



Lake Elsinore Advanced Pumped Storage

LESJWA TMDL Task Force

January 17, 2018

FERC P-14227



LEAPS

THE HYDRO
COMPANY

- The Lake Elsinore Advanced Pump Storage (**LEAPS**), FERC P-14227 a 500 MW advanced pumped storage project ~20 miles from the now-shuttered SONGS facility. Its 500 kV Interconnection connects LEAPS to the Talega-Escondido 230 kV line <10 miles from SONGS, and to SCE's 500 kV Valley Serrano line.
- Midway between Los Angeles and San Diego, Lake Elsinore has been deemed an optimal site for pumped storage.
- LEAPS will be one of the most efficient storage facilities in the world.
- Estimated total cost: \$2 billion.

This large-scale pumped storage project will:

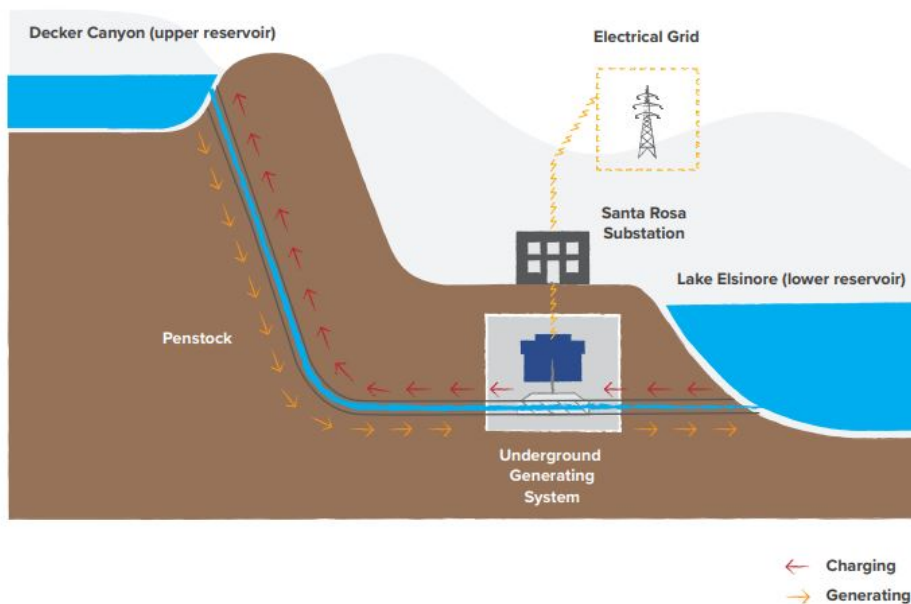
- Provide 500 megawatts of clean energy
- Support variable renewable energy generation in California
- Provide funding for water quality and quantity in Lake Elsinore
- Provide well-paying construction jobs
- Contribute to the tax base
- Will limit the need for new gas generation in the LA Basin

Project History and Milestones

- Original License Application Submitted 2004 in Docket P-11858 with Muni co-applicant.
- Final EIS issued February 2007.
- Application dismissed by delegated order July 2011 due to co-applicant dispute.
- New Permit Application submitted without partner July 2011 and Preliminary Permit issued October 2012.
- Large Generator Interconnection Agreements approved by FERC 2014.
- 2 year permit extension granted September 2015.
- New License Application submitted to FERC October 2, 2017

Pumped Storage: stability and reliability for the grid

Pumped Storage:
A water-based battery



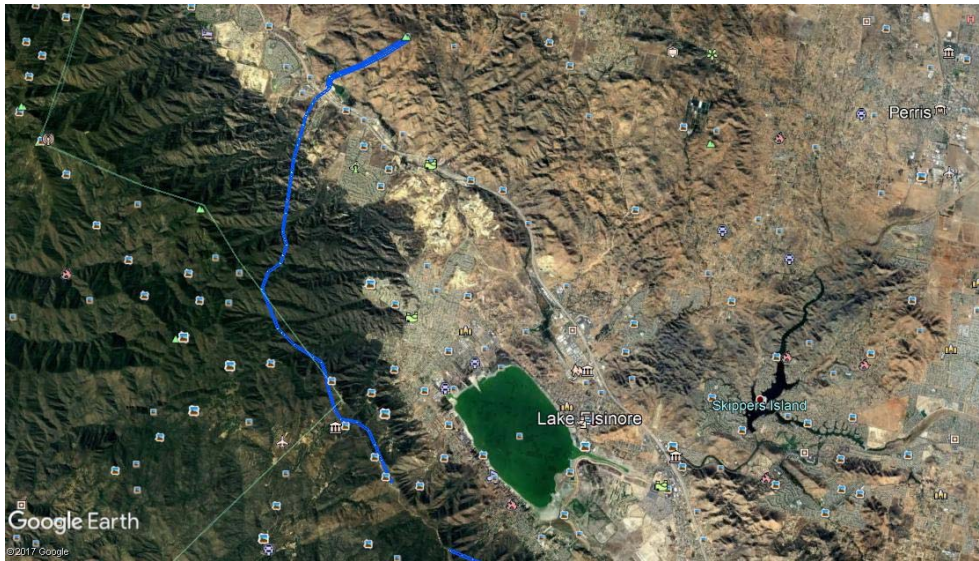
- Lake Elsinore to provide source water, closed loop through upper reservoir in Decker Canyon.
- Two reversible pump turbine units pump water to upper reservoir using low-cost off-peak power, and generate power from water flowing downhill at times of high demand.

- California has committed to an aggressive renewables timetable
 - 40% renewables by 2024, 50% by 2030
- Renewables such as wind and solar need back-up for reliability
 - Sometimes the wind doesn't blow and the sun doesn't shine
- LEAPS is “nature's battery” using potential energy stored in water
 - Instantaneous back-up for renewables for increased grid reliability
 - None of the GHG emissions of carbon-based generation
 - None of the issues of lithium batteries

Location

- Rare combination of water, topography and opportunities for grid connection north and south of the proposed substation
- California needs reliable, environmentally-friendly power to support the grid that benefits all southern California residents
- LEAPS can contribute to providing additional water supply to Lake Elsinore
- Local trades can fill 5 million person-hours of construction employment





Northern transmission corridor

- Originates at substation, runs underground up the mountain to Decker Canyon, then north to the SCE system and south to the SDGE system.
- Towers will be sited and colored to minimize aesthetic impact

- FERC issued a final environmental impact statement describing a substantially similar project it could license, but no license was issued
- We are working to keep our environmental studies and consultation with relevant agencies fresh
- **FERC process calls for further updates to environmental studies in discussion with other agencies**
 - Biological studies – flora and fauna
 - Water studies – quality and quantity
 - Cultural Resources
 - Visual simulations and traffic study

- October 2 Final License Application just the beginning
 - FERC review, clarification and approval is a long process
- January Deficiency Letter and 90-day response part of the process
- Discussions with agencies
- Presentations to elected officials and municipal administrations
- Resident outreach
 - LEAPS website
 - FERC website
 - Mailings to affected stakeholders
 - Filing at local libraries (i.e. Lake Elsinore Branch Library, Graham Avenue)
 - Public meetings

Conclusion

- We are committed to meeting with stakeholders.
- The Final License Application is a key source of information about LEAPS and is available for review.
- Going forward, we will be meeting with interested parties, Tribes, municipal and state governments and agencies to discuss the project.
- There is time for us to provide additional information and for stakeholders to provide input.



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