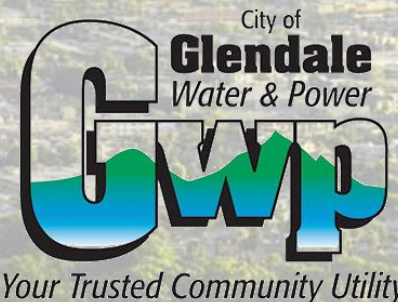




Grayson Repower Project Update

Glendale Water & Power Commission

August 02, 2021



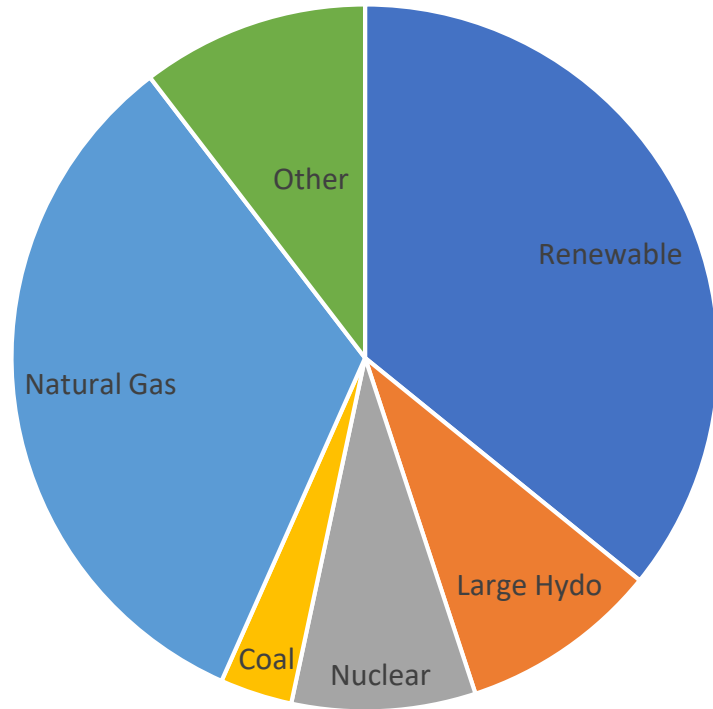
Introduction

- Project background and timeline
- Updates since original consideration
- New alternatives
- Need for a timely decision



GWP Overview

2019-2020 Resource Mix



- 346 MW peak load
- GWP largely relies on imports
 - 200 MW of transmission imports
 - 38 MW from Magnolia
- GWP will lose 234 MW of local Grayson generation at the end of 2023 with no action
- Without Grayson, not enough capacity to serve peak loads and cover contingencies

Grayson Today



Grayson Repower Timeline

Date	Milestone
April 10, 2018	Final EIR presented to City Council (no action taken)
May 4, 2018	Clean Energy RFP issued
November 2, 2018	SCAQMD Amends Rule 1135
July 23, 2019	2019 IRP Approved Clean Energy Projects Shortlisted Limited Notice to Proceed Phase for Grayson Repowering Alternative Begins
September 4, 2019	Rolling Blackouts
October 13, 2020	Franklin Demand Response (10 MW) Clean Energy Program Approved Lime Energy Efficiency (9.9 MW) Clean Energy Program Approved
December 15, 2020	City Council authorizes additional funding for Alternative 7 and addition of Alternative 8
March 2021	100% Clean by 2030 Study presented to City Council
Early August 2021	Partially Recirculated DEIR (PR-DEIR) issued
Early November, 2021	PR-DEIR to be presented to GWP and Sustainability Commissions
November 16, 2021	PR-DEIR hearing - City Council



Originally Proposed Project



① Unit 10 Combined Cycle Plant

② Unit 11 Combined Cycle Plant

③ Unit 12 Simple Cycle Plant

④ Unit 13 Simple Cycle Plant

⑤ Fairmont Switchyard

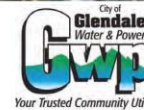
⑥ Operations & Maintenance Building

⑦ Water Treatment Area

⑧ Existing Unit 9

⑨ Future BESS

**GRAYSON REPOWERING
PROJECT**



Proposed Project Visual Simulation



Originally Proposed Project

- 262 MW
- Two combined cycle units
- Two simple cycle units
- Sized to meet all required contingencies with 346 MW peak load
- Permitted enough hours to allow Grayson to supply GWP needs up to ~90% of the time



Clean Energy RFP

- Issued May 4, 2018
- Requested clean local sources of energy
- Received and evaluated 34 proposals
- Selected the following:
 - Franklin Energy: Demand Response (10 MW)
 - Lime Energy: Energy Efficiency (8.9 MW)
 - Sunrun: Virtual Power Plant (25.25 MW)
 - Tesla utility scale battery energy storage (50 MW)
 - Wartsila thermal generation (93 MW)



New Local Clean Energy Insights

- Engaging a mixture of commercial and residential customers
- Utilizing energy efficiency, demand response, and a virtual power plant (solar plus storage)
- Programs start from zero and add capacity over the years, GWP continuing to look for more
- GWP has varying ability to call upon these resources
- Sunrun is still in negotiation
- GWP has consultants looking at more local PV
- Planning based on 30 MW in place by 2024 and growing from there



SCAQMD Rule 1135 Impacts

- South Coast Air Quality Management District amended rule on November 2, 2018
- Rule 1135 requires older units to reduce emissions to current day limits
 - Only Unit 9 can currently do this
 - It is feasible to modify Units 8A and 8BC
 - It is not feasible to modify the Units 1-5 boilers
- Grayson units have three choices:
 - Modify units to meet current SCAQMD requirements before 2024
 - Replace with new generation that meets SCAQMD requirements
 - Retire existing units that are not upgraded before 2024
- Must notify SCAQMD by June 30, 2022 what will happen with existing Grayson units



2019 Integrated Resource Plan

- Recommended by GWP Commission July 1, 2019
- Adopted by City Council July 23, 2019
- Recommended Portfolio includes:
 - 28 MW of energy efficiency, demand response
 - 23 MW of rooftop solar and batteries
 - 75 MW/300 MWH utility scale batteries
 - 93 MW thermal generation
- Energy demand expected to grow slowly if demand response and efficiency grow as predicted to offset growth in EVs
- Peak load expected to grow to >400 MW



100% Clean Energy by 2030 Study

- Built upon 2019 IRP
- Presented to City Council March 21, 2021
- Concluded that 89% by 2030 is achievable
- Remaining 11% would require:
 - New transmission capacity to import more renewables
 - Additional remote renewables with storage
 - Additional local renewables with storage, or
 - Using renewable natural gas at Grayson



September 2019 Rolling Blackouts

- Rolling blackouts starting September 4, 2019
 - Lasted a few days
 - Not a transmission or generation issue
 - Immediate cause was a transformer failure plus a 34.5 kV line outage and high system loads
- New Glendale Switching Station
 - Adds resiliency to GWP system
 - Added to the new EIR alternatives
 - Construction after thermal generation portion is completed due to lack of space



Southern Transmission System

- The Southern Transmission System (STS) is one part of two paths that GWP uses to bring power into the LA Basin and thence to GWP
- GWP is a participant in the Intermountain Power Project (IPP) which includes the STS to deliver to GWP
- GWP remained a participant in the IPP alternative repowering project
- Continued participation allowed GWP to increase its share of the STS
- GWP transmission capacity from the southwest to GWP will increase by 72 MW starting in 2027



Boiler Building

- Must be demolished to provide adequate space for either the Proposed Project or any proposed Alternative
- After consultation with The Glendale Historical Society (TGHS) Glendale has agreed to treat the Boiler Building as a discretionary historical resource under the California Environmental Quality Act so that mitigation measures can be imposed that will preserve the history of the building by various means such as a photographic survey and other documentation, a plaque, and display of a salvaged piece of equipment.
- The City worked with TGHS on developing appropriate mitigation measures which have been added to the EIR



Two New Project Alternatives

Alternatives 7 and 8 both include:

- About 93-100 MW of thermal generation
- 75 MW/300 MWH of battery energy storage
- Removal of the Boiler Building to accommodate energy storage and other project elements
- Compliance with SCAQMD emissions limits
- Permitted to run for no more than 15% of a year
- Reduced energy production and fuel usage by >80% from the originally Proposed Project



Alternative 7

- Add 75 MW/300 MWH of battery energy storage
- Remove all existing units except Unit 9, Unit 9 already complies with Rule 1135 limits with some tuning changes
- Add five Wartsila 18.5 MW internal combustion engine generators – about 93 MWs total
- New Glendale Switching Station



Alternative 7 Visual Simulation



Alternative 8

- Add 75 MW/300 MWH of battery energy storage
- Remove Units 1-5 steam boilers and turbines
- Retain Units 8A, 8BC, and 9 gas turbines
- Unit 8A converted to simple cycle (like Unit 9)
- Unit 8BC converted to fast-start combined cycle
- Refurbish Unit 8A and 8BC gas turbines
- New fast start steam plant for Unit 8 BC
- Other equipment replaced with new equipment to meet SCAQMD requirements and fast starts
- New Glendale Switching Station



Alternative 8 Visual Simulation



Consequences of No Decision

- Notify SCAQMD by June 30, 2022 that no action will be taken regarding Units 1-8
- Cease operating Units 1-8 by December 31, 2023
- Beginning in 2024, GWP will not meet reserve requirements due to Grayson retirements
- Historical peak load of 346 MW expected to grow
- Energy demand expected to grow due to electric vehicles and electrification

Next Steps

- Opportunities for Public Review
 - www.graysonrepowering.com
 - [Environmental Review | City of Glendale, CA \(glendaleca.gov\)](http://glendaleca.gov)
 - Partially Recirculated Draft EIR available on-line, at libraries, and GWP offices by appointment due to COVID-19
- GWP/Sustainability Commission meetings
 - August 2 and 5, 2021
 - September 9, 2021
 - November 1 or 4, 2021
- City Council EIR hearing on November 16, 2021



How To Submit Your Comment

- In writing to Community Development Department, Planning Division
 - 633 East Broadway, Room 103
Glendale, California 91206
 - Attention: Erik Krause, Deputy Director
- Facsimile to (818) 240-0392
- E-mail to ekrause@glendaleca.gov, please include “Grayson Repowering Project PR-DEIR” in the subject line
- Sixty day comment period (includes 15 added day comment period)





Questions?



#MyGlendale