



Bureau of Air Pollution Control

901 SOUTH STEWART STREET SUITE 4001
CARSON CITY, NEVADA 89701-5249
p: 775-687-9349 • ndep.nv.gov/air

Facility ID No. A2281

Permit No. AP4911-4346

CLASS II AIR QUALITY OPERATING PERMIT

Issued to: ORNI 32 LLC (HEREINAFTER REFERRED TO AS PERMITTEE)

Mailing Address: 6140 PLUMAS STREET, RENO, NV 89519

Physical Address: 36154 DIXIE VALLEY ROAD, DIXIE MEADOWS, NV 89406

Driving Directions: FROM FALLON, NV, HEAD EAST ON US-50 FOR 39.8 MILES. TURN LEFT ON NV-121 N/DIXIE VALLEY RD AND DRIVE FOR 36.3 MILES. THE FACILITY IS ON THE RIGHT.

General Facility Location: SECTION 8, T 22 N, R 35 E, MDB&M
HA 128 – DIXIE VALLEY / CHURCHILL COUNTY
NORTH 4,405,185 M, EAST 407,746 M, UTM ZONE 11, NAD 83

Emission Unit List:

A. System 1 – Dixie I Ormat Energy Converter (OEC)

PF1.001 Dixie I Ormat Energy Converter (OEC)

B. System 2 – Dixie I Emergency Diesel Generator

S2.001 Dixie I Emergency Diesel Generator (490 hp, Tier III, 2006 or Later)

*****End of Emission Unit List*****



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Section I. General Provisions

- A. Prohibited acts; penalty; establishment of violation; request for prosecution (NRS 445B.470) (*State Only Requirement*)
1. A person shall not knowingly:
 - a. Violate any applicable provision, the terms or conditions of any permit or any provision for the filing of information;
 - b. Fail to pay any fee;
 - c. Falsify any material statement, representation or certification in any notice or report; or
 - d. Render inaccurate any monitoring device or method, required pursuant to the provisions of NRS 445B.100 to 445B.450, inclusive, or 445B.470 to 445B.640, inclusive, or any regulation adopted pursuant to those provisions.
 2. Any person who violates any provision of subsection 1 shall be punished by a fine of not more than \$10,000 for each day of the violation.
 3. The burden of proof and degree of knowledge required to establish a violation of subsection 1 are the same as those required by 42 U.S.C. § 7413(c), as that section existed on October 1, 1993.
 4. If, in the judgment of the Director of the Department or the Director's designee, any person is engaged in any act or practice which constitutes a criminal offense pursuant to NRS 445B.100 to 445B.640, inclusive, the Director of the Department or the designee may request that the Attorney General or the district attorney of the county in which the criminal offense is alleged to have occurred institute by indictment or information a criminal prosecution of the person.
 5. If, in the judgment of the control officer of a local air pollution control board, any person is engaged in such an act or practice, the control officer may request that the district attorney of the county in which the criminal offense is alleged to have occurred institute by indictment or information a criminal prosecution of the person.
- B. Visible emissions: Maximum opacity; determination and monitoring of opacity (NAC 445B.22017) (*Federally Enforceable SIP Requirement*)
1. Except as otherwise provided in this section and NAC 445B.2202, no owner or operator may cause or permit the discharge into the atmosphere from any emission unit which is of an opacity equal to or greater than 20 percent. Opacity must be determined by one of the following methods:
 - a. If opacity is determined by a visual measurement, it must be determined as set forth in Reference Method 9 in Appendix A of 40 CFR Part 60.
 - b. If a source uses a continuous monitoring system for the measurement of opacity, the data must be reduced to 6-minute averages as set forth in 40 CFR 60.13(h).
 2. The provisions of this section and NAC 445B.2202 do not apply to that part of the opacity that consists of uncombined water. The burden of proof to establish the application of this exemption is upon the person seeking to come within the exemption.
 3. If the provisions of 40 CFR Part 60, Subpart D or Da apply to an emission unit, the emission unit must be allowed one 6-minute period per hour of not more than 27 percent opacity as set forth in 40 CFR 60.42(a)(2) and 40 CFR 60.42a(b).
 4. The continuous monitoring system for monitoring opacity at a facility must be operated and maintained by the owner or operator specified in the permit for the facility in accordance with NAC 445B.256 to 445B.267, inclusive.
- C. Visible emissions: Exceptions for stationary sources (NAC 445B.2202) (*Federally Enforceable SIP Requirement*)
- The provisions of NAC 445B.22017 do not apply to:
1. Smoke from the open burning described in NAC 445B.22067;
 2. Smoke discharged in the course of training air pollution control inspectors to observe visible emissions, if the facility has written approval of the Commission;
 3. Emissions from an incinerator as set forth in NAC 445B.2207; or
 4. Emissions of stationary diesel-powered engines during warm-up for not longer than 15 minutes to achieve operating temperatures.



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Section I. General Provisions (continued)

D. Odors (NAC 445B.22087) (*State Only Requirement*)

1. No person may discharge or cause to be discharged, from any stationary source, any material or regulated air pollutant which is or tends to be offensive to the senses, injurious or detrimental to health and safety, or which in any way interferes with or prevents the comfortable enjoyment of life or property.
2. The Director shall investigate an odor when 30 percent or more of a sample of the people exposed to it believe it to be objectionable in usual places of occupancy. The sample must be at least 20 people or 75 percent of those exposed if fewer than 20 people are exposed.
3. The Director shall deem the odor to be a violation if he or she is able to make two odor measurements within a period of 1 hour. These measurements must be separated by at least 15 minutes. An odor measurement consists of a detectable odor after the odorous air has been diluted with eight or more volumes of odor-free air.

E. Prohibited Conduct: Concealment of Emissions (NAC 445B.225) (*Federally Enforceable SIP Requirement*)

No person may install, construct or use any device which conceals any emission without reducing the total release of regulated air pollutants to the atmosphere.

F. Prohibited conduct: Operation of source without required equipment; removal or modification of required equipment; modification of required procedure (NAC 445B.227) (*Federally Enforceable SIP Requirement*)

Except as otherwise provided in NAC 445B.001 to 445B.390, inclusive, no person may:

1. Operate a stationary source of air pollution unless the control equipment for air pollution which is required by applicable requirements or conditions of this Operating Permit is installed and operating.
2. Disconnect, alter, modify or remove any of the control equipment for air pollution or modify any procedure required by an applicable requirement or condition of the permit.

G. Excess Emissions (NAC 445B.232) (*State Only Requirement*)

1. Scheduled maintenance or testing or scheduled repairs which may result in excess emissions of regulated air pollutants prohibited by NAC 445B.001 to 445B.390, inclusive, must be approved in advance by the Director and performed during a time designated by the Director as being favorable for atmospheric ventilation.
2. Each owner or operator shall notify the Director of the proposed time and expected duration at least 30 days before any scheduled maintenance or testing which may result in excess emissions of regulated air pollutants prohibited by NAC 445B.001 to 445B.390, inclusive. The scheduled maintenance or testing must not be conducted unless the scheduled maintenance or testing is approved pursuant to subsection 1.
3. Each owner or operator shall notify the Director of the proposed time and expected duration at least 24 hours before any scheduled repairs which may result in excess emissions of regulated air pollutants prohibited by NAC 445B.001 to 445B.390, inclusive. The scheduled repairs must not be conducted unless the scheduled repairs are approved pursuant to subsection 1.
4. Each owner or operator shall notify the Director of any excess emissions within 24 hours after any malfunction or upset of the process equipment or equipment for controlling pollution or during start-up or shutdown of that equipment.



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Section I. General Provisions (continued)

G. Excess Emissions (NAC 445B.232) (*State Only Requirement*) (continued)

5. Each owner or operator shall provide the Director, within 15 days after any malfunction, upset, start-up, shutdown or human error which results in excess emissions, sufficient information to enable the Director to determine the seriousness of the excess emissions. The information must include at least the following:
 - a. The identity of the stack or other point of emission, or both, where the excess emissions occurred.
 - b. The estimated magnitude of the excess emissions expressed in opacity or in the units of the applicable limitation on emission and the operating data and methods used in estimating the magnitude of the excess emissions.
 - c. The time and duration of the excess emissions.
 - d. The identity of the equipment causing the excess emissions.
 - e. If the excess emissions were the result of a malfunction, the steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of the malfunction.
 - f. The steps taken to limit the excess emissions.
 - g. Documentation that the equipment for controlling air pollution, process equipment or processes were at all times maintained and operated, to a maximum extent practicable, in a manner consistent with good practice for minimizing emissions.
6. Each owner or operator shall ensure that any notification or related information submitted to the Director pursuant to this section is provided in a format specified by the Director.

H. Testing and Sampling (NAC 445B.252) (*Federally Enforceable SIP Requirement*)

1. To determine compliance with NAC 445B.001 to 445B.390, inclusive, before the approval or the continuance of an operating permit or similar class of permits, the Director may either conduct or order the owner of any stationary source to conduct or have conducted such testing and sampling as the Director determines necessary. Testing and sampling or either of them must be conducted and the results submitted to the Director within 60 days after achieving the maximum rate of production at which the affected facility will be operated, but not later than 180 days after initial start-up of the facility and at such other times as may be required by the Director.
2. Tests of performance must be conducted and data reduced in accordance with the methods and procedures of the test contained in each applicable subsection of this section unless the Director:
 - a. Specifies or approves, in specific cases, the use of a method of reference with minor changes in methodology;
 - b. Approves the use of an equivalent method;
 - c. Approves the use of an alternative method, the results of which the Director has determined to be adequate for indicating whether a specific stationary source is in compliance; or
 - d. Waives the requirement for tests of performance because the owner or operator of a stationary source has demonstrated by other means to the Director's satisfaction that the affected facility is in compliance with the standard.
3. Tests of performance must be conducted under such conditions as the Director specifies to the operator of the plant based on representative performance of the affected facility. The owner or operator shall make available to the Director such records as may be necessary to determine the conditions of the performance test. Operations during periods of startup, shutdown and malfunction must not constitute representative conditions of a performance test unless otherwise specified in the applicable standard.
4. The owner or operator of an affected facility shall give notice to the Director 30 days before the test of performance to allow the Director to have an observer present. A written testing procedure for the test of performance must be submitted to the Director at least 30 days before the test of performance to allow the Director to review the proposed testing procedures.
5. Each test of performance must consist of at least three separate runs using the applicable method for that test. Each run must be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the runs apply. In the event of forced shutdown, failure of an irreplaceable portion of the sampling train, extreme meteorological conditions or other circumstances with less than three valid samples being obtained, compliance may be determined using the arithmetic mean of the results of the other two runs upon the Director's approval.
6. All testing and sampling will be performed in accordance with recognized methods and as specified by the Director.



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Section I. General Provisions (continued)

H. Testing and Sampling (NAC 445B.252) (*Federally Enforceable SIP Requirement*) (continued)

7. The cost of all testing and sampling and the cost of all sampling holes, scaffolding, electric power and other pertinent allied facilities as may be required and specified in writing by the Director must be provided and paid for by the owner of the stationary source.
8. All information and analytical results of testing and sampling must be certified as to their truth and accuracy and as to their compliance with all provisions of these regulations, and copies of these results must be provided to the Director no later than 60 days after the testing or sampling, or both.
9. Notwithstanding the provisions of subsection 2, the Director shall not approve an alternative method or equivalent method to determine compliance with a standard or emission limitation contained in Part 60, 61 or 63 of Title 40 of the Code of Federal Regulations for:
 - a. An emission unit that is subject to a testing requirement pursuant to Part 60, 61 or 63 of Title 40 of the Code of Federal Regulations; or
 - b. An affected source.

I. Permit Revision (NAC 445B.287(1)(b)) (*Federally Enforceable SIP Requirement*)

If a stationary source is a Class II source, a revision of the operating permit or the permit to construct is required pursuant to the requirements of NAC 445B.3465 before the stationary source may be modified.

J. Violations: Acts constituting; notice (NAC 445B.275) (*Federally Enforceable SIP Requirement*)

1. Failure to comply with any requirement of NAC 445B.001 to 445B.390, inclusive, any applicable requirement or any condition of an operating permit constitutes a violation. As required by NRS 445B.450, the Director shall issue a written notice of an alleged violation to any owner or operator for any violation, including, but not limited to:
 - a. Failure to apply for and obtain an operating permit;
 - b. Failure to construct a stationary source in accordance with the application for an operating permit as approved by the Director;
 - c. Failure to construct or operate a stationary source in accordance with any condition of an operating permit;
 - d. Commencing construction or modification of a stationary source without applying for and receiving an operating permit or a modification of an operating permit as required by NAC 445B.001 to 445B.3477, inclusive, or a mercury operating permit to construct as required by NAC 445B.3611 to 445B.3689, inclusive;
 - e. Failure to comply with any requirement for recordkeeping, monitoring, reporting or compliance certification contained in an operating permit; or
 - f. Failure to pay fees as required by NAC 445B.327 or 445B.3689.
2. The written notice must specify the provision of NAC 445B.001 to 445B.390, inclusive, the condition of the operating permit or the applicable requirement that is being violated.
3. Written notice shall be deemed to have been served if delivered to the person to whom addressed or if sent by registered or certified mail to the last known address of the person.

K. Operating permits: Imposition of more stringent standards for emissions (NAC 445B.305)

(*Federally Enforceable SIP Requirement*)

1. The Director may impose standards for emissions on a proposed stationary source that are more stringent than those found in NAC 445B.001 to 445B.390, inclusive, as a condition of approving an operating permit for the proposed stationary source.



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Section I. General Provisions (continued)

L. Contents of operating permits: Exception for operating permits to construct; required conditions (NAC 445B.315)
(*Federally Enforceable SIP Requirement*)

1. Notwithstanding any provision of this section to the contrary, the provisions of this section do not apply to operating permits to construct.
2. The Director shall cite the legal authority for each condition contained in an operating permit.
3. An operating permit must contain the following conditions:
 - a. The term of the operating permit is 5 years.
 - b. The holder of the operating permit shall retain records of all required monitoring data and supporting information for 5 years after the date of the sample collection, measurement, report or analysis. Supporting information includes all records regarding calibration and maintenance of the monitoring equipment and all original strip-chart recordings for continuous monitoring instrumentation.
 - c. Each of the conditions and requirements of the operating permit is severable, and if any are held invalid, the remaining conditions and requirements continue in effect.
 - d. The holder of the operating permit shall comply with all conditions of the operating permit. Any noncompliance constitutes a violation and is a ground for:
 - (1) An action for noncompliance;
 - (2) Revising, revoking, reopening and revising, or terminating the operating permit by the Director; or
 - (3) Denial of an application for a renewal of the operating permit by the Director.
 - e. The need to halt or reduce activity to maintain compliance with the conditions of the operating permit is not a defense to noncompliance with any condition of the operating permit.
 - f. The Director may revise, revoke and reissue, reopen and revise, or terminate the operating permit for cause.
 - g. The operating permit does not convey any property rights or any exclusive privilege.
 - h. The holder of the operating permit shall provide the Director, in writing and within a reasonable time, with any information that the Director requests to determine whether cause exists for revising, revoking and reissuing, reopening and revising, or terminating the operating permit, or to determine compliance with the conditions of the operating permit.
 - i. The holder of the operating permit shall pay fees to the Director in accordance with the provisions set forth in NAC 445B.327 and 445B.331.
 - j. The holder of the operating permit shall allow the Director or any authorized representative, upon presentation of credentials, to:
 - (1) Enter upon the premises of the holder of the operating permit where:
 - (a) The stationary source is located;
 - (b) Activity related to emissions is conducted; or
 - (c) Records are kept pursuant to the conditions of the operating permit;
 - (2) Have access to and copy, during normal business hours, any records that are kept pursuant to the conditions of the operating permit;
 - (3) Inspect, at reasonable times, any facilities, practices, operations or equipment, including any equipment for monitoring or controlling air pollution, that are regulated or required pursuant to the operating permit; and
 - (4) Sample or monitor, at reasonable times, substances or parameters to determine compliance with the conditions of the operating permit or applicable requirements.
 - k. A responsible official of the stationary source shall certify that, based on information and belief formed after a reasonable inquiry, the statements made in any document required to be submitted by any condition of the operating permit are true, accurate and complete.



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Section I. General Provisions (continued)

M. Operating permits: Assertion of emergency as affirmative defense to action for noncompliance (NAC 445B.326) (*State Only Requirement*)

1. A holder of an operating permit may assert an affirmative defense to an action brought for noncompliance with a technology-based emission limitation contained in the operating permit if the holder of the operating permit demonstrates through signed, contemporaneous operating logs or other relevant evidence, that:
 - a. An emergency occurred and the holder of the operating permit can identify the cause of the emergency;
 - b. The facility was being properly operated at the time of the emergency;
 - c. During the emergency, the holder of the operating permit took all reasonable steps to minimize excess emissions; and
 - d. The holder of the operating permit submitted notice of the emergency to the Director within 2 working days after the emergency. The notice must contain a description of the emergency, any steps taken to mitigate emissions, and any corrective actions taken to restore the normal operation of the facility.
2. In any action for noncompliance, the holder of an operating permit who asserts the affirmative defense of an emergency has the burden of proof.

N. Operating permits: Revocation and reissuance (NAC 445B.3265) (*State Only Requirement*)

1. An operating permit may be revoked if the control equipment is not operating.
2. An operating permit may be revoked by the Director upon determining that there has been a violation of NAC 445B.001 to 445B.390, inclusive, or the provisions of 40 CFR 52.21, or 40 CFR Part 60 or 61, Prevention of Significant Deterioration, New Source Performance Standards, and National Emission Standards for Hazardous Air Pollutants, adopted by reference in NAC 445B.221.
3. The revocation is effective 10 days after the service of a written notice, unless a hearing is requested.
4. To reissue a revoked operating permit, the holder of the revoked permit must file a new application with the Director, accompanied by the fee for an initial operating permit as specified in NAC 445B.327. An environmental review of the stationary source must be conducted as though construction had not yet commenced.

O. Required contents of permit (NAC 445B.346) (*Federally Enforceable SIP Requirement*)

In addition to the conditions set forth in NAC 445B.315, Class II operating permits must contain, as applicable:

1. Emission limitations and standards, including those operational requirements and limitations that ensure compliance with the conditions of the operating permit.
2. All requirements for monitoring, testing and reporting that apply to the stationary source.
3. A requirement that the owner or operator of the stationary source promptly report any deviations from any requirements of the operating permit.
4. The terms and conditions for any reasonably anticipated alternative operating scenarios identified by the owner or operator of the stationary source in his or her application and approved by the Director. Such terms and conditions must require the owner or operator to keep a contemporaneous log of changes from one alternative operating scenario to another.
5. A schedule of compliance for stationary sources that are not in compliance with any applicable requirement or NAC 445B.001 to 445B.390, inclusive:
 - a. Semiannual progress reports and a schedule of dates for achieving milestones;
 - b. Prior notice of and explanations for missed deadlines; and
 - c. Any preventive or corrective measures taken.

*****End of General Provisions*****



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Section II. General Monitoring, Recordkeeping, and Reporting Conditions

- A. Records Retention (NAC 445B.315(3)(b)) (*Federally Enforceable SIP Requirement*)
The holder of the operating permit shall retain records of all required monitoring data and supporting information for 5 years after the date of the sample collection, measurement, report or analysis. Supporting information includes all records regarding calibration and maintenance of the monitoring equipment and all original strip-chart recordings for continuous monitoring instrumentation.
- B. Deviations (NAC 445B.346(3)) (*Federally Enforceable SIP Requirement*)
Under the authority of NAC 445B.346(3), and in addition to the conditions set forth in NAC 445B.315, the owner or operator of the stationary source shall promptly report to the Director any deviations from the requirements of the operating permit. The report to the Director shall include the probable cause of all deviations and any action taken to correct the deviations. For the operating permit, prompt is defined as submittal of a report within 15 days of the deviation. This definition does not alter any reporting requirements as established for reporting of excess emissions as required under NAC 445B.232 as reproduced in **Section I.G.**
E-mail notifications to: enotify@ndep.nv.gov
- C. Yearly Reports (NAC 445B.315(3)(h), NAC 445B.346(2)) (*Federally Enforceable SIP Requirement*)
Under the authority of NAC 445B.315(3)(h) and NAC 445B.346(2), the Permittee will submit yearly reports including, but not limited to, throughput, production, fuel consumption, hours of operation, and emissions. These reports will be submitted on the form provided by the Bureau of Air Pollution Control for all emission units/systems specified on the form. The completed form must be submitted to the Bureau of Air Pollution Control no later than March 1 annually for the preceding calendar year.

*****End of General Monitoring, Recordkeeping, and Reporting Conditions*****



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Section III. General Construction Conditions

A. Notification (NAC 445B.250; NAC 445B.346(2)) (*Federally Enforceable SIP Requirement*)

Under the authority of NAC 445B.250 and NAC 445B.346; the Director shall be notified in writing of the following for **PF1.001 and S2.001**:

1. The date construction (or reconstruction as defined under NAC 445B.247) of the affected facility is commenced, postmarked no later than 30 days after such date. This requirement shall not apply in the case of mass-produced facilities which are purchased in completed form.
2. The anticipated date of initial startup of an affected facility, postmarked no more than 60 days and no less than 30 days prior to such date.
3. The actual date of initial startup of the affected facility, postmarked within 15 days after such date.
4. The date upon which demonstration of the continuous monitoring system performance commences in accordance with NAC 445B.256 to 445B.267, inclusive. Notification must be postmarked not less than 30 days before such date.

*****End of General Construction Conditions*****



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Section IV. Specific Construction Requirements

A. Initial Opacity Compliance Demonstration and Initial Performance Tests (NAC 445B.22017, NAC 445B.252, NAC 445B.346(2))
(Federally Enforceable SIP Requirement)

1. Under the authority of NAC 445B.22017, NAC 445B.252, and NAC 445B.346, the Permittee, upon issuance of this operating permit, shall conduct initial opacity compliance demonstrations and/or initial performance tests within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup. The Permittee shall follow the test methods and procedures referenced in Table IV-1 below:

Table IV-1: Initial Opacity Compliance Demonstration			
System	Emission Unit(s)	Pollutant To Be Tested	Testing Methods/Procedures
System 2 – Dixie I Emergency Diesel Generator	S2.001	Opacity	Method 9 in Appendix A of 40 CFR Part 60 shall be used to determine opacity. The minimum total time of observations shall be six minutes (24 consecutive observations recorded at 15 second intervals), unless otherwise specified by an applicable subpart.

2. All initial opacity compliance demonstrations must comply with the advance notification, protocol review, operational conditions, reporting, and other requirements of **Section I.H. Testing and Sampling** (NAC 445B.252) of this operating permit. Material sampling must be conducted in accordance with protocols approved by the Director. All initial performance test results shall be based on the arithmetic average of three valid runs. (NAC 445B.252(5))
3. Testing shall be conducted on the exhaust stack (post controls).
4. Initial opacity compliance demonstrations, as specified in Table IV-1 above, must be conducted under such conditions as the Director specifies to the operator of the plant based on representative performance of the affected facility. The Permittee shall make available to the Director such records as may be necessary to determine the conditions of the initial opacity compliance demonstrations. Operations during periods of startup, shutdown and malfunction must not constitute representative conditions of the initial opacity compliance demonstrations unless otherwise specified in the applicable standard. (NAC 445B.252(3))
5. The Permittee shall give notice to the Director 30 days before the initial opacity compliance demonstrations to allow the Director to have an observer present. A written testing procedure must be submitted to the Director at least 30 days before the initial opacity compliance demonstrations to allow the Director to review the proposed testing procedures. (NAC 445B.252(4) and 40 CFR Part 60.7(a)(6))
6. Within 60 days after completing the initial opacity compliance demonstrations contained in Table IV-1 of this section, the Permittee shall furnish the Director a written report of the results. All information and analytical results of testing and sampling must be certified as to the truth and accuracy and as to their compliance with NAC 445B.001 to 445B.3689, inclusive. (NAC 445B.252(8))
7. Initial opacity compliance demonstrations required under this section that are conducted below the maximum allowable throughput, shall be subject to the Director’s review to determine if the throughputs during the initial opacity compliance demonstrations were sufficient to provide adequate compliance demonstration. Should the Director determine that the initial opacity compliance demonstrations do not provide adequate compliance demonstration, the Director may require additional testing.

******End of Specific Construction Requirements******



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Section V. Specific Operating Conditions

A. Emission Unit PF1.001

Table with 3 columns: System 1 - Dixie I Ormat Energy Converter (OEC), Location UTM (Zone 11, NAD 83) m North, m East. Row 1: PF1.001, Dixie I Ormat Energy Converter (OEC), 4,405,102, 407,761

- 1. Air Pollution Control Equipment (NAC 445B.346(1)) (Federally Enforceable SIP Requirement) Emissions from PF1.001 has no add-on controls.
2. Operating Parameters (NAC 445B.346(1)) (Federally Enforceable SIP Requirement) a. Hours (1) PF1.001 may operate a total of 24 hours per day.
3. Emission Limits (NAC 445B.305, NAC 445B.346(1), NAC 445B.22017) (Federally Enforceable SIP Requirement) The Permittee, upon issuance of this operating permit, shall not discharge or cause the discharge into the atmosphere from PF1.001 the following pollutants in excess of the following specified limits: a. The discharge of VOC (volatile organic compounds) to the atmosphere shall not exceed 6.9 pounds per hour, nor more than 30.1 tons per year, based on a 12-month rolling period. b. The opacity from PF1.001 shall not equal or exceed 20 percent.
4. Monitoring, Recordkeeping, and Reporting (NAC 445B.346(2)) (Federally Enforceable SIP Requirement) The Permittee, upon the issuance of this operating permit, shall maintain, in a contemporaneous log, the monitoring and recordkeeping specified in this section. All records in the log must be identified with the calendar date of the record. a. Monitor and record the hours of operation for PF1.001 on a daily basis. b. Monitor and record the volume (gallons) of the Binary Motive Fluid (BMF) released to the atmosphere and calculate the mass (pounds) of Volatile Organic Compounds (VOCs) contained in the emitted BMF PF1.001 on a monthly basis in accordance with the following: (1) Record the date, location, and quantity of BMF in gallons each time BMF is added or removed from the BMF system. (2) Record the mass (pounds) of VOCs per gallon of BMF added or removed from the BMF system as provided by the BMF manufacturer's most current Safety Data Sheet. (3) BMF will only be added into the BMF systems via tanker trucks. (4) At the end of each month, calculate the total BMF emitted and the corresponding VOC content of the total BMF emitted, in tons, for the system by: (a) Taking the total net quantity of BMF added to the BMF system each month, in pounds. VOC loss as fugitive emissions = net quantity of VOC added to system during current month (b) The VOCs calculated in pounds, when divided by 2,000, will be considered to be the VOC, in tons, emitted into the atmosphere for that month. (5) At the end of each month, record the total VOC emitted in tons. (6) At the end of each month, calculate and record the cumulative total of VOC emitted in tons for the preceding 12-month rolling period. c. Permittee will maintain, in a contemporaneous log, the monitoring required in A.4 of this section, so as to include the date of the required monitoring.



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CLASS II AIR QUALITY OPERATING PERMIT

Issued to: ORNI 32 LLC – DIXIE MEADOWS GEOTHERMAL (AS PERMITTEE)

Section V. Specific Operating Conditions (continued)

B. Emission Unit S2.001

System 2 – Dixie I Emergency Diesel Generator		Location UTM (Zone 11, NAD 83)	
		m North	m East
S2.001	Dixie I Emergency Diesel Generator (490 hp, Tier III, 2006 or Later)	4,405,190	407,675

1. Air Pollution Control Equipment (NAC 445B.346(1)) (Federally Enforceable SIP Requirement)
 - a. **S2.001** has no add-on controls.
 - b. Descriptive Stack Parameters
 Stack Height: 10 feet
 Stack Diameter: 0.5 feet
 Stack Temperature: 1,076 °F

2. Operating Parameters (NAC 445B.346(1)) (Federally Enforceable SIP Requirement)
 - a. **S2.001** may consume only **diesel**.
 - b. The maximum allowable fuel consumption rate for **S2.001** shall not exceed **25.3 gallons** per any one-hour period.
 - c. Hours
 - (1) **S2.001** may operate a total of **24** hours per day.
 - (2) **S2.001** may operate a maximum of **100** hours per year of non-emergency use. There is no time limit on operation in emergency situations.

3. Emission Limits (NAC 445B.305, NAC 445B.346(1), NAC 445B. 22017) (Federally Enforceable SIP Requirement)
 The Permittee, upon issuance of this operating permit, shall not discharge or cause the discharge into the atmosphere from **S2.001** the following pollutants in excess of the following specified limits:
 - a. The discharge of **PM** (particulate matter) to the atmosphere shall not exceed **0.15** pounds per hour, nor more than **0.0077** tons per year.
 - b. The discharge of **PM₁₀** (particulate matter less than or equal to 10 microns in diameter) to the atmosphere shall not exceed **0.15** pounds per hour, nor more than **0.0077** tons per year.
 - c. The discharge of **PM_{2.5}** (particulate matter less than or equal to 2.5 microns in diameter) to the atmosphere shall not exceed **0.15** pounds per hour, nor more than **0.0077** tons per year.
 - d. The discharge of **SO₂** (sulfur dioxide) to the atmosphere shall not exceed **1.03** pounds per hour, nor more than **0.051** tons per year.
 - e. The discharge of **NO_x** (oxides of nitrogen) to the atmosphere shall not exceed **3.09** pounds per hour, nor more than **0.15** tons per year.
 - f. The discharge of **CO** (carbon monoxide) to the atmosphere shall not exceed **2.70** pounds per hour, nor more than **0.14** tons per year.
 - g. The discharge of **VOCs** (volatile organic compounds) to the atmosphere shall not exceed **1.28** pounds per hour, nor more than **0.064** tons per year.
 - h. The opacity from **S2.001** shall not equal or exceed **20** percent.

4. Monitoring, Recordkeeping, and Reporting (NAC 445B.346(2)) (Federally Enforceable SIP Requirement)
 The Permittee, upon the issuance of this operating permit, shall maintain, in a contemporaneous log, the monitoring and recordkeeping specified in this section. All records in the log must be identified with the calendar date of the record.
 - a. Monitor and record the total daily hours of operation for **S2.001** for each day of operation. The Permittee shall note which hours of operation are emergency hours, and which hours of operation are hours for non-emergency use.
 - b. Monitor and record the consumption rate of **diesel** on a daily basis for **S2.001** (in **gallons**) by multiplying the maximum hourly fuel consumption rate as stated in **B.2.b** of this section and the total daily hours of operation.
 - c. Monitor and record the total yearly hours of operation of **S2.001** per year. The annual hours of operation shall be determined at the end of each month as the sum of the monthly hours of operation for all previous months of that year.



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Section V. Specific Operating Conditions (continued)

B. Emission Unit S2.001 (continued)

4. Monitoring, Recordkeeping, and Reporting (NAC 445B.346(2)) (*Federally Enforceable SIP Requirement*) (*continued*)
 - d. The Permittee, upon issuance of this operating permit, shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative. (40 CFR 60.7(b))

5. Federal Requirements (NAC 445B.346(2), NAC 445B.252(1)) (*Federally Enforceable SIP Requirement*)
New Source Performance Standards (NSPS) – 40 CFR Part 60 Subpart III – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
 - a. Emissions Standards (40 CFR 60.4205)

The Permittee must comply with the emission standards for new non-road CI (compression ignition) ICE (internal combustion engine) in 40 CR 60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE. (40 CFR 60.4205(b))

 - (1) For a 2007 model year and later Tier 3 non-road engine with a rated power greater than or equal to 37 kW (50 hp): (40 CFR 60.4202(a), 40 CFR 89.112 Table 1)
 - (a) The discharge of PM to the atmosphere shall not exceed **0.2** grams/kW-hr (**0.15** pounds per hour).
 - (b) The discharge of CO to the atmosphere shall not exceed **3.5** grams/kW-hr (**2.70** pounds per hour).
 - (c) The discharge of NO_x to the atmosphere shall not exceed **4** gram/kW-hr (**3.09** pounds per hour).
 - (2) Exhaust opacity must not exceed: (40 CFR 60.4202(a)(1)(i), 40 CFR 89.113(a))
 - (a) 20 percent during acceleration mode;
 - (b) 15 percent during the lugging mode; and
 - (c) 50 percent during the peaks in either the acceleration or lugging modes.
 - b. Fuel Requirements (40 CFR 60.4207)

The Permittee must meet the following diesel requirements for non-road engine: (40 CFR 60.4207(b), 40 CFR 80.510(b))

 - (1) Sulfur content to be 15 parts per million (ppm) maximum.
 - (2) A minimum cetane index of 40; or
 - (3) A maximum aromatic content of 35 volume percent.
 - c. Monitoring Requirements (40 CFR 60.4209)

If the CI ICE does not meet the standards applicable to non-emergency engines, the Permittee must install a non-resettable hour meter prior to startup of the engine. (40 CFR 60.4209(a))
 - d. Compliance Requirements (40 CFR 60.4206, 40 CFR 60.4211)
 - (1) The Permittee must operate and maintain stationary CI ICE that achieve the emission standards as required in 40 CFR 60.4205 over the entire life of the engine. (40 CFR 60.4206)
 - (2) The Permittee must operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions; change only those emission-related settings that are permitted by the manufacturer; and meet the requirements of 40 CFR Part 89. (40 CFR 60.4211(a))
 - (3) The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in **B.5.d.(5)** of this section. (40 CFR 60.4211(c))



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Section V. Specific Operating Conditions (continued)

B. Emission Unit S2.001 (continued)

5. Federal Requirements (NAC 445B.346(2), NAC 445B.252(1)) (*Federally Enforceable SIP Requirement*) (*continued*)
New Source Performance Standards (NSPS) – 40 CFR Part 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

d. Compliance Requirements (40 CFR 60.4206, 40 CFR 60.4211) (continued)

(4) In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs **B.5.d.(4)(a) through (c)** of this section, is prohibited. If the Permittee do not operate the engine according to the requirements in paragraphs **B.5.d.(4)(a) through (c)** of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines. (40 CFR 60.4211(f))

(a) There is no time limit on the use of emergency stationary ICE in emergency situations. (40 CFR 60.4211(f)(1))

(b) The Permittee may operate the Permittee’s emergency stationary ICE for any combination of the purposes specified in paragraphs **a B.5.d.(4)(b)** of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph **B.5.d.(4)(c)** of this section counts as part of the 100 hours per calendar year. (40 CFR 60.4211(f)(2))

i. Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year. (40 CFR 60.4211(f)(2)(i))

(c) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph **B.5.d.(4)(b)** of this section. Except as provided in paragraph **B.5.d.(4)(c)** of this section, the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity. (40 CFR 60.4211(f)(3))

i. The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the conditions in 40 CFR 60.4211(f)(3)(i)(A) through (E) are met. (40 CFR 60.4211(f)(3)(i))

(5) If the Permittee does not install, configure, operate, and maintain the Permittee’s engine and control device according to the manufacturer’s emission-related written instructions, or the Permittee change emission-related settings in a way that is not permitted by the manufacturer, the Permittee must demonstrate compliance as follows: (40 CFR 4211(g))

(a) For CI ICE greater than or equal to 100 HP and less than or equal to 500 hp, the Permittee must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, the Permittee must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer’s emission-related written instructions, or within 1 year after the Permittee change emission-related settings in a way that is not permitted by the manufacturer. (40 CFR 60.4211(g)(2))



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Section V. Specific Operating Conditions (continued)

B. Emission Unit S2.001 (continued)

5. Federal Requirements (NAC 445B.346(2), NAC 445B.252(1)) (*Federally Enforceable SIP Requirement*) (*continued*)
New Source Performance Standards (NSPS) – 40 CFR Part 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
 - e. National Emission Standards for Hazardous Air Pollutants for Source Categories – 40 CFR Part 63, Subpart ZZZZ – Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines:
If the compression ignition engine meets the requirements of 40 CFR Part 60 Subpart IIII, 40 CFR Part 63 Subpart ZZZZ requirements are also met. (40 CFR Part 63.6590(c))

*****End of Specific Operating Conditions*****



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Section VI. Emission Caps

A. Not Applicable

*****End of Emission Caps*****

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Issued to: ORNI 32 LLC – DIXIE MEADOWS GEOTHERMAL (AS PERMITTEE)

Section VII. Surface Area Disturbance Conditions

The surface area disturbance for the Dixie Meadows Geothermal plant is **6.0** acres.

A. Fugitive Dust (NAC 445B.22037) (*Federally Enforceable SIP Requirement*)

1. No person may cause or permit the handling, transporting or storing of any material in a manner which allows or may allow controllable particulate matter to become airborne.
2. Except as otherwise provided in subsection 4, no person may cause or permit the construction, repair, demolition, or use of unpaved or untreated areas without first putting into effect an ongoing program using the best practical methods to prevent particulate matter from becoming airborne. As used in this subsection, “best practical methods” includes, but is not limited to, paving, chemical stabilization, watering, phased construction and revegetation.
3. Except as otherwise provided in subsection 4, no person may disturb or cover 5 acres or more of land or its topsoil until he has obtained an operating permit for surface area disturbance to clear, excavate, or level the land or to deposit any foreign material to fill or cover the land.
4. The provisions of subsections 2 and 3 do not apply to:
 - a. Agricultural activities occurring on agricultural land; or
 - b. Surface disturbances authorized by a permit issued pursuant to NRS 519A.180 which occur on land which is not less than 5 acres or more than 20 acres.

*****End of Surface Area Disturbance Conditions*****



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Section VIII. Schedules of Compliance

A. Not Applicable

*****End of Schedule of Compliance*****

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CLASS II AIR QUALITY OPERATING PERMIT

Issued to: ORNI 32 LLC – DIXIE MEADOWS GEOTHERMAL (AS PERMITTEE)

Section IX. Amendments

This permit:

- 1. **Is non-transferable. (NAC 445B.287.3) (Federally Enforceable SIP Requirement)**
- 2. **Will be posted conspicuously at or near the stationary source. (NAC 445B.318.5) (Federally Enforceable SIP Requirement)**
- 3. **Will expire and be subject to renewal five (5) years from: Date .**
(NAC 445B.315) (Federally Enforceable SIP Requirement)
- 4. **A completed application for renewal of an operating permit must be submitted to the Director on the form provided by him with the appropriate fee at least 70 calendar days before the expiration date of this operating permit. (NAC 445B.3473.2) (Federally Enforceable SIP Requirement)**
- 5. **Any person aggrieved by a final decision of the Department may, not later than 10 days after notice of the action of the Department, appeal the decision by filing a request for a hearing before the Commission on a form 3* with the State Environmental Commission, 901 South Stewart Street, Suite 4001, Carson City, Nevada 89701-5249. *(See adopting agency for form.) (NAC 445B.890) (State Only Requirement)**

THIS PERMIT EXPIRES ON: Date

Signature: _____

Issued by: Ashley Taylor, P.E.
Supervisor, Permitting Branch
Bureau of Air Pollution Control

Phone: (775) 687- 9330 **Date:** _____

Class II Insignificant Activities List

Appended to Permit #AP4911-4346

Emission Unit #	Emission Unit Description
There are no Insignificant Activities for this facility	

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