Tri-State Montrose-Nucla-Cahone Transmission Line Improvement Project

Draft Plan of Development

Montrose, Ouray, San Miguel, and Dolores Counties, Colorado

Appendix F

Draft Water Resources Plan

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The objective of this Draft Water Resources Plan is to detail practices designed to address potential impacts from construction of the Tri-State Montrose-Nucla-Cahone Transmission Improvement Project (Project). Tri-State Generation and Transmission Association (Tri-State) has developed this plan as part of the Plan of Development (POD) that accompanies its application to the Bureau of Land Management (BLM) for a Right of Way (ROW) grant. If the ROW grant is approved, the final POD and all appendices will be attached to the Decision Record. This plan provides guidance to construction and field personnel on measures identified by Tri-State, BLM and US Forest Service (FS) to minimize effects during construction activities associated with the Project. It will be the responsibility of Tri-State and its project contractors, working with designated environmental inspectors, to comply with measures identified in this plan.

Based on the USGS National Hydrography dataset (USGS 2013), there are no lakes or reservoirs within the project area ROW or footprints of existing or new substations. There are six perennial streams, listed from east to west: East Fork Dry Creek (which flows north into the Uncompahgre River), Sheep Creek (which flows into Horsefly Creek, then into the San Miguel River), the San Miguel River, Naturita and Hamilton creeks, both tributaries to the San Miguel River near Naturita, and the Dolores River. Flow in the San Miguel River near Nucla ranges from about 3 cubic feet per second (cfs) to 2,770 cfs, with a median flow of about 100 cfs (USGS 2014). Peak flows in the San Miguel River near Nucla occur between mid-April and mid-June, and lowest flows occur from July to October. Flow in the Dolores River near Slick Rock ranges from less than 1 cfs to 3,320 cfs, with a median flow of about 110 cfs (USGS 2014). Peak flows in the Dolores River near Slick Rock generally occur in April and May, and lowest flows occur in fall and winter. *No construction activities will occur in these perennial rivers or streams; existing roads and bridges will be used to transport equipment for construction and maintenance of the transmission line.*

There are numerous intermittent and ephemeral streams in the project area, some of which are unnamed. The named intermittent or ephemeral streams, from east to west, are Coal Creek, Bear Creek, Kelly Creek, Nelson Creek, Dry Creek, Dead Horse Creek, Big Gypsum Creek, Disappointment Creek, and Glade Creek. Construction will affect intermittent streams where existing bridge crossings are not present. Construction across these streams will occur in no-flow or low flow conditions.

There are also water conveyance structures (ditches and canals) within the project area, including the West Canal and Shavano Valley Ditch, both located west of Montrose; the CC Ditch, located east of Naturita; and the Horseshoe Ditch, located near Disappointment Creek. The National Hydrography dataset shows several other canals or ditches in the project area, but did not name them. Construction and operation of the transmission line will not affect man-made conveyance structures.

Tri-State will submit a Pre-Construction Notice (PCN) to the U.S. Army Corps of Engineers (USACE) for stream crossings as required under Nationwide Permit 12 for utility lines. The PCN will identify streams requiring fill (rock armoring) or culverts. Tri-State will comply with conditions required by the USACE, see measure WQ-10 in Table F-1. The USACE routinely provides a copy of the PCN to land management agencies.

The following EPMs apply, also see vegetation and soils measures in Table 4 of POD:

Table F-1: Water Quality and Erosion Environmental Protection Measures

Measure	Description
WQ-1	A Storm Water Management Plan (SWMP) shall be developed and implemented to address all construction, reconstruction activities. The plan will conform to Colorado Department of Public Health and Environment (CDPHE) requirements including regular inspections to ensure proper and effective functioning of Best Management Practices (BMPs). The Final POD would also be updated with specific water quality design measures once final engineering is complete.
WQ-2	All Tri-State construction personnel including contractors will be trained on stormwater management requirements for the project. The environmental monitor will be responsible for compliance with the stormwater management plan from construction and through post-construction/reclamation.
WQ-3	BMPs, approved by the agencies, will be installed for project construction and future access road maintenance to protect water quality and surface waters. BMPs implemented will encompass a wide range of practices, both structural and non-structural in nature, such as road design requirements and construction techniques (installing cross drains, dips, and/or water bars) to minimize sediment discharge to surface water, as well as standards for maintaining road stability to control erosion. Site assessments will be conducted bi-weekly (as outlined in the SWMP) to assess the adequacy of BMPs at the site, and the necessity of changes to those BMPs to ensure continued effective performance. Where site assessment results in the determination that new or replacement BMPs are necessary, BMPs will be installed to ensure effective erosion control. Where BMPs have failed, resulting in noncompliance, they will be addressed as soon as possible, immediately in most cases, to minimize the discharge of pollutants. In addition, there will be areas that will no longer require BMPs. These BMPs will be identified and removed when appropriate.
WQ-4	Construction activities will be performed using methods that prevent entrance or accidental spillage of solid matter, contaminants, debris, and other objectionable pollutants and wastes into flowing streams or dry water courses, lakes, and underground water sources. Such pollutants and wastes include, but are not restricted to, refuse, garbage, cement, concrete, sanitary waste, industrial waste, radioactive substances, oil and other petroleum products, aggregate processing tailings, mineral salts, and thermal pollution. Excavated material or other construction materials will not be stockpiled or deposited near or within 100 feet of any surface water, wetlands, stream banks, lake shorelines, or other water course perimeters where they can be washed away by high water or storm runoff or can in any way encroach upon the actual water source itself. BMPs will be installed if it is likely materials could leave the site (silt fence, waddles, or other methods could be implemented).
WQ-5	With the exception of areas where access roads cross surface waters, buffers will be used when constructing new access roads and structure locations occur in proximity to water resources including wetlands. Tri-State will buffer surface waters, wetlands, riparian areas, and ditches 100 feet regardless of slope class whenever feasible. When 100 feet is not feasible, the following standard will be used: 30 feet for gentle slopes, 60 feet for moderate slopes, and 100 feet or more for severe slopes. If these buffers are not feasible in a particular area because of another resource, land use, or engineering constraint, BMPs will be utilized to ensure that sediment from construction does not enter surface waters and drainages.
WQ-6	Tri-State does not expect dewatering to be required for the project. However, if future geological testing indicates dewatering at structure locations is required; dewatering work for structure foundations or earthwork operations adjacent to, or encroaching on, streams or water courses shall not be performed without prior approval by CDPHE and affected land management agency. Water and eroded materials will be prevented from entering the streams or watercourses by constructing intercepting ditches, bypass channels, barriers, settling ponds, or other approved methods. All fuel and fluid spills within this area will be handled in accordance with appropriate state and federal spill reporting and response requirements.

Measure	Description
WQ-7	Wastewaters from concrete batching and other construction operations during project construction or future maintenance activity will not enter streams, watercourses, or other surface waters without the use of such turbidity control methods as settling ponds, gravel-filter entrapment dikes, and approved flocculating processes that are not harmful to fish, recirculating systems for washing of aggregates, or other approved methods. Any such wastewaters discharged into surface waters shall be essentially free of settleable material. For the purpose of these specifications, settleable material is defined as that material which will settle from the water by gravity during a 1-hour quiescent detention period.
WQ-8	If new access roads are required for construction they will be designed to properly drain in order to prevent future erosion. Final new access road design will be reviewed and approved by the affected authorized agency road engineer prior to construction.
WQ-9	Erosion control measures including silt fences, straw bales, and other stormwater runoff and sediment controls will be implemented and regularly maintained on disturbed areas, including areas that must be used for maintenance operations (access ways and areas around structures).
WQ-10	Prior to construction, a wetland and waters of the U.S. delineation will be completed within the area of proposed disturbance and fill within or proximity to potential waters of the U.S., and appropriate permits will be obtained from the USACE if the project exceeds Nationwide Permitting (NWP) thresholds. Construction activities will be limited to that approved in the NWP obtained from the USACE for the project. Tri-State will strictly adhere to all applicable conditions of the 404 permit (s).
WQ-11	Delineated wetland boundaries within the project area will be identified clearly with wetland pin flags, fluorescent wetland tape, and/or orange plastic construction fencing. The markers will be installed prior to the initiation of construction and will be maintained throughout the construction process.
WQ-12	Disposal of excess water from dust control will be done on flat upland locations away from surface drainages to prevent runoff and to encourage infiltration into the soil.
WQ-13	Vegetation removal will be limited to the area necessary for construction activities, and disturbed areas will be scarified and revegetated after construction.
WQ-14	Tri-State will hire an agency approved environmental monitor to ensure the project complies with all conditions of Nationwide Permit 12 (Utility Line Activities) to prevent unplanned impacts to wetlands and other waters of the U.S. Prior to construction, all supervisory construction personnel will be trained in avoidance and minimization techniques to lessen impacts to wetlands and other waters of the U.S.
WQ-15	In areas where construction may occur near surface waters and wetlands but no permanent or temporary impacts are planned and permitted under a USACE permit; buffers will be created to protect these resources from sedimentation and erosion impacts. Fueling will occur only at staging areas and commercial stations to avoid potential contamination of surface waters, wetlands, and riparian communities. All fuel and chemical spills will be contained and cleaned up promptly.
WQ-16	Culverts or armored low water crossings and any changes to stream banks at crossings will be designed to sustain bank full dimensions of width, depth, and slope and keep streambeds and banks resilient to prevent effects to natural streamflow at stream crossings. New and existing culverts will be maintained in such a manner so as to allow continual flow of irrigation water, return water, waste water and on-and-off site run-off.
WQ-17	Low water crossings will be used instead of culverts to the extent possible, particularly in drainages with floodplains. Armored low water crossings will be designed to prevent scouring along the downstream edge, and maintain the channel pattern, profile and dimension.
WQ-18	Intermittent or ephemeral streams will be crossed at right angles to the main channel.
WQ-19	No construction equipment will be operated within the stream channel, unless for the purpose of installing armored crossing and culverts or moving construction equipment across the channel for use on either bank.

Measure	Description
WQ-20	Implementation of EPMs outlined above under Vegetation and Soils will also minimize impacts to water quality and surface waters. Reclamation will occur soon as the season permits. Implementation of post-construction measures to stabilize areas of permanent and temporary disturbance.
WQ-21	Excavated topsoil and/or hydric soils from temporarily or permanently impacted wetlands will be selectively stockpiled for appropriate use in the project area following disturbance.

References

U.S Geological Survey. (2013). *National Hydrography Dataset.*

U.S. Geological Survey. (2014). *National Hydrography Dataset.*