



State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Department of
Environmental Quality

Alan Matheson
Executive Director

DIVISION OF AIR QUALITY
Bryce C. Bird
Director

DAQE-IN107950015-16

June 23, 2016

Layne Burningham
Utah Municipal Power Agency
75 West 300 North
P.O. Box 818
Spanish Fork, UT 84660

Dear Mr. Burningham:

Re: Intent to Approve: Construction and Operation of New Provo Power Plant
Project Number: N10795-0015

The attached document is the Intent to Approve for the above-referenced project. The Intent to Approve is subject to public review. Any comments received shall be considered before an Approval Order is issued. The Division of Air Quality is authorized to charge a fee for reimbursement of the actual costs incurred in the issuance of an Approval Order. An invoice will follow upon issuance of the final Approval Order.

Future correspondence on this Intent to Approve should include the engineer's name as well as the DAQE number as shown on the upper right-hand corner of this letter. The project engineer for this action is John Jenks, who may be reached at (801) 536-4459.

Sincerely,

Martin D. Gray, Manager
New Source Review Section

MDG:JJ:jf

cc: Mike Owens
Utah County Health Department

STATE OF UTAH

Department of Environmental Quality

Division of Air Quality

**INTENT TO APPROVE: Construction and Operation of New
Provo Power Plant**

**Prepared by: John Jenks, Engineer
Phone: (801) 536-4459
Email: jjenks@utah.gov**

INTENT TO APPROVE NUMBER

DAQE-IN107950015-16

Date: June 23, 2016

**Utah Municipal Power Agency
Provo Power Plant
Source Contact:
Kevin Garlick,
Phone: (801) 798-7489**

**Martin D. Gray, Manager
New Source Review Section**

ABSTRACT

The Utah Municipal Power Agency's (UMPA) is updating the Provo Power Plant. The existing facility, consisting of four dual-fuel, internal combustion engines, has been shut down and the equipment permanently removed from service. A new facility, consisting of five (5) new 2,457 kW natural gas-fired engines and one natural gas-fired backup generator, will be constructed and installed just to the south-east of the previous power plant building.

In addition to being fired exclusively on natural gas, the new engines employ a combination of SCR and oxidation catalysts to control emissions. For purposes of non-attainment NSR and PSD permitting, this facility is classified as a new minor source. The total potential to emit (PTE) from the new power plant is estimated at the following ton per year values: $PM_{10} = 0.04$, $PM_{2.5} = 0.04$, $SO_2 = 0.24$, $NO_X = 11.82$, $VOC = 22.38$, $CO = 26.98$ and $HAPs = 4.88$. GHG emissions are estimated at 48,612 tpy as CO_2e .

The Notice of Intent for the above-referenced project has been evaluated and has been found to be consistent with the requirements of UAC R307. Air pollution producing sources and/or their air control facilities may not be constructed, installed, established, or modified prior to the issuance of an Approval Order by the Director.

A 30-day public comment period will be held in accordance with UAC R307-401-7. A notification of the Intent to Approve will be published in the The Daily Herald on June 25, 2016. During the public comment period the proposal and the evaluation of its impact on air quality will be available for the public to review and provide comment. If anyone so requests a public hearing within 15 days of publication, it will be held in accordance with UAC R307-401-7. The hearing will be held as close as practicable to the location of the source. Any comments received during the public comment period and the hearing will be evaluated. The proposed conditions of the Approval Order may be changed as a result of the comments received.

Name of Permittee:

Utah Municipal Power Agency
75 West 300 North
P.O. Box 818
Spanish Fork, UT 84660

Permitted Location:

Provo Power Plant
702 North 300 West
Provo, UT 84601

UTM coordinates: 443,455 m Easting, 4,454,710 m Northing, UTM Zone 12
SIC code: 4911 (Electric Services)

Section I: GENERAL PROVISIONS

- I.1 All definitions, terms, abbreviations, and references used in this AO conform to those used in the UAC R307 and 40 CFR. Unless noted otherwise, references cited in these AO conditions refer to those rules. [R307-101]
- I.2 The limits set forth in this AO shall not be exceeded without prior approval. [R307-401]
- I.3 Modifications to the equipment or processes approved by this AO that could affect the emissions covered by this AO must be reviewed and approved. [R307-401-1]
- I.4 All records referenced in this AO or in other applicable rules, which are required to be kept by the owner/operator, shall be made available to the Director or Director's representative upon request, and the records shall include the two-year period prior to the date of the request. Unless otherwise specified in this AO or in other applicable state and federal rules, records shall be kept for a minimum of two (2) years. [R307-401-8]

- I.5 At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any equipment approved under this AO, 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 Director which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. All maintenance performed on equipment authorized by this AO shall be recorded. [R307-401-4]
- I.6 The owner/operator shall comply with UAC R307-107. General Requirements: Breakdowns. [R307-107]
- I.7 The owner/operator shall comply with UAC R307-150 Series. Emission Inventories. [R307-150]

Section II: SPECIAL PROVISIONS

II.A The approved installations shall consist of the following equipment:

- II.A.1 **Provo Power Plant**
- II.A.2 **Five (5) Caterpillar Gas Generator Sets**
G3520H natural gas-fired IC engine-generators, with SCR and oxy-cat emission controls, each with a 53' stack (as measured from ground)
- II.A.3 **One (1) Gas Emergency Generator**
Natural gas-fired IC standby engine-generator, with integrated Low NO_x Combustor (LNC).

II.B Requirements and Limitations

- II.B.1 **Requirements on Permitted Source**
 - II.B.1.a The owner/operator shall use only natural gas as fuel in all internal combustion engine generators.

The emergency generator listed in II.A.3 shall be used for electricity producing operation only during the periods when electric power from the public utilities is interrupted, or for regular maintenance of the generators. 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 each generator usage. [R307-401-8(1)((a))]
 - II.B.1.b Visible emissions from all natural gas combustion exhaust stacks shall not exceed 10% opacity. Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9. [R307-401-8(1)((a))]
 - II.B.1.c Emissions of NO_x from each of the G3520H engines shall not exceed 0.53 lb/hr (0.07 gr/hp-hr), on a 3-hr average basis. [R307-401-8(1)((a))]
 - II.B.1.c.1 Stack testing to show compliance with the NO_x emission limitation stated above shall be performed as follows:

Frequency:
Each G3520H stack shall be tested at least once every three (3) years. Initial compliance testing is required. The initial test date shall be performed as soon as possible and in no case later than 180 days after the start-up of a new emission source.

If an existing source is modified, a compliance test is required on the modified emission point that has an emission rate limit.

Notification:

The Director shall be notified at least 30 days prior to conducting any required emission testing. A source test protocol shall be submitted to DAQ when the testing notification is submitted to the Director.

The source test protocol shall be approved by the Director prior to performing the test(s). The source test protocol shall outline the proposed test methodologies, stack(s) to be tested, and procedures to be used. A pretest conference shall be held, if directed by the Director.

Sample Location:

The sampling location shall be designed to conform to the requirements of 40 CFR 60, Appendix A, Method 1, or other methods as approved by EPA and acceptable to the Director. An Occupational Safety and Health Administration (OSHA) or Mine Safety and Health Administration (MSHA) approved access shall be provided to the test location.

Volumetric Flow Rate:

40 CFR 60, Appendix A, Method 2 or other testing methods approved by EPA and accepted by the Director.

Nitrogen Oxides (NO_x): 40 CFR 60, Appendix A, Method 7, 7A, 7B, 7C, 7D, 7E, or other testing methods approved by EPA and acceptable to the Director.

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 to give the results in the specified units of the emission limitation.

[R307-165]

Section III: APPLICABLE FEDERAL REQUIREMENTS

In addition to the requirements of this AO, all applicable provisions of the following federal programs have been found to apply to this installation. This AO in no way releases the owner or operator from any liability for compliance with all other applicable federal, state, and local regulations including UAC R307.

NSPS (Part 60), A: General Provisions

NSPS (Part 60), JJJJ: Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

MACT (Part 63), A: General Provisions

MACT (Part 63), ZZZZ: National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

PERMIT HISTORY

The final AO will be based on the following documents:

Is Derived From
Incorporates

Source Submitted NOI dated March 25, 2016
Additional Information Received dated May 6, 2016

ADMINISTRATIVE CODING

The following information is for UDAQ internal classification use only:

Utah County

CDS B

MACT (Part 63), Nonattainment or Maintenance Area, NSPS (Part 60)

ACRONYMS

The following lists commonly used acronyms as they apply to this document:

40 CFR	Title 40 of the Code of Federal Regulations
AO	Approval Order
BACT	Best Available Control Technology
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CDS	Classification Data System (used by EPA to classify sources by size/type)
CEM	Continuous emissions monitor
CEMS	Continuous emissions monitoring system
CFR	Code of Federal Regulations
CMS	Continuous monitoring system
CO	Carbon monoxide
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent - 40 CFR Part 98, Subpart A, Table A-1
COM	Continuous opacity monitor
DAQ/UDAQ	Division of Air Quality
DAQE	This is a document tracking code for internal UDAQ use
EPA	Environmental Protection Agency
FDCP	Fugitive Dust Control Plan
GHG	Greenhouse Gas(es) - 40 CFR 52.21 (b)(49)(i)
GWP	Global Warming Potential - 40 CFR Part 86.1818-12(a)
HAP or HAPs	Hazardous air pollutant(s)
ITA	Intent to Approve
LB/HR	Pounds per hour
MACT	Maximum Achievable Control Technology
MMBTU	Million British Thermal Units
NAA	Nonattainment Area
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standards for Hazardous Air Pollutants
NOI	Notice of Intent
NO _x	Oxides of nitrogen
NSPS	New Source Performance Standard
NSR	New Source Review
PM ₁₀	Particulate matter less than 10 microns in size
PM _{2.5}	Particulate matter less than 2.5 microns in size
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
R307	Rules Series 307
R307-401	Rules Series 307 - Section 401
SO ₂	Sulfur dioxide
Title IV	Title IV of the Clean Air Act
Title V	Title V of the Clean Air Act
TPY	Tons per year
UAC	Utah Administrative Code
VOC	Volatile organic compounds