Cardno provides services to plan, design, manage and deliver sustainable physical, social and economic infrastructure for local and international communities.
Cardno has extensive experience in the preparation of Environmental Impact Statement (EIS) and Environmental Assessments (EA) documents under the National Environmental Policy Act (NEPA). In over 25-years, Cardno has prepared over 500 EIS documents for virtually every type of project. Cardno is differentiated by a focus on energy, water, natural resource management, invasive species, endangered species, and restoration projects. This approach is reflected in Cardno staff which includes a significant number of scientists and environmental engineers.

Cardno is skilled at preparing legally defensible NEPA documents while ensuring that the level of analysis is commensurate with each specific project. Our capabilities include conducting aquatic and terrestrial biological surveys, archaeological and historic structure surveys, air pollutant emissions modeling, comprehensive socioeconomic analysis, environmental engineering, natural resource management, ecological and human risk assessment, visual impact assessments, and systems safety analysis.

In most instances, the environmental documents are prerequisites to federal, state, and local environmental permit acquisition. Cardno also provides comprehensive permitting and compliance services:

- federal and state air permits;
- water/waste discharge permits and streambed alteration agreements;
- wetland delineations and wetland permits;
- land use permits;
- threatened and endangered species, incidental take permits, and Habitat Conservation Plans; and
- cultural resources Section 106 compliance.

Due to a history with sensitive and controversial projects, Cardno has extensive experience in developing and implementing public involvement programs, managing public comment analysis, and keeping accurate administrative records.

Black Mesa and Kayenta Life of Mine Plan and Water Supply Project EIS

**Southern California Edison (SCE), Nevada/Arizona**

Cardno was retained by SCE to serve as “owners environmental consultant” during the EIS process for the life of mine extension project of Peabody Coal’s Black Mesa and Kayenta Mines on Hopi Lands in Arizona. The project was related to SCE’s efforts to invest in upgrades to the Mohave coal-fired generating station in southern Nevada, the coal slurry line connecting the mine to the power plant, and the efforts to find an alternate water source for the mines coal slurrying operation in response to significant concerns raised by the tribe regarding impacts to their springs used for traditional cultural practices. Cardno had worked on all of these issues for SCE during earlier proceedings related to the Mohave Generating Station, and as such we were selected to assist them in maintaining their interests during the EIS process. The OSM was the lead federal agency for the mine extension project.

Cardno participated in meetings with the BIA, the Hopi, the Navajo, and other interested parties. We assisted in review of the draft EIS, including the more than 14,000 comments received. The project was extremely controversial, and required the balancing of environmental issues, cultural concerns related to groundwater use at the mine, questions of tribal revenues from mine operations (which were substantial), and growing concerns in...
California regarding greenhouse gas emissions and the continued reliance of California based utilities on coal-fired generation. In the end, California legislation prohibiting long-term investment in coal-fired generation led to SCE’s exit from the process, and an inability to find a buyer for their share of the power plant and related operations.

**Pioneer Mine EIS**

*United States Army Corps of Engineers, FL*

The Pioneer Mine proposed by Cargill Fertilizer included impacts to some 2,963 acres of wetlands jurisdictional to the United States Army Corps of Engineers (COE), thus requiring the issuance of a Section 404 Dredge and Fill permit. It was determined by the COE that issuance of such a permit would constitute a major federal action significantly affecting the quality of the human environment. As such, this EIS was required as a component of the permit review process. Issuance of the COE permit for mining in the study area was contingent upon the preparation of this EIS.

This effort included the compilation and review of environmental information and potential effects of phosphate mining on wetlands, listed species and their habitats, surface and groundwater quality and hydrology, air quality, noise, historic resources, and economic and sociologic issues. The information in this EIS supplemented permit application materials already submitted to the COE by the Applicant, and evaluated the direct, secondary and cumulative effects of the permit issuance decision from a site-specific and regional landscape perspective.

**FCPP and Navajo Mine Energy Project**

*U.S. Office of Surface Mining, San Juan County, New Mexico*

The Cardno team is a third-party contractor in the development of an EIS. US OSM is the lead agency with 8 cooperating agencies (BIA, USACE, BLM, USFWS, National Park Service, USEPA, Navajo Nation, and the Hopi Tribe) participating in the NEPA process. The FCPP and Navajo Mine Energy Project consists of four separate but connected actions:

- OSM approval of a Surface Mining, Control and Reclamation Act (SMCRA) permit for development of the new 5,600 acre Pinabete mine area at the existing Navajo Mine, beginning in 2016 and to supply coal to the nearby FCPP for the next 25 years.
- OSM approval of the renewal of the existing SMCRA permit for the active Mine area
- BIA approval of the Navajo Nation lease renewal for the FCPP
- BIA approval of the renewal of rights-of-way for four transmission lines that distribute power from the FCPP.

Air quality and greenhouse gases are one of the primary issues of concern and drive most of the other issues. The EIS is being developed concurrent with USEPA decision-making regarding Best Available Retrofit Technology (BART) emissions controls at the power plant. Further, mercury and selenium emissions and deposition from the power plant have potential impacts to biological resources. Cardno is leading the Section 7 consultation with the USFWS, in accordance with the Endangered Species Act. A Biological Assessment is being prepared, which will include an analysis of more than 30 species, as well as cutting-edge analysis of population viability analysis, air deposition modeling, and habitat value analysis to determine the likely long-term impacts to populations of Colorado pikeminnow and razorback sucker. Socioeconomics and environmental justice are also of concern since the power plant and mine are major employers of the Navajo Nation.

Cardno is assisting the OSM with their cultural resource consultation requirements under Section 106 of the National Historic Preservation Act. Due to its very contentious nature, the project includes a public outreach component; including support for the public scoping meetings, communication training with OSM, videos translated into both Navajo and Hopi describing the project for the general public. A similar effort will be conducted following publication of the Draft EIS and it is anticipated the Cardno will be responsible for the management and responses to approximately 50,000 comments.
About Cardno

Cardno is a professional infrastructure and environmental services company, with expertise in the development and improvement of physical and social infrastructure for communities around the world. Cardno’s team includes leading professionals who plan, design, manage and deliver sustainable projects and community programs. Cardno is an international company listed on the Australian Securities Exchange [ASX:CDD].

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