other weight dispersing systems approved by the appropriate resource agencies. The use of geotextile cushions (pre-fabricated equipment pads) and other materials could also be used to minimize damage to the substrate where determined necessary by resource specialists. If these measures cannot be successfully applied to wet or saturated soil areas, construction or routine maintenance activities will not be allowed in these areas until the CIC and/or BLM Project Manager determines it is acceptable to proceed.
- Limit access of construction equipment to the minimum area feasible, remove and separate topsoil in wet or saturated areas, and stabilize subsurface soils with a combination of one or more of the following: grading to dewater problem areas, utilize weight dispersion mats, and maintain erosion control measures such as surface rilling and back-dragging. After construction is complete, re-grade and re-contour the area, replace topsoil, and reseed to achieve the required plant densities as required by the BLM.
- If equipment creates excessive ruts in wet or saturated soils, as determined by the CIC and these areas require supplemental dewatering, stabilization, erosion control, and reclamation measures to continue construction during wet conditions, increased impacts on soils and vegetation will be mitigated by restoration and preservation of disturbed soils and vegetation communities off-site. The restoration and/or preservation will take place off-site in the project areas at a ratio to be determined in consultation with the BLM and the Project Proponent. The final acreage for compensation will be determined by quantifying the post-construction disturbance area and condition. Even though it is not considered a significant impact, a compensation ratio of 1:1 off-site is proposed to mitigate for any increased permanent or temporary impacts to soils and vegetation related to continuing construction during wet conditions. This mitigation measure will be in addition to the on-site reclamation of the soil and vegetation disturbed by construction activities during wet conditions.

3.2.2 Vegetation Removal Methods

Vegetation removal and soil disturbances (including temporary road improvements) will be minimized in areas where soil constraints occur. In areas of overland construction, where vegetation removal is required, mowing or cutting will be the primary method used (see also Appendix F – Right-of-Way Preparation, Rehabilitation, and Restoration Plan). Plants will generally be cut at a height that results in the least damage to the root crown during cutting or subsequent damage by vehicles and equipment. Blading will be restricted to those areas as identified in the COM Plan Volume II (Map Sets 1 and 2).

3.2.3 Construction on Expansive Soils

Prior to construction, soils will be evaluated to determine if they are expansive and if they may have potential effects on the proposed facilities. Where they represent a potential hazard, solutions recommended by the project's geotechnical engineer, such as excavation and replacement of the expansive soils with compacted backfill, will be required. If imported backfill material is used, it must be from a BLM-approved source and certified as free of invasive weeds and propagules (i.e., seeds and root fragments).

3.2.4 Reducing Short-Term Erosion and Sedimentation

The objectives of these measures are to reduce short-term erosion and sedimentation, as well as quickly restore topography and vegetation to pre-construction conditions in all areas required and approved by BLM. A qualified resource specialist or the CIC will monitor implementation during construction through the operation phase until successful revegetation is achieved. Monitoring of the erosion control measures will continue until reclamation efforts are considered complete and successful. Implementation of the following practices will minimize the effects of grading, excavation, and other surface disturbances in project areas.

- Limit disturbance of soils and vegetation removal to the minimum area necessary for access and construction.
- Inform all construction personnel before they are allowed to work on the projects of environmental concerns, pertinent laws and regulations, and elements of the erosion control plan.
- Minimize grading. When required, grading should be conducted away from watercourses (receiving waters) to reduce the risk of material entering the watercourse.
- Graded material should be sloped and bermed where possible, to reduce surface water flows across the graded area.
- Replace excavated materials in disturbed areas and minimize the time between excavation and backfilling.
- Direct the dewatering of excavations onto stable surfaces to avoid soil erosion.
- Use detention basins, certified weed-free straw bales, or silt fences where appropriate.
- Use drainage control structures, where necessary, to direct surface drainage away from disturbance areas and to minimize runoff and sediment deposition down slope from all disturbed areas. These structures include culverts, ditches, waterbars (berms and cross ditches), rolling dips, and sediment traps.

- In areas of highly erodable soils, non-standard construction equipment and techniques that minimize surface disturbance, soil compaction, and loss of topsoil will be used, such as vehicles with low ground pressure tires, or helicopters when feasible and practicable. Vegetation clearing should be minimized to the degree possible. Erodable slopes that do not require grading should be cleared using equipment that results in little-to-no soil disturbance to the degree practicable.
- Re-establish native vegetation cover in highly erodable areas as quickly as possible following construction where determined necessary (refer to Appendix F – Right-of-Way Preparation, Rehabilitation and Restoration).

3.2.5 Drainage Control

A variety of drainage control structures will be used to direct surface runoff away from the road surface to prevent rill and rut development and to control runoff and sediment discharges. The road improvements will include culverts, water bars at appropriate intervals related to slope and geologic material, ditches, and appropriate grades and inclination.

3.2.6 Dust Control

Water trucks will be the primary means of dust abatement during all phases of construction. The Project Proponent will obtain a dust permit from the Clark County Department of Air Quality Management (DAQM) prior to construction and comply with all conditions in the permit. The Construction Contractor also will provide a certified dust monitor, who will have completed the three-day course required by Clark County DAQM. He/she will be on-site during all phases of construction. At each structure site the disturbed soil will be watered to form a crust. Roads will be watered continuously. Water spray will be controlled so that pooling will be avoided to the extent possible, as excessive moisture on roads may attract Desert Tortoise. In areas of powdery soil watering will be instrumental in keeping dust under control. However, careful attention should be given to soil stability to avoid creating muddy conditions. Speed limits of 15 miles per hour on the right-of-way will be set and strictly enforced within Clark County.

Construction water and water used for dust control will come from permitted sources identified by the Construction Contractor and a map showing the locations of these sources will be provided to the CIC. If the quality of the water is found to be causing any environmental changes (i.e., dying vegetation, excessively hard crusting of soils), the Construction Contractor will test the quality of the water and provide the results to the BLM for review.

All project personnel will be educated on dust control procedures. The CIC also will be certified by Clark County DAQM as a dust monitor and will monitor compliance with the dust permit.

3.2.7 Reducing Wind or Water Erosion

To prevent accelerated wind or water erosion on dirt roads, gravel mulches may be added if the mitigation measures described above are not adequate or if the area is not in a sensitive receptor zone. Gravel of approximately $\frac{3}{4}$ to $1\frac{1}{2}$ inch diameter should be used and cover a minimum of 90 percent of the soil surface. Slopes steeper than 3:1 may require additional sediment and erosion control structures.

3.2.8 Topsoil Replacement

Topsoil salvage and replacement will follow the guidelines in Appendix F – Right-of-Way Preparation, Rehabilitation, and Restoration Plan.

3.2.9 Surface Roughening

Surface roughening aids establishment of vegetative cover, reduces runoff velocities, increases infiltration, and reduces erosion by providing sediment trapping. Graded areas with smooth surfaces increase the potential for accelerated erosion; therefore, surfaces should be left in a roughened condition whenever possible.

3.2.10 Natural Rock Riprap and Erosion Control Matting

On steep slopes (greater than 30 percent) or in areas of concentrated flows (e.g., waterways) erosion control matting or riprap may be used to stabilize the surface and increase infiltration times.

4.0 MONITORING

Monitoring of erosion control mitigation measures will continue until reclamation efforts are considered complete and successful, and accelerated erosion has been controlled. The following provides guidance for monitoring the mitigation measures.

4.1 Construction and Reclamation Phase

4.1.1 Erosion Control Structures

During construction, temporary erosion control structures should be inspected daily by the CIC in areas of active construction or equipment operation; on a weekly basis in areas with no equipment operation; and in all affected areas within 24 hours of each 0.5 inch or greater rainfall event, soil or weather conditions permitting.

If structures clog, deteriorate, fail, are damaged, require maintenance, or are ineffective, the CIC and Construction Contractor will ensure that remedial actions are taken within 24 hours, soil or weather conditions permitting.

4.1.2 Graveled Areas

Areas graveled for stabilization should be inspected to ensure that depressions caused by vehicle traffic are filled and that runoff is not being directed toward wetlands or other receiving waters.

4.1.3 Surface Roughening

Roughened surfaces should be periodically inspected for rills and washes. Areas exhibiting accelerated erosion should be filled and reseeded as necessary or determined by the BLM Authorized Officer.

4.2 Operation and Maintenance Phase

After construction and reclamation, monitoring of the erosion control mitigation measures will continue on an annual basis during the operation and maintenance phase until affected soils have been stabilized so that there is no or minimal accelerated erosion and until reclamation efforts are considered complete and successful.

APPENDIX A6

FIRE PROTECTION PLAN

TABLE OF CONTENTS

| | | |
|------|---|-------|
| 1.0 | Introduction | A6- 1 |
| 1.1 | Purpose | A6- 1 |
| 1.2 | Regulatory Compliance | A6- 1 |
| 2.0 | Responsibilities | A6- 1 |
| 2.1 | Bureau of Land Management | A6- 1 |
| 2.2 | Construction Contractor | A6- 1 |
| 2.3 | CIC | A6- 3 |
| 2.4 | Notification..... | A6- 3 |
| 3.0 | Fire Prevention Measures | A6- 3 |
| 4.0 | Activity-Related Precautions | A6- 4 |
| 4.1 | Burning (Not Allowed) | A6- 4 |
| 4.2 | Blasting..... | A6- 4 |
| 4.3 | Welding | A6- 4 |
| 4.4 | Spark Arresters | A6- 4 |
| 4.5 | Smoking | A6- 5 |
| 4.6 | Warning Devices | A6- 5 |
| 4.7 | Parking and Vehicle Storage Areas..... | A6- 5 |
| 4.8 | Signage | A6- 5 |
| 4.9 | Power Saws | A6- 5 |
| 4.10 | Equipment Refueling | A6- 6 |
| 4.11 | Access..... | A6- 6 |
| 5.0 | Minimum Fire Prevention and Suppression Equipment Required..... | A6- 6 |
| 6.0 | In Case of Fire - Initial Response and Emergency Contacts..... | A6- 7 |
| 7.0 | Post-Fire Rehabilitation Strategies..... | A6- 7 |

LIST OF TABLES

| | | |
|------|------------------------------|------|
| A6-1 | Emergency Fire Contacts..... | A6-3 |
|------|------------------------------|------|

1.0 INTRODUCTION

This plan details measures that should be implemented to: (1) reduce the risk of starting a fire, and (2) to suppress a fire in the event one does occur within the construction areas during project construction, operation, and maintenance.

1.1 Purpose

The risk of fire danger during construction of a transmission line is related largely to the use of vehicles and other motorized equipment operating off roadways, the handling and use of explosive materials and flammable liquids, and welding.

The purpose of this plan is to outline responsibilities, notification procedures, fire prevention measures and precautions, fire suppression equipment, initial response procedures, and post-fire rehabilitation strategies related to the projects. The goal is to minimize risk of project-related fires and, in case of fire, provide for immediate suppression within the construction area. Other plans containing information related to fire protection include: Appendix A3 – Blasting Plan Methodology, Appendix A7 - Hazardous Materials Management Plan, and Appendix A8 – Emergency Preparedness and Response Plan.

1.2 Regulatory Compliance

These projects will be subject to state, county, and federally enforced laws, ordinances, rules and regulations that pertain to fire prevention and suppression activities. Key regulatory agencies include the BLM, Nevada Division of Forestry, and local fire protection agencies.

2.0 RESPONSIBILITIES

2.1 Bureau of Land Management

The BLM Fire Management Officer (FMO) will oversee all fire control activities in his/her administrative unit. The FMO will discuss fire protection stipulations at the notice to proceed meeting, which will be attended by the BLM Project Manager, the CIC and the Construction Contractor and their environmental monitors.

When fire suppression is the responsibility of the BLM, current BLM standard fire fighting rates for labor will be used. Equipment will be paid for at negotiated rates established in BLM rental agreement contracts for the particular working season. The BLM may call on the Contractor's workers and equipment in emergencies for fires outside the project areas. Payment will be made in a similar manner to that above.

2.2 Construction Contractor

It will be the responsibility of the Construction Contractor to notify the BLM when a project related fire occurs within, or adjacent to, the construction area. The contractor will be responsible for any fire started, in or out of the project areas, by its employees or operations

during construction. The contractor will be responsible for fire suppression and rehabilitation. The contractor will take aggressive action to prevent and suppress fires on, and adjacent to, the project areas, and will utilize its workers and equipment on the projects for fighting fires within the project areas

All federal, state, and county laws, ordinances, rules, and regulations, which pertain to prevention, pre-suppression, and suppression of fires, will be strictly adhered to by the Construction Contractor. All personnel will be advised of their responsibilities under the applicable fire laws and regulations.

Costs involved with Contractor-caused fires will be charged to the Contractor. There will be no extension of time for construction based on delays caused by Contractor-related fires. Specific construction-related activities and safety measures will be implemented during construction of the transmission line in order to prevent fires and to ensure quick response and suppression in the event a fire occurs as specified in this Fire Protection Plan.

Construction Crew

- If a fire starts in the project areas, the construction crew will initiate fire suppression activities on the project until relieved by appropriate fire authorities and notify the Construction Contractor's Fire Marshall (see below) when a construction fire occurs in the area.
- Available project crews will be immediately alerted when a contractor caused fire occurs in the project areas. Project tools, equipment, and trained workers will be sent immediately to control the fire.

Construction Contractor(s), Designated Fire Marshall

The Construction Contractor will designate a Fire Marshall that will be responsible for the following:

- Conduct regular inspections of tools, equipment and first aid kits for completeness.
- Conduct regular inspections of storage areas and practices for handling flammable fuels to confirm compliance with applicable laws and regulations.
- Post smoking and fire rules at centrally visible locations.
- Coordinate initial response to contractor caused fires within the project areas.
- Accompany the CIC on fire inspections of the project areas.
- Ensure that all construction workers and subcontractors are aware of the contents of this Fire Prevention Plan.
- Remain on duty when construction activity is in progress and any additional periods where fire safety is an issue.
- Report all wildfires in accordance with the notification procedures described in the notification section below.
- If a fire starts in the project areas, initiate and implement fire suppression activities until relieved by the appropriate fire agencies. Fire suppression personnel and equipment, including water trucks, will be dispatched within 15 minutes from the time a fire is reported.
- Issue current fire potential and fire safety warnings.

2.3 CIC

The CIC and the Fire Marshall will accompany the BLM FMO on fire inspections and take corrective action when notified that fire protection requirements are not in compliance. The CIC will notify the contractor to stop or reduce construction activities that pose a significant fire hazard until appropriate safeguards are taken.

2.4 Notification

The Construction Contractor's Fire Marshall will notify the CIC who will immediately notify the BLM Project Manager and the BLM's Ely or Las Vegas FMOs of a fire started in the project areas during construction. During operation and maintenance activities, the Project Proponent's maintenance crews, or contract crews will be responsible for the immediate notification of a fire started in the project areas. The Construction Contractor and the Project Proponent will have notification numbers readily available for all employees in case of fire, and will update the following emergency contact numbers (Table A6-1) for any changes prior to construction or maintenance activities for either of the projects.

| TABLE A6-1 EMERGENCY FIRE CONTACTS | |
|--|--|
| Call 911 First | |
| Nevada Division of Forestry State Forest Fire Warden: 775-684-2500 Fire Prevention Officer: 775-138-3454 or 702-486-5123 BLM Fire Calls: 911 Interagency Dispatch Center: 775-623-3444 or 800-535- 6076 Wildfire Reporting: (call Interagency Dispatch Center) | Ely BLM District Office Dispatch Office: 775-289-1925 Southern Nevada BLM District Las Vegas Field Office Dispatch Office: 702-293-8932 U.S. Forest Service Fire Calls: (call Interagency Dispatch Center) |

3.0 **FIRE PREVENTION MEASURES**

The following fire prevention measures will be implemented at all times by the Construction Contractor during construction, operation, and maintenance of the projects.

- No smoking will be allowed while operating equipment or while walking or working in areas with vegetation.
- Smoke only in cleared areas.
- In areas where smoking is allowed, completely extinguish all burning tobacco and matches and discard them in ash trays, not on the ground.
- Do not allow any fires or barbecues on the transmission line right-of-way, at material yards, substations, access roads or other construction areas.
- Instruct all field personnel about emergency response for fire events.
- Clear away all flammable material for a minimum of 10 feet, including snags (fallen or standing dead trees) from areas of operation where a spark, fire, or flame could be generated.

- If a fire does start by accident, immediate steps will be taken to extinguish it (if it is safe to do so) using available fire suppression equipment and techniques taught at field crew emergency response training that will be provided by the Construction Contractor or the Project Proponent.

4.0 ACTIVITY-RELATED PRECAUTIONS

4.1 Burning (Not Allowed)

No burning activities, campfires or barbecues will be allowed on the transmission line right-of-way, at material yards, substations, on access roads or in any other project construction areas unless pre-approved by the CIC and the BLM.

4.2 Blasting

No blasting will be performed without the notification of the CIC and the Fire Marshal. Blasting operations will follow the guidelines described in Appendix A3 – Blasting Plan Methodology. The Blasting Contractor's vehicle will be equipped with adequate fire suppression equipment (refer to Section 5.0 below).

4.3 Welding

The Construction Contractor's Construction Manager must approve any welding or cutting of power line structures or their component parts. Approved welding or cutting activities will only be performed in areas cleared of vegetation a minimum of 10 feet around the area. Welding or cutting activities will stop one hour before all fire response personnel leave a construction area to reduce the possibility of welding activities smoldering and starting a fire. Welder vehicles will be equipped with fire suppression equipment (refer to Section 5.0 below).

4.4 Spark Arresters

All equipment assigned to the projects will be inspected and approved. Internal combustion engines (stationary or mobile) will be equipped with spark arresters that meet agency standards, and for which the following guidelines will apply:

- light trucks and cars with factory installed (type) mufflers (in good condition) may be used on roads where the roadway is cleared of all vegetation
- on roads where vegetation exists, spark arresters will be used
- spark arresters will be in good working order
- vehicles equipped with catalytic converters may represent potential fire hazards and will be parked on areas cleared of vegetation

4.5 Smoking

Smoking signs and fire rules will be posted regarding the projects on the project bulletin board at the Contractor's field office, and at all showup locations, and on all portable toilet doors during the fire season (to be determined by the BLM Authorized Officer). The Contractor is responsible for and will require supervisory personnel to enforce all posted rules, will prohibit smoking except in designated areas approved by the BLM, and will prohibit smoking during any season while operating equipment, walking or working in areas of vegetation.

4.6 Warning Devices

The use of torches, fuses, highway flares, or other warning devices with open flames will be prohibited. The Construction Contractor will use only electric- or battery-operated warning devices within the project areas.

4.7 Parking and Vehicle Storage Areas

Equipment parking areas and small stationary engine sites will be cleared of all flammable materials as determined necessary by the BLM Authorized Officer. Gas and oil storage areas will be cleared of all flammable material for a distance of 100 feet with "NO SMOKING" signs posted throughout the area. All used and discarded oil filters and oily rags or other waste will be disposed of in an approved landfill. Glass jugs or bottles will not be used as containers for gasoline or other flammable materials.

4.8 Signage

"NO SMOKING" signs and fire rules will be posted at material yards and key construction sites during the fire season, as determined by BLM.

4.9 Power Saws

All gasoline powered saws will be provided with approved spark arresters/mufflers. Gasoline powered chain saws will be maintained in good condition throughout their assignment to the projects. In addition, chain saws will comply with the following requirements:

- Arresters/mufflers will contain a 0.23-inch mesh, stainless steel screen.
- During the period of use, the operator will have one long-handled, round point, size 0 shovel that will be maintained in good working order; the operator will also carry an approved belt carrying-type fire extinguisher.
- Refueling will be done in an area that has been cleared of flammable materials; power saws will be moved at least 10 feet from the place of refueling before starting (all gas will be carried in approved metal safety containers only).

4.10 Equipment Refueling

Fuel trucks will have (at a minimum) a 35-pound fire extinguisher charged with necessary chemicals to control electrical and gas fires. Helicopter fuel trucks will be grounded to the helicopter during refueling.

4.11 Access

The Construction Contractor will provide continuous access to roads for emergency vehicles during construction. The access roads could have the potential to be used as fire breaks to help in fire suppression.

5.0 MINIMUM FIRE PREVENTION AND SUPPRESSION EQUIPMENT REQUIRED

The following fire prevention and suppression equipment will be readily available and maintained in good working order at all times during project construction.

In all motorized vehicles and equipment in each active construction area (spread):

- One long handled round point shovel
- One ax or Pulaski fire tool
- One 5-pound ABC Dry Chemical Fire Extinguisher
- One 5-gallon water backpack (or other approved container) full of water or other extinguishing solution
- Hardhat, work gloves, and eye protection

In addition to the fire suppression equipment required in motorized vehicles construction work sites shall comply with the following:

- Power saws, if required for construction, equipped with an approved spark arrester and accompanied by one 5-pound ABC dry chemical fire extinguisher and a long handled, round point shovel when used away from a vehicle (see previous Section 4.9).
- Fuel service trucks shall contain one 35-pound capacity fire extinguisher charged with the necessary chemicals to control electrical and fuel fires.
- Wood cutting, welding, or other construction work sites that have a higher risk of starting fires shall have at least two long handled round point shovels and two 5-pound ABC dry chemical fire extinguishers available on-site.
- Every construction work site shall have at least one radio and/or cellular/satellite telephone to contact fire suppression agencies or the project management.
- Every at-risk work site shall include backpumps filled with water (2 at each wood cutting site, 1 at each welding site, and 2 at each tower installation or construction site, or any other at-risk activity site).

During periods of heightened fire danger, the following equipment shall be available in the construction area to aid in response to a fire situation, or stationed near high-risk construction work sites:

- One fire suppression vehicle equipped with a water tank of minimum 500 gallons capacity, 250 feet of ¾-inch heavy-duty rubber hose, and a pump with a discharge capacity of at least 20 gallons per minute. The pump shall have fuel capacity to operate for at least 2 hours.
- The fire suppression vehicle shall be outfitted with 1 tool cache for fire use only containing at a minimum: 2 long-handled round-point shovels, 2 axes or Pulaski fire tools, and 1 chainsaw of 3.5 or more horsepower with a cutting bar of at least 20 inches in length.

6.0 IN CASE OF FIRE - INITIAL RESPONSE AND EMERGENCY CONTACTS

If a fire does start in the project areas and if the fire is manageable, safely attempt to control it with a fire extinguisher or other available equipment (e.g., using shovel to throw dirt on the fire or remove small patches of vegetation). As part of the environmental compliance training program, the Construction Contractor will receive training on initial fire suppression techniques, reporting requirements how to determine if a fire is manageable and what control measures should be implemented by on-site field crews, and at what point field crews should evacuate. The training also will address how to respond to wildfires in the area and maintain knowledge of and plans for evacuation routes.

If the fire is unmanageable, field crews will evacuate and first call 911 or the district dispatch for the area (see emergency contacts listed on Table A6-1). All fires must be reported to the jurisdictional fire agency regardless of size and actions taken.

7.0 POST-FIRE REHABILITATION STRATEGIES

If the cause of a fire is determined to be the result of the project, the Construction Contractor will implement rehabilitation measures as required by BLM (refer to Appendix F – Right-of-Way Preparation, Rehabilitation and Restoration), and the following post-fire rehabilitation measures will be implemented by the Construction Contractor:

- After a fire has been extinguished, the burn areas will be reclaimed in accordance with BLM requirements. Small burn areas will be revegetated to the native vegetation using appropriate seed mixtures as identified in Appendix F. Larger burn areas may require specific restoration plans. Coordination with the BLM is necessary to determine requirements for each particular area, depending upon the size and location of a fire, and the location of sensitive resources.
- To prevent the spread of noxious weeds and invasive species during post-fire rehabilitation, the measures as outlined in the Appendix B3 – Noxious Weed Management Plan will be implemented by the Construction Contractor.

APPENDIX A7

HAZARDOUS MATERIALS MANAGEMENT GUIDELINES

TABLE OF CONTENTS

| | | |
|-----|--|-------|
| 1.0 | Introduction | A7- 1 |
| | 1.1 Purpose | A7- 1 |
| | 1.2 Regulatory Compliance | A7- 2 |
| 2.0 | Guidelines for Developing the Hazardous Materials Management Plan | A7- 3 |
| | 2.1 Certifications, Acknowledgments, and Designation of Coordinator/ Responsible Person | A7- 3 |
| | 2.2 Facilities Description and Inventory of Material | A7- 4 |
| 3.0 | Spill Prevention Procedures | A7- 5 |
| | 3.1 Overview of Hazardous Materials Proposed For Use | A7- 5 |
| | 3.2 Refueling and Servicing | A7- 6 |
| | 3.3 Transportation of Hazardous Materials | A7- 6 |
| | 3.4 Storage of Hazardous Materials | A7- 7 |
| | 3.5 Disposal of Hazardous Wastes | A7- 8 |
| | 3.6 Contaminated Containers | A7- 9 |
| | 3.7 Waste Oil Filters | A7- 9 |
| | 3.8 Used Lubricating Oil | A7- 9 |
| 4.0 | Spill Control and Countermeasures | A7-10 |
| | 4.1 Physical and Procedural Response Measures | A7-10 |
| | 4.2 Employee Spill Prevention/Response Training and Education | A7-11 |
| 5.0 | Notification and Documentation Procedures | A7-12 |
| | 5.1 Required Notification | A7-12 |
| | 5.2 Documentation | A7-13 |
| 6.0 | Operations and Maintenance | A7-14 |

Sample Hazardous Forms and Management Forms

LIST OF TABLES

| | | |
|------|--|-------|
| A7-1 | Standard Spill Information Requested By Agencies | A7-12 |
|------|--|-------|

LIST OF FIGURES

| | | |
|------|--|-------|
| A7-1 | Sample Hazardous Waste Label for On-Site Storage | A7- 8 |
|------|--|-------|

1.0 INTRODUCTION

The Hazardous Materials Management Guidelines for the projects are intended to reduce the risks associated with the use, storage, transportation, production, and disposal of hazardous materials (including hazardous substances and wastes). These guidelines address spill prevention, response, and clean-up procedures for the projects. These guidelines provide a template for the development of a more detailed Hazardous Materials Management Plan and, if necessary, Spill Prevention Control and Countermeasures (SPCC) Plan, to be developed by the Construction Contractor, which will identify specific legal requirements and practices to achieve these goals.

The term “hazardous materials,” as presented in these guidelines, will refer to hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, and materials designated as hazardous for transportation as defined in 49 CFR 171.8.

The Hazardous Materials Management Plan will clearly identify which legal requirements apply to specific types of hazardous materials and will identify best management practices which, although not legally required, will be followed to reduce risks associated with hazardous materials. Nothing in these guidelines or in the Hazardous Materials Management Plan shall be construed as an admission regarding the legal applicability of requirements or practices to any particular class of hazardous material.

1.1 Purpose

The goal of these guidelines is to: (1) minimize the potential for a spill of fuel or other hazardous material; (2) contain any spillage to the smallest possible area; (3) protect areas that are environmentally sensitive; and (4) provide a template for the development of a more detailed Hazardous Materials Management Plan (to be developed by the Construction Contractor). These guidelines include the following components:

- Guidelines for developing the Hazardous Materials Management Plan
- Spill prevention procedures related to the transportation, storage, and disposal of hazardous materials
- Spill control, response, and clean-up methods
- An overview of the notification and documentation procedures to be followed in the event of a spill
- Operation and maintenance considerations

In addition, sample hazardous materials management forms (that may be used as examples by the Construction Contractor) are provided at the end of this appendix.

In general, hazardous materials, hazardous wastes, and clean-up equipment will be stored in approved containers until they can be properly transported and disposed of at an approved treatment, storage, and disposal facility (TSDF). Persons responsible for handling or transporting hazardous materials for the projects will be trained in the proper use/management of the materials and should be familiar with all applicable laws, policies, procedures, and mitigation measures related to such handling or transportation.

It is the responsibility of the Construction Contractor to maintain file records of proper training/certification for any individual(s) that may potentially handle hazardous materials for the projects. The Project Proponent reserves the right to audit any subcontractors to ensure compliance.

1.2 Regulatory Compliance

Major legislation pertaining to hazardous materials includes the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Resource Conservation and Recovery Act (RCRA), Clean Air Act, and Clean Water Act.

Numerous other federal, state, and local regulations also govern the use, storage, transportation, production, and disposal of hazardous materials. Some of the key requirements of these laws are outlined in:

Occupational Safety and Health Administration (OSHA) (29 CFR 1900-1910)

- 28 CFR 1900-1910 Occupational Safety and Health Act
- 29 CFR 1904 Recording and Reporting Occupational Injuries and Illness
- 29 CFR 1910.1200 Hazard Communication
- 29 CFR 1926 Safety and Health Regulations for Construction

Clean Water Act (40 CFR 100-149)

- 40 CFR 110 Discharges of Oil
- 40 CFR 112 Oil Pollution Prevention
- 40 CFR 116 Designation of Hazardous Substances
- 40 CFR 117 Determination of Reportable Quantities for Hazardous Substances
- 40 CFR 122 The National Pollutant Discharge Elimination System (NPDES) Permit Program
- 40 CFR 125 Criteria and Standards for the NPDES
- 40 CFR 129 Toxic Pollutant Effluent Standards
- 40 CFR 131 Water Quality Standards
- 40 CFR 141- 149 Safe Drinking Water Act

Clean Air Act (40 CFR 50-99)

- 40 CFR 50 National Ambient Air Quality Standards
- 40 CFR 61-63 National Emissions Standards for Hazardous Air Pollutants

Toxic Substances Control Act (TSCA) (40 CFR 700-799)

- 40 CFR 710 TSCA Chemical Inventory Regulations
- 40 CFR 761 PCBs Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions

CERCLA/Superfund Amendments and Reauthorization Act (40 CFR 300-399)

- 40 CFR 300 National Oil and Hazardous Substances Pollution Contingency Plan
- 40 CFR 302 Designation, Reportable Quantities, and Notification
- 40 CFR 355 Emergency Planning and Notification
- 40 CFR 370 Hazardous Chemical Reporting: Community Right-to-Know
- 40 CFR 372 Toxic Chemical Release Reporting: Community Right-to-Know

Solid and Hazardous Wastes (40 CFR 239-299)

- 40 CFR 201-211 Noise Abatement Programs
- 40 CFR 243 Guidelines for the Storage and Collection of Residential, Commercial, and Institutional Solid Waste
- 40 CFR 260 Hazardous Waste Management System: General
- 40 CFR 261 Identification and Listing of Hazardous Waste
- 40 CFR 262 Standards Applicable to Generators of Hazardous Waste
- 40 CFR 263 Standards Applicable to Transporters of Hazardous Waste
- 40 CFR 273 Standards for Universal Waste Management
- 40 CFR 279 Standards for the Management of Used Oil

Hazardous Materials Transportation Act (49 CFR 100-199)

- 49 CFR 130 Oil Spill Prevention and Response Plans
- 49 CFR 171 General Information, Regulations, and Definitions
- 49 CFR 172 Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements
- 49 CFR 177 Carriage by Public Highway

Nevada Specific Regulations

- Nevada Administrative Code (NAC) 444.440 - 444.465 & Nevada Revised Statutes (NRS) 444.570 - 444.7499 Disposal of Solid Waste
- NAC 459 & NRS 459 Hazardous Materials
- NAC 445A & NRS 445A Water Pollution/Water Controls
- NAC 445B & NRS 445B Air Pollution/Air Controls
- NAC 445C & NRS 445C Environmental Requirements
- NAC 455 & NRS 455 Excavations and High-Voltage Lines

2.0 GUIDELINES FOR DEVELOPING THE HAZARDOUS MATERIALS MANAGEMENT PLAN

The following sections provide specific guidelines for the Construction Contractor to prepare the Hazardous Materials Management Plan and the Spill Prevention, Control, and Countermeasure (SPCC) Plan, if applicable per 40 CFR 112. The Construction Contractor shall provide all information requested in the forms at the end of this appendix to the Project Proponent. In addition, the Contractor shall complete any other required county, state, or federal forms.

2.1 Certifications, Acknowledgments, and Designation of Coordinator/Responsible Person

2.1.1 Certifications

The Construction Contractor shall certify that all of the information provided in the Hazardous Materials Management Plan is accurate and complete to the best of their knowledge. The Construction Contractor also shall certify that they are committed to implementing the plan as written. If an SPCC plan is required, per the requirements of 40 CFR 112, the Construction Contractor additionally may be required to have the plan reviewed and certified by a registered professional engineer.

2.1.2 Amendments

The Construction Contractor shall agree to make all necessary and appropriate amendments to the Hazardous Materials Management Plan and submit any and all such amendments to the Project Proponent and the appropriate county (if required), state, or federal authorities within seven days of finding that an amendment is necessary.

Amendments to the Hazardous Materials Management Plan shall be necessary under any of the following circumstances:

- Applicable laws or regulations are revised
- A 100 percent or more increase of a previously disclosed hazardous material
- Any handling of a previously undisclosed hazardous material subject to inventory requirements
- A change in formulation of a previously disclosed hazardous material (e.g., solid to liquid)
- A change of business address, name, or ownership
- The list of emergency coordinators changes
- The list of emergency equipment changes

The Construction Contractor may be required to amend any SPCC Plan, as required by the applicable regulations.

2.1.3 Responsible Person

The Construction Contractor shall identify an emergency coordinator for hazardous materials management and emergency response. Two alternates shall also be identified. Business, residential, and mobile phone or pager numbers shall be provided for all three persons, as necessary, to allow for contact on a 24-hour basis. Primary and alternate emergency response coordinators shall be knowledgeable of the chemicals and processes involved in construction of the projects, and will have the authority to commit Construction Contractor resources to implement the plan. They also shall have stop-work authority in case of non-compliance or danger to human health or the environment.

2.2 Facilities Description and Inventory of Material

2.2.1 Site Map

The Construction Contractor will provide a site map/facility map in the Hazardous Materials Management Plan that contains storage and safety precautions for hazardous materials and hazardous wastes. All maps must be provided on standard 8½ x 11-inch paper and shall, at a minimum, indicate the following:

- Orientation and scale
- Total land area in square feet
- Access and egress points
- Buildings and/or temporary trailers
- Parking areas

- Adjacent land uses (if business, indicate business name)
- Surrounding roads, storm drains, and waterways (including streams and wetlands)
- Locations of hazardous materials and hazardous waste storage areas
- Underground and aboveground tanks
- Containment or diversion structures (dikes, berms, retention ponds)
- Shutoff valves and/or circuit breakers
- Location of emergency response materials and equipment
- Location of material safety data sheets (MSDS), the Hazardous Materials Management Plan, and the SPCC Plan
- Location of emergency assembly area

2.2.2 Inventory

The Construction Contractor shall provide a complete inventory of all hazardous materials. The Construction Contractor shall be responsible for consulting with the relevant agencies if they handle extremely hazardous substances. All inventory forms shall be provided to the Construction Contractor by the Project Proponent as a part of their Hazardous Materials Management Plan.

3.0 SPILL PREVENTION PROCEDURES

Construction, operation, and maintenance of the projects will require the use of certain potentially hazardous materials, such as fuels, oils, explosives, and herbicides. By definition, hazardous materials (substances and wastes) have the potential to pose a significant threat to human health and the environment based upon their quantity, concentration, or chemical composition. When stored, used, transported, and disposed of properly, as described below, the risks associated with these materials can be reduced substantially.

3.1 Overview of Hazardous Materials Proposed For Use

The following project-specific measures pertain to all vehicle refueling and servicing activities as well as the storage, transportation, production, and disposal of hazardous materials/wastes. These measures are intended to prevent the discharge of fuels, oils, gasoline, and other harmful substances to waterways, groundwater aquifers, and/or other sensitive resource areas during project construction and maintenance.

Hazardous materials used during project construction may include petroleum products such as gasoline, diesel fuel, and hydraulic fluid; lubricating oils and solvents; cleansers; explosives; and other substances. Some of these materials will be used in relatively large quantities at material yards and in rare instances on the right-of-way to operate and maintain equipment during construction. Explosives will be used for blasting rock where needed to install transmission towers and associated access roads (refer to Appendix A3 – Blasting Plan Methodology).

Smaller quantities of other materials such as pesticides and fertilizers, paints, and chemicals (e.g., sulfur hexafluoride), may be used during project operation and maintenance. Pesticides and herbicides are hazardous materials and they will be used according to labeling (see also Appendix B3 – Noxious Weed Management Plan). The Construction Contractor will maintain an

inventory of all hazardous materials used and material safety data sheets (MSDSs) for all materials. The Construction Contractor shall maintain copies of the required MSDSs for each hazardous chemical, and shall ensure that they are readily accessible during each work shift, to all employees when they are in their work area(s). The MSDSs will provide basic emergency response information for small and large releases of the hazardous materials. In the case that bulk hazardous materials are used, the Emergency Response Guidebook, produced by the USDOT, is an acceptable reference. The Construction Contractor should have a well-developed Hazardous Material Program in place and work to use non-hazardous substances in routine construction and maintenance activities, to the extent possible.

3.2 Refueling and Servicing

Construction vehicles (trucks, bulldozers, etc.), helicopters, and equipment (pumps, generators, etc.) generally will be fueled and serviced in designated areas at least 100 feet from streams (including intermittent and perennial) and wetlands (including dry or seasonal wetlands). Refueling locations generally should be flat to minimize the chance of a spilled substance reaching a stream. In most cases, smaller rubber-tired vehicles will be refueled and serviced at local gas stations or material yards. Tracked vehicles typically will be refueled and serviced on site. In some cases, pickup trucks or tankers will be used to refuel and service construction vehicles on the right-of-way. Every effort will be made to minimize the threat of a fuel spill during refueling and servicing. Fuel/service vehicles will carry a suitable absorbent material to collect approximately 20 gallons of spilled materials. In addition, all vehicles will be inspected for leaks prior to being brought on-site and regularly throughout the construction period.

Washing of construction vehicles, such as concrete trucks, will be allowed only in designated areas at least 100 feet from streams and wetlands (as defined above). Washing areas will be contained with berms/barriers to prevent migration of wastewater and/or sediments into streams and waterways. Waste concrete material will be removed and properly disposed of once it has hardened. Additionally, all preventative measures, identified in Appendix B3 – Noxious Weed Plan, Section 3.2, will be followed, specifically relating to vehicle washing procedures.

3.3 Transportation of Hazardous Materials

Procedures for loading and transporting fuels and other hazardous materials will meet the minimum requirements established by the USDOT and NDOT and other pertinent regulations. Prior to transporting hazardous materials, appropriate shipping papers shall be completed. Transportation of hazardous materials should be performed by a hazardous material transport firm in accordance with USDOT regulations. In addition, the Construction Contractor(s) will ensure that all handling or packaging of hazardous materials and all paperwork for transport of hazardous materials is performed by properly trained personnel, in accordance with USDOT and NDOT regulations.

At all times, all hazardous materials used for the projects will be properly stored in approved USDOT containers and labeled, including during transportation. Smaller containers will be used on-site to transport needed amounts of hazardous materials to a specific location. Transfer of materials from large to small containers will be performed using appropriate equipment, including pumps, hoses, and safety equipment; hand pouring techniques will not be utilized.

These smaller (“service”) containers also will be clearly labeled. Special provisions apply to the transportation of explosives (refer to Appendix A3 – Blasting Plan Methodology).

3.4 Storage of Hazardous Materials

Hazardous materials will be stored only in designated material yards. Material yards will be located at least 100 feet from the edge of perennial and intermittent streams, wetlands (including dry or seasonal wetlands), and sensitive areas and shall be able to contain the single largest quantity/unit stored at any one time, plus 10 percent. If material yards cannot be located at least 100 feet from streams and wetlands because of topographic conditions or space limitations, special precautions will be taken to prevent the spill or release of hazardous materials into the waterway. These precautions will include limiting the quantity and amount of time such materials are stored near waterways, fortifying barriers, or providing additional containment between hazardous materials and the waterway, and using trained personnel to monitor activities at the yard. Clean-up materials, including absorbent spill pads and plastic bags, will also be stored in these areas. The Construction Contractor will specify the appropriate spill kit containing these materials in the Hazardous Materials Management Plan. Hazardous materials will not be stored in areas subject to flooding or inundation. The Construction Contractor shall coordinate with the CIC when storage areas cannot be located at least 100 feet from streams and wetlands.

3.4.1 Physical Storage Requirements

- *Storage Containers:* Containers holding hazardous waste or materials shall be compatible with the wastes or materials stored. If the container is damaged or leaks, the waste must be transferred to a container in good condition. The Construction Contractor shall inspect containers at least weekly to verify the integrity of the containers and any containment systems. Containers used for transportation must comply with the USDOT and NDOT requirements.
- *Incompatible Materials:* Materials, including hazardous wastes shall not be placed in containers that previously held an incompatible waste or material.
- *Ignitable or Reactive Materials:* Containers holding hazardous wastes or materials that may ignite or are reactive must be located at least 50 feet from the material yard’s property line. “NO SMOKING” signs shall be conspicuously placed wherever there is a hazard from ignitable or reactive material.
- *Container Management:* Containers holding hazardous wastes shall be kept closed at all times, except when it is necessary to add or remove contents. Before the handling and/or transportation of containers carrying hazardous wastes, the containers should be inspected to ensure that they are sealed such that no material spillage occurs.
- *Secondary Containment:* Secondary containment will consist of bermed or diked areas that are lined and capable of holding 110 percent of the volume of the stored material and shall be provided for liquid hazardous materials stored on-site.
- *Security:* Hazardous wastes and materials will be stored in secure areas to prevent damage, vandalism, or theft. All storage containers shall remain sealed when not in use and storage areas shall be secured (gated, locked, and/or guarded) at night and/or during non-construction periods.
- *Explosives:* Storage of explosives is discussed in Appendix A3 – Blasting Plan Methodology.

3.4.2 Container Labeling Requirements

The Construction Contractor(s) shall comply with the following labeling requirements for any container (including tanks) used on-site to store accumulated hazardous wastes. Figure A7-1 shows an example of a hazardous waste label for on-site storage. The containers shall be labeled with the information below and as required in 40 CFR 262.

- The accumulation start date and/or the date the 90-day storage period began
- The words: "Hazardous Waste"
- The composition and physical state of the wastes
- Warning words indicating the particular hazards of the waste, such as: flammable, corrosive, or reactive
- The name and address of the facility that generated the waste

| HAZARDOUS WASTE | |
|--------------------------------------|-------|
| Contents: | _____ |
| Physical State (gas, liquid, solid): | _____ |
| Accumulation Start Date: | _____ |
| Hazards: | _____ |
| Name and Address of Generator: | _____ |
| | _____ |
| Contact Person: | _____ |
| Telephone: | _____ |
| HANDLE WITH CARE! | |
| CONTAINS HAZARDOUS OR TOXIC WASTES | |

**FIGURE A7-1
SAMPLE HAZARDOUS WASTE LABEL FOR ON-SITE STORAGE**

3.5 Disposal of Hazardous Wastes

Hazardous wastes will be collected regularly and disposed of in accordance with all applicable laws and regulations. The Construction Contractor shall determine details on the proper handling and disposal of hazardous waste, and shall assign responsibility to specific individuals prior to construction of the projects.

Every effort will be made to minimize the production of hazardous waste during the projects, including, but not limited to, minimizing the amount of hazardous materials needed for the project; using alternative non-hazardous substances when available; recycling usable material such as oils, paints, and batteries to the maximum extent; and filtering and reusing solvents and thinners whenever possible.

Any generator of hazardous waste must apply for an Environmental Protection Agency (EPA) Identification (ID) Number. The ID number is needed to complete the Uniform Hazardous Waste Manifest to ship wastes off-site. A generator can accumulate hazardous wastes on-site for a period of up to 90 days without having to obtain a permit as a storage facility.

3.6 Contaminated Containers

Containers that once held hazardous materials as products or that held hazardous wastes must be considered as potential hazardous wastes due to the possible presence of residual hazardous material. Regulations specify certain requirements, listed below, for the container to be handled as a non-hazardous waste.

- The containers must be empty, which means as much of the contents have been removed as possible using the practices commonly employed to remove materials from that type of container (e.g., pouring, pumping, and aspirating) so that none will pour out in any orientation.
- A container that held compressed gas is empty when the pressure in the container approaches atmospheric.
- If empty containers are less than five gallons, they may be disposed of as a non-hazardous solid waste or scrapped.
- If the empty containers are greater than five gallons, they must be handled in the following manner:
 - Returned to the vendor for re-use
 - Sent to a drum recycler for reconditioning
 - Used or recycled on-site
- All these actions must occur within 1 year of the container being emptied.

3.7 Waste Oil Filters

Used metal canister oil filters can be managed as non-hazardous wastes if:

- They are thoroughly drained of “free flowing” oil (oil exiting drop-by-drop is not considered “free flowing”)
- The filters are accumulated, stored, and transferred in a closed, rainproof container
- The filters are transferred for the purposes of recycling
- The filters are not terne-plated (an alloy of tin and lead)

Terne-plated oil filters are a hazardous waste, exhibiting the hazardous characteristic of lead. Terne-plated oil filters that are not recycled must be managed as a hazardous waste.

3.8 Used Lubricating Oil

Lubrication oil is considered a used oil, as listed below:

- Any oil that has been refined from crude oil, and has been used, and as a result of use, has been contaminated with physical or chemical impurities
- Any oil that has been refined from crude oil and, as a consequence of extended storage, spillage, or contamination with non-hazardous impurities such as dirt, rags, and water, is no longer useful to the original purchaser
- Spent lubricating fluids that have been removed from a truck, heavy equipment, automobile, or bus

Used oil may be a hazardous waste if:

- The concentrations of polychlorinated biphenyls exceed 50 parts per million
- Total halogens exceed 1,000 parts per million
- Mixed with a hazardous waste

Used oil not being burned or recycled must be managed as a hazardous waste unless it is determined to be non-hazardous through laboratory analysis.

4.0 SPILL CONTROL AND COUNTERMEASURES

The following section outlines the physical and procedural steps to be taken in the event of a spill to be included in conjunction with any countermeasures identified in the SPCC. In general, the Construction Contractor will oversee all clean-up activities, including providing necessary materials and labor, and performing all reporting and documentation as required. All spills, regardless of quantity, will be reported to the CIC. The responsibilities of the CIC are defined in Section 2.1.3 of this COM Plan.

4.1 Physical and Procedural Response Measures

Physical response actions are intended to ensure that all spills are promptly and thoroughly cleaned up. However, the first priority in responding to any spill is personal and public safety. Construction personnel will be notified of evacuation procedures to be used in the event of a spill emergency, including evacuation routes. In general, the first person on the scene will:

- Attempt to identify the source, composition, and hazard of the spill
- Notify appropriately trained personnel immediately
- Isolate and stop the spill, if possible, and begin clean-up (if it is safe)
- Initiate evacuation of the area, if necessary
- Initiate reporting actions

Persons should only attempt to clean-up or control a spill if they have received proper training and possess the appropriate protective clothing and clean-up materials. Untrained individuals should notify the appropriate response personnel. In addition to these general guidelines, persons responding to spills will consult the Emergency Preparedness Plan and the MSDSs or USDOT Emergency Response Guidebook (to be maintained by the Construction Contractor[s] on-site during all construction activities), which outlines physical response guides for hazardous materials spills.

In general, expert advice will be sought to properly clean-up major spills. For spills on land, berms will be constructed to contain the spilled material and prevent migration of hazardous materials toward waterways. Dry materials will not be cleaned up with water or buried. Contaminated soils will be collected using appropriate machinery, stored in suitable containers, and properly disposed of in appropriately designated and approved areas off-site. After contaminated soil is recovered, all machinery used will be decontaminated, and recovered soil will be treated as hazardous waste. Contaminated clean-up materials (absorbent pads, etc.) and vegetation will be disposed of in a similar manner. For spills, clean-up may be verified by sampling and laboratory analysis, at the discretion of the Project Proponent.

If spilled materials reach water, appropriate materials such as booms and skimmers will be used to contain and remove contaminants. Other actions will be taken, as necessary, to clean-up contaminated waters. If construction activity occurs within a wetland with standing water or a flowing stream prior to construction, absorbent booms will be placed on the water surface either around or downstream of the construction zone. For example, during construction of a stream crossing, an absorbent boom would be placed in a flowing stream just downstream of the construction site. In addition to this measure, clean-up materials including absorbent spill pads and plastic bags will be placed on-site at flowing streams and “wet” wetlands when construction is occurring within 100 feet of these areas (also refer to Appendix E – Storm Water Pollution Prevention Plan Methodology).

4.1.1 On-Site Equipment

The Construction Contractor is responsible for designating locations and contents of spill kits to be used during project construction. The following guidance is provided in developing the contents of a spill kit. The location and minimum inventory for each spill kit must be documented in the Hazardous Materials Management Plan.

Emergency spill response kits will be maintained at all locations where hazardous materials are stored, in sufficient quantities based on the amount of materials stored on-site. Spill response equipment should be compatible with types of materials stored on-site. Spill response equipment should be inventoried regularly to ensure spill response equipment is adequate for the type and quantities of materials being used. The following equipment, are examples of spill response equipment for use in clean-up situations:

- Shovels
- Absorbent pads/materials
- Personal protective gear
- Medical first-aid supplies
- Bung wrench (non-sparking)
- Phone list with emergency contact numbers
- Storage containers
- Communications equipment

In addition, radios or other communication equipment will be maintained in construction vehicles and other easily accessible locations. Additional clean-up materials may be required, as specified in the SPCC Plan.

4.2 Employee Spill Prevention/Response Training and Education

The Construction Contractor and subcontractors shall provide spill prevention and response training to appropriate construction personnel (refer to Occupational Safety and Health Act requirements in Nevada, 29 CFR Sec. 1910.1200). Persons accountable for carrying out the procedures specified herein will be designated prior to construction and informed of their specific duties and responsibilities with respect to environmental compliance and hazardous materials. The training shall inform appropriate personnel of site-specific environmental compliance procedures. Training of personnel should be completed at least once a year. All training events should be documented, including the date and names of those personnel in

attendance. These records shall be maintained with the SPCC Plan and/or Hazardous Materials Management Plan. At a minimum, this training shall include the following:

- An overview of regulatory requirements
- Methods for the safe handling/storage of hazardous materials
- Spill prevention procedures
- Emergency response procedures
- Use of personal protective equipment
- Use of spill clean-up equipment
- Procedures for coordinating with emergency response teams
- Procedures for notifying agencies
- Procedures for documenting spills
- Identification of sites/areas requiring special treatment, if any

5.0 NOTIFICATION AND DOCUMENTATION PROCEDURES

Notification and documentation procedures for spills that occur during project construction, operation, or maintenance will conform to applicable federal, state, and local laws and regulations. Adherence to such procedures will be the top priority once initial safety and spill response actions have been taken. The following sections describe the notification and documentation procedures, and should be implemented in conjunction with the response procedures listed in the Hazardous Materials Management Plan.

5.1 Required Notification

Notification will begin as soon as possible after discovery of a spill. The individual who discovers the spill will contact the CIC. If the Construction Contractor determines that the spill may seriously threaten human health or the environment, he/she will orally report the discharge as soon as possible, but no later than 24 hours from the time they become aware of the circumstances, as directed below. A written report must be submitted to Nevada Division of Environmental Protection (NDEP) within 10 days. Prior to initiating notification, the Construction Contractor (or individual initiating notification) should obtain as much information as possible (see Table A7-1 for standard information requested by agencies).

| TABLE A7-1 STANDARD SPILL INFORMATION REQUESTED BY AGENCIES | |
|---|--|
| When notifying a regulatory agency, the following information should be provided: | |
| <input type="checkbox"/> current threats to human health and safety, include known injuries, if any <input type="checkbox"/> spill location, including landmarks and nearest access route <input type="checkbox"/> reporter's name and phone number <input type="checkbox"/> time spill occurred <input type="checkbox"/> type and estimated amount of hazardous materials involved <input type="checkbox"/> potential threat to property and environmental resources, especially streams and waterways <input type="checkbox"/> status of response actions | |

The following mandatory notifications will be made by the Construction Contractor. These numbers should be documented in the SPCC plan, along with the contact information for the clean-up contractor. Select and notify the appropriate government agencies based on geographic location of the spill site.

- NDEP (24 hours) (775) 687-9485 or toll free (888) 831-6337.
- If spill threatens human health, call the Nevada Highway Patrol Dispatch at (775) 688-2830 or (702) 486-4114 or 911, and the appropriate county response.
- National Response Center (NRC) (800) 424-8802. The NRC should be notified of a reportable spill as required by 40 CFR 110, 40 CFR 117, and/or 49 CFR 171.

The Construction Contractor will verify and update these emergency phone numbers before and during construction. The Construction Contractor (or other person in charge) will notify the CIC of all spills or potential spills within construction areas.

When a spill poses a direct and immediate threat to health and safety and/or property, the BLM and landowners potentially affected by a spill will be notified directly by the Construction Contractor. Immediate notification of BLM and landowners is required for all situations in which the spill poses a direct and immediate threat to health and safety and/or property. Failure to report a spill could result in substantial penalties and fines (up to \$25,000 per day).

5.1.1 Reporting Criteria - Nevada

The Construction Contractor and subcontractors are required to report all hazardous materials spills to the CIC. NDEP must be notified by the Construction Contractor as soon as possible, but no later than the end of the first working day of the release. NDEP reporting requirements apply for the following types of petroleum product releases:

- greater than 25 gallons of petroleum products released to land surface
- any petroleum release in or on the groundwater
- greater than 3 cubic yards of petroleum contaminated soil discovered during any subsurface activity
- any release to surface water

The reportable quantities for hazardous substances are based on Federal EPA guidelines established under 40 CFR 302. Any spill that affects a waterway within the State of Nevada must be reported, regardless of quantity.

5.2 Documentation

The Construction Contractor will maintain records for all spills. State and federal agencies that have been verbally notified of a spill will be informed in writing within 10 days for state agencies and 30 days for federal agencies.

The Construction Contractor shall record spill information in a daily log. The following is a list of items that should be included in the daily log (as appropriate, based on the spill incident):

- time and date of each log entry
- name of individual recording log entry
- list of all agencies notified, including name of individual notified, time, and date
- type and amount of material spill
- resources affected by spill

- list of response actions taken, including relative success
- copies of letters, permits, or other communications received from government agencies throughout the duration of the spill
- copies of all outgoing correspondence related to the spill
- photographs of the response effort (and surrounding baseline photographs if relevant)

Maintaining detailed and organized records during a spill incident is an important and prudent task. One Construction Contractor representative should be designated to manage the records for an incident. If extensive spill response and clean-up operations are required, the Construction Contractor may choose to assign an individual to assist in the documentation process. This person will track and manage all expenditures (i.e., equipment, personnel/labor hours, and associated resources) and will help supplement the information provided in the daily log book.

6.0 OPERATIONS AND MAINTENANCE

During the project's operation and maintenance phase, the Project Proponent will ensure that its facilities, personnel, and contractors comply with federal, state, and local laws and regulations pertaining to the use, storage, transport, and disposal of hazardous materials and adhere to required emergency response and clean-up procedures in the event of a hazardous material spill. Project Proponent and all operations and maintenance subcontractors shall develop hazardous materials management and response plans and properly train employees for handling, packaging, and shipping hazardous materials and responding to hazardous materials spills or emergency events.

**SAMPLE
HAZARDOUS MATERIALS
MANAGEMENT FORMS**

**CERTIFICATIONS, ACKNOWLEDGMENTS AND DESIGNATION
OF EMERGENCY COORDINATOR**

The Construction Contractor(s) responsible for managing the material yards shall complete and submit the following information:

GENERAL INFORMATION

Business Name

Facility Street Address

City County Zip Code Phone ()

Mailing Address (if different)

City County Zip Code Phone ()

EMERGENCY COORDINATOR

Primary Emergency Coordinator Business Phone () 24-hour Phone () Pager/Cellular Phone ()

1st Alternate Business Phone () 24-hour Phone () Pager/Cellular Phone ()

2nd Alternate Business Phone () 24-hour Phone () Pager/Cellular Phone ()

* Certification is only necessary if an SPPC Plan is required (see Section 2.1)

SPILL PREVENTION, CONTROL, AND COUNTERMEASURE

The Construction Contractor(s) shall identify all sources of potential spills, including tank overflow, rupture, or leakage. Spill Prevention Control and Countermeasure information must be included for all containers with a capacity of 55 gallons or greater that contain oil, including petroleum, fuel oil, sludge, oil refuse, and oil mixed with waste.

(1) Material: _____ Total Quantity: _____
Location of use: _____
Potential direction of flow: _____ Maximum rate of flow: _____
Structures of equipment to contain spills: _____

(2) Material: _____ Total Quantity: _____
Location of use: _____
Potential direction of flow: _____ Maximum rate of flow: _____
Structures of equipment to contain spills: _____

(3) Material: _____ Total Quantity: _____
Location of use: _____
Potential direction of flow: _____ Maximum rate of flow: _____
Structures of equipment to contain spills: _____

(4) Material: _____ Total Quantity: _____
Location of use: _____
Potential direction of flow: _____ Maximum rate of flow: _____
Structures of equipment to contain spills: _____

EMERGENCY CHECKLIST

**** DIAL 911 FOR EMERGENCY RESPONSE****

| | | |
|------------------------|---------------------|---------------------|
| Emergency Coordinator: | _____ () _____ () | _____ () _____ () |
| | (day phone) | (night phone) |
| First Alternate: | _____ () _____ () | _____ () _____ () |
| | (day phone) | (night phone) |
| Second Alternate: | _____ () _____ () | _____ () _____ () |
| | (day phone) | (night phone) |

Contractor

Telephone Number

Address

EMERGENCY NUMBERS

Emergency Response
(Ambulance, Fire, Police, Sheriff, Nevada Highway Patrol) call 911

Poison Control Center (800) 446-6179

Nearest Hospitals (2) _____ Phone: _____

_____ Phone: _____

Cleanup Contractor _____ Phone: _____

Other (specify) _____ Phone: _____

Other (specify) _____ Phone: _____

AGENCY NOTIFICATIONS (to be made by the Project Proponent's environmental manager or environmental field supervisor or emergency response coordinator)

Nevada Division of Emergency Management (775) 688-2830

Nevada Division of Environmental Protection (775) 687-9485 (out of state) or
(888) 831-6337 (in state)

National Response Center (800) 424-8802

Other (specify) _____ : Phone #: _____

Other (specify) _____ : Phone #: _____

[Note: The Construction Contractor(s) shall verify and update the emergency numbers on this page before and during project construction.]

WEEKLY HAZARDOUS MATERIALS/WASTE INSPECTION LOG

For each item listed below, the Construction Contractor(s) shall indicate whether existing conditions are acceptable (A) or unacceptable (U). Resolution of all unacceptable conditions must be documented. The Construction Contractor(s) shall inspect all storage facilities on a regular basis, but not less than weekly. The Construction Contractor(s) shall keep records of all inspections on file.

I. STORAGE AREAS FOR FUELS, LUBRICANTS, AND CHEMICALS

General

A/U

- Material yard and storage areas secured
- National Fire Protection Association 704 system symbol posted in storage area or at material yard entrance
- Storage areas properly prepared and signed
- No evidence of spilled or leaking materials
- Incompatible materials separated
- All containers labeled properly
- All containers securely closed
- All containers upright
- No evidence of container bulging, damage, rust, or corrosion
- Material Safety Data Sheets available
- Hazardous Materials Management and Spill Prevention Plan available

Secondary Containment Areas

A/U

- Containment berm intact and capable of holding 110% of material stored
- Lining intact
- No materials overhanging berms
- No materials stored on berms
- No flammable materials used for berms

Compressed Gases

A/U

- Cylinders labeled with contents
- Cylinders secured from falling
- Oxygen stored at least 25 feet away from fuel
- Cylinders in bulk storage are separated from incompatible materials by fire barriers or by appropriate distance

II. HAZARDOUS WASTE MANAGEMENT

Waste Container Storage

A/U

- _____ No evidence of spilled or leaking wastes
- _____ Adequate secondary containment for all wastes
- _____ Separate containers for each waste stream - no piles
- _____ Waste area not adjacent to combustibles or compressed gases
- _____ All containers securely closed
- _____ Bungs secured tightly
- _____ Open-top drum hoops secured
- _____ All containers upright
- _____ No evidence of container bulging, corrosion
- _____ No severe container damage or rust
- _____ Containers are compatible with waste (e.g., plastic liner for corrosives, metal liner for solvents)
- _____ No smoking and general danger/warning signs posted

Waste Container Labeling

A/U

- _____ Containers properly labeled
- _____ Name, address, and EPA ID number or ID Number of generator listed
- _____ Accumulation start date listed
- _____ Storage start date listed
- _____ Chemical and physical composition of waste listed
- _____ Hazardous properties listed

Nonhazardous Waste Areas

A/U

- _____ No litter in material yard
- _____ No hazardous wastes with trash (e.g., contaminated soil, oily rags, or other oily materials)
- _____ Empty oil and aerosol containers for disposal as non-hazardous waste are completely emptied

APPENDIX A8

EMERGENCY PREPAREDNESS AND RESPONSE PLAN GUIDELINES

TABLE OF CONTENTS

| | | |
|-----|---|-------|
| 1.0 | Introduction | A8- 1 |
| 1.1 | Purpose | A8- 1 |
| 1.2 | Regulatory Compliance | A8- 1 |
| 2.0 | Responsibilities | A8- 1 |
| 3.0 | Response Coordination..... | A8- 2 |
| 4.0 | Emergency Communications | A8- 2 |
| 4.1 | Emergency Contact List | A8- 2 |
| 5.0 | Hazard Identifications and Key Response Criteria..... | A8- 2 |

LIST OF TABLES

| | | |
|------|------------------------------|-------|
| A8-1 | Emergency Contact List | A8- 3 |
|------|------------------------------|-------|

1.0 INTRODUCTION

These Emergency Preparedness and Response Plan Guidelines are intended to provide an overview of methods to be implemented if the need for emergency management is imminent. The existing support structure, chain of command, and emergency communications protocols discussed herein are to be used as a guide for an Emergency Preparedness and Response Plan to be completed by the Project Proponent's Construction Contractor and approved by BLM. More specific emergency procedures for blasting, fire, and hazardous materials are included in Appendices A3 – Blasting Plan Methodology, A6 – Fire Protection Plan, and A7 – Hazardous Materials Management Plan.

1.1 Purpose

The purpose of an Emergency Preparedness and Response Plan is to provide clear procedures and information that will enable the Project Proponent, Construction Contractor, the CIC, and BLM Project Manager to prepare for and effectively respond to emergency situations. The primary objective of this plan is to prevent adverse impacts to human health and safety, property, and the environment that could potentially occur as a result of the construction, operation, and maintenance of the projects.

1.2 Regulatory Compliance

Health and safety guidelines related to high-voltage transmission lines are provided by a number of sources including the National Electric Safety Code, American National Standards Institute, American Medical Association Council on Scientific Affairs, American Conference of Governmental Industrial Hygienists, various state regulations, and other organizations. The Occupational Safety and Health Administration (OSHA) also provides regulations for construction activities.

2.0 RESPONSIBILITIES

The Project Proponent and the Construction Contractor are responsible for the effective response to any emergency situation or event related to the construction, operation, and maintenance of the projects. In order to ensure a coordinated and effective response, a chain of command will be developed as part of the Emergency Preparedness and Response Plan and followed in the event of an emergency.

In the establishment of a chain of command, considerations such as the level of activation and the participation necessary to respond to specific situations are to be taken into account. The following are factors for the establishment of a chain of command:

- Type of event (natural, environmental, electrical supply/outage, external forces)
- Severity and geographic area (multiple or combination of events)
- Anticipated duration
- Multi-division/discipline response required
- External agency coordination

3.0 RESPONSE COORDINATION

The amount of resources and coordination required for response to a specific hazard or emergency is determined by type, severity, location, and duration of the event. Most events require managing at the field operations level and will require increasing resource requirements to match the severity and duration of the event. This emergency management organization will be included as part of the Emergency Preparedness and Response Plan and will provide increasing levels of resources and the coordination necessary to support immediate or escalating emergency events.

4.0 EMERGENCY COMMUNICATIONS

Effective communication and exchange of information is essential in every emergency response. Misdirected, incorrect or untimely information can be detrimental and even increase the threat to life or property. As an emergency event escalates, the rapid increase of information creates chaos and confusion. Simple communication diagrams can help to alleviate this situation.

4.1 Emergency Contact List

In case of emergency, call 911 first. Additional potential emergency contacts are listed in Table A8-1 and should be called as appropriate, depending on the situation (e.g., fire, injury). Further guidance on emergency response, notification, and reporting protocols are included in Appendix A3 – Blasting Plan Methodology, Appendix A6 – Fire Protection Plan, Appendix A7 – Hazardous Materials Management Plan, and other appendices.

This Emergency Contact List shall be verified at the beginning of construction and updated throughout the projects by the Construction Contractor to ensure accurate contact information.

5.0 HAZARD IDENTIFICATIONS AND KEY RESPONSE CRITERIA

The right-of-way corridor for the projects can pose potential hazards or threats in association with construction activities. The most effective response to any situation is awareness of the hazard, its potential effects and consequences, and an understanding of the resources and actions necessary to respond. It would be unreasonable to list all the potential hazards and detail each response. Responses to different events may vary as the event evolves, but response methods and responsibilities to be determined in the Emergency Preparedness and Response Plan will be essential for any possible situation.

Effective Emergency Response training is based on plausible scenarios and then developing the understanding, elements, and actions necessary to respond. Scenarios to consider are: electrocution, fatality, massive equipment failure, structure failure, weather/environment, etc.

**TABLE A8-1
EMERGENCY CONTACT LIST**

| IN CASE OF EMERGENCY Call 911 | | |
|--|---|---|
| FIRE – Call 911 First | | |
| In Clark County Call: Las Vegas BLM Field Office Dispatch Office (702) 293-8932 | In White Pine County Call: Ely BLM District Office Dispatch Office (775) 289-1925 | State Headquarters State Forestry Fire Warden: (775) 684-2500 M-F 8 to 5 |
| In Lincoln County Call: Ely BLM Field Office Dispatch Office (775) 289-1925 | BLM: (24 hours staffed) Interagency Dispatch Center (775) 623-3444 or (800) 535-6076 | Fire Prevention Officer: (702) 486-5123 M-F 8 to 5 |
| In Nye County Call: Ely BLM Field Office Dispatch Office (775) 289-1925 | Nevada Division of Forestry: (702) 872-5483 | U.S. Forest Service: Interagency Dispatch Center (775) 623-3444 or (800) 535-6076 |
| COUNTY SHERIFFS | | |
| Las Vegas and Clark City Police and Sheriff: (702) 229-3111 | Nye County Sheriff: (775) 482-8101 | Nevada Highway Patrol (Elko): (775) 688-2830 or (702) 486-4114 |
| Lincoln County Sheriff: (775) 962-5151 | | |
| POISON CONTROL | | |
| National: (800) 222-1222 Provides connection to counties | | |
| HOSPITALS AND CLINICS | | |
| In Clark County: North Vista Hospital 1409 E. Lake Mead Blvd North Las Vegas, NV 89030 (702) 649-7711 press 0 | In Lincoln County: Grover C. Dils Hospital 700 N Spring Street A Caliente, NV 89008 (775) 726-3171 | In White Pine County William Bee Ririe Hospital 1500 Avenue H Ely, NV 89301 (775) 289-3001 |
| HAZARDOUS SPILL RESPONSE AND NOTIFICATION – Call 911 | | |
| Directly after 911 notification, the following mandatory notifications will be made by the CIC. Select and notify the appropriate government agency(ies) based on geographic location of the spill site. Also see Appendix A7 – Hazardous Materials Management Plan. | | |
| Nevada Division of Emergency Management: 24 Hours 7 Days Statewide: (775) 688-2830 | In Clark County Call Office of Emergency Management M-F 8 to 5 Business Hours: (702) 455-5710 | In Lincoln County Call Office of Emergency Management (775) 728-4659 |
| In Lincoln County Call Office of Emergency Management (775) 728-4659 (775) 728-4431 – office (775) 962-1053 (Margie cell #) | In Nye County Call Office of Emergency Management Brent Jones (775) 751-4280 (24 hours) | In White Pine County Call Office of Emergency Management Russ Peacock (775) 289-8406 |
| If after hours and the spill is located in Nevada – call the Nevada Highway Patrol Dispatch at (702) 486-4114 or (775) 688-2830 | | |

**TABLE A8-1
EMERGENCY CONTACT LIST**

**IN CASE OF EMERGENCY
Call 911**

| | | |
|---|--|--|
| Nevada Division of Environmental Protection: Nevada State: (775) 687-9485 Las Vegas Office: (702) 486-2850 All of Nevada (888) 331-6337 | National Response Center: (800) 424-8802 | |
|---|--|--|

OTHER NUMBERS

| | | |
|--|--|--|
| | | |
| | | |
| | | |
| | | |