STATEMENT OF BASIS
Title V Permit Renewal

Facility Name:	Otay Mesa Energy Center, LLC
Title V App. Number:	APCD2018-APP-005554, APCD2018-APP-005651, and APCD2022-APP-007511
Title V Permit Number:	APCD2010-TVP-00025
Facility ID:	APCD1999-SITE-10882
Equipment Address:	606 De La Fuente Court, San Diego, CA 92154
Facility Contact:	Erik Price, Plant Manager
Contact Phone:	(619) 210-1206
Contact E-mail:	eprice@calpine.com
Permit Engineer:	Maria Galvez
Date:	February 20, 2025
Senior Engineer:	Recoverable Signature X Nicholas Horres Nicholas Horres Senior Engineer Signed by: e933f2c8-9225-4b84-9a71-81071ff0330b

1.0 Type of Action and Summary of Changes

Application APCD2018-APP-005651 requests issuance of a renewal Title V Permit for Otay Mesa Energy Center (Title V Permit APCD2010-TVP-00025), a combined cycle baseload power plant. The facility is subject to Title V permitting because it is subject to the Acid Rain program under Title IV of the federal Clean Air Act and it is a major source of NOx and VOC. This renewal was previously submitted for public notice and EPA comment; however, it was rescinded due to an outstanding, unresolved permit application. The permit application has been approved; and the resulting Title V minor modification is included with this renewal as well.

In addition to renewal of the permit, the following Title V actions are also being incorporated into the proposed permit:

1. Application APCD2018-APP-005554 is a request an administrative change to

responsible officials.

2. Application APCD2022-APP-007511 is a minor modification to the Title V permit. The modification is to remove a condition related to Mobile Emission Reduction Credits (MERCs) and their replacement with Class A Emission Reduction Credits (ERCs) before the MERCs expire. The condition no longer applies as the relevant credits have been surrendered. For additional information, please see discussion below under 4.0 Title V applicability, and the attached engineering evaluation considering the revision for the standard District operating permit, APCD2022-APP-007510.

2.0 History of Title V Applications and Modifications/Applications since previous Renewal

The renewal application was received on December 14, 2018. This renewal application was submitted at least 12 months but not more than 18 months prior to permit expiration of December 14, 2019, in accordance with Rule 1410. Therefore, the renewal application is timely.

The following table summarizes all previous applications at this facility affecting the Title V permit.

Title V Application History Since Initial Title V Permit				
Application Number	**Title V Permit Number**	**Application Description**	**Equipment**	**Outcome**
APCD2010-APP-001247	APCD2010-TVP-00025	Initial Title V permit application	Two (2) natural gas turbine engines	Approved (issued December, 2014)
APCD2018-APP-005554	APCD2010-TVP-00025	Administrative Amendment Application	Two (2) natural gas turbine engines	To be processed with current renewal
APCD2018-APP-005651	APCD2010-TVP-00025	Current Title V Renewal Application	Two (2) natural gas turbine engines	To be processed with current renewal
APCD2022-APP-007511	APCD2010-TVP-00025	Minor Modification Application	Two (2) natural gas turbine engines	To be processed with current renewal

Since the previous renewal, the District has received applications from this facility as shown in the following table. These applications are submitted under the District's local permitting program and typically are associated with a corresponding Title V application to implement the same change to the Title V permit once the modified local permit is issued (see appendix A of the permit).

Application History for facility since most recent renewal				
Application Number	**Affected Permit to Operate(s)**	**Description**	**Affected Emission Units**	**Outcome**
APCD2022-APP-007510	APCD2011-PTO-000947, APCD2011-PTO-000948	District Modification Application – modification to remove condition 44 – remove requirement to replace expiring MERCs with Class A ERCs	Two (2) natural gas turbine engines	Approved, Related APP to APP-007511

3.0 Facility Description

This facility operates equipment for electric power generation and associated services.

Permit Number	Equipment Description
APCD2011-PTO-000947	Power Station #1 consisting of: one Gas Turbine (171.7 MW nominal): General Electric, Model 7FA, SIN 298093, with DLN 2.6 low-NOx burners, natural gas fired, 1767.8 MMBtu/hr nominal heat input (HHV), with a heat recovery steam generator (HRSG) with a 388.1 MMBtu/hr duct burner, Nooter-Eriksen, vented to a selective catalytic reduction (SCR) system, equipped with a continuous emission monitoring system (CEMS); common to both power stations are a steam turbine generator (277 MW nominal), Siemans-Westinghouse, Model KN; two air-cooled condensers, GEA, 295'L x 123'W x 76'H; a wet surface air cooler, Niagara Blower Co., Model RWC 48240-2F16; equipped with GE OpFlex control system software.
APCD2011-PTO-000948	Power Station #2 consisting of: one Gas Turbine (171.7 MW nominal): General Electric, Mode17FA, *SIN* 298094, with DLN 2.6 low-NOx burners, natural gas fired, 1767.8 MMBtu/hr nominal heat input (HHV), with a heat recovery steam generator (HRSG) with a 388.1 MMBtu/hr duct burner, Nooter-Eriksen, vented to a selective catalytic reduction (SCR) system, equipped with a continuous emission monitoring system (CEMS); common to both power stations are a steam turbine generator (277 MW nominal), Siemans-Westinghouse, Model KN; two air-cooled condensers, GEA, 295'L x 123'W x 76'H; a wet surface air cooler, Niagara Blower Co., Model RWC 48240-2F16; equipped with GE OpFlex control system software.

4.0 Title V Applicability & Acid Rain

The Title V regulation applies to any stationary source that is a major stationary source as defined in Rule 1401(c)(26) or is subject to the acid rain provisions of Title IV of the federal Clean Air Act (CAA).

Otay Mesa Energy Center is a major source for NOx and VOC, as shown in the Potential to Emit (PTE) tables below. Therefore, the facility is subject to the Title V operating permit program.

The facility is also subject to the acid rain provisions under District Rule 1412 and Title IV of the Federal CAA.

For both reasons, the facility is subject to Title V Permitting.

Minor Modification Discussion

The proposed permit also contains a modification proposed under application APCD2022-APP-007511 as a minor modification to remove a condition requiring surrender of emission reduction credits to replace expiring mobile source emission reduction credits (MERCs), as a stipulation of the original NSR permit requirements. The District agrees that the proposed change is considered a minor modification because it does not trigger major source NSR or cause any violation. Also, the change does not relax monitoring, recordkeeping, or reporting, nor does it trigger a change in federal emission limits. The facility does not propose changes that would allow exemption from specific rule requirements. In addition, the change is not a Title I modification and does not require MACT. The change was approved in District application APCD2022-APP-007510. For these reasons, a minor modification designation is appropriate.

5.0 Compliance History

Below is a summary of compliance actions that have occurred at the site since the most recent Title V application. There are no open/ongoing compliance actions at this facility.

APCD2020-NOV-000120 was issued in February 2020 for operating Power Station #1 while the NOx analyzer was broken and unable to transmit data to the CEMS.

APCD2023-NOV-000600 was issued in July 2023 for operating Power Station #2 while the O2 analyzer was not in full operation and unable to transmit data to the CEMS.

APCD2024-NOV-000295 was issued in April 2024 for exceeding the VOC lb/event emission limit for shutdown conditions.

All violations have since been resolved and the facility is in active compliance.

6.0 Potential to Emit and Actual Emissions

The following table shows the actual and potential emissions for the facility that are used to establish the major source status for Title V.

Title V Major Source Determination Tons per Year:				
Pollutant	Thresholds	Facility Actual Emissions	Facility Potential to Emit	Major Source
Highest Federal HAP	10	0.08	7.08	No
Sum of Federal HAPs	25	0.23	9.96	No
NOx	25	43.5	100	Yes
VOC	25	1.59	47.5	Yes
PM10	100	90.17	99.5	No
SOx	100	4.89	12.9	No
CO	100	43.5	316	Yes

Primary Emission Limits	
Pollutant	Limit
HAPs	25 tons/year
NOx	100 tons/year
VOC	47.5 tons/year
PM10	11.5 lb/hr
SOx	Use of PUC Quality Natural Gas Only
CO	316 tons/year

- Potential emissions for HAPs, NOx, CO, and VOC are limited by permit conditions at the following amounts: 10 tons/year for any single federal HAP, 25 tons/year for aggregate of all federal HAPs, 100 tons/year for NOx, 316 tons/year for CO, and 47.5 tons/year for VOC.
- Potential emissions for criteria pollutants are based on the FDOC for this facility.
- Potential emissions for HAPs were calculated using District default emission factors, based on total heat input to the turbines and duct burners.
- Actual emissions are from the District's approved 2023 emissions inventory report (June 2024). The highest federal HAP reported was formaldehyde.

7.0 40 CFR Part 64 CAM (Compliance Assurance Monitoring)

Pursuant to New Source Review (NSR), the turbines are required to operate and maintain the CEMS to measure NOx and CO emissions, as well as monitoring of VOC emissions through a District approved CO/VOC surrogate relationship. District Rule 69.3.1 and 40 CFR 60 Subpart GG and 40 CFR Part 75 also require CEMS to measure NOx emissions. Monitoring and testing are required in the existing District permits. For the related Title V permit, additional recordkeeping and reporting are required pursuant to District Rule 1421.

Because NOx is the only pollutant that uses a control device to achieve compliance, only NOx emissions are considered for this review. Each turbine has an uncontrolled PTE of NOx in excess of major source thresholds. For this Reason, Compliance Assurance Monitoring (CAM) under 40 CFR Part 64 was considered for this review.

§ 64.2 (b)(vi) specifies that the requirements of Part 64 shall not apply to emission limitations or standards for which a part 70 or 71 permit specifies a continuous compliance determination method, as defined in § 64.1. Both the District and Federal operating permits require the turbines to be equipped with Continuous Emissions Monitoring Systems (CEMS), which meets the definition for a continuous compliance determination method, as it is used to determine compliance with an emission limitation or standard on a continuous basis and provides the data in units of the standard or is correlated directly with the compliance limit. Therefore, these units are exempt from the requirements of 40 CFR 64, pursuant to § 64.2 (b)(vi).

8.0 Applicable Requirements

This section summarizes the major types of requirements for this facility. These types of requirements include facility-wide and permit specific applicable requirements. Additionally, for each emission unit, the rule that results in the primary emission limitation is listed.

General Facility-Wide Requirements

Regulation	Rule Citation	Title
SDCAPCD Reg. II	10(a) 10(b)	Permits Required – (a) Authority to Construct Permits Required – (b) Permit to Operate
SDCAPCD Reg. II	11	Exemptions
SDCAPCD Reg. II	19	Provision of Sampling & Testing Facilities
SDCAPCD Reg. II	19.3	Emission Information
SDCAPCD Reg. II	20	Standards for Granting Permits
SDCAPCD Reg. II	20.1	New Source Review
SDCAPCD Reg. II	20.3	New Source Review
SDCAPCD Reg. II	20.5	Power Plants
SDCAPCD Reg. II	21	Permit Conditions
SDCAPCD Reg. II	24	Temporary Permit to Operate
SDCAPCD Reg. II	25	Appeals
SDCAPCD Reg. IV	60	Circumvention
SDCAPCD Reg. V	98*	Breakdown Conditions: Emergency Variance
SDCAPCD Reg. VI	101	Burning Control
SDCAPCD Reg. VIII	131	Stationary Source Curtailment Plant
SDCAPCD Reg. VIII	132	Traffic Abatement Plan
SDCAPCD Reg. VIII	134	Source Inspection
40 CFR Part 68		Chemical Accident Prevention Provisions
40 CFR Part 82	Subpart F	Servicing of Other Air Conditioners
40 CFR Part 98	Subparts A and C	Mandatory Greenhouse Gas Reporting

Facility-wide Prohibitory and Other Requirements

Regulation	Rule Citation	Title
SDCAPCD Reg. II	19.2	Continuous Emission Monitoring Requirements
SDCAPCD Reg. IV	50	Visible Emissions
SDCAPCD Reg. IV	51	Nuisance
SDCAPCD Reg. IV	52	Particulate Matter
SDCAPCD Reg. IV	53	Specific Air Contaminants
SDCAPCD Reg. IV	54	Dust and Fumes
SDCAPCD Reg. IV	62	Sulfur Content of Fuels
SDCAPCD Reg. IV	67.0.1	Architectural Coatings
SDCAPCD Reg. IV	67.17	Storage of Materials Containing VOC
SDCAPCD Reg. IV	67.6	Solvent Cleaning Operation
SDCAPCD Reg. IV	68	Fuel Burning Equipment – Oxides of Nitrogen
SDCAPCD Reg. IV	69.2	Boilers, Process Heaters, and Steam Generators
SDCAPCD Reg. IV	69.3; 69.3.1	Stationary Gas Turbine Engines
SDCAPCD Reg. IV	71	Abrasive Blasting
SDCAPCD Reg. X	****	NSPS
SDCAPCD Reg. XI	****	NESHAP
SDCAPCD Reg. XII	1200**	Toxic Air Contaminants – New Source Review
SDCAPCD Reg. XII	1206***	Asbestos Removal, Renovation, and Demolition
40 CFR Part 60	Subpart A****	NSPS - General Provisions
40 CFR Part 60	Subpart Db	NSPS - Industrial-Commercial-Institutional Steam Generating Units
40 CFR Part 60	Subpart GG	NSPS - Stationary Gas Turbines
40 CFR Part 61	Subpart M***	NESHAP - Asbestos
40 CFR Part 63	Subpart A****	NESHAP - General Provisions
40 CFR Part 63	Subpart JJJJJJ	NESHAP for Industrial, Commercial, and Institutional Boilers at Area Sources
40 CFR Part 72-78		Acid Rain Program

**Breakdowns/variances are not recognized by EPA and cannot grant relief from federal enforcement of requirements.*

***Not federally enforceable*

****The District issued its own Asbestos Rule 1206 intended to be as stringent as Subpart M. The facility is subject to the most stringent requirements of either rule, which at the time of this report is ensured by compliance with Rule 1206.*

*****The District has adopted these rules by reference; however, any changes made to these regulations at the federal level are not immediately adopted. In the event this creates a conflict between the District adopted and federal rules, the more stringent requirements will apply.*

Permit Specific Applicable Requirements:

SDAPCD Permit No.	Title V Permit No.	Permit Description	Applicable Rules
APCD2011-PTO-000947, APCD2011-PTO-000948	APCD2010-TVP-00025	Gas Turbine Engine Generator	SDAPCD Reg IV Rules 20.3, 50, 51, 52, 53, 62, 63, 69.3*, 69.3.1*, 40 CFR 60 subpart GG

**District Rule 69.3 has been repealed by SDAPCD and replaced with 69.3.1 which has been submitted to EPA for SIP inclusion. However, EPA has not approved 69.3.1 due to court challenges related to startup and shutdown provisions, which means that the SIP version of Rule 69.3 is still enforceable but may be replaced by 69.3.1 once approved. In the current form of these rules, there is no difference in requirements for this equipment.*

Emission Limitations

Combustion Turbines	
Pollutant	Primary Limiting Regulations*
NOx	Rule 20.3 (NSR), Rule 69.3, Rule 69.3.1, 40 CFR 60 Subpart GG
VOC	Rule 20.3
PM10	Rule 20.3, Rule 53 (PM)
SOx	Rule 20.3, Rule 62; Rule 53; 40 CFR 60 Subpart GG
CO	Rule 20.3 (AQIA only)
Toxic Pollutants	Rule1200

**There are certain operating scenarios where a different rule may be the most stringent limitation. For example, the limit for NOx established through NSR does not apply at certain times (such as startups); and during these times, the prohibitory rule or NSPS emission limit is the most stringent. All of these limits are included as permit conditions.*

9.0 Updates to the Title V Permit Incorporated into this Action

1. Minor Modification to the Title V Permit.

   For the minor modification proposed for the permit, the relevant condition that was removed from the permit in this action is shown below. District application APCD2022-APP-007510 was submitted to modify the District permit to remove this condition with the surrender of ERCs to replace the expired MERCs.

   Previous Condition #44 (removed from the permit):

   On or before the expiration date, if any, of a MERC surrendered to offset the NOx emissions from this facility, additional Class A emission reduction credits equivalent to the expiring MERC shall be surrendered to the District to offset project emissions unless project emissions are reduced such that the emissions of oxides of nitrogen (NOx) shall not exceed 1.0 parts per million by volume on a

dry basis (ppmvd) corrected to 15% oxygen. Compliance with this limit shall be based on CEMS data for each unit and averaged over each 3-hour period, excluding hours when the equipment is operated under any startup condition. If the project NOx emissions limit is reduced to 1.0 ppm, the total annual emissions of oxides of nitrogen (NOx), calculated as nitrogen dioxide, shall not exceed 50 tons per rolling 12-month period. Compliance with this limit shall be verified using the CEMS system on each gas turbine. [Rule 27.1]

The engineering evaluation for the relevant modification is included as an attachment to this report. With the surrender of Class A ERCs to replace the expired MERCs, this condition is no longer applicable. The remainder of the MERCs that were provided as offsets during initial permitting of the equipment do not have expiration dates.

Upon further review under this Title V renewal, the following conditions are also proposed to be removed from the permit:

Condition #42 (to be removed from the permit):

Beginning with the start of the ongoing emission reduction monitoring period as defined in "Alternative Mobile Source Emission Reduction Program for Replacing Heavy and Medium Heavy-Duty Diesel Powered Vehicles and Repowering of Marine Vessels Under Rule 27 (c)(1)(vi)" as approved on September 8, 2000 (herein referred to as the Alternative MERC Program), the owner or operator shall, on or before the last day of the second calendar month following the end of each ongoing emission reduction monitoring year:

a. *for each ongoing emission reduction monitoring year, based on the quarterly activity levels submitted by the mobile source owners and the applicable calculation method specified in the Alternative MERC Program, perform a calculation of the annual average and annual aggregate ongoing emission reductions and the ongoing emission reduction deficit, if any, for the MERCs surrendered to offset the facility's emissions;*
b. *provide an annual report to the District that summarizes the annual average ongoing emission reductions for each MERC, aggregate ongoing emission reductions, and the ongoing emission reduction deficit, if any, and provides supporting calculations and documentation; and*
c. *if the calculated annual ongoing emission reduction deficit is positive, notify the District, provide a compliance schedule to correct the ongoing emission reduction deficit, and correct the ongoing emission reduction deficit in accordance with Subsection (h)(4) of the Alternative MERC Program.*

[Rule 27.1]

Condition #43 (to be removed from the permit):

Beginning with the second calendar year following the calendar year that the facility commences operations, the owner or operator shall, on or before March 1 of each calendar year:

a. *based on information supplied by the mobile source owners for each MERC surrendered to the District, notify the District if the MERC fractional employment is less than 0.8;*
b. *based on information supplied by the mobile source owners for each MERC surrendered to the District, notify the District if the MERC fractional employment in primary service is less than 0.8; and*
c. *if one or more MERCs fractional employment or fractional employment in primary service is less than 0.8, provide a compliance schedule to correct any MERC shortfall and correct any MERC shortfall in accordance with Subsection (j)(4) of the Alternative MERC Program.*
[Rule 27.1]

These conditions are proposed to be removed because these requirements no longer apply for the MERCs that were surrendered by the facility as offsets. Under District Rule 27.1, all recordkeeping and reporting requirements for mobile sources that form the basis of a MERC only apply for the 20 years following the first time the MERC is eligible to be surrendered for NSR offsets. A review of the remaining MERC certificates surrendered by the facility showed that all recordkeeping/reporting deadlines have passed.

2. General permit updates

Revised rule references as needed to specify applicable requirements.

3. Applicant-requested updates

The applicant requested to update the responsible official to Erik Price. This change was incorporated.

The applicant requested the following changes to their District permits, proposed to be incorporated into the Title V permit:

- Revisions to various conditions to help clarify averaging periods and determining compliance with the emissions limits of the permit (conditions 16, 17, 21). This change is included in the proposed permit.

- Revisions to various conditions to specify an hourly heat input to the duct burner expressed in total MMBtu instead of heat input expressed in MMBtu/hr (conditions 16, 17, 18, 28). This change is included in the proposed draft permit.

- Revision to condition 23 to expand the definition of "extended startup" to match the definition provided in District Rule 69.3.1. This change is

included in the proposed draft permit.

- Revision to condition 41 to increase the timeframe for providing source test or RATA reports to the District from 45 days to 60 days. This revision was not made. 45 days is the standard timeframe across District permits.

10.0 Permit Streamlining

Permit conditions incorporate streamlining to improve readability and reduce confusion between similar requirements.

Permit conditions require the use of Public Utility Commission (PUC) quality natural gas. PUC quality natural gas guarantees compliance with District Rule 62, District Rule 53, and 40 CFR 60 Subpart GG for SOx emissions. The Standards for Gas Service in the State of California, prescribed by the Public Utilities Commission of the State of California in General Order 58A, states that: (a) no gas supplied by any gas utility for domestic, commercial or industrial purposes in this state shall contain more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, and (b) no gas supplied by any gas utility for domestic, commercial, or industrial purposes shall contain more than five (5) grains of total sulfur per one hundred (100) standard cubic feet.

District Rule 62 requires that any gaseous fuel used contains no more than 10 grains of sulfur compounds, calculated as hydrogen sulfide, per 100 cubic feet of dry gaseous fuel (0.23 grams of sulfur compounds, calculated as hydrogen sulfide, per cubic meter of dry gaseous fuel), at standard conditions. The requirement for PUC natural gas is more stringent than this rule, so this requirement is met with the use of PUC quality natural gas.

District Rule 53 requires that sulfur compounds, calculated as sulfur dioxide, discharged into the atmosphere from any single source of emissions do not exceed 0.05%, by volume, on a dry basis. Maximum grain loading of 10 gr/100 dscf results in SO2 emissions at 0.002% by volume, so requirements of District Rule 53 are met through use of PUC quality natural gas.

40 CFR 60 Subpart GG requires that gases discharged from stationary combustion turbines do not contain SO2 in excess of 0.015 percent by volume at 15% O2 and on a dry basis or that fuel sulfur content does not exceed 0.8 percent by weight. Maximum grain loading of 10 gr/100 dscf results in SO2 emissions at 0.002% by volume, so requirements of NSPS GG are met through use of PUC quality natural gas.

Rule 53 SO2 limit:	0.05	*% by volume*	
assume all sulfur in fuel is released as SO2			
SO2 =	*(10 grains S/100 scft fuel) x (1 lb S/ 7000 grain) x (64 lbs SO2/32 lb S) x (385 cft SO2/64 lb SO2) x (1 scft fuel/1020 Btu) x*		
	(10^6 Mmbtu/1 Btu) x (1 MMBtu/8710 dscft exhaust) x 100 =	*0.002*	*%SO2 by volume*
maximum sulfur content of 10 grains S/ 100 scft fuel shows compliance with Rule 53			
40 CFR 60 GG limit:	0.015	*%SO2 by volume @ 15% O2*	
correct to 15% O2:	0.007	*%SO2 by volume @15% O2*	
maximum sulfur content of 10 grains S/ 100 scft fuel shows compliance with NSPS GG			

Additionally, monitoring and recordkeeping requirements are streamlined for District Rule 69.3.1 and Rule 20.3, utilizing the same test methods and CEMS monitoring as required by Part 75 to determine compliance with requirements such as the NOx BACT limit.

Note that the permit does not streamline the Rule 69.3.1 and NSR emission limits with the NSPS GG emission limits for the turbines. This is because the NSPS limit applies at all times, whereas the NSR and 69.3.1 limits contain exceptions for startup and shutdown emissions, and instead alternative NSR-based emission limits specific to startup and shutdown are incorporated in separate conditions.

11.0 Permit Shield

The applicant has not proposed any permit shield with this renewal.

12.0 Permit Process-Public Notification and Notice to EPA and Affected States

Before issuing the final permit, The District will provide the opportunity for review by EPA and affected states and a public notice period. Notice will be provided to the EPA electronically through the EPS and will be sent electronically to affected states and tribes. The public notice and associated documents will be provided on our website and the public notice will be published in a newspaper. The District will incorporate any suggested changes made by EPA.

13.0 Recommendations

The facility is expected to comply with all applicable requirements including those cited in the current District permit as well as those under District Rule 1401 and 40 CFR Part 70. Therefore, the recommendation of this report is for the subject renewal Title V permit to be issued following public notice, EPA review, and response to any comments.

14.0 Attachments

The following are attached:

- Application Package

- Draft Permit
- Public Notice