

5.9 HYDROLOGY AND WATER QUALITY

This section describes the potential impacts on water resources from development and operation of Segments 2 and 3 of the Antelope Transmission Project. With implementation of the recommended mitigation measures, construction and operation of all phases of the project are expected to have less than significant impacts on hydrology and water quality.

5.9.1 Significance Criteria

Significance criteria were derived from Appendix G of the CEQA Guidelines. Impacts to surface water or groundwater quality would be considered potentially significant if the project would:

- Permanently decrease the capacity of drainages or alter drainage patterns
- Cause a detrimental increase in site erosion or downstream siltation
- Increase the potential for substantial flood damage
- Expose people or structures to flooding in the event of a dam failure
- Result in a substantial degradation of surface or groundwater quality to the extent that beneficial uses are impacted or water quality criteria are exceeded

When evaluating the potential impacts, it was assumed that all applicable federal, state, and local regulatory requirements that protect surface water and groundwater would be complied with. For example, transmission towers would not be placed within the waterway protection corridors that are defined by city and county codes and, therefore, would not impact these waterways. In accordance with the Clean Water Act, a Storm Water Pollution Prevention Plan (SWPPP) would be prepared and implemented, including Best Management Practices (BMPs) to minimize construction impacts on surface and groundwater quality. The SWPPP would be prepared once the project is approved and after project facilities are sited and designed. The SWPPP would then be approved by Los Angeles or Kern counties, depending on the applicable project component area.

5.9.2 Construction Impacts

5.9.2.1 Accelerated Soil Erosion, Downstream Sedimentation, and Reduced Surface Water Quality

Accelerated soil erosion and subsequent downstream sedimentation and reduced surface water quality could potentially increase during construction of the proposed project as described below.

5.9.2.1 Overhead Transmission Lines. Overhead T/L construction would require excavation, road, tower, and pull pad clearing and grading, and soil stockpiling. Proposed T/Ls and access roads would cross numerous ephemeral and intermittent creeks. Soil erosion rates could potentially be accelerated and sedimentation of downstream waterways could occur. Surface water quality could be diminished as a result of the following: 1) vehicular traffic and foundation excavation in the vicinity of tower locations; 2) vehicular traffic, scraping and grading, and material laydown at pull sites/laydown areas; 3) scraping and grading, construction of culverts in ephemeral creeks; 4) scraping and grading for the construction of new access roads; and 5) scraping, grading, and constructing the proposed substations.

If sediment-laden runoff from the construction sites entered the nearby waterways, it could potentially increase turbidity, increase sedimentation, and reduce the flood-carrying capacity of downstream channels. Construction activities conducted when the ground is wet also creates the potential for increased runoff due to a reduction in infiltration and evaporation through vegetation removal. However, with implementation of measures APMs Water -1 and -2, impacts would be less than significant.

5.9.2.1.2 Substations. Substations for Segments 2 and 3 (and Segment 3 alternatives) are located on relatively flat valley floors and gently sloping alluvial fans. A number of the sites are crossed by ephemeral waterways that convey runoff from the upland and adjacent slopes during storm events. If grading is required for the proposed substation modifications (Antelope and Vincent) or new substation construction (Substations One and Two) to divert stormwater runoff into swales and the ephemeral creeks, there is a potential for accelerated erosion and siltation in the creeks. With implementation of mitigation measures APMs Water -1 and -2, impacts would be less than significant.

5.9.2.2 Water Quality Degradation Caused by Accidental Release of Environmentally Deleterious Materials

Surface and groundwater quality could potentially be impacted during construction at tower locations, pull sites/laydown areas, or new substation sites by an accidental release from a vehicle or motorized piece of equipment (diesel, gasoline, lubrication oil, hydraulic fluid, antifreeze, transmission fluid, or lubricating grease), or from a release of materials during concrete preparation or pouring for the pole foundations. Such spills could wash into nearby drainages or infiltrate into the soil. Surface or groundwater quality could potentially be degraded. However, with implementation of mitigation measures APMs Water -1, -2, -3, and -4, impacts would be less than significant.

5.9.2.3 Increased Runoff from Construction of Pole Foundations, Permanent Access Roads, Pull Site/Laydown Areas, and Substations

Construction of proposed substations One and Two (Segment 3) would require scraping and grading and the installation of concrete foundations and pavement in some areas. These activities would potentially diminish the storm water infiltration capacity at substation sites and could result in increased runoff volumes and rates. Run-off from construction of the substations is likely to slightly increase because the sites slope to ephemeral tributaries. However, because most of the substation areas would not be paved and runoff would pass through a detention pond before it was channeled to applicable drainages, the impact would be less than significant.

Scraping and grading for new access roads would remove vegetation and disturb the soil surface, which would result in a reduction in the infiltration and absorption capacity of the impacted area. The potential impacts would be localized and temporary, therefore, impacts would be less than significant.

At each T/L tower site, a concrete foundation would be constructed. Placement of impervious material would slightly restrict storm water infiltration. However, this impact is considered less than significant because the total area impacted by tower foundations is very small.

5.9.2.4 Project Construction in Existing Contaminated Sites

T/L towers and new substations would not be erected near any known contaminated sites. If any contaminated sites were encountered during construction, workers could potentially be exposed to contaminants or spread the contamination by disposing of soil or groundwater at other locations. Implementation of mitigation measures APMs Water -5 and -6 would reduce impacts to less than significant levels.

5.9.3 Operation Impacts**5.9.3.1 Water Quality Degradation Caused by Accidental Releases of Mineral Oil**

Surface water and groundwater quality could potentially be impacted by a mineral oil release from oil-filled electrical equipment at the proposed substations. Such releases, either from slow leaks or catastrophic failure, could wash into nearby drainages or infiltrate to the water table. The Federal Clean Water Act and the State Porter-Cologne Water Quality Control Act prohibit the release of any oil to waters of the State. Los Angeles and Kern counties require that all necessary measures be taken to regulate runoff from urban uses to protect the quality of surface and groundwater from detrimental conditions. In the event of a release, surface or groundwater quality could be degraded.

Prior to regulatory thresholds being reached, SCE would prepare Spill Prevention, Countermeasure and Control (SPCC) plans for both of the proposed new substations (i.e., Substations One and Two). Initially, neither Substation One nor Substation Two would include transformers (i.e., or transformer oil), thus, an SPCC Plan would not be required until transformers were installed in the future. The plans would include engineered and operational methods for preventing, containing, and controlling potential releases (for example, by constructing retention pond, moles, or berms), and provisions for a quick and safe cleanup. The plan would be submitted to Kern County for review. SCE already has SPCC plans for its existing Antelope and Vincent substations. Current SPCC plans for the existing substations would be revised as needed to include new equipment. Incorporation of SPCC measures into the project design would reduce impacts to a less than significant level.

5.9.4 Mitigation Measures

APM Water-1. A Construction SWPPP would be submitted to Los Angeles and Kern counties along with grading permit applications. Implementation of the Plan would help stabilize graded areas and waterways, and reduce erosion and sedimentation. The plan would designate BMPs that would be adhered to during construction activities. Erosion minimizing efforts such as straw wattles, water bars, covers, silt fences, and sensitive area access restrictions (for example, flagging) would be installed before clearing and grading begins. Mulching, seeding, or other suitable stabilization measures would be used to protect exposed areas during construction activities.

During construction activities, measures would be in place to ensure that contaminants are not discharged from the construction sites. The SWPPP would define areas where hazardous materials would be stored, where trash would be placed, where rolling equipment would be parked, fueled and serviced, and where construction materials such as reinforcing bars and structural steel members would be stored. Erosion control during grading of the construction sites and during subsequent construction would be in place and monitored as specified by the SWPPP. A silting basin(s) would be established, as necessary, to capture silt and other materials, which might otherwise be carried from the site by rainwater surface runoff.

APM Water-2. An environmental training program would be established to communicate environmental concerns and appropriate work practices, including spill prevention and response measures, and SWPPP measures, to all field personnel. A monitoring program would be implemented to ensure that the plans are followed throughout the period of construction.

APM Water-3. The Construction SWPPP identified above would include procedures for quick and safe cleanup of accidental spills. This plan would be submitted with the grading permit application. The Construction SWPPP would prescribe hazardous materials handling

procedures for reducing the potential for a spill during construction, and would include an emergency response program to ensure quick and safe cleanup of accidental spills. The plan would identify areas where refueling and vehicle maintenance activities and storage of hazardous materials, if any, would be permitted.

APM Water-4. Oil-absorbent materials, tarps, and storage drums would be used to contain and control any minor releases of transformer oil. In the event that excess water and liquid concrete escapes from foundations during pouring, it would be directed to bermed areas adjacent to the borings where the water would infiltrate or evaporate and the concrete would remain and begin to set. Once the excess concrete has been allowed to set up (but before it is dry), it would be removed and transported to an approved landfill for disposal.

APM Water-5. A Phase I ESA would be performed at each new substation location and along newly acquired T/L R-O-Ws. Depending on the results of the Phase I ESA, soil sampling would be conducted and remedial activities would be implemented, if applicable. If hazardous materials were encountered during any construction activities, work would be stopped until the material was properly characterized and appropriate measures were taken to protect human health and the environment. If excavation of hazardous materials is required, they would be handled, transported, and disposed of in accordance with federal, state, and local regulations.

APM Water-6. If groundwater were encountered while excavating or constructing the T/L or substations, dewatering operations would be performed. These operations would include, as applicable, the use of sediment traps and sediment basins in accordance with BMP NS-2 (Dewatering Operations) from the California Stormwater Quality Association's (CASQA) California Stormwater BMP Handbook – Construction (CASQA, 2003).