SALTON SEA AUTHORITY

December 1, 2003

Mrs. Ellen Russell
Office of Fossil Energy (FE-27)
U.S. Department of Energy
1000 Independence Avenue, SW.
Washington, DC 20585-0350

Subject: Scoping Comments for Environmental Impact Statement, Baja California Power, Inc., and Sempra Energy Resources

Dear Mrs. Russell:

Thank you for the opportunity to provide comment on the above referenced EIS. I submitted a Declaration in June 2003 expressing concerns of the impact on the Salton Sea of the two power plants in Mexicali. My declaration is provided below and serves as a statement of issues that should be addressed in detail in the EIS.

Summary. Operations of the evaporative cooling systems of the Mexicali power plants have the strong potential to cause irreparable harm to the Salton Sea. The Salton Sea already faces critical challenges posed by potential reductions of inflow as a result of numerous competing needs for water. The Sea has no natural outlet and thus is sustained by a balance between inflow and evaporation. The inflow carries salts into the Sea that causes salinity in the Sea to rise. Any reduction of inflow would cause the Sea to shrink and the salts in the Sea to become more concentrated. Rising salinity is threatening the highly productive fishery in the Sea that serves as a food source for the millions of birds that pass through the region annually as they migrate between the Pacific Ocean and the Gulf of California. Evaporative losses from the evaporative cooling systems of the Mexicali plants would result in reductions of inflow to the Sea that would exacerbate the rising salinity problem and further threaten the Salton Sea ecosystem. The use of air-cooled condensers (ACC) for cooling or as part of a cooling system should be considered as an alternative to the evaporative cooling systems. With these systems in place, it is likely that the effects on the Sea could be minimized.

Background. The present-day Salton Sea (Sea) is a body of water that currently occupies the lower elevations of the Salton Basin, but it is not the first to do so. Historical evidence and geologic studies have shown that the Colorado River has spilled over into the Salton Basin on numerous occasions over the last thousand years, creating intermittent lakes that, in some cases, lasted decades to centuries. For example, Lake Cahuilla is believed to have formed around A.D. 700, when the Colorado River silted up its normal egress to the Gulf of California and swung northward through two overflow channels. Evidence of an ancient shoreline suggests that Lake Cahuilla occupied the basin until about 300 years ago. From 1824 to 1904, Colorado River flows flooded the Salton Basin no fewer than eight times.

The present-day Sea was formed in 1905, when Colorado River flood flows breached an irrigation control structure and were diverted into the Salton Basin for about 18 months. Since then, agricultural drainage flows from nearby Imperial, Coachella, and Mexicali Valleys and smaller contributions from municipal effluent and storm water runoff have sustained the Sea. Over the years, the Sea has developed into a recreation area, wildlife refuge, and sport fishery.

The Sea's recent salinity concentration has been about 44,000 milligrams per liter (mg/L) (25 percent saltier than ocean water). Annual inflows in the recent past have been in balance with the water that has evaporated, or about 1.34 million acre-feet per year (AFY). Inflows add about 4 million tons of salt each year. Since the Sea has no natural outlet, the salinity in the Sea continues to rise each year as salts are left behind when water evaporates.

Rising salinity is threatening the highly productive fishery in the Sea. The Sea's fishery is important for recreational reasons, as well as for ecological reasons. The Salton Sea and nearby wetlands are an integral part of the Pacific flyway, providing habitat and seasonal refuge to millions of birds and hundreds of species. The fish in the Sea are a primary source of food for many of those bird species. In addition to salinity, other issues are of concern at the Sea, including high levels of nutrients.

The present slow rate of increase in the salinity of the Salton Sea is a result of the current balance between inflows and evaporation. This balance makes it possible to reduce salinity at reasonable costs by exporting water (e.g., through the use of on-land solar ponds). Reduction of inflow to the Sea would upset the current balance between inflow and evaporation that establishes that rate at which salinity is increasing. If inflow is reduced, ultimately a new balance would be achieved.

Effects of the Mexicali Power Plants. It is widely accepted that the evaporative cooling systems at the Mexicali plants would cause reductions of flow to the Sea. However, there is some disagreement as to how much reduction would occur at the Sea. The available data suggests that the range of inflow reductions could be on the order of between 3,000 AFY to as much as 16,000 AFY, and likely would be somewhere in between. Looking at these values in isolation, an overall average 3,000 AFY reduction in inflow would cause the water surface elevation in the Sea to drop about 0.3 feet and would cause about a 1 percent increase in the salinity of the Sea. A 16,000 AFY reduction in inflow would cause a 1.3-foot reduction in the Sea's elevation, and would cause salinity to rise by about 4.1 percent. The Sea is already 25 percent saltier than ocean water; therefore, small increases in salinity could have a serious adverse effect on the fishery. While these changes would accelerate the decline of the Sea on their own, coupled with other inflow reducing effects, an even more severe cumulative effect could occur.

Thank you for the opportunity to provide comment on the EIS for this project. Please include the Salton Sea Authority on your mailing and distribution list for notices of meetings and the Draft EIS when it is available.

Sincerely,

Tom Kirk
Executive Director

cc: Salton Sea Authority Board of Directors

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