

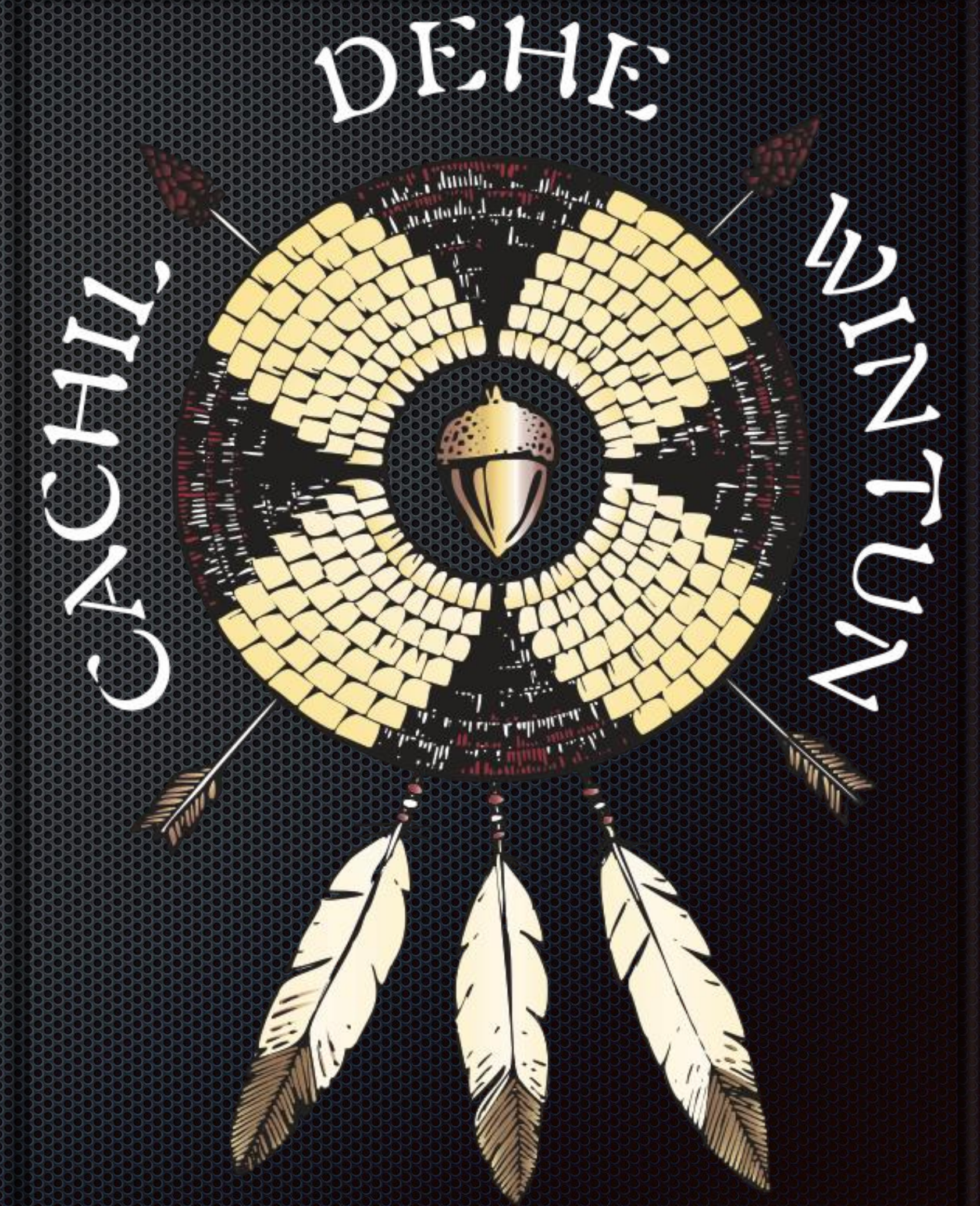
Colusa Indian Community: Reese Road Housing Power Project

DOE Annual Program Review 2023

Presented by Kenneth Ahmann

Presentation Outline

- Summary of Colusa Indian Community
- History of CIC-Tribal Utility Authority
- Reese Road Housing Power Project
- Project Objective
- Project Timeline
- Contact Information



Summary of Colusa Indian Community

The Colusa Indian Community consists of 44 members of the Cachil Dehe Band of Wintun Indians and a total of 155 residents. The Tribe resides in the heart of Northern California's agricultural land on a 290-acre reservation, along the bountiful Sacramento River.

The Colusa Indian Community owns and operates the Colusa Casino Resort, which is powered, heated, and cooled by the Tribal Utility Authority's cogeneration power plant. The TUA's micro-grid provides highly reliable power to the entire reservation.





Colusa Casino Resort

Four miles north of Colusa, California on Highway 45

History of CIC-Tribal Utility Authority

- Electrical Department created in 2003
- Co-Gen commissioned in 2005
- TUA created in 2021 to unify resources and leadership of both departments
- Team includes director, managers, leads, technicians, operators, journeyman electricians, welders, pipe fitters, fabricators, and apprentices



2005

- Resort expanded and hotel was built
- Reservation experienced 50+ power outages per year from local utility
- Co-Gen was built to power the resort and Tribal administration campus
- Originally consisted of 4MW of Jenbacher gas engines and two Thermax absorption chillers



2012

- 4MW battery UPS installed
- 4MW backup diesels installed
- Micro-grid has experienced zero power outages since this integration



2014

- DOE grant funded solar PV project completed
- 500kW solar canopy installed
- 100kW rooftop solar installed



2015

- Co-Gen control system upgraded
- Absorption chiller expansion and replacement project began
- 300kW load bank added to system



2018

- Original 4 Jenbacher gas engines replaced at 80,000 operating hours
- Two additional Jenbachers added for total gas engine capacity of 6MW



2019

- DOE grant funded solar project completed
- Four additional solar canopies installed, bringing total PV capacity up to 1.1MW



2020

- DOE grant funded micro-grid expansion project
- TUA replaced PG&E across entire reservation, including member housing, all Tribal businesses, water treatment plants, and more



2022

- Absorption chiller expansion project complete
- Resort now gets its cooling from absorption chillers totaling 1400 tons of capacity and electric backup chillers totaling 400 tons of chilled water capacity
- UPS expansion project began



What's next for the CIC-TUA?

- 2MW BESS is being installed to act as load buffer for solar PV
- DOE grant funding secured to add 900kW grid tied solar PV to offset thousands of acres of ag loads on fee land
- Colusa Indian Energy founded to export our decades of experience with energy infrastructure projects to energize Indian Country
- www.colusaindianenergy.com





Reese Road Housing Power Project

DOE grant funded micro-grid expansion

Project Objective

- Expand existing medium-voltage distribution to seven new households with the addition of medium-voltage cabling, step down transformers, smart meters, and street lighting for the new development.
- Utilize the Tribe's existing cogeneration power plant and micro grid to supply the new homes with highly reliable power with fewer interruptions and at a reduced rate compared to the local utility.
- Give the Tribe greater independence from traditional power sources and provide jobs for the community.



Project Timeline

- DOE award selection in 2022
- Project scope was modified so that two different housing sites would be energized
- Funding released after NEPA review in July 2023





Project Timeline

- Engineering is complete and equipment is on order
- Underground construction began October 2023
- Construction expected to be complete Spring 2024



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