

DOCKETED	
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**Data Requests Set 4, for Mojave Solar Project (09-AFC-05C)
- Addition of Two New Evaporation Ponds and 25 MW
Increase - Responses**



Air Quality

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BACKGROUND

The Mojave Solar Project was approved with a combined nominal electrical output of 250 MW. The emission sources of the project include the auxiliary boilers, fire pumps, emergency generator engines, heat transfer fluid system, and cooling towers. The project owner proposed an increase of 25 MW in the interconnection allowance without additional equipment or network upgrades.

DATA REQUESTS 1. Please describe whether the increased capacity has changed the project's operation profile approved in the 2010 Commission Decision such as the operating hours, the schedule for startups and shutdowns, etc. (TN58496).

Response to DR1.

The increased interconnection allowance has not altered the Mojave Solar Plant's (MSP) operating schedule. An additional 25 MW of capacity is utilized when extra thermal energy from the solar field is available, such as on clear and sunny days during the peak generation season. MSP's operating hours, scheduled shutdowns, and operational profile remain unchanged.

For context, MSP commenced operations in late December 2014, and the LGIA amendment was approved in September 2015. However, the additional transmission capability was not utilized until approximately March 2015, during the peak generation season. Accordingly, MSP has always operated with the additional 25 MW of transmission capability.

DATA REQUESTS 2. If the project's permitted air quality emissions increased, please provide updated emissions for criteria air pollutants, toxic air contaminants, and greenhouse gases.

Response to DR2.

Emissions have not increased in connection with the increased interconnection allowance and remain within the permitted levels. The following data is provided in support of MSP's response and addresses the items referenced in the California Energy Commission's (CEC) background section.

Auxiliary Boilers

MSP does not use auxiliary boilers and therefore does not have any responsive data.

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To provide context, on July 24, 2013, MSP filed a petition (TN#201206) with the CEC to replace the natural gas-fired auxiliary boilers with two heat transfer fluid electric heaters. On November 14, 2013, the petition was approved and docketed. The petition states that no air quality permit is required.

Diesel Fire Pumps

MSP does not have any responsive data.

According to permits #E011044 and #E011045 from the Mojave Desert Air Quality Management District the operation of these units is based on necessary hours for testing, maintenance, and emergency use, rather than emissions. MSP provides annual reports detailing the hours of operation, including testing, as required by the permits.

Diesel IC Engine Emergency Generator

MSP does not have any responsive data.

The operation of the units, as authorized by permits #E011042 and #E011043 from the Mojave Desert Air Quality Management District, is based on necessary hours for testing, maintenance, and emergency use, rather than emissions. MSP provides annual reports detailing the hours of operation, including testing, and makes the generator available for visual inspection by the Mojave Desert Air Quality Management District, as required by the permits.

Gasoline Dispensing Facility (One unit at Alpha Plant)

MSP does not have any responsive data.

According to permit # N011039, the authorization for the gasoline dispensing unit is based on an annual maximum fuel throughput of 480,000 gallons. The MSP submits Annual Fuel Throughput reports (AQ58) to both the Mojave Desert Air Quality Management District and the CEC's CPM.

DATA REQUESTS 3. Please provide a comparison of current air quality emissions with air quality emissions generated prior to the LGIA amendment to confirm emission output has not increased. If emissions have increased provide an updated air quality modeling analysis.

Response to DR3.

Emissions have not increased in connection with the increased interconnection allowance and remain within the permitted levels. Please see the data below.

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Carbon Adsorption System, HTF Ullage/Expansion System

Carbon Adsorption Units				
	Alpha		Beta	
	Annual VOC lb./yr	Annual Benzene lb./yr	Annual VOC lb./yr	Annual Benzene lb./yr
Permit Limits	792.1	507.4	792.1	507.4
2015	17.8	1.1	86.9	15.9
2016	23.5	13.1	43.8	34.0
2017	2.7	7.1	10.6	20.4
2018	9.3	14.3	167.3	60.6
2019	524.4	302.8	15.0	1.1
2020	0.3	0.1	0.1	0.2
2021	0.3	0.1	0.4	0.2
2022	0.1	0.0	0.2	0.1
2023	69.9	0.2	38.7	5.1

Cooling Tower

Cooling Tower Run Time, TDS, PM10						
	Alpha			Beta		
	Fans Run Time Hours	Average PM10 lb/Hr	Average TDS ppm	Fans Run Time Hours	Average PM10 lb/Hr	Average TDS ppm
Permit Limits	5,840	2.24	10,000	5,840	2.24	10,000
2015	3,066	0.44	1,992	3,049	0.42	1,946
2016	3,157	0.20	885	3,138	0.28	1,203
2017	3,121	0.34	1,614	2,789	0.44	2,066
2018	2,817	0.41	1,886	3,122	0.48	2,150
2019	2,599	0.43	1,848	2,659	0.48	2,245
2020	2,965	0.44	1,992	2,987	0.42	1,946
2021	3,120	0.67	2,997	2,952	0.80	3,577
2022	2,826	1.03	4,482	3,585	0.94	4,197
2023	3,094	0.69	3,122	3,057	0.89	4,050