Construction, restoration, and maintenance procedures

Otter Tail Power Company and our contractors use trucks, other large vehicles, and specialized construction equipment to construct and maintain transmission line facilities. They can cause property damage when being transported and used within the right of way (ROW). Damages may include the destruction of standing crops and soil compaction.

Our company will provide fair compensation to landowners for any such damages. This policy will remain in effect for the duration of the transmission line easement. Upon completion of construction or line maintenance activities, a company Land Specialist or other representative will contact each impacted landowner to review the damage and discuss equitable compensation and complete a ***Crop and other Damages Worksheet*** (see attached Sample Form)**.**

In the case of standing crop damages, monetary compensation will be offered based on estimated yield reductions and current commodity prices. Landowners who experience soil compaction damage will be able to choose either restoration tillage or monetary compensation. The Internal Revenue Service classifies crop damage payments as income. Otter Tail Power Company will file a 1099 Form for all such payments over $600.

Landowners will be similarly compensated for other damages. For example, a damaged fence will be repaired and restored to original condition, or the owner will have the option of monetary compensation upon their completion of the restoration work. On non-cropland properties, restoration work will be performed to restore the land to as near original condition as practical. Compensation for damages that are not replacement of lost income are not taxable, therefore, we do not file 1099 Forms for these damage payments.

Otter Tail Power Company employees or contractors will salvage and remove all construction materials and debris from the ROW. We'll remove and dispose of all rubbish promptly, including trees. As the landowner, you'll be offered the option of taking possession of the wood from cleared trees or having us remove it for you.

You can learn more about construction, restoration and maintenance procedures by reading the following pages. The text below is excerpted from Section 22 of the South Dakota PUC Route Permit Application.

22.0 Transmission Facility Layout and Construction (ARSD 20:10:22:34)

22.1 Route Clearing

During the acquisition process, individual property owners will be advised as to the construction schedules, needed access to the site and any vegetation clearing required for the facility. To maintain North American Energy Reliability Council (NERC) reliability standards, the ROW will be cleared of the amount of vegetation necessary to construct, operate and maintain the facility. Clear cutting, (i.e. the removal of all trees, brush and other low-growing vegetation), will be used at construction and maintenance access roads and at structure erection sites. Danger trees outside of the ROW will also be removed. Danger trees are those trees which could, in falling, hit the transmission line. Other trees, which are decayed or leaning or may become a potential hazard to the transmission line, will also be removed. Disposal of timber, tree tops, limbs and slash will comply with state and local ordinances. Wood from the clearing operation will be offered to the landowner or removed from the site.

22.2 Transmission Construction Procedures

Once access to the land is granted, site preparation begins in coordination with landowners. This includes clearing the ROW of vegetation that would interfere with the safe operation of the transmission line. Any vegetation that would prevent construction may also be removed. Additionally, underground utilities are identified in cooperation with local utility companies to minimize conflicts to the existing utilities along the routes. All materials resulting from the clearing operations will either be chipped on site or stacked in the ROW with landowner agreement for their use. If temporary removal or relocation of fences is necessary, installation of temporary or permanent gates would be coordinated with the landowner. The ROW agent also works with the landowners for early harvest of crops where possible. During the construction process, the Applicants may ask the property owner to remove or relocate equipment and livestock from the ROW.

Transmission line structures are generally designed for installation at existing grades. Therefore, structure sites will not be graded or leveled, unless it is necessary to provide a reasonably level area for construction access and activities. For example, minor grading might be performed where the immediate terrain near the structure is such that vehicle or

installation equipment could not safely access or perform construction operations properly.

The Applicants have standard construction and mitigation practices that were developed from experience with past practices as well as industry specific Best Management Practices (BMPs). These BMPs address ROW clearance, erecting transmission line structures and stringing transmission lines. BMPs for each specific project are based on the proposed schedules for activities, prohibitions, maintenance guidelines, inspection procedures and other practices. In some cases these activities, such as schedules, are modified to incorporate BMP construction that will assist in minimizing impacts for sensitive environments. Contractors are advised of these BMP requirements during the bid process. For facilities that will have the structures directly embedded in the ground, the structures will be erected by auguring or excavating a hole typically 10 to 15 feet deep and 3 to 4 feet in diameter for each pole. Any excess soil from the excavation will be offered to the landowner or removed from the site.

The steel or wood structures will then be set and the holes back-filled with the excavated material or with native soil or crushed rock. In poor soil conditions, a galvanized steel culvert is sometimes installed vertically with the structure set inside. Other facilities may require the use of concrete foundations. The size of the hole for concrete foundations depends largely on soil type. Based on the known soil types in eastern South Dakota, it is anticipated that the average structure depth would be approximately 12 feet deep. Drilled pier foundations may vary from 4 to 8 feet in diameter. Concrete trucks are normally used to bring the concrete in from a local concrete batch plant.

Steel structures are delivered to a staging area, which are located approximately every 25 miles along the route, which occupy approximately one acre of land *(Note: The Application originally included a long transmission line requiring several staging areas. We will use the Big Stone South Substation as our staging area for the short twin 230-kv lines.)* At the staging area, steel structure sections are connected, the arms are attached, and the structure is then loaded onto a structure trailer. The structure is delivered to the staked location and placed within the ROW until the structure is set. Insulators and other hardware are attached while the steel structure is on the ground. The structure is then lifted and placed in the ground for direct buried structures. Structures that cannot be direct buried are secured on the foundation by crane. In some cases temporary lay down areas may be required. These areas will be selected based on their location, access, security and ability to efficiently and safely warehouse supplies. The areas are chosen so minimal excavation and grading is needed. The temporary lay down areas that are outside of the transmission line ROW will be obtained from affected landowners through rental agreements.

After structures have been erected, conductors are installed by establishing stringing setup areas within the ROW. These stringing setup areas are usually located every two miles along a project route and usually occupy approximately 15,000 square feet of land. Conductor stringing operations also require brief access to each structure to secure the conductor wire to the insulators or to install shield wire clamps once final sag is

established. Temporary guard or clearance structures are installed as needed over existing distribution or communication lines, streets, roads, highways, railways or other obstructions, after any necessary notifications are made or permits obtained. This ensures that conductors will not obstruct traffic or contact existing energized conductors or other cables. In addition, the conductors are protected from damage. During construction, the most effective means to minimize impacts to water areas will be to span all streams and rivers with structures. In addition, the Applicants will not allow construction equipment to be driven across waterways except under special circumstances and after discussion with the appropriate resource agency. Where waterways must be crossed to pull in the new conductors and shield wires, workers may walk across, use boats, or drive equipment across ice in the winter. In areas where construction occurs close to waterways, BMPs help prevent soil erosion and ensure that equipment fueling and lubricating occur at a distance from waterways.

22.3 Substation Construction Procedures

Once the final design is complete and necessary property is acquired, construction will begin. A detailed construction schedule will be developed based upon availability of crews, outage restrictions for any transmission lines that may be affected, weather conditions, spring load restrictions on roads and any restrictions placed on certain areas for minimizing permanent impacts from construction. Substation upgrades involve replacing existing equipment with new equipment. All construction work occurs within the existing substation property unless expansion of the site is necessary. Construction of a new facility begins with site preparation work, which involves grading and leveling the site with heavy equipment to support electrical equipment and the control house. This may or may not include replacement of site soils depending on existing soil conditions found and those identified in the Soil Exploration Report. Topsoil will be removed, stockpiled and re-spread onsite. Any excess soil will be offered to the landowner or removed from the site. Once the site is graded, a perimeter fence, typically chain link, is installed to secure the site. All substation equipment will be contained within the fenced area. Concrete foundations are then placed throughout the substation pad to support the substation equipment. A control house is constructed to house the protective relaying and control equipment. Erection of steel structures follows the foundation installation. These structures are built using rolled I-beams and/or tubular steel materials. Beams are used for mounting electrical conductors, disconnects and equipment. Bare copper conductor is buried around the perimeter of the fence and within the fence to properly ground all of the equipment and provide safety of personnel. Large high-voltage equipment, such as circuit breakers and transformers with associated control cables, are installed following completion of these steel structures. The final step is to properly test and commission each electrical device.

The Applicants will provide erosion control methods to be implemented to minimize runoff during substation construction and since the projects will likely impact more than one acre, a National Pollutant Discharge Elimination System (NPDES) permit will be acquired, as necessary. Additionally, a Storm Water Pollution Prevention Plan (SWPPP) will be implemented in compliance with the NPDES and if necessary, a Spill Prevention, Control, and Countermeasure (SPCC) plan will be developed or updated, as applicable.

22.4 RESTORATION PROCEDURES

During construction, limited ground disturbance at the structure sites may occur. The construction contractor establishes a main staging area for secure, temporary storage of materials and equipment. Typically, a previously disturbed or developed area is used. Such an area includes sufficient space to lay down material and pre-assemble some structure components or hardware. Other staging areas located along the ROW are limited to the structure site areas for structure lay down and framing, prior to structure installation. Additionally, stringing setup areas are used to store conductors, stringing equipment and other stringing equipment necessary for stringing operations. Disturbed areas are restored to their original condition to the maximum extent practicable, or as negotiated with the landowner.

Unless otherwise agreed upon by the landowner, all storage and construction buildings, including concrete footings and slabs and all construction materials and debris will be removed from the site once construction is complete. Post-construction reclamation activities also include the removing and disposing of debris; dismantling all temporary facilities (including staging areas); employing appropriate erosion control measures and reseeding areas disturbed by construction activities with vegetation similar to that which was removed.

Once construction is completed, landowners are contacted by the ROW agent to determine if the clean-up measures have been to their satisfaction and if any other damage may have occurred. If damage has occurred to crops, fences or the property, the Applicants will compensate the landowner. In some cases, an outside contractor may be hired to restore the damaged property as near as possible to its original condition.

22.5 MAINTENANCE PROCEDURES

Access to the ROW of a completed transmission line is required periodically to perform inspections, conduct maintenance and repair damage. Regular maintenance and inspections will be performed during the life of the facility to ensure its continued integrity. Generally, the Applicants will inspect the transmission lines at least once per year. Inspections will be limited to the ROW and areas where obstructions or terrain may require off-ROW access. If problems are found during inspection, repairs will be performed and the landowner will be compensated for any loss.

The ROW will be managed to remove vegetation that interferes with the operation and maintenance of the transmission line. Native shrubs that will not interfere with the safe operation of the transmission line will be allowed to reestablish in the ROW. The Applicants' practice provides for the inspection of major transmission lines (230 kV and above) annually to determine if clearing is required. ROW clearing practices include a combination of mechanical and hand clearing, along with herbicide application where allowed to remove or control vegetation growth. Noxious weed control with herbicides will be conducted on a two-year cycle around structures and anchors.