GWP Commission & Draft EIR Public Comment Meeting for the Grayson Repowering Project

Glendale, California
October 16, 2017

Check in at table to provide verbal comment during meeting. Visit table for additional opportunities for comment.

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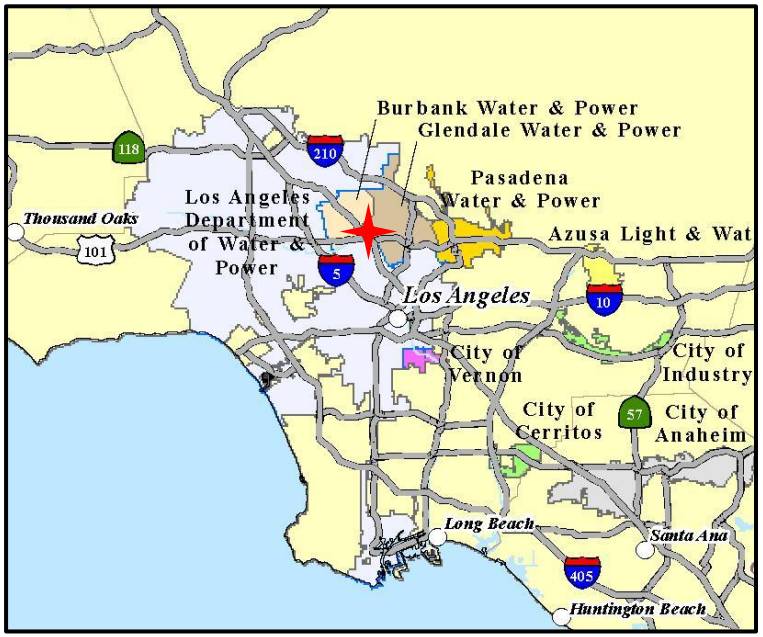
Glendale Water & Power Background

- Responsible for serving the electrical demand of Glendale customers
- Over 88,000 electric customers
- Peak demand is 350 MW



Source: California Energy Commission

Introductory Remarks by GWP

- Reliability
- Rate impact
- Legislative and regulatory compliance
- Environmental enhancement
  - Eligible renewables-47%
  - Large hydro-10%
  - Other carbon free-7%
  - Other sources-36%
  - Total electricity use~1.1 million MW-hr

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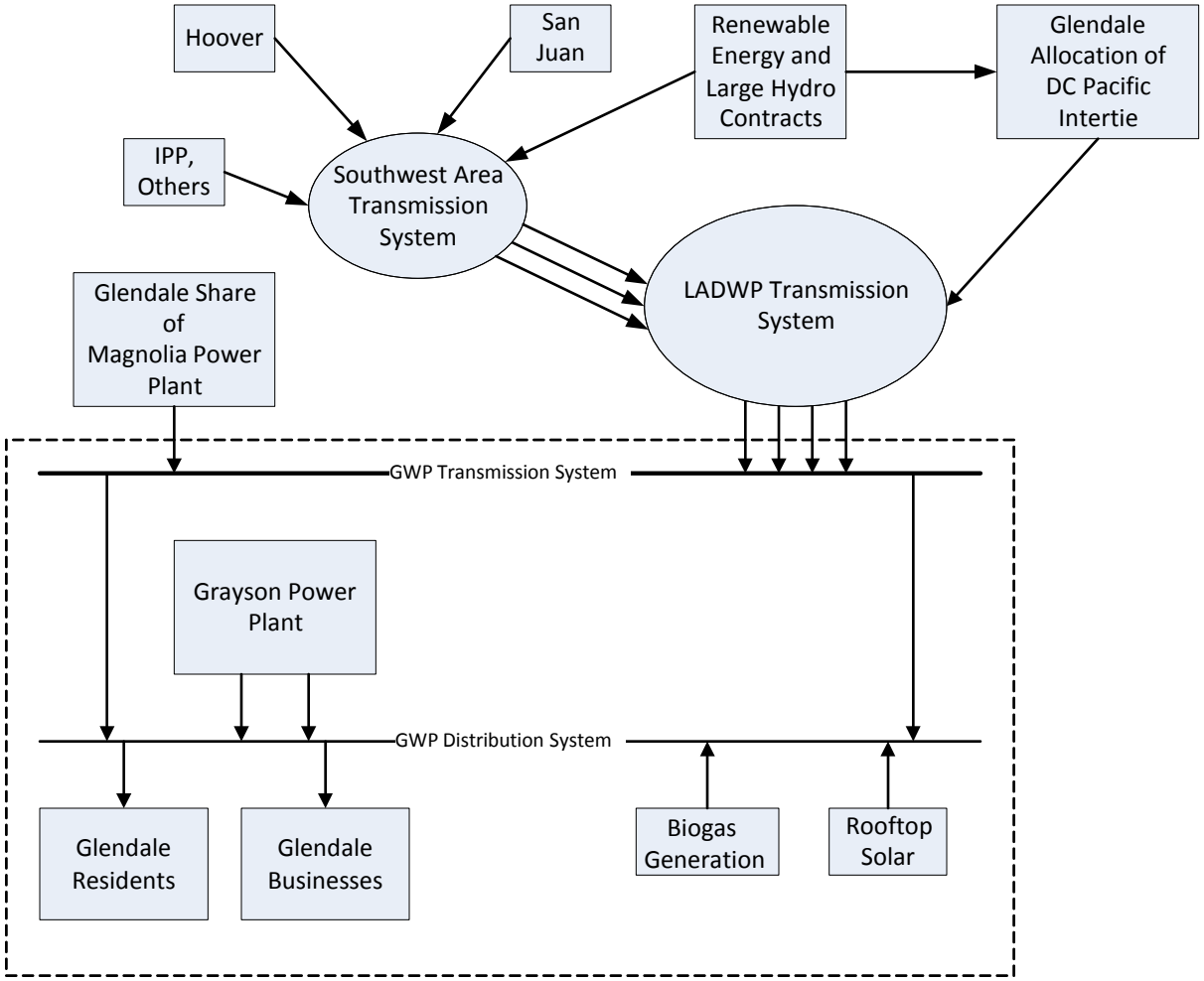
GWP Simplified Schematic



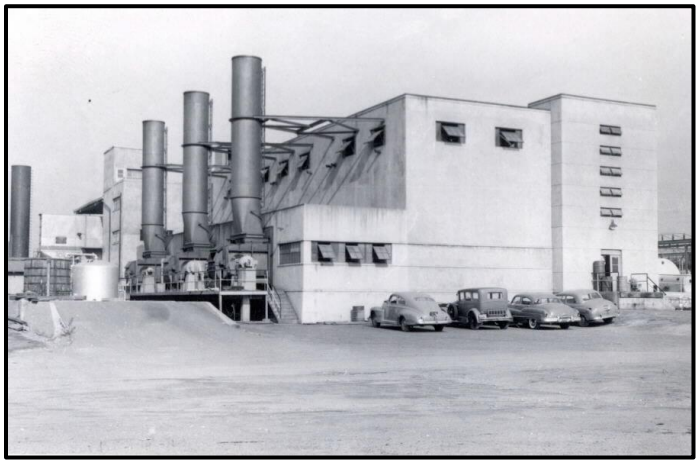
Glendale Water & Power Electricity Supply

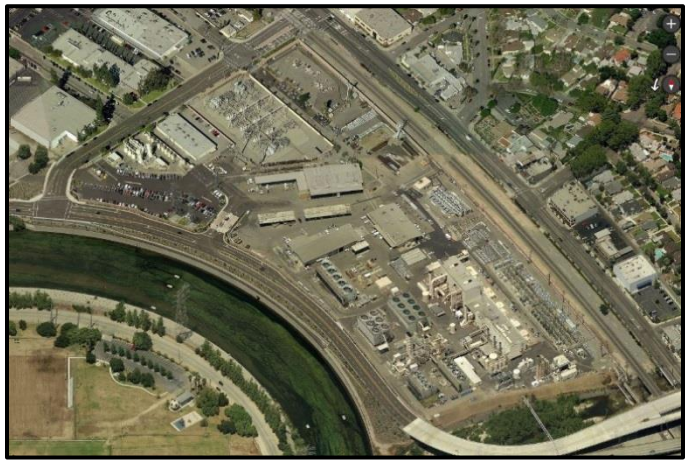
- Local Generation
  - 267 MW Grayson Power Plant
- Import Capacity
  - 100 MW on Pacific DC Intertie
  - 100 MW on Southwest A/C transmission system
  - 39 MW Magnolia Power Plant

Maximum Electrical Capacity of 506 MW

Grayson Power Plant History

- Faithfully serving the electrical power needs of the City of Glendale since 1941
- Reliability, efficiency and cost effectiveness of the existing facility has steadily declined due to age and normal degradation of the equipment





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Existing Grayson Generation Units

Existing Grayson Generation Units	MW	Year	Age
Unit 1 – steam turbine-generator	18	1941	76
Unit 2 – steam turbine-generator	18	1947	70
Unit 3 – steam boiler turbine-generator	18	1953	64
Unit 4 – steam boiler turbine-generator	42	1959	58
Unit 5 – steam boiler turbine-generator	42	1964	53
Unit 8A– gas turbine-generator combined cycle plant	26	1977	40
Unit 8B/C – gas turbine-generator combined cycle plant	55	1977	40
Unit 9 – gas turbine-generator simple cycle	48	2003	14
Total Generation Capacity	**267**		

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Existing Grayson Generation Units

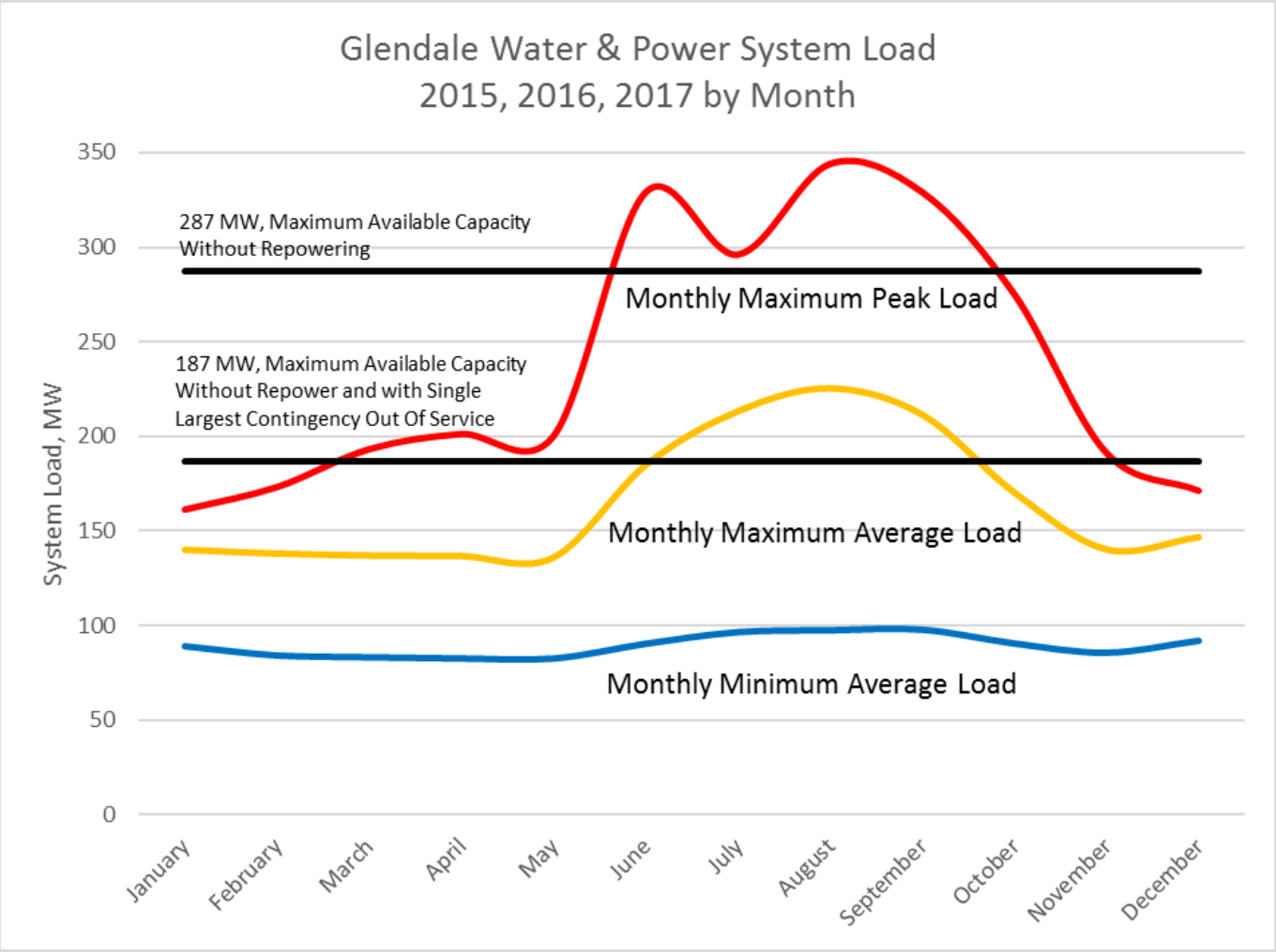
- Generation units, except #9, are beyond average retirement ages
- Inefficient and higher air emissions compared to modern turbines
- Declining reliability due to increasing frequency in unplanned and forced outages
- Increasing operation and maintenance costs
- Units 1-8 expected to fail early 2020s

Electrical Capacity under No Project

- 100 MW on Pacific DC Intertie
- 100 MW on Southwest A/C transmission system
- 39 MW Magnolia Power Plant
- 48 MW Grayson Unit 9

Total Electrical Supply Capacity = 287 MW

What is the outlook without it?



Single Largest Contingency: The planned unexpected failure or outage of a system's largest electrical component.

Capacity Deficit Under the No Project Alternative

Source	Capacity
Total Peak Demand:	**350 MW**
Pacific DC Intertie (Single Largest Contingency)	100 MW
Southwest A/C transmission from the Victorville area via LADWP transmission line contracts	100 MW
Magnolia Power Project (peak summer load adjustment)	39 MW
Total Import Capacity:	**239 MW**
Total Import Capacity (239 MW) minus Single Largest Contingency (100 MW)	139 MW
Additional Capacity Needed to Support First Outage (350 MW -139 MW)	211 MW
Additional Capacity Needed to Recover and Support the System	71 MW
Total Additional Capacity Needed to Meet Demand and Reliability Requirements:	**282 MW**

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Proposed Project Description

- Repower Grayson Power Plant at its existing location
- Removing old generating units and building new units at the same site
- The repowered units are more energy efficient and reliable, and create less emissions while using less potable water
- Project sized to meet City needs per Integrated Resource Plan

Proposed Project Description

- Replace 219 MW of the existing capacity with 262 MW of more efficient generation
- Two 71 MW combined cycle units and two 60 MW simple cycle units
- Ancillary facilities such as cooling towers, gas compressors, new switchyard, and plant operations building
- Unit 9, a simple cycle peaking plant commissioned in 2003, would remain in service

Proposed Project Description

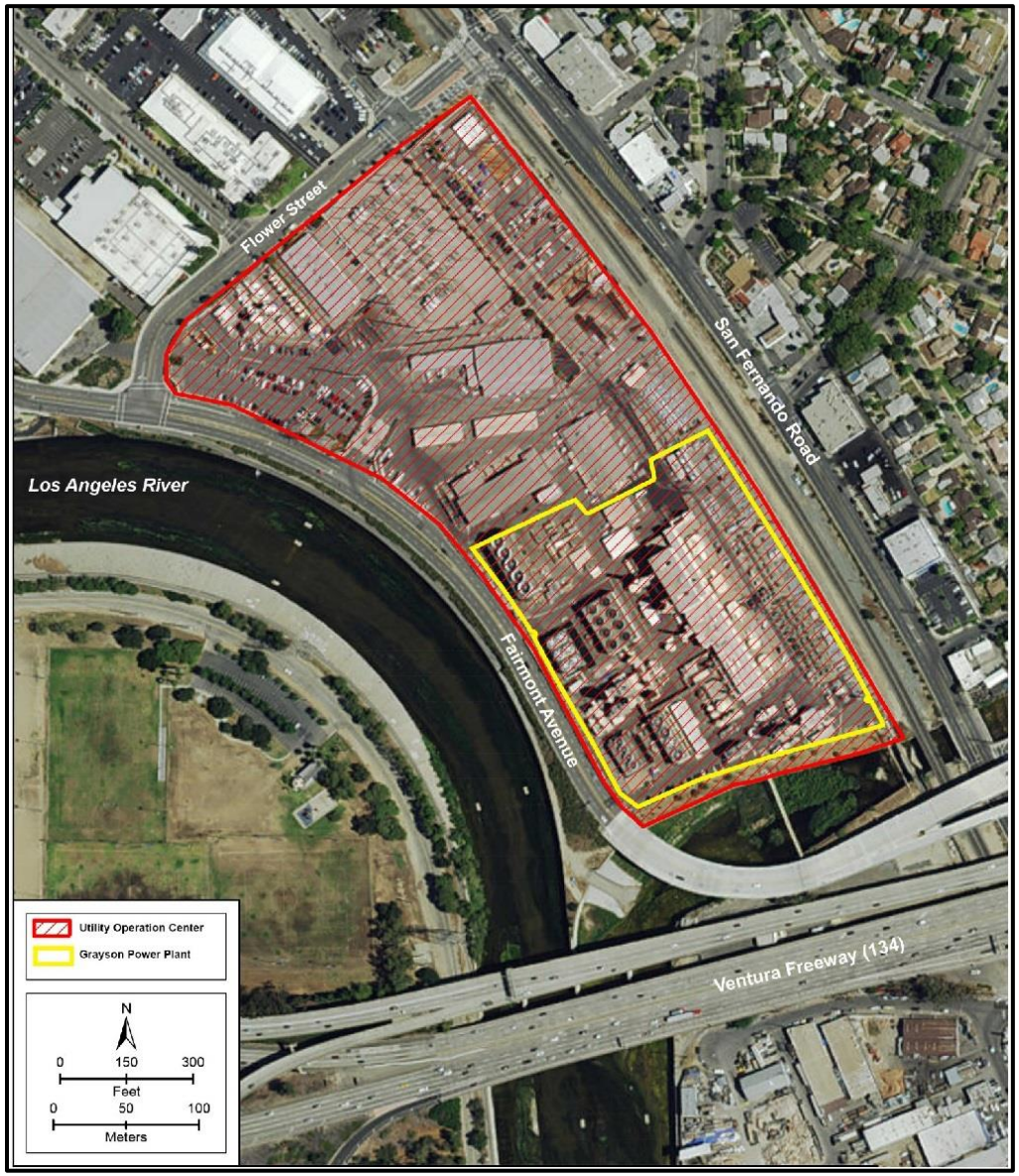
Units Proposed for Decommissioning	MW
Unit 1 – steam turbine-generator	18
Unit 2 – steam turbine-generator	18
Unit 3 – steam boiler turbine-generator	18
Unit 4 – steam boiler turbine-generator	42
Unit 5 – steam boiler turbine-generator	42
Unit 8A– gas turbine-generator combined cycle plant	26
Unit 8B/C – gas turbine-generator combined cycle plant	55
Generation Capacity Removed	**219**

Proposed Replacement Units	MW
Unit 10 - one-on-one combined cycle unit	71
Unit 11 - one-on-one combined cycle unit	71
Unit 12 - simple cycle unit	60
Unit 13 - simple cycle unit	60
Generation Capacity Added	**262**

Additional Capacity is 43 MW

MW = megawatt

Utility Ops Center & Power Plant



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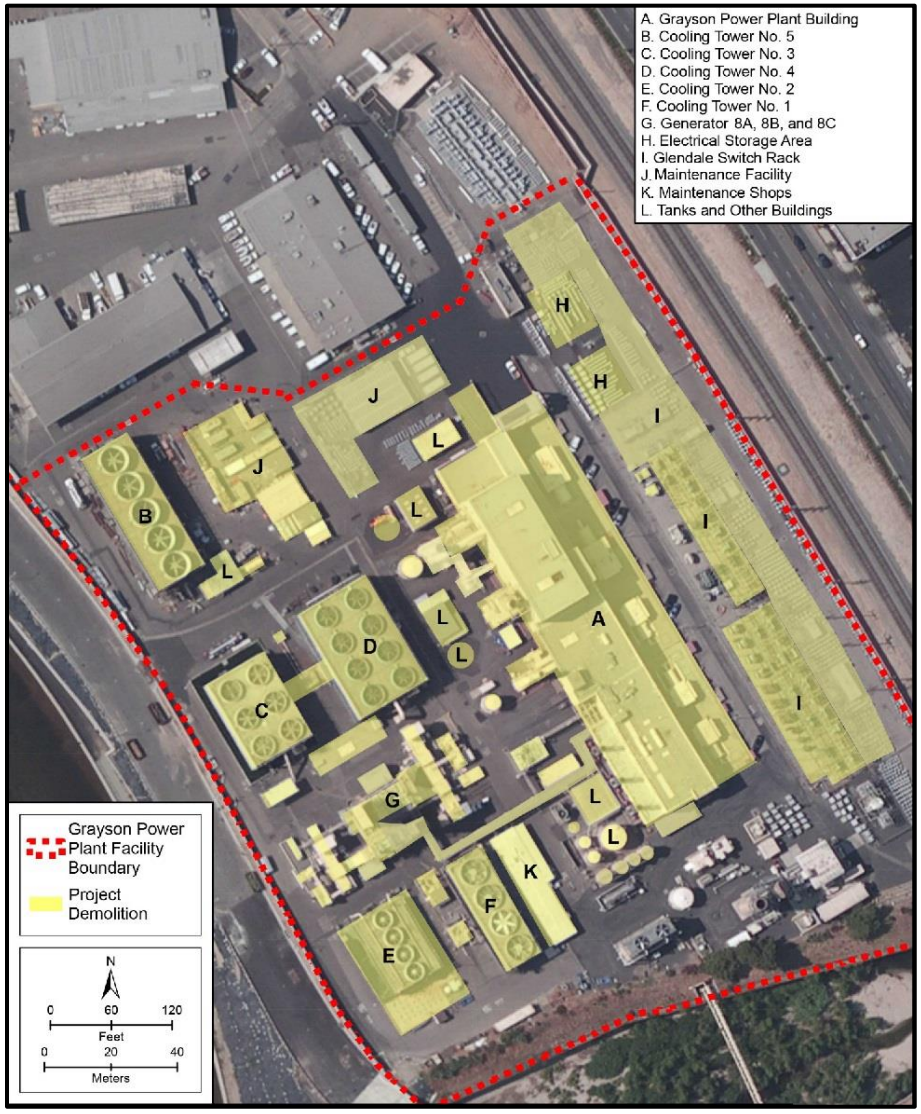
Proposed Project Demolition



Project Objectives

- Provide sufficient capacity and energy to ensure reliable service at all times for the City
- Support the City's compliance with California's Renewable Portfolio Standards
- Meet reliability requirements and load balancing obligations
- Minimize reliance on importing power through congested transmission grid
- Utilize current and reliable technology
- Maintain reasonable cost of generation to minimize the impact on customer electric rates
- Support water conservation efforts by eliminating the use of potable water for generation purposes

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Initial Study

Further Analysis in EIR

Aesthetics

Air Quality

Geology and Soils

Greenhouse Gases

Hazards and Hazardous Materials

Hydrology and Water Quality

Noise

Transportation and Traffic

Tribal Cultural Resources

No Further Analysis

Agriculture and Forestry Resources

Biological Resources

Cultural Resources

Environmental Justice

Land Use and Planning

Mineral Resources

Population and Housing

Public Services

Recreation

Socioeconomics

Utilities and Services Systems

Purpose of the Draft Environmental Impact Report

- Evaluates potential environmental impacts of project
- Informs agency decision makers and public of the potential environmental impacts
- Identify possible ways to minimize or avoid any potential significant impacts
  - Mitigation
  - Alternatives
- Disclose to the public required agency approvals

CEQA Review Process

- Public participation process
  - Initial Study/Notice of Preparation
    - 30 day review period
    - Scoping meetings
  - Notice of Completion/Availability of Draft Environmental Impact Report
    - 45 day review period, written comments
    - Public comment meetings (Oct 16 & 19)
  - Final EIR & City Council Hearing

Aesthetics

Potential to degrade visual character of site & surroundings

Construction

- Visibility of construction and laydown areas
- Less than significant with screening of laydown areas

Operation

- Existing power plant in industrial zone
- Five key observation points (KOP) evaluated using FHWA visual impact assessment methodology
- Visual quality at each KOP remained the same; less than significant impacts

Air Quality

Adversely impact air quality - SCAQMD Air Quality Analysis Handbook & Thresholds of Significance

Construction

- CalEEMOD
- Peak daily emissions below thresholds and less than significant
- Fugitive dust control, tier 2 & 3 engines

Operation

- Emissions estimates
- SCAQMD rules and regulations
- Dispersion modeling & health risk assessment
- Below thresholds after offsets and less than significant

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Geology & Soils

Potential to expose people or structures to potential substantial adverse effects from geologic hazards

- Geotechnical Investigation & results
- No change in land use
- Building code compliance
- Less than significant impacts

Greenhouse Gases

Potential to impact global climate change/conflict with applicable plans

- SCAQMD Threshold of Significance and Cap and Trade
- Net increase of GHG emissions from combustion equipment and transformers offset
- GHG emissions after offset would be less than significant
- Reduced GHG emissions on a lb/mw-hr than existing equipment
- Facilitates RPS compliance and less than significant impacts

Hazards and Hazardous Materials

Create a significant hazard to the public or the environment through the use or accidental release of hazardous materials

- Hazard identification (lead, asbestos, and subsurface petroleum-impacted soils)
  - Pre-demo inventory, packaging, removal, and disposal - limit volumes/spill control
  - Asbestos and Lead Paint Management Plan/Soil Management Plan
- Off-site consequence analysis for ammonia
  - Stringent threshold; control necessary to reduce worst-case hazard footprint
- Less than significant impacts with mitigation

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Hydrology & Water Quality

Introduce pollutants into the environment that could degrade water quality, alter drainage or create substantial runoff

- NPDES General Permits for stormwater discharges (construction and industrial activities)/Glendale Municipal Code
- SWPPPs and BMPs
- Drainage study & stormwater system design; improved stormwater infiltration and water quality
- Less potable water use
- Less than significant impacts

Noise

Potential to exceed City noise standards

Construction

- Mon -Sat between the hours of 7 a.m. and 7 p.m.
- Modeling of possible concrete pours at night
- Vibration from pile driving

Operation

- Ambient measurements and modeling (Cadna/A)
- Enclosures, buildings, and/or sound barriers
- Equipment specific noise limit mitigation
- Modeling of low frequency noise

Less than significant impacts with mitigation

Transportation & Traffic

Conflict with applicable measures of effectiveness for the performance of the circulation system

- Construction traffic and circulation study
  - Scope/methods approved by Glendale Public Works, Traffic Section (LOS focused); Coordination with LA Metro
  - Impact at San Fernando Road/Doran Street
  - Traffic management plan & limit vehicle trips at construction parking area during PM peak hours
- Operation phase traffic similar to that existing
- Less than significant impacts with mitigation

Tribal Cultural Resources

Assembly Bill 52

- Notification letters
- No responses requesting consultation
- Requirements met
- Less than significant impacts

Draft EIR Impact Summary

Environmental Factors Analyzed	Impact Determination
Aesthetics	Less than Significant with Mitigation
Air Quality	Less than Significant
Geology and Soils	Less than Significant
Greenhouse Gases	Less than Significant
Hazards and Hazardous Materials	Less than Significant with Mitigation
Hydrology and Water Quality	Less than Significant
Noise	Less than Significant with Mitigation
Transportation and Traffic	Less than Significant with Mitigation
Tribal Cultural Resources	Less than Significant

Alternatives evaluated in EIR

CEQA requirements

- No Project
- Energy Storage Project Alternative
- Alternative Energy Project Alternative
- 150 MW Project Alternative
- 200 MW Project Alternative

No Project Alternative

- Run plant to failure, expected in early 2020s
- Does not satisfactorily meet the Project objectives
- GWP will fail to comply with Federal and State reliability standards
- Result in the City needing additional transmission capacity or face power outages (even with infinite storage available)

Energy Storage Project Alternative

- Dependent on excess energy available to charge batteries, primarily through daily night-time imports over the transmission systems
- Insufficient excess capacity to charge the batteries during high load periods
- Reduced environmental impacts but does not meet energy supply or reliability objectives

Alternative Energy Project Alternative

- Lesser air quality, greenhouse gas emissions, hydrology and water quality, and noise impacts
- Requires more land disturbance with development of new transmission line
- Greater impacts to aesthetics, ag, biological & cultural/tribal resources, soils, land use
- Would not meet most of the Project objectives

150 MW Project Alternative

- Lesser air quality, greenhouse gas emissions, hydrology and water quality, and noise impacts
- Requires more land disturbance with development of new transmission line
- Greater impacts to aesthetics, ag, biological & cultural/tribal resources, soils, land use
- Would not meet most of the Project objectives

200 MW Project Alternative

- Incrementally less air quality, greenhouse gas emissions, and noise impacts
- Would not totally avoid or significantly lessen significant impacts of the Project
- Meets most Project objectives, but not to the same extent as the Project
- Represents a higher cost option than the proposed Project

Environmentally Superior Alternative

- None of the alternatives would totally avoid or significantly lessen any potentially significant impacts of the Project
- Project would meet all project objectives while resulting in the fewest impacts when compared to the feasible alternatives evaluated
- Proposed Repowering Project is considered the environmentally superior alternative

Anticipated Schedule

Component	Timeline
Notice of Preparation/Initial Study and Public Scoping Meeting	December 2016 - January 2017
Prepare Draft EIR	February 2017 – September 2017
Draft EIR Public Comment Period	September 18 – Nov 3, 2017
Prepare Final EIR which includes responses to comments	Q4 2017/Q1 2018
Public hearing for EIR Certification	February 2018
Site Demolition	June 2018 – February 2019
Construction	March 2019 – June 2021

Public Review

- September 18 – November 3, 2017
- Available at: http://www.glendaleca.gov/environmental, Community Development Department, Glendale Central Library
- Written comment to Erik Krause, Interim Deputy Director of Community Development

  City of Glendale
  Community Development Department
  633 East Broadway, Room 103
  Glendale, California 91026-4386
  fax (818) 240-0392
  email ekrause@glendaleca.gov

Additional Information & Updates

http://Graysonrepowering.com

Thank you for your participation

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