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From: Grousis-Henderson, Kyle@DWR
Sent: Tuesday, May 16, 2023 10:37 AM
To: California Water Commission
Subject: May Water Commission Meeting: Expert Panel on Desalination

Good Morning,

I would like to submit a comment for the Expert Panel on Desalination.

Is there discussions about multi-benefit approaches and would they get special considerations?

For example:

IPHROS is an Integrated Pumped Hydro Reverse Osmosis System with a Technology Readiness level (TR) of 7, which combines a Seawater Pumped Storage Hydro system (TR 9) with a Reverse Osmosis Desalination plant (TR 9). The gravity from water released by the upper reservoir assists the pressure needed for the reverse osmosis process and reduces costs by 20% according to a MIT & University of Hawaii study report on a potential IPHROS facility built in Southern California. They report that the profits from selling power produced by the Seawater Pumped Hydro Storage System would pay for the entire facility in 20 years.

<https://www.sciencedirect.com/science/article/pii/S2213138816300492>

Sometimes called IPHROCES, Integrated Pumped Hydro Reverse Osmosis Clean Energy System.

<https://municipalwaterleader.com/implementing-oceanuss-pumped-storage-desal-plant-in-chile/>

The Technology Readiness level of 7 was determined by the US Department of Energy in a 'Review of Technology Innovations for Pumped Storage Hydro.'

<https://publications.anl.gov/anlpubs/2022/05/175341.pdf>

The US Military is reviewing an IPHROS facility on a Southern California base and on other island bases in Hawaii and Okinawa.

<https://unum.nsin.us/next/customObject/viewCustomObject/faf607e007d5>

This blog gathers the latest news about IPHROS.

<https://www.iphros.com/blog>

Will studies of IPHROS and potential facilities in California be discussed at future meetings?

Stay Safe,

Kyle Grousis-Henderson

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