



South Coast Air Quality  
Management District

Variance Petition 3478-28

Glendale Water and Power  
Grayson Power Plant

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Principal



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For Planet & Progress

## Variance Need - Overview

- Facility Permit 800327, Section H, Condition 63.7 implements SCAQMD Rule 1303 NSR – Offsets by limiting monthly emissions of criteria pollutants
  - NOx and CO limits will be exceeded during a brief period due to commissioning operations
    - NOx – Limited to 620 pounds per month per engine
    - CO – Limited to 1100 pounds per month per engine
    - VOC, PM10 and SOx emissions will not exceed permit limits. The permit specifies a calculation method based upon fuel consumption for these pollutants, which is relatively low during commissioning operations
  - Commissioning emissions do not exceed initial expectations, they are simply condensed into a shorter period without exceeding air quality standards
  - Condition E193.10 specifies that commissioning operations are subject to Condition 63.7
  - Rule 203 (b) specifies continuous compliance with all permit conditions

# Grayson Repower Project Presents Significant Reductions in Air Pollution

The Grayson Repower Project replaces legacy boilers and gas turbines with advanced technology generating assets designed to respond to abrupt changes in power supply & demand, support its renewable power portfolio, and reduce overall emissions.

Reductions in Annual Emissions (Tons/Year)

	NOx	CO	PM10	VOC	SOx
Historic Actual Emissions	28.3	55.3	13.4	8.7	2.0
Permitted Potential Emissions (new)	4.9	8.3	3.0	5.0	0.2
Net Reduction (Tons)	23.4	47.0	10.4	3.7	1.8
Net Difference (Percent)	83%	85%	78%	42%	88%

# Affected Emission Sources

## Unique Project Characteristics

- Equipment Size – The generators are 10 – 90 times larger than typical prime power engines permitted by SCAQMD
- Aggressive Emission Standards – NOx emissions match simple cycle turbine performance and the project is the first with engines of this size globally to meet the aggressive standards of SCAQMD Rule 1110.2 – *lower emissions than spot market sources*
- New Source Review Applicability - Grayson is not a RECAIM facility and is instead subject to Regulation XIII offsets

	Application	Permit Device
Engine #11 – Wartsila Lean Burn Internal Combustion Engine, 161 MMBtu/hr. Serving an 18.6 MW Generator	621976	D103
Engine #12 – Wartsila Lean Burn Internal Combustion Engine, 161 MMBtu/hr. Serving an 18.6 MW Generator	621977	D108
Engine #13 – Wartsila Lean Burn Internal Combustion Engine, 161 MMBtu/hr. Serving an 18.6 MW Generator	621978	D113

# Background

- In its proposal to GWP, Wartsila advised that commissioning schedules would allow for monthly emission to remain below SCAQMD monthly limits for normal operations
- The presumption of flat emission profiles stood based upon available information 2020 when Wartsila prepared the application to SCAQMD to construct the engines - compliance was to be achieved by sequentially commissioning the three engines over a long period (approximately four months)
- Delivery of the engines was expected to occur in July 2025, which would accommodate commissioning during the winter season and allow the generators to meet GWP's need to operate in Summer 2026
- Due to shipping delays that were out of GWP's control, the engines were not delivered to Grayson until February 2026 - *The 7-month delay consumed the period in which commissioning was to occur*
- First fire is now expected late June 2026, with commissioning to begin first week of July 2026

## Background, cont.

- Because of the delivery delay, GWP cannot implement the sequential commissioning program as planned and meet its peak summer operating needs
- Once it became clear that the original commissioning schedule would no longer be viable, Wartsila investigated alternative schedules with summer production needs in mind and delivered a 6-week schedule to GWP on April 15, 2026
- With this variance, the 30-day limit in permit condition E63.7 will be exceeded after approximately two weeks, but total emissions of the commission program do not exceed expectations used for permitting, including air quality analyses
- Noncompliance with the 30-day emission limit would last for approximately 7-9 days for each engine in July
- Excess emissions in July are expected to be approximately 964 pounds for NOx and 1,287 pounds for CO over the 7- 9 days
- Because of the compressed schedule commissioning emissions in subsequent months will be lower than initially expected
- Compliance is expected to be achieved at the start of August

# Commissioning Schedule Excerpt (from Petition)

	Day	Tasks			NOx				CO				3300		
		#1	#2	#3	#1	#2	#3	Total	1860	#1	#2	#3		Total	
Week 1	1	1	1	1	18	18	18	54	54	1	1	1	4	4	
	2	2	2	2	168	168	168	503	557	7	7	7	21	26	
	3	3	3	3	13	13	13	40	597	1	1	1	4	30	
	4	4	4	4	54	54	54	162	759	4	4	4	13	43	
	5	5	5	5	183	183	183	548	1307	652	652	652	1956	1999	
	6	6	6	6	34	34	34	101	1408	121	121	121	363	2362	
	7	0	0	0	0	0	0	0	1408					2362	
	8	7			0	0	0	0	1408					2362	
Week 2	9	8	7		19	0	0	19	1426	35			35	2397	
	10	9		7	19	0	0	19	1445	35			35	2432	
	11	10	8	10	63	19	63	144	1589	91	35	91	216	2648	
	12	11	9	11	63	19	63	144	1734	91	35	91	216	2863	
	13		10	8	0	63	19	81	1815			91	35	125	2989
	14	0	0	0	0	0	0	0	1815						2989
	15		11	9	0	63	19	81	1897			91	35	125	3114
Week 3	16	12	12	12	42	42	42	126	2023	66	66	66	199	3313	
	17	13	13	13	42	42	42	126	2148	66	66	66	199	3512	
	18	14	14	14	32	32	32	95	2243	54	54	54	163	3675	
	19	15	15	15	32	32	32	95	2338	54	54	54	163	3838	
	20	16	16	16	61	61	61	183	2521	83	83	83	249	4087	
	21	0	0	0	0	0	0	0	2521						4087
	22	17	17	17	61	61	61	183	2704	83	83	83	249	4336	
Week 4	23	18			23	0	0	23	2727	48	0	0	48	4385	
	24	19			23	0	0	23	2751	48	0	0	48	4433	
	25	20			26	0	0	26	2777	57	0	0	57	4490	
	26		18		0	23	0	23	2800	0	48	0	48	4538	
	27		19		0	23	0	23	2824	0	48	0	48	4587	
	28	0	0	0	0	0	0	0	2824						4587

	Day	Tasks			NOx				CO				3300	
		#1	#2	#3	#1	#2	#3	Total	1860	#1	#2	#3		Total
Week 5	29		20		0	26	0	26	26				57	57
	30			18	0	0	23	23	50				48	105
	31			19	0	0	23	23	73				48	154
	32			20	0	0	26	26	100				57	211
	33				0	0	0	0	100					211
	34	21	21	21	36	36	36	108	208	84	84	84	253	464
	35	22	22	22	36	36	36	108	316	84	84	84	253	717
Week 6	36	23	23	23	36	36	36	108	425	84	84	84	253	970
	37				0	0	0	0	425					970
	38				0	0	0	0	425					970
	39				0	0	0	0	425					970
	40				0	0	0	0	425					970
	41				0	0	0	0	425					970
	42	0	0	0	0	0	0	0	425					970

Only maximum 30-day emissions will increase on a one-time basis.

# Delayed Commissioning is not a Viable Alternative

Extended Schedule does not fully eliminate excess emissions

- Considered an 8-week schedule, but it would also result in excess monthly emissions
  - Would increase risk of not being able to respond to peak summer needs and emergencies
  - Commissioning periods beyond 8 weeks further jeopardize GWP's ability to respond to peak summer demand

## Permit Modification is not a Viable Alternative

- Permit processing schedules do not accommodate engine availability for peak summer demand
- Regulation XIII offset structure does not efficiently accommodate one-time and nonrepeatable operations
  - Regulation XIII offsets are designed to accommodate operations into perpetuity under the presumption that operations could be repeated day after day and year after year, rather than GWP's 7 - 9 days of peak emissions in a one-time event
  - NOx ERC are priced to reflect their use for consistent and perpetual operations
    - Offsetting the peak NOx emissions for 7 - 9 days of operation would cost GWP ratepayers approximately \$3.5 million

# Variance Management and Mitigation

Compliance with SCAQMD proposed variance conditions is viable

- NOx and CO emissions will be monitored by a CEMS pursuant to Rule 218.2
- GWP will provide status updates to SCAQMD as specified
- GWP will pay excess emission fees pursuant to SCAQMD Rule 303 for every day of operation after monthly emissions reach 620 pounds for NOx and 1100 pounds for CO