

DOCKETED

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Project Title:	Palmdale Energy Project (Formerly Palmdale Hybrid Power Plant) - Compliance
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Document Title:	Palmdale Energy LLC's Presentation for 11/16/15 Site Visit, Scoping Meeting & Informational Hearing
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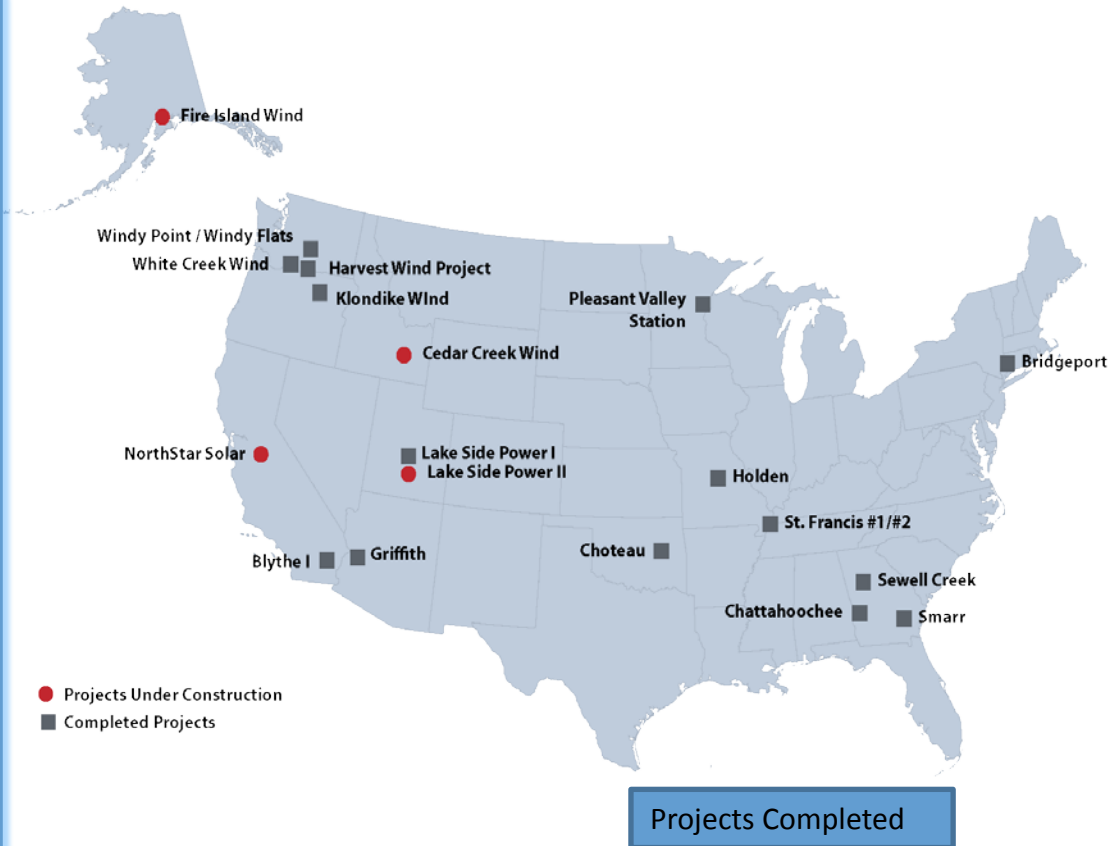
Palmdale Energy Project

CEC Informational Hearing

November 16, 2015

Summit Power Group, LLC

- **Seattle-based developer:**
 - Clean energy projects.
- **Founded 21 years ago:**
 - U.S. Secretary of Energy, Don Hodel.
 - COO of Department of Energy, Earl Gjelde.
- **Over 9,000 MW to date.**
 - Full and partial scope engagements.
- **Development, financing, off-take marketing, program management, and asset management:**
 - Utility scale wind and solar PV.
 - Natural gas fired combustion turbines.
 - Major coal gasification facilities.
 - CO2 capture for EOR.



Palmdale Energy Project

Project Purpose and Need

- Provide an efficient, flexible, reliable and environmentally sound power.
- Provide daily fast start and fast ramping capabilities needed to provide Flexible Capacity to manage the integration of intermittent resources.
- Design the Palmdale Energy Project to minimize water usage as much as practical.
- Utilize the existing CAISO Large Generator Interconnection Agreement.

Palmdale Energy Project

Project Description - Configuration Changes

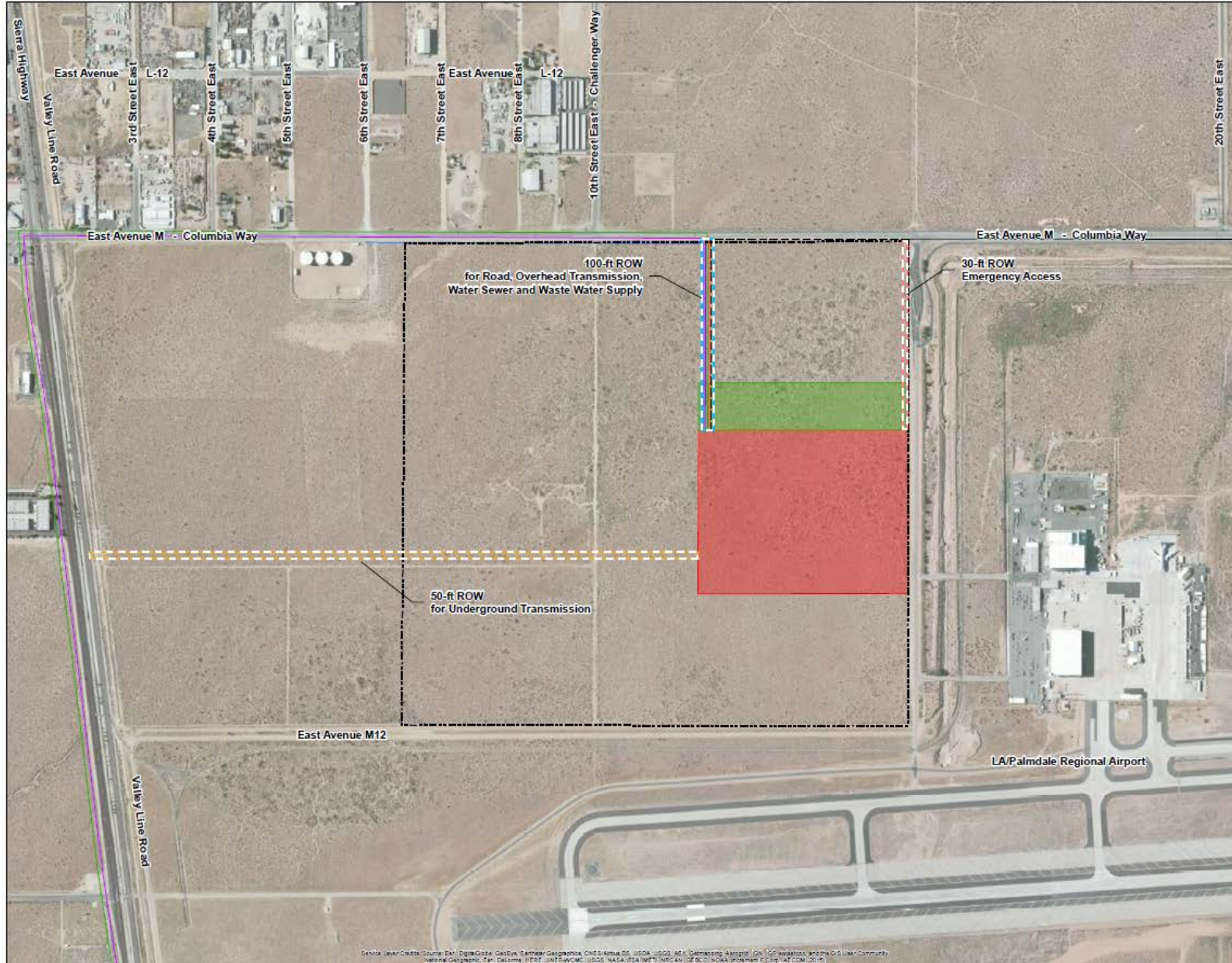
- Elimination of Hybrid Solar portion of the plant.
- Reduction of Project Site from 377 acres to approximately 50 Acres plus 10 – 20 Acres of temporary (construction only) Laydown/parking.
- Change the Gas Turbine technology to modern F class turbines in order to increase efficiency and provide more flexible operations.
- Designed for 10 minute start (both Gas Turbines starting and achieving full output).
- Elimination of Cooling Tower and implementation of Air Cooled Condenser – to reduce water usage by 90 percent
- Elimination of Brine Concentrator/Crystallizer System – Eliminates a highly concentrated waste stream that required off-site disposal.

Palmdale Energy Project

Project Description - Configuration Changes (cont.)

- Small amount of process waste water will now go to City Sewer (clean water discharge streams only).
- Reclaimed water will still be used for process water.
- The plant capability will be approximately 700 MWs including duct firing and gas turbine evaporative coolers (590 MW at 90 degrees without duct firing or evaporative coolers). Plant output will be limited to 570 MWs if additional transmission capacity is not economically available.

Palmdale Site Plan



Legend

- Natural Gas Supply Pipeline (Previously Approved)
- Potable Water Line (Previously Approved)
- Reclaimed Water Supply Pipeline (Previously Approved)
- Sanitary Wastewater Pipeline (Previously Approved)
- Transmission Line Segment 1 (Previously Approved)
- Transmission Line Segment 1 Extension (Not Approved)
- Current Project Boundaries
- Right-of-way (100 feet)
- Right-of-way (50 feet)
- Right-of-way (30 feet)
- New Project - Temporary Laydown/Parking
- New Project Boundaries

Scale
 0 750
 Feet
 Scale 1:9,000
 1 Inch = 750 feet

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Palmdale Energy Project

Site Plan

Date: 4/27/2015 Project: 60343963

AECOM FIGURE 2-1

Summary Comparison of Impacts of the Modified Project to the Approved Project

Environmental Effect	Impacts of Modified Project Relative to Approved Project	Discussion
AIR QUALITY	Less for some pollutants, slightly more for others	All impacts mitigated to less than significance with emissions offsets
GREENHOUSE GASES	Similar (system wide)	While the Modified Project would have larger total GHG, due to its ability to integrate renewable energy and its more efficient heat rate, its GHG per MW would be less than the Approved Project
BIOLOGICAL RESOURCES	Less	Reduced Grading and elimination of mirrored solar collectors (bird collisions)
CULTURAL RESOURCES	Less	Reduced Grading
WORKER SAFETY AND FIRE PROTECTION	Less	Elimination of flammable Therminol and solar field
GEOLOGY AND PALEONTOLOGY	Less	Reduced Grading
HAZARDOUS MATERIALS	Less	Elimination of Therminol
LAND USE	Same	

Summary Comparison of Impacts of the Modified Project to the Approved Project (Cont.)

Environmental Effect	Impacts of Modified Project Relative to Approved Project	Discussion
NOISE	Similar	While noise from operation of the facility slightly increases it is still below levels of significance at the nearest sensitive receptor
PUBLIC HEALTH	Similar	While the emissions or some pollutants increase, others decrease. In either case the potential public health impacts remain at less than significant levels
SOCIOECONOMICS	Same	
SOIL AND WATER RESOURCES	Less	Reduced grading and elimination of wet cooling and Therminol
TRAFFIC AND TRANSPORTATION	Less	Eliminate glare to airport from mirrored solar collectors
VISUAL RESOURCES	Less	Elimination of solar field
WASTE MANAGEMENT	Less	Reduced Grading, elimination of brine concentrator waste, and elimination of waste from use of Therminol

Maximum Potential to Emit
by Operational Scenario (Tons/Year)
Compared to Approved Project

Pollutant	Scenario 1	Scenario 2	Scenario 3	Prior
CO	102	351	289	255
NOx	139	122	122	115
PM10	81	48	54	117
PM2.5	81	48	54	117
VOCs	31	52	45	40
SO2	11	7	7	9

Palmdale Energy Project

Summary

- Project is being reconfigured to serve as a “flexible” generating resource in order to help reliably integrate existing and future renewable generation resources.
- Project is more efficient and will reduce system CO2 emissions.
- Changes to the Configuration are taking place on a small portion of the currently licensed Project Site.
- Minor revisions/deletions of existing Conditions to reflect the new Project Configuration.
- Other previously approved Conditions will mitigate impacts to less than significant levels.