



State of Utah

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Environmental Quality

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Executive Director

DIVISION OF AIR QUALITY
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10348

Title V Operating Permit

PERMIT NUMBER: 3500044003 -DRAFT
DATE OF PERMIT: To be determined (TBD)
Date of Last Revision: TBD

This Operating Permit is issued to, and applies to the following:

Name of Permittee:

Murray City Power Department
153 W 4800 S
Murray, UT 84107

Permitted Location:

Electrical Generation Plant
157 W 4800 S
Murray UT 84107

UTM coordinates: 424,468 m Easting, 4,501,957 m Northing
SIC code: 4911 (Electric Services)

UTAH AIR QUALITY BOARD

By:

Prepared By:

M. Cheryl Heying, Executive Secretary

Robert Grandy

ENFORCEABLE DATES AND TIMELINES

The following dates or timeframes are referenced in
Section I: General Provisions of this permit.

Annual Certification Due:	September 30, and on that date of every calendar year that this permit is in force.
Renewal application due:	TBD
Permit expiration date:	TBD
Definition of “prompt”:	written notification within 14 days.

ABSTRACT

The Murray City Power (MCP) Plant is a peaking, emergency and stand-by electric generation station. The annual power production varies upon the demand for peaking, emergency and stand-by needs. The plant consists of three 14.3 MW natural gas turbines. A continuous emissions monitoring system has been installed on the three gas turbines. MCP is a major source of CO emissions. 40 CFR 60, Subpart GG applies to this source.

OPERATING PERMIT HISTORY

Permit/Activity	Date Issued	Recorded Changes
Title V renewal application (Project #OPP0103480006)	TBD	Renewal
Title V renewal application (Project #OPP0103480004)	2/24/2005	
Title V administrative amendment by source (Project #OPP0103480003)	6/12/2001	Changes: to clarify the averaging time for the NO _x CEM PPM limit and the CO PPM limit.
Title V significant modification (Project #OPP0103480002)	5/8/2001	Changes: to incorporate requirements from new approval order DAQE-126-01 issued February 9, 2001.
Title V initial application (Project #OPP0103480001)	3/11/1999	

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Issued under authority of Utah Code Ann. Section 19-2-104 and 19-2-109.1, and in accordance with Utah Administrative Code R307-415 Operating Permit Requirements.

All definitions, terms and abbreviations used in this permit conform to those used in Utah Administrative Code R307-101 and R307-415 (Rules), and 40 Code of Federal Regulations (CFR), except as otherwise defined in this permit. Unless noted otherwise, references cited in the permit conditions refer to the Rules.

Where a permit condition in Section I, General Provisions, partially recites or summarizes an applicable rule, the full text of the applicable portion of the rule shall govern interpretations of the requirements of the rule. In the case of a conflict between the Rules and the permit terms and conditions of Section II, Special Provisions, the permit terms and conditions of Section II shall govern except as noted in Provision I.M, Permit Shield.

SECTION I: GENERAL PROVISIONS

I.A Federal Enforcement.

All terms and conditions in this permit, including those provisions designed to limit the potential to emit, are enforceable by the EPA and citizens under the Clean Air Act of 1990 (CAA) except those terms and conditions that are specifically designated as "State Requirements". (R307-415-6b)

I.B Permitted Activity(ies).

Except as provided in R307-415-7b(1), the permittee may not operate except in compliance with this permit. (See also Provision I.E, Application Shield)

I.C Duty to Comply.

I.C.1 The permittee must comply with all conditions of the operating permit. Any permit noncompliance constitutes a violation of the Air Conservation Act and is grounds for any of the following: enforcement action; permit termination; revocation and reissuance; modification; or denial of a permit renewal application. (R307-415-6a(6)(a))

I.C.2 It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. (R307-415-6a(6)(b))

I.C.3 The permittee shall furnish to the Executive Secretary, within a reasonable time, any information that the Executive Secretary may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Executive Secretary copies of records required to be kept by this permit or, for information claimed to be confidential, the permittee may furnish such records directly to the EPA along with a claim of confidentiality. (R307-415-6a(6)(e))

I.C.4 This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance shall not stay any permit condition, except as provided under R307-415-7f(1) for minor permit modifications. (R307-415-6a(6)(c))

I.D Permit Expiration and Renewal.

I.D.1 This permit is issued for a fixed term of five years and expires on the date shown under "Enforceable Dates and Timelines" at the front of this permit. (R307-415-6a(2))

I.D.2 Application for renewal of this permit is due on or before the date shown under "Enforceable Dates and Timelines" at the front of this permit. An application may be submitted early for any reason. (R307-415-5a(1)(c))

I.D.3 An application for renewal submitted after the due date listed in I.D.2 above shall be accepted for processing, but shall not be considered a timely application and shall not relieve the permittee of any enforcement actions resulting from submitting a late application. (R307-415-5a(5))

I.D.4 Permit expiration terminates the permittee's right to operate unless a timely and complete renewal application is submitted consistent with R307-415-7b (see also Provision I.E, Application Shield) and R307-415-5a(1)(c) (see also Provision I.D.2). (R307-415-7c(2))

I.E Application Shield.

If the permittee submits a timely and complete application for renewal, the permittee's failure to have an operating permit will not be a violation of R307-415, until the Executive Secretary takes final action on the permit renewal application. In such case, the terms and conditions of this permit shall remain in force until permit renewal or denial. This protection shall cease to apply if, subsequent to the completeness determination required pursuant to R307-415-7a(3), and as required by R307-415-5a(2), the applicant fails to submit by the deadline specified in writing by the Executive Secretary any additional information identified as being needed to process the application. (R307-415-7b(2))

I.F Severability.

In the event of a challenge to any portion of this permit, or if any portion of this permit is held invalid, the remaining permit conditions remain valid and in force. (R307-415-6a(5))

I.G Permit Fee.

I.G.1 The permittee shall pay an annual emission fee to the Executive Secretary consistent with R307-415-9. (R307-415-6a(7))

I.G.2 The emission fee shall be due on October 1 of each calendar year or 45 days after the source receives notice of the amount of the fee, whichever is later. (R307-415-9(4)(a))

I.H No Property Rights.

This permit does not convey any property rights of any sort, or any exclusive privilege. (R307-415-6a(6)(d))

I.I Revision Exception.

No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit. (R307-415-6a(8))

I.J Inspection and Entry.

- I.J.1 Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Executive Secretary or an authorized representative to perform any of the following:
 - I.J.1.a Enter upon the permittee's premises where the source is located or emissions related activity is conducted, or where records are kept under the conditions of this permit. (R307-415-6c(2)(a))
 - I.J.1.b Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit. (R307-415-6c(2)(b))
 - I.J.1.c Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practice, or operation regulated or required under this permit. (R307-415-6c(2)(c))
 - I.J.1.d Sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with this permit or applicable requirements. (R307-415-6c(2)(d))
- I.J.2 Any claims of confidentiality made on the information obtained during an inspection shall be made pursuant to Utah Code Ann. Section 19-1-306. (R307-415-6c(2)(e))

I.K Certification.

Any application form, report, or compliance certification submitted pursuant to this permit shall contain certification as to its truth, accuracy, and completeness, by a responsible official as defined in R307-415-3. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. (R307-415-5d)

I.L Compliance Certification.

- I.L.1 Permittee shall submit to the Executive Secretary an annual compliance certification, certifying compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. This certification shall be submitted no later than the date shown under "Enforceable Dates and Timelines" at the front of this permit, and that date each year following until this permit expires. The certification shall include all the following (permittee may cross-reference this permit or previous reports): (R307-415-6c(5))
 - I.L.1.a The identification of each term or condition of this permit that is the basis of the certification;
 - I.L.1.b The identification of the methods or other means used by the permittee for determining the compliance status with each term and condition during the certification period. Such methods and other means shall include, at a minimum, the monitoring and related recordkeeping and reporting requirements in this permit. If necessary, the permittee also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Act, which prohibits knowingly making a false certification or omitting material information;
 - I.L.1.c The status of compliance with the terms and conditions of the permit for the period covered by the certification, including whether compliance during the period was continuous or

intermittent. The certification shall be based on the method or means designated in Provision I.L.1.b. The certification shall identify each deviation and take it into account in the compliance certification. The certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion or exceedance as defined under 40 CFR Part 64 occurred; and

I.L.1.d Such other facts as the Executive Secretary may require to determine the compliance status.

I.L.2 The permittee shall also submit all compliance certifications to the EPA, Region VIII, at the following address or to such other address as may be required by the Executive Secretary: (R307-415-6c(5)(d))

Environmental Protection Agency, Region VIII
Office of Enforcement, Compliance and Environmental Justice
(mail code 8ENF)
1595 Wynkoop Street
Denver, CO 80202-1129

I.M **Permit Shield.**

I.M.1 Compliance with the provisions of this permit shall be deemed compliance with any applicable requirements as of the date of this permit, provided that:

I.M.1.a Such applicable requirements are included and are specifically identified in this permit, or (R307-415-6f(1)(a))

I.M.1.b Those requirements not applicable to the source are specifically identified and listed in this permit. (R307-415-6f(1)(b))

I.M.2 Nothing in this permit shall alter or affect any of the following:

I.M.2.a The emergency provisions of Utah Code Ann. Section 19-1-202 and Section 19-2-112, and the provisions of the CAA Section 303. (R307-415-6f(3)(a))

I.M.2.b The liability of the owner or operator of the source for any violation of applicable requirements under Utah Code Ann. Section 19-2-107(2)(g) and Section 19-2-110 prior to or at the time of issuance of this permit. (R307-415-6f(3)(b))

I.M.2.c The applicable requirements of the Acid Rain Program, consistent with the CAA Section 408(a). (R307-415-6f(3)(c))

I.M.2.d The ability of the Executive Secretary to obtain information from the source under Utah Code Ann. Section 19-2-120, and the ability of the EPA to obtain information from the source under the CAA Section 114. (R307-415-6f(3)(d))

I.N **Emergency Provision.**

I.N.1 An "emergency" is any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under this permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error. (R307-415-6g(1))

- I.N.2 An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the affirmative defense is demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - I.N.2.a An emergency occurred and the permittee can identify the causes of the emergency. (R307-415-6g(3)(a))
 - I.N.2.b The permitted facility was at the time being properly operated. (R307-415-6g(3)(b))
 - I.N.2.c During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in this permit. (R307-415-6g(3)(c))
 - I.N.2.d The permittee submitted notice of the emergency to the Executive Secretary within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. This notice fulfills the requirement of Provision I.S.2.c below. (R307-415-6g(3)(d))
- I.N.3 In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof. (R307-415-6g(4))
- I.N.4 This emergency provision is in addition to any emergency or upset provision contained in any other section of this permit. (R307-415-6g(5))

I.O **Operational Flexibility.**

Operational flexibility is governed by R307-415-7d(1).

I.P **Off-permit Changes.**

Off-permit changes are governed by R307-415-7d(2).

I.Q **Administrative Permit Amendments.**

Administrative permit amendments are governed by R307-415-7e.

I.R **Permit Modifications.**

Permit modifications are governed by R307-415-7f.

I.S **Records and Reporting.**

I.S.1 Records.

I.S.1.a The records of all required monitoring data and support information shall be retained by the permittee for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, all original strip-charts or appropriate recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. (R307-415-6a(3)(b)(ii))

I.S.1.b For all monitoring requirements described in Section II, Special Provisions, the source shall record the following information, where applicable: (R307-415-6a(3)(b)(i))

- I.S.1.b.1 The date, place as defined in this permit, and time of sampling or measurement.
- I.S.1.b.2 The date analyses were performed.
- I.S.1.b.3 The company or entity that performed the analyses.
- I.S.1.b.4 The analytical techniques or methods used.
- I.S.1.b.5 The results of such analyses.
- I.S.1.b.6 The operating conditions as existing at the time of sampling or measurement.
- I.S.1.c Additional record keeping requirements, if any, are described in Section II, Special Provisions.
- I.S.2 Reports.
 - I.S.2.a Monitoring reports shall be submitted to the Executive Secretary every six months, or more frequently if specified in Section II. All instances of deviation from permit requirements shall be clearly identified in the reports. (R307-415-6a(3)(c)(i))
 - I.S.2.b All reports submitted pursuant to Provision I.S.2.a shall be certified by a responsible official in accordance with Provision I.K of this permit. (R307-415-6a(3)(c)(i))
 - I.S.2.c The Executive Secretary shall be notified promptly of any deviations from permit requirements including those attributable to upset conditions as defined in this permit, the probable cause of such deviations, and any corrective actions or preventative measures taken. Prompt, as used in this condition, shall be defined as written notification within the number of days shown under "Enforceable Dates and Timelines" at the front of this permit. Deviations from permit requirements due to unavoidable breakdowns shall be reported in accordance with the provisions of R307-107. (R307-415-6a(3)(c)(ii))
- I.S.3 Notification Addresses.
 - I.S.3.a All reports, notifications, or other submissions required by this permit to be submitted to the Executive Secretary are to be sent to the following address or to such other address as may be required by the Executive Secretary:

Utah Division of Air Quality
P.O. Box 144820
Salt Lake City, UT 84114-4820
Phone: 801-536-4000
 - I.S.3.b All reports, notifications or other submissions required by this permit to be submitted to the EPA should be sent to one of the following addresses or to such other address as may be required by the Executive Secretary:

For annual compliance certifications:

Environmental Protection Agency, Region VIII
Office of Enforcement, Compliance and Environmental Justice
(mail code 8ENF)
1595 Wynkoop Street
Denver, CO 80202-1129

For reports, notifications, or other correspondence related to permit modifications, applications, etc.:

Environmental Protection Agency, Region VIII
Office of Partnerships & Regulatory Assistance Air & Radiation Program (mail code 8P-AR)
1595 Wynkoop Street
Denver, CO 80202-1129
Phone: 303-312-6440

I.T Reopening for Cause.

I.T.1 A permit shall be reopened and revised under any of the following circumstances:

I.T.1.a New applicable requirements become applicable to the permittee and there is a remaining permit term of three or more years. No such reopening is required if the effective date of the requirement is later than the date on which this permit is due to expire, unless the terms and conditions of this permit have been extended pursuant to R307-415-7c(3), application shield. (R307-415-7g(1)(a))

I.T.1.b The Executive Secretary or EPA determines that this permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of this permit. (R307-415-7g(1)(c))

I.T.1.c EPA or the Executive Secretary determines that this permit must be revised or revoked to assure compliance with applicable requirements. (R307-415-7g(1)(d))

I.T.1.d Additional applicable requirements are to become effective before the renewal date of this permit and are in conflict with existing permit conditions. (R307-415-7g(1)(e))

I.T.2 Additional requirements, including excess emissions requirements, become applicable to a Title IV affected source under the Acid Rain Program. Upon approval by EPA, excess emissions offset plans shall be deemed to be incorporated into this permit. (R307-415-7g(1)(b))

I.T.3 Proceedings to reopen and issue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. (R307-415-7g(2))

I.U Inventory Requirements.

An emission inventory shall be submitted in accordance with the procedures of R307-150, Emission Inventories. (R307-150)

I.V Title IV and Other, More Stringent Requirements

Where an applicable requirement is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, Acid Deposition Control, both provisions shall be incorporated into this permit. (R307-415-6a(1)(b))

SECTION II: SPECIAL PROVISIONS

II.A **Emission Unit(s) Permitted to Discharge Air Contaminants.**
(R307-415-4(3)(a) and R307-415-4(4))

II.A.1 **Permitted Source**
(Source-wide)

II.A.2 **Three 14.3 MW Gas Turbines**
Includes Units 1 GT, 2 GT, and 3 GT.

II.A.3 **Gas Turbine (designated as Unit #1 GT)**
14.3 MW turbine at 100% power generation factor (ISO Standard day conditions), Natural gas only. Low NO_x burners. Exempt Unit for Title IV.

II.A.4 **Gas Turbine (designated as Unit #2 GT)**
14.3 MW turbine at 100% power generation factor (ISO Standard day conditions), Natural gas only. Low NO_x burners. Exempt Unit for Title IV.

II.A.5 **Gas Turbine (designated as Unit #3 GT)**
14.3 MW turbine at 100% power generation factor (ISO Standard day conditions), Natural gas only. Low NO_x burners. Exempt Unit for Title IV.

II.A.6 **Black Start Generator (designated as Unit #11)**
Fuel Oil #1 or #2 Only, 1,000 bhp generator.

II.A.7 **Misc. Fuel Tanks (designated as Unit #13)**
One 1,000 gallon fuel tank. No unit-specific applicable requirements.

II.A.8 **Propane Tanks (designated as Unit #14)**
Three propane tanks used for onsite fuel. No unit-specific applicable requirements.

II.B **Requirements and Limitations**

The following emission limitations, standards, and operational limitations apply to the permitted facility as indicated:

II.B.1 **Conditions on permitted source (Source-wide).**

II.B.1.a **Condition:**

Emissions of NO_x shall be no greater than 98.9 tons per 12-month rolling period. [Authority granted under R307-401-(8)(1)(a) [BACT]; condition originated in DAQEAN0348004-04].

Monitoring:

The plantwide NO_x emissions shall be determined by a rolling 12-month total. Within the first 20 days of each month a new 12-month total shall be calculated using data from the previous 12 months.

1. The emissions from the Black Start Generator shall be calculated using the following equation:
Monthly Emission Rate Calculation:

$$M = (\text{hrs of operation/month})(1000\text{hp}) (0.024 \text{ lb NO}_x/\text{bhp-hr}) (1\text{ton}/2000\text{lbs})$$

2. Emissions from the gas turbine(s) shall be calculated using the following equations and CEMS data for NO_x:

Daily Rate Calculation:

X* = average hourly emission rate for each turbine in lbs/hr.

T* = time each turbine ran during the day in hours

D = daily average output of pollutant in lbs/day

Time when turbine is not operating shall not be included in the average.

$$D = (X) \times (T)$$

Monthly Rate Calculation:

M = monthly output of pollutant in lbs/month

M = The summation of D over the previous month

Annual Rate Calculation:

A = annual output of pollutant in tons per rolling 12-month period

A = the summation of M (over the previous 12-months)/ 2000 lbs/ton

* CEMS recorded data.

To determine the NO_x mass emissions (lbs/hr) for the calculations in this condition the F factor of 40 CFR 60 Appendix A, Method 20 shall be used in conjunction with the data provided by the diluents monitor to determine the stack gas flow rate of each turbine.

For BACT limit only: During periods of CEMS breakdown, the average emission rate in units of lbs/kW-hr, for each turbine during the previous 168 operating hours prior to the breakdown, shall be used in the calculation of annual emission rate in this condition. If the breakdown exceeds two weeks, the emission rate used in the calculation for the third week shall be 110% of the prior 168 operating hours emission rate. The emission rate for all the downtime in excess of three weeks shall be 120% of the prior 168 operating hours emission rate. Results of monitoring shall be maintained in accordance with Provision I.S.1 of this permit.

Emissions totals from the three natural gas turbines and Black Start Generator should be kept in table format, listing month, operating hours, and emissions, for each individual engine. CEMS record keeping shall be performed in accordance with UAC, R307-170.

II.B.1.a.2

Recordkeeping:

The permittee shall keep the records specified in R307-170-8 and any additional records required by provision I.S.1 of this permit. These records shall be maintained in accordance with Provision I.S.1.

II.B.1.a.3

Reporting:

The permittee shall comply with the reporting provisions in R307-170-9 and any additional reporting provisions contained in Section I of this permit. The quarterly reports required in R307-170-9 are considered prompt notification of permit deviations required in Provision I.S.2.c of this permit if all information required by Provision I.S.2.c is included in the report.

II.B.1.b

Condition:

At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate any permitted plant equipment, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Executive Secretary which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. All installations and facilities authorized by this permit shall be adequately and properly maintained. Maintenance records shall be maintained while the plant is in operation. All pollution control equipment shall be installed, maintained, and operated properly. Instructions from the vendor or established maintenance practices that maximize pollution control shall be followed. All necessary equipment control and operating devices, such as pressure gauges, amp meters, volt meters, flow rate indicators, temperature gauges, continuous emissions monitoring systems, etc., shall be installed, operated properly and easily accessible to compliance inspectors. A copy of all manufacturers' operating instructions for pollution control equipment and pollution emitting equipment shall be kept on site. These instructions shall be available to all employees who operate the equipment and shall be made available to compliance inspectors upon request. Maintenance records shall be made available to the Executive Secretary or Executive Secretary's representative upon request. [Authority granted under R307-401-8(1)(a), and R307-401-8(2); condition originated in DAQE-AN0348004-04].

II.B.1.b.1

Monitoring:

A maintenance log that documents prescribed operation and maintenance actions shall be maintained. Unscheduled maintenance and actions to correct breakdowns and malfunctions shall be documented with a problem description, corrective action, and equipment performance following repair.

II.B.1.b.2

Recordkeeping:

Permittee shall document activities performed to assure proper operation and maintenance. Records shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.1.b.3

Reporting:

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.2 **Conditions on Three 14.3 MW Gas Turbines.**

II.B.2.a **Condition:**

Emissions of NO_x from each of the gas turbine exhaust stacks shall be no greater than 25 ppmdv (24 operating hour average, 15% O₂, dry). Hours for which no power is generated are not included in the operating hour average. Startup and shutdown periods are excluded. [Authority granted under DAQE-AN0348004-04 and R307-401-8(1)(a) [BACT]; condition originated in DAQE-AN0348004-04]. [R307-401-8(1)(a)]

II.B.2.a.1 **Monitoring:**

(a) The permittee shall install, certify, maintain, operate, and quality-assure a continuous emission monitoring system (CEMS) consisting of NO_x and O₂ monitors. As an alternative, a CO₂ monitor may be used to adjust the measured NO_x concentrations to 15 percent O₂ by using the CO₂ readings to make the adjustments, as described in Method 20. The CEMS shall be installed, certified, maintained and operated as follows:

(1) Each CEMS must be installed and certified according to PS 2 and 3 (for diluent) of 40 CFR part 60, appendix B, except the 7-day calibration drift is based on unit operating days, not calendar days. Appendix F, Procedure 1 is not required. The relative accuracy test audit (RATA) of the NO_x and diluent monitors may be performed individually or on a combined basis, i.e., the relative accuracy tests of the CEMS may be performed either:

(i) On a ppm basis (for NO_x) and a percent O₂ basis for oxygen; or

(ii) On a ppm at 15 percent O₂ basis; or

(iii) On a ppm basis (for NO_x) and a percent CO₂ basis (for a CO₂ monitor that uses the procedures in Method 20 to correct the Nox data to 15 percent O₂).

(2) As specified in 40 CFR 60.13(e)(2), during each full unit operating hour, each monitor must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each 15-minute quadrant of the hour, to validate the hour. For partial unit operating hours, at least one valid data point must be obtained for each quadrant of the hour in which the unit operates. For unit operating hours in which required quality assurance and maintenance activities are performed on the CEMS, a minimum of two valid data points (one in each of two quadrants) are required to validate the hour.

(3) For purposes of identifying excess emissions, CEMS data must be reduced to hourly averages as specified in 40 CFR 60.13(h).

(i) For each unit operating hour in which a valid hourly average, as described in paragraph (a)(2) of this section, is obtained for both NO_x and diluent, the data acquisition and handling system must calculate and record the hourly NO_x emissions in the units of percent NO_x by volume, dry basis, corrected to 15 percent O₂ and International Organization for Standardization (ISO) standard conditions (if required as given in 40 CFR 60.335(b)(1)). For any hour in which the hourly average O₂ concentration exceeds 19.0 percent O₂, a diluent cap value of 19.0 percent O₂ may be used in the emission calculations.

(ii) A worst case ISO correction factor may be calculated and applied using historical ambient data. For the purpose of this calculation, substitute the maximum humidity of ambient air (Ho), minimum ambient temperature (Ta),

and minimum combustor inlet absolute pressure (Po) into the ISO correction equation.

(b) The quality assurance requirements of R307-170, Continuous Emission Monitoring Systems Program shall be used. (origin: 40 CFR 60 GG and R307- 401-8(1)(a) (BACT)).

II.B.2.a.2

Recordkeeping:

Results of NO_x monitoring shall be recorded and maintained as required in R307-170, 40 CFR 60 subpart GG, and as described in Provision I.S.1 of this permit.

II.B.2.a.3

Reporting:

The permittee shall comply with the reporting provisions in R307-170-9 and all the reporting provisions contained in Section I of this permit.

The quarterly reports required in R307-170-9 are considered prompt notification of permit deviations required in Provision I.S.2.c of this permit if all information required by Provision I.S.2.c is included in the report.

II.B.2.b

Condition:

Emissions of NO_x from each of the gas turbine exhaust stacks shall be no greater than 95 ppmdv (4 hour average, 15% O₂, dry). [Authority granted under 40 CFR Part 60 (Subpart GG); condition originated in 40 CFR Part 60 (Subpart GG)].

II.B.2.b.1

Monitoring:

(a) The permittee shall install, certify, maintain, operate, and quality-assure a continuous emission monitoring system (CEMS) consisting of NO_x and O₂ monitors. As an alternative, a CO₂ monitor may be used to adjust the measured NO_x concentrations to 15 percent O₂ by using the CO₂ readings to make the adjustments, as described in Method 20. The CEMS shall be installed, certified, maintained and operated as follows:

(1) Each CEMS must be installed and certified according to PS 2 and 3 (for diluent) of 40 CFR part 60, appendix B, except the 7-day calibration drift is based on unit operating days, not calendar days. Appendix F, Procedure 1 is not required. The relative accuracy test audit (RATA) of the NO_x and diluent monitors may be performed individually or on a combined basis, i.e., the relative accuracy tests of the CEMS may be performed either:

(i) On a ppm basis (for NO_x) and a percent O₂ basis for oxygen; or

(ii) On a ppm at 15 percent O₂ basis; or

(iii) On a ppm basis (for NO_x) and a percent CO₂ basis (for a CO₂ monitor that uses the procedures in Method 20 to correct the NO_x data to 15 percent O₂).

(2) As specified in 40 CFR 60.13(e)(2), during each full unit operating hour, each monitor must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each 15-minute quadrant of the hour, to validate the hour. For partial unit operating hours, at least one valid data point must be obtained for each quadrant of the hour in which the unit operates. For unit operating hours in which required quality assurance and maintenance activities are performed on the CEMS, a minimum of two valid data points (one in each of two quadrants) are required to validate the hour.

(3) For purposes of identifying excess emissions, CEMS data must be reduced to hourly averages as specified in 40 CFR 60.13(h).

(i) For each unit operating hour in which a valid hourly average, as described in paragraph (a)(2) of this section, is obtained for both NO_x and diluent, the data acquisition and handling system must calculate and record the hourly NO_x emissions in the units of percent NO_x by volume, dry basis, corrected to 15 percent O₂ and International Organization for Standardization (ISO) standard conditions (if required as given in 40 CFR 60.335(b)(1)). For any hour in which the hourly average O₂ concentration exceeds 19.0 percent O₂, a diluent cap value of 19.0 percent O₂ may be used in the emission calculations.

(ii) A worst case ISO correction factor may be calculated and applied using historical ambient data. For the purpose of this calculation, substitute the maximum humidity of ambient air (Ho), minimum ambient temperature (Ta), and minimum combustor inlet absolute pressure (Po) into the ISO correction equation.

(b) The quality assurance requirements of R307-170, Continuous Emission Monitoring Systems Program shall be used. (origin: 40 CFR 60 GG and R307-401-8(1)(a) (BACT)).

II.B.2.b.2

Recordkeeping:

Results of NO_x monitoring shall be recorded and maintained as required in R307-170, 40 CFR 60 subpart GG, and as described in Provision I.S.1 of this permit.

II.B.2.b.3

Reporting:

The permittee shall comply with the reporting provisions in R307-170-9, 40 CFR Subpart GG and all the reporting provisions contained in Section I of this permit. The permittee shall submit reports of excess emissions and monitor downtime, in accordance with 40 CFR 60.7(c). Excess emissions shall be reported for all periods of unit operation, including startup, shutdown and malfunction. For the purpose of reports required under 40 CFR 60.7(c), periods of excess emissions and monitor downtime that shall be reported are defined as follows:

(a) An hour of excess emissions shall be any unit operating hour in which the 4-hour rolling average NO_x concentration exceeds applicable NSPS emission standard of 95 ppm_{dv} (15% O₂, dry). A "4-hour rolling average NO_x concentration" is the arithmetic average of the average NO_x concentration measured by the CEMS for a given hour (corrected to 15 percent O₂ and, if required under 40 CFR 60.335(b)(1), to ISO standard conditions) and the three unit operating hour average NO_x concentrations immediately preceding that unit operating hour.

(b) A period of monitor downtime shall be any unit operating hour in which sufficient data are not obtained to validate the hour, for either NO_x concentration or diluent (or both).

(c) Each report shall include the ambient conditions (temperature, pressure, and humidity) at the time of the excess emission period. The ambient conditions is not required if the permittee opts to use the worst case ISO correction factor as specified in 40 CFR 60.334(b)(3)(ii).

(d) All reports of excess emissions and monitor downtime shall be postmarked by the 30th day following the end of each calendar quarter.

The quarterly reports required in R307-170-9 are considered prompt notification of permit

deviations required in Provision I.S.2.c of this permit if all information required by Provision I.S.2.c is included in the report.

II.B.2.c Condition:

Emissions of CO from each gas turbine shall be no greater than 50 ppm_{dv} (averaged over 3 hour test period). [Authority granted under R307- 401- 8(1)(a) (BACT); condition originated in DAQE-AN0348004-04].

II.B.2.c.1 Monitoring:

Stack testing shall be performed as specified here:

(a) Frequency. The unit shall be tested at least once every three years. Tests may also be required at the direction of the Executive Secretary if the source is suspected to be in violation.

(b) Notification. At least 45 days prior to conducting any emission testing required under any part of UAC, R307, the owner or operator shall notify the Executive Secretary of the date, time and place of such testing and, if determined necessary by the Executive Secretary, the owner or operator shall attend a pretest conference. A source test protocol shall be submitted to DAQ when the testing notification is submitted to the Executive Secretary. The source test protocol shall be approved by the Executive Secretary prior to performing the test(s). The source test protocol shall outline the proposed test methodologies, stack to be tested, and procedures to be used. A pretest conference shall be held, if directed by the Executive Secretary. The pretest conference shall include representation from the owner/operator, the tester, and the Executive Secretary.

(c) Sample Point. The emission point shall be designed to conform to the requirements of 40 CFR 60, Appendix A, Method 20, or other methods as approved by the Executive Secretary. An Occupational Safety and Health Administration (OSHA) or Mine Safety and Health Administration (MSHA) approved access shall be provided to the test location.

(d) Methods.

(1) 40 CFR 60, Appendix A, Method 10 shall be used to determine CO emissions;

(2) 40 CFR 60, Appendix A, Method 20 shall be used to determine volumetric flow rate.

(e) Calculations. To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary to give the results in the specified units of the emission limitation. In addition, ppm values shall be corrected to 15% oxygen. Emissions average exclude turbine startups and shutdowns. (origin: R307-401-8(1)(a) (BACT)).

II.B.2.c.2 Recordkeeping:

Results of monitoring shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.2.c.3 Reporting:

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.2.d Condition:

Sulfur content of any fuel combusted shall be no greater than 0.05 percent by weight. [Authority granted under 40 CFR 72.7 and 40 CFR 60 (Subpart GG); condition originated in 40 CFR 72.7(a)(3)].

II.B.2.d.1 Monitoring:

turbines, the permittee should use one of the following sources of information to demonstrate that the gaseous fuel meets the definition of "natural gas" in 40 CFR 72.2 and 40 CFR 60.331(u):

(a) The gas quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the gaseous fuel, specifying that the maximum total sulfur content of the fuel is 20.0 grains/100 scf or less; or

(b) Representative fuel sampling data which show that the sulfur content of the gaseous fuel does not exceed 20 grains/100 scf. At a minimum, the amount of fuel sampling data specified in section 2.3.1.4 or 2.3.2.4 of appendix D to 40 CFR Part 75 is required.

II.B.2.d.2 Recordkeeping:

Results of monitoring shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.2.d.3 Reporting:

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.2.e Condition:

Visible emissions shall be no greater than 10 percent opacity. [Authority granted under R307-401-8(1)(a) (BACT); condition originated in DAQE-AN0348004-04].

II.B.2.e.1 Monitoring:

Records required for this permit condition will serve as monitoring.

II.B.2.e.2 Recordkeeping:

In lieu of monitoring via visible emission observations, the permittee shall keep one of the following sets of records for each affected emission unit, as applicable:

(1) Documentation that the emission unit can only burn natural gas and/or liquified petroleum gas;

(2) Documentation that the fuels other than natural gas and/or liquified petroleum gas cannot be supplied to the emission unit without modification of the fuel supply system; or

(3) Fuel bills or fuel meter readings that demonstrate only natural gas and/or liquified petroleum gas are combusted in the emission unit.

The permittee shall keep a log which includes the location and description of each affected emission unit. For each affected emission unit the log shall include the type of records that will be used in lieu of monitoring via visible emission observations. If fuel bills or fuel meter readings will be used in lieu of monitoring via visible emission observations, the permittee shall review

fuel bills or fuel meter readings once per quarter and record in the log the types of fuel combusted. The records and log required by this condition shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.2.e.3 **Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.2.f **Condition:**

The permittee shall comply with all applicable requirements of 40 CFR 60 Subpart A. [Authority granted under 40 CFR 60 (Subpart A); condition originated in 40 CFR 60(Subpart GG)].

II.B.2.f.1 **Monitoring:**

The permittee shall comply with the monitoring requirements of 40 CFR 60.8(a), (b), (c), (e) and (f), and 60.11(a).

II.B.2.f.2 **Recordkeeping:**

The permittee shall comply the recordkeeping requirements of provision I.S.1 of this permit and any additional recordkeeping requirements of 40 CFR 60.7(b), and 60.7(f). (origin: 40 CFR 60 Subpart A).

II.B.2.f.3 **Reporting:**

The permittee shall comply with the reporting requirements in Section I of this permit and the reporting and notification requirements of 40 CFR 60.4, 60.6(b), 60.7(a), 60.8(a) and (d), 60.15, and 60.19. (origin: 40 CFR 60 Subpart A).

II.B.3 **Conditions on Black Start Generator.**

II.B.3.a **Condition:**

Visible emissions shall be no greater than 20 percent opacity. [Authority granted under R307-401-8(1)(a) [BACT]; condition originated in DAQE-AN0348004-04].

II.B.3.a.1 **Monitoring:**

A visual observation of each affected emission unit shall be performed once each month that the unit operates, by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visible emissions observer (VEO). If any visible emissions are observed, an opacity determination of that emission unit shall be performed by a certified VEO in accordance with 40 CFR 60, Appendix A, Method 9 within 24 hours of the initial observation.

II.B.3.a.2 **Recordkeeping:**

Results of opacity observations shall be recorded and maintained as described in Provision S.1 in Section I of this permit.

II.B.3.a.3

Reporting:

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.3.b

Condition:

The generator shall be used for the gas turbines startup operations only during the periods when electric power from the public utilities is interrupted, or for regular maintenance of the generator. [Authority granted under R307- 401- 8(1)(a) (BACT); condition originated in DAQE-AN0348004-04].

II.B.3.b.1

Monitoring:

Records required for this permit condition will serve as monitoring.

II.B.3.b.2

Recordkeeping:

Records documenting generator usage shall be kept in a log and they shall show the date the generator was used, the duration in hours of the generator usage, and the reason for the generator usage. Records shall be maintained as described in Provision S.1 in Section I of this permit.

II.B.3.b.3

Reporting:

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.3.c

Condition:

The permittee shall use only #1 or #2 or a combination of #1 and #2 diesel fuel in the generator. [Authority granted under R307- 401- 8(1)(a) (BACT); condition originated in DAQE-AN0348004-04].

II.B.3.c.1

Monitoring:

Records required for this permit condition will serve as monitoring.

II.B.3.c.2

Recordkeeping:

Records shall be kept for any period that a fuel other than #1 or #2 diesel fuel is used. These records shall be recorded in a log that is kept in a readily accessible location onsite. All records shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.3.c.3

Reporting:

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.C

Emissions Trading

(R307-415-6a(10))

Not applicable to this source.

II.D **Alternative Operating Scenarios.**
(R307-415-6a(9))

Not applicable to this source.

SECTION III: PERMIT SHIELD

The following requirements have been determined to be not applicable to this source in accordance with Provision I.M, Permit Shield:

III.A. (40 CFR Part 68 and CAAA 112r (Risk Management Program / Accidental Release))

This regulation is not applicable to the Permitted Source for the following reason(s): This regulation is not applicable to the Propane Tanks (Unit # 14) because This regulation does not apply to the propane tanks listed as emission unit 14 because the propane stored is utilized as a fuel at the facility. EPA made the exemption for these tanks in the March 2000 Federal Register. [Last updated September 16, 2009]

SECTION IV: ACID RAIN PROVISIONS

IV.A **This source is not subject to Title IV. This section is not applicable.**

REVIEWER COMMENTS

This operating permit incorporates all applicable requirements contained in the following documents:

Incorporates	DAQE-AN0348004-04 dated May 10, 2004
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1. Comment on an item regarding 40 CFR 64: Compliance Assurance Monitoring Applicability: CAM applicability has been evaluated. There are no CAM requirements in this permit. [Last updated September 14, 2009]
2. Comment on an item regarding 40 CFR 72 (Acid Rain Rules): Exemption in Acid Rain Rules: Murray City Power meets the requirements found in 40 CFR 72.7 for exemption from the 40 CFR 72 acid rain rules. Part of this exemption is the requirement that they only burn natural gas with a sulfur content not exceeding 0.05 percent by weight.

Murray City Power has submitted the New Unit Exemption form used under acid rain program as part of qualifying for the exemption at 40 CFR 72.7, and which was required by this permit to be submitted. Therefore the requirement for form submittal and has been removed from this permit. [Comment last updated on 2/17/2005].

3. Comment on an item regarding DAQE-AN0348004-04, Sulfur Content of Fuel Oil: Condition 18 of the Approval Order has been subsumed into the limit of burning only diesel fuel #1 or #2 which by definition has a sulfur content not exceeding 0.5% percent by weight sulfur. [Comment last updated on 9/01/2004]
4. Comment on an item regarding Utah SIP Section IX.H.2.a.N, (Historic comment) Sulfur content requirement: Utah Air Conservation Rule, R307-203-1 and SIP Section IX.H.2.a.N require that sulfur content of any fuel oil be no more than 0.85 lbs/MMBtu, which is equivalent to 1.69% by weight if heating value (140,000 Btu/gal) and density (7.05 lb/gal) of distillate oil given in AP-42 are used to make conversion. Sulfur content limit of 0.5 % by weight in the permit is more stringent than the rule requirement. [Comment last updated on 1/05/2005]
5. Comment on an item regarding Utah SIP Section IX.H.2.b.KK, (Historic comment) State Implementation Plan (SIP) Section IX.H.2.b.KK: Murray City Power's new AO (DAQE-AN0348004-04) addresses all applicable conditions from the Utah SIP section IX.H.B.KK. The SIP for Murray City Power in Section IX.H.2.b.KK is for the source as it was on December 18, 1992. Since then, the four IC engines listed in the Utah SIP are no longer used to generate power and have been removed from the facility.

CEMs have also been installed at the power plant on the natural gas engines. The conditions in AO and the operating permit fulfill the intended requirements of the SIP, are more stringent than the SIP (to meet WPII guidance), and are practically enforceable. The PM₁₀ SIP provisions in this regard can be considered to have been subsumed by AO and the operating permit conditions. [Comment last updated on 1/12/2005]

Update: With the removal of the I.C. Engines and replacement with turbines, this source has been removed from the SIP. [Last updated September 14, 2009]

6. Comment on an item regarding Three 14.3 MW Gas Turbines, 40 CFR 60 Subpart GG: Initial performance testing Under Subpart GG: Initial performance testing for NO_x emission compliance under NSPS subpart GG has been completed. Therefore this requirement has been removed from

this permit. [Comment last updated on 2/17/2005]

7. Comment on an item regarding Three 14.3 MW Gas Turbines, 40 CFR 60 Subpart GG: Subpart GG, NO_x Standard and NO_x limit in AO. The NO_x standard in Subpart GG is:

$$\text{STD} = 0.0075 (14.4)/Y + F$$

where:

STD= allowable NO_x emissions (percent by volume at 15 percent oxygen and on a dry basis

Y = manufacturer's rated heat rate at manufacturer's rated load (kilojoules per watt hour) or, actual measured heat rate based on lower heating value of fuel as measured at Issued February 24, 2005 Page 20 Title V Operating Permit #3500044002 actual peak load for the facility. The value of Y shall not exceed 14.4 kilojoules per watt hour.

F = NO_x emission allowance for fuel-bound nitrogen.

EPA guideline document EMTIC, GD-009 advises to use zero for the value of F for gas turbines that burn only pipeline-quality natural gas. So, the lowest NO_x limit is 0.0095 percent by volume when Y=11.4 (from facility testing). NO_x limit in AO is 25 ppmdv or 0.0025 percent by volume which is more stringent than the Subpart GG standard.

Both the NSPS standard and the BACT standard have been included in the Title V permit because they have different time frames for measurement. The NSPS limit has a 4-hour averaging time and the BACT limit has an averaging time of 24-operating hours. [Comment last updated on 1/04/2005]

8. Comment on an item regarding Three 14.3 MW Gas Turbines, 40 CFR 60 Subpart GG. Subpart GG requirement for NO_x emission compliance: For purposes of monitoring for NO_x emission compliance at GG-affected turbines that do not use water or steam injection, and which were constructed, reconstructed or modified prior to July 8, 2004, 40 CFR 60.334(c) states that the owner or operator may, for purposes of determining excess emissions, use a CEMS that meets the requirements of 60.334(b). Murray City Power has elected to use a CEMS. [Comment last updated on 2/17/2005]
9. Comment on an item regarding Three 14.3 MW Gas Turbines, 40 CFR 60 Subpart GG. Subpart GG requirement for the monitoring of fuel-bound nitrogen content of fuel: 40 CFR 60.333(h)(2) requires monitoring nitrogen content of the fuel combusted in the turbines only if the owner or operator claims an allowance for fuel-bound nitrogen. Murray City Power has not claimed an allowance, therefore monitoring of nitrogen content in the fuel is not required. [Comment last updated on 2/17/2005]
10. Comment on an item regarding Three 14.3 MW Gas Turbine, 40 CFR 60 Subpart GG. Sulfur content of any fuel burned in any stationary gas turbine: Subpart GG requires that sulfur content in the fuel shall be 0.8 percent or less by weight. This limit is less stringent than the sulfur content limit of 0.05 percent by weight or less required by 40 CFR 72.7 (a)(3). Therefore, Subpart GG sulfur standard is subsumed in the 40 CFR 72.7 (a)(3) requirement. [Comment last updated on 1/05/2005]
11. Comment on an item regarding Three 14.3 MW Gas Turbines, 40 CFR 60 Subpart GG. Sulfur content of any fuel burned in any stationary gas turbine: The facility will be in compliance with the limit of 0.05 percent sulfur by weight as long as it burns pipeline quality natural gas only. The piping in the facility is set up in a way as to only allow pipeline quality natural gas to be combusted in the gas turbines. [Comment last updated on 1/05/2005]

