

The TDM facility will evaporate approximately 3,400 acre-feet per year. This represents a net reduction in water flows into the Salton Sea of 0.25 percent (3,400 acre-feet per year/1,363,000 acre-feet per year). This reduction in volume also is undetectable.

The TDM facility will remove approximately 2,600,000 pounds per year of TDS, while discharging 1,400 acre-feet per year at a TDS concentration of 3,430 mg/L. This amounts to an increase in salinity to the Salton Sea of 0.046 percent. Similarly, this increase is undetectable.

4.10.5 Combined Impacts on the Salton Sea

The LRPC and TDM facilities combined will evaporate approximately 10,570 acre-feet per year. This represents a net reduction in water flows to the Salton Sea of 0.78 percent (10,570 acre-feet per year/1,363,000 acre-feet per year).

The LRPC and TDM facilities combined will remove 6,120,000 pounds of TDS per year. The combined discharge to the New River from the facilities will be 3,245 acre-feet per year. This amounts to an increase in salinity to the Salton Sea of 0.142 percent.

These combined impacts in reduction of flows to the Salton Sea, as well as the TDS increase to the Salton Sea, are negligible and well within the error range of the recorded data and measurement instruments. Further, the improvement in water quality from a biological standpoint will greatly help achieve the bi-national water quality treaty standards as contained in IBWC Minute 264 for the New River.

Ultimately, the reduction of certain contaminants from Mexico that currently go into the Salton Sea will be a positive impact on its ecosystem. The potentially small increase in the salinity level and reduction in water quantity will be negligible; hence, the project will have no measurable impact.

4.11 Operational Impacts

4.11.1 Radio and Television Interference

The electric field at the surface of the conductors (transmission lines) causes the phenomenon of corona. Corona is the electrical breakdown or ionization of air in very strong electric fields and, depending upon weather conditions, it is the source of audible noise, electromagnetic interference, and visible light. Radio interference (RI) from transmission lines is primarily caused by corona. The level of corona activity on the proposed line would be minimal because of the use of two relatively large conductors on each phase of each of the proposed transmission lines. In addition, corona is not recognized as a concern for voltages below 345 kV. Consequently, the level of corona-

generated radio interference anywhere out of the right-of-way would be at or below recommended levels.

A second source of RI, gap-type sparking, is not a frequent source of interference on high-voltage lines and is generally not a factor for 230 kV transmission line designs. Spark-gap noise is avoided by proper design and installation of transmission line hardware parts. Individual locations of spark gap noise, including those from nearby objects, can be readily located and corrected.

Dirt on the insulators may cause micro-arcing in foggy weather and thus be an isolated source of RI. However, it is less significant than either corona or spark-gap interference and would not be of concern for the proposed line. Micro-arcing is avoided by increasing the insulation in high contamination areas and washing insulator strings periodically.

In general, for 230 kV transmission lines, radio interference is not a problem in fair weather conditions. During foul weather conditions, the quality of some AM radio broadcast stations with weak signals may be reduced in isolated locations, especially on the right-of-way. There should be no effect on FM radio reception.

Transmission line related sources of television interference (TVI) are caused by corona and gap-type noise. Corona discharge from the transmission line conductors can be a source of TVI, typically on the video portion only, and especially on lines with voltages of 345 kV or greater. Because of the 230 kV operating voltage and the low levels of corona anticipated for the proposed line, corona-generated TVI is not anticipated to be a problem for these lines.

The electromagnetic field, without corona effects, would cause RI and TVI only in relatively close proximity to the lines. The project area is uninhabited for at least a half-mile from the proposed transmission line rights-of-way, and there would be no RI or TVI at the edge of the rights-of-way.

4.11.2 Audible Noise

Audible noise associated with operation of a transmission line is a crackling or buzzing sound caused by corona discharge near the conductors and insulators. The intensity of the noise level is dependent on weather conditions, voltage, and conductor configuration. Because of the large conductors that would be used on the proposed line, corona activity would be minimal during both fair and foul weather. In addition, the proposed routes traverse a large, unpopulated tract of desert where residences or other receptors sensitive to audible noise are absent.

4.11.3 Electric and Magnetic Fields

Electric power lines, generators, transformers (e.g., step-up transformers at the switchyard), and other devices that handle electric currents produce electric and magnetic fields (electromagnetic fields, or EMFs). For this project, the potential for public exposure to project-related EMF is limited to the immediate vicinity of the transmission line rights-of-way. Because of the isolated location, few people are expected to be in the rights-of-way, and only for limited and probably brief periods. The strength of the EMF generated by an alternating current varies with voltage, wire type, spacing, and location, and other factors. Field strength decreases rapidly with distance from the source.

EMFs are produced by power lines, house wiring, all electrical appliances, and wherever electrical currents are flowing. A controversy exists as to whether there are any health effects from exposure to EMFs. Experiments have shown that magnetic fields can cause biological effects in living cells, but it is not known whether these biological effects have any relevance to human health. With respect to the proposed transmission lines, it should be noted that the vicinity of the proposed route is uninhabited and that the nearest residence is 1.3 miles east of the proposed alignment.

In October 1996 the National Research Council of the National Academy of Sciences published the results of its evaluation of the research on health effects attributable to EMF. The Committee conducting the study examined more than 500 studies conducted over the last 17 years and released its findings in a report titled, "Possible Health Effects of Exposure to Residential Electric and Magnetic Fields." Dr. Charles Stevens, chairman of the committee, concluded that the findings to date do not support claims that electromagnetic fields are harmful to a person's health. He stated, "Research has not shown in any convincing way that electromagnetic fields common in homes can cause health problems, and extensive laboratory tests have not shown that EMFs can damage the cell in a way that is harmful to human health."

On June 27, 1998, a 28-member advisory panel sponsored by the National Institute of Environmental Health Sciences (NIEHS), part of the National Institutes of Health, voted 19 to 9 to label EMFs a "possible human carcinogen." On May 4, 1999, NIEHS issued a report entitled *Health Effects from Exposure to Power-Line Frequency Electric and Magnetic Fields*. The report concludes: "The NIEHS believes that the probability that EMF exposure is truly a health hazard is currently small. The weak epidemiological associations and lack of any laboratory support for these associations provide only marginal scientific support that exposure to this agent is causing any degree of harm." Although the NIEHS concluded EMF "exposure cannot be recognized as entirely safe" with regard to leukemia, it found the scientific evidence of a leukemia risk to be "weak."

Based on the scientific studies and finding discussed above, and the isolated location of the proposed transmission lines, there would be no substantial hazard to humans from exposure to EMFs associated with the proposed project.

4.11.4 Biological Resources

Once construction is complete, the only project-related activity that is likely to pose a threat to biological resources is maintenance of the transmission lines. For access to the support structures, maintenance personnel would use the existing access roads for the SDG&E facilities in the project area and the access roads added during construction, as described in Chapter 2 of this EA. Some work in the vicinity of the support structures would occur. Normal maintenance activity would be at a relatively low level and frequency. Impacts on most biological resources from maintenance of the proposed transmission lines are not expected to add substantially to impacts from maintenance of the existing SDG&E transmission line.

Operation of the proposed transmission lines has the potential to introduce a potential for bird strikes with transmission conductors. However, bird strikes do not appear to have been a problem for the SDG&E transmission line that parallels the proposed route. Increasing the number of transmission lines in the corridor may increase the potential for bird strikes somewhat. Conversely, three lines in a relatively close array may make the lines more visible to birds.

There may be an extremely low potential for electrocution of large birds, such as raptors, due to the birds' touching conductors of different voltage simultaneously. The minimum distance between conductors of different voltage on the proposed transmission lines would be greater than 12 feet. Therefore, electrical shock as a hazard to birds is unlikely.

In the project area, there is clear evidence of off-road vehicle activity connected to the access roads for the SDG&E transmission line. This may be due to both legal (Border Patrol) and illegal activity. The proposed project would not create any new access from SR-98, but would extend access road spurs eastward from the SDG&E access roads. These spurs would appear likely to contribute incrementally to the disturbance of biological resources.

The amount of the additional disturbance is impossible to estimate, and given the large tracts of vacant desert surrounding the project area, is probably impossible to prevent. Barriers on the roads might exacerbate the problem, for instance, by simply encouraging disturbance of the adjacent desert to bypass the barriers.

There may be, during the life of the proposed transmission lines, a possibility that conductors will be replaced. In such cases, pull sites and other temporary work areas would be needed and would be temporarily disturbed. Different techniques and different

contractors may be used for reconductoring, so it is not possible to predict the effects of reconductoring with any degree of accuracy. Reconductoring is, however, infrequent, occurring generally at intervals of decades. When reconductoring is necessary, the operators of the line would inform and consult with BLM to develop mitigation for any impacts to biological resources according to engineering, environmental, and regulatory conditions prevailing at the time.

4.11.5 Cultural Resources

Operations and maintenance of the proposed transmission lines would use principally the access roads and work areas used during construction. Mitigation for cultural resource impacts of construction would include data recovery from all archaeological sites that could be affected by construction, and consequently, of all sites that would be expected to be affected by operations and maintenance.

Off-road activity associated with the access roads, as discussed in Section 4.10.4 above, could adversely affect cultural resources as well as biological resources. As with biological resources, the possible impacts to cultural resources are not possible to quantify and probably are impossible to effectively prevent.

If conductors are replaced, additional areas of temporary activity and disturbance may be needed for pull sites. Different techniques and different contractors may be used for reconductoring, so it is not possible to predict the effects of reconductoring with any degree of accuracy. Reconductoring is, however, infrequent, occurring generally at intervals of decades. When reconductoring is necessary, the operators of the line would inform and consult with BLM to develop mitigation for any impacts to cultural resources according to engineering, environmental, and regulatory conditions prevailing at the time.

4.12 Interrelated Projects and Cumulative Impacts

4.12.1 Transmission Line Construction and Operation Impacts

Two other transmission line projects have been identified as interrelated to the proposed project (see Section 2.4 of this EA). These two projects, like the proposed project, are intended to increase the ability to import electrical power generated in Mexico to the United States, and specifically into the southern California power grid. All are a response to the power crisis in California and other western states. It should be noted that these other projects are occurring independently of and are not associated with the proposed project. The two other projects are:

- SDG&E's proposed rebundling of the SDG&E 230 kV circuit position from the international border to the IV Substation; and