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Continuation of Once through cooling post decommissioning of Encina Generating Station

I am writing about the proposal to decommission Encina Generating Station (EGS) and replace it with the new Carlsbad Energy Center Project (CECP).

I understand that the retirement of the EGS is at least in part driven by the requirement to comply with state regulations relating to the phasing out of Once Through Cooling (OTC) technology, which has been judged as harmful to adjacent marine ecosystems. I also note that the adjacent Carlsbad desalination plant benefits from synergies with EGS, whereby a portion of the cooling waters exiting the EGS are diverted to the intake of the Carlsbad desalination facility. The flow rates in this process are approximately as follows:

Seawater intake into EGS = 500 Million US gal/day (MGD)

EGS Effluent cooling water intake into Carlsbad desalination plant = 100 MGD

Brine effluent from Carlsbad desalination plant merged back into EGS discharge channel = 50 MGD

Salinity of Carlsbad desalination plant effluent = 65,000 part per million total dissolved solids (ppm TDS)

Salinity of aggregate effluent from Carlsbad desalination plant + EGS = 39,000 ppm TDS

In order to comply with the State Water Resources Control Board (SWRCB) Ocean Plan, Carlsbad desalination plant has received approval for operations subject to the dispersed effluent at all locations beyond 200 meters of the outflow location being within 2,000 ppm TDS of ambient ocean salinity, ie approximately 35,500 ppm TDS.

As such the Carlsbad desalination plant is entirely reliant on the dilution of water circulated via the OTC system at EGS in order to be compliant with SWRCB desalination effluent regulations. The decommissioning of EGS and the construction of the CECP will not fully ameliorate the situation with regards to ending the practice of Once Through Cooling. The onus of circulating water through the Carlsbad lagoon and the former EGS cooling channels will fall on the Carlsbad desalination plant in future, which will continue to disturb marine life due to entrainment of larvae into the circulation system, and discharge of high salinity brine at the outfall point which can be harmful to benthic communities in the vicinity.

I invite the committee to consider the aggregate impacts and motives behind the decommissioning of the existing EGS (which I welcome), the construction of the CECP (which I do not oppose), and the legacy issues related to the once-through cooling facilities which must be inherited by the Carlsbad Desalination Plant if they are going to continue to comply with the SWRCB's California Ocean Plan requirements pertaining to effluent quality. To be clear, while I recognize the value of water security that Carlsbad Desalination Plant has brought to the region, I am concerned that the proposed "rearrangement" of the Carlsbad area's energy and water infrastructure may have unintended consequences.

As i see it, the main drivers for the new CECP are to address the legislation phasing out OTC systems, and to introduce a more flexible generation solution, particularly post SONGS retirement. However, the solution that has been proposed will not result in cessation of the circulation of vast quantities of seawater through the Carlsbad industrial area, and risks increasing the salinity of the desalination plant's discharge. Furthermore the new facility, reportedly built at a cost of \$2.2 Billion, represents a significant burden for the SDG&E rate base which other, lower cost storage solutions might be able to deliver more effectively and at lower cost.

Example projects that have been progressed in the near region which offer the ability to provide electricity at periods of peak demand include the 1200 MW Eagle Mountain pumped storage project, and the possible 500 MW San

Vicente pumped storage project (<http://www.sdcwa.org/san-vicente-pumped-storage-project-study>). As a California resident, I urge the CEC to carefully consider the need to build new gas peaker facilities, as well as more scrupulously reviewing the design of proposed desalination projects on the Californian coastline.

Even if it is too late to stop the Carlsbad desalination plant, the developer of Carlsbad, future such facilities should be investigated more carefully before being licensed, for example the proposed Huntington Beach project being another example.