

**New York State Department of Environmental Conservation**

**Permit Review Report**

**Permit ID: 9-0436-00022/00005    Renewal Number: 1    Modification Number: 1**



**11/22/2005**

**Facility Identification Data**

Name: LAIDLAW ENERGY AND ENVIRONMENTAL INC  
Address: 6662 US RTE 219  
ELLCOTTVILLE, NY 14731-0500

**Owner/Firm**

Name: LAIDLAW ENERGY & ENVIRONMENTAL INC  
Address: 6662 ROUTE 219  
PO BOX 500  
ELLCOTTVILLE, NY 14731-0500, USA  
Owner Classification: Corporation/Partnership

**Permit Contacts**

Division of Environmental Permits:  
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BUFFALO, NY 14203-2999

Division of Air Resources:  
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270 MICHAGAN AVE  
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Air Permitting Contact:  
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Address: LAIDLAW ENERGY AND ENVIRONMENTAL  
PO BOX 500  
ELLCOTTVILLE, NY 14731-0500  
Phone:7166992425

**Permit Description**

**Introduction**

The Title V operating air permit is intended to be a document containing only enforceable terms and conditions as well as any additional information, such as the identification of emission units, emission points, emission sources and processes, that makes the terms meaningful. 40 CFR Part 70.7(a)(5) requires that each Title V permit have an accompanying "...statement that sets forth the legal and factual basis for the draft permit conditions". The purpose for this permit review report is to satisfy the above requirement by providing pertinent details regarding the permit/application data and permit conditions in a more easily understandable format. This report will also include background narrative and explanations of regulatory decisions made by the reviewer. It should be emphasized that this permit review report, while based on information contained in the permit, is a separate document and is not itself an enforceable term and condition of the permit.

**Summary Description of Proposed Project**



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The permittee is modifying the current Title V Air Permit to replace an Allison 501KB natural gas combustion gas turbine which generated electricity and provided heat to wood kilns with a wood burning four (4) cell fuel cell boiler which will provide steam to steam turbine electric generator sets and heat to the wood kilns. The boiler will only burn unadulterated wood. A natural gas engine generator set previously required a permitted, but it will now only operate as an exempt emergency generator so the associated information was expired or removed from the permit.

**Attainment Status**

LAILAW ENERGY AND ENVIRONMENTAL INC is located in the town of ELLICOTTVILLE in the county of CATTARAUGUS.

The attainment status for this location is provided below. (Areas classified as attainment are those that meet all ambient air quality standards for a designated criteria air pollutant.)

<b>Criteria Pollutant</b>	<b>Attainment Status</b>
Particulate Matter (PM)	ATTAINMENT
Particulate Matter < 10µ in diameter (PM10)	ATTAINMENT
Sulfur Dioxide (SO2)	ATTAINMENT
Ozone* ATTAINMENT)	TRANSPORT REGION (NON-ATTAINMENT)
Oxides of Nitrogen (NOx)**	ATTAINMENT
Carbon Monoxide (CO)	ATTAINMENT

\* Ozone is regulated in terms of the emissions of volatile organic compounds (VOC) and/or oxides of nitrogen (NOx) which are ozone precursors.

\*\* NOx has a separate ambient air quality standard in addition to being an ozone precursor

**Facility Description**

The permittee is modifying the current Title V Air Permit to replace an Allison 501KB natural gas combustion gas turbine which generated electricity and provided heat to wood kilns with a wood burning four (4) cell Wellons fuel cell boiler which will provide steam to steam turbine electric generator sets and heat to the wood kilns.

The facility will install a 115 million Btu per hour Wellons four (4) cell fuel cell boiler that will burn clean unadulterated wood waste, primarily wood chips from hogged scarp pallets. A secondary fuel is clean green wood waste from clearings, etc. It uses a mechanical collector, multiclone, and a fire resistant baghouse to control particulate emissions.

The facility also includes two emergency 450 kW natural gas fired engine generators, two non-contact water cooling towers, a small natural gas boiler, two lumber drying kilns, and a wood fuel storage

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building which do not require air permits from the Department.

**Permit Structure and Description of Operations**

The Title V permit for LAIDLAW ENERGY AND ENVIRONMENTAL INC is structured in terms of the following hierarchy: facility, emission unit, emission point, emission source and process.

A facility is defined as all emission sources located at one or more adjacent or contiguous properties owned or operated by the same person or persons under common control. The facility is subdivided into one or more emission units (EU). Emission units are defined as any part or activity of a stationary facility that emits or has the potential to emit any federal or state regulated air pollutant. An emission unit is represented as a grouping of processes (defined as any activity involving one or more emission sources (ES) that emits or has the potential to emit any federal or state regulated air pollutant). An emission source is defined as any apparatus, contrivance or machine capable of causing emissions of any air contaminant to the outdoor atmosphere, including any appurtenant exhaust system or air cleaning device.

[NOTE: Indirect sources of air contamination as defined in 6 NYCRR Part 203 (i.e. parking lots) are excluded from this definition]. The applicant is required to identify the principal piece of equipment (i.e., emission source) that directly results in or controls the emission of federal or state regulated air pollutants from an activity (i.e., process). Emission sources are categorized by the following types:

- combustion            -        devices which burn fuel to generate heat, steam or power
- incinerator           -        devices which burn waste material for disposal
- control                -        emission control devices
- process                -        any device or contrivance which may emit air contaminants that is not included in the above categories.

LAIDLAW ENERGY AND ENVIRONMENTAL INC is defined by the following emission unit(s):  
Emission unit U00001 - At this emission unit unadulterated wood chips (chipped pallets) are fired in a four (4) cell fuel cell combustor/boiler manufactured by Wellons. The emissions are controlled by staged combustion with flue gas recirculation, a multicyclone with optional ash reinjection and a baghouse. Steam from the boiler is used to turn a steam turbine generator set and provide heat to the wood drying kilns.

Emission unit U00001 is associated with the following emission points (EP):  
00001, BOILR

It is further defined by the following process(es):

Process: 001 is located at MAIN, Building 001 - This includes a natural gas fired Allison 501 KB combined cycle combustion gas turbine generator set. According to the manufacturer's rating, the peak heat input to the turbine is 39.5 million Btu/hr and the corresponding output is 3.05 megawatts. Waste heat from the exhaust is recovered in a heat recovery steam generator (boiler). The steam powers a steam turbine generator set whose output is approximately 1.2 megawatt. Waste heat from the gas turbine exhaust (after the waste heat boiler) is used to dry lumber in the 6 kilns.

Process: BLR is located at main floor, Building 001 - This process is the combustion of wood in a (4) four cell fuel cell combustor with fuel regulation and distribution, and a water cooled, fixed grate. The heat of combustion is concentrated on the grate by refractory walls. The under fire combustion air is

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introduced under the grate and radially just above the grate. Over fire combustion air is divided into two sections, low pressure, and high pressure. Thus the combustion is divided into 3 zones with independent air flow control. The combustion gases pass from the 4 fuel cells to a common combustion chamber. Here the combustion process has time to complete. The flue gas passes through a steam super heater, convection boiler tubes, and an economizer before exiting the boiler section. A mechanical collector, multiclone, drops out large particles for optional reinjection. The flue gas passes through a bag filter, and an induced draft fan before exiting through a stack. Recirculated flue gas makes up some of the primary combustion air. The stack is designed to good engineering practice to minimize the effect on the surrounding area. A continuous opacity monitor reports the effectiveness of the particulate controls.

**Title V/Major Source Status**

LAIDLAW ENERGY AND ENVIRONMENTAL INC is subject to Title V requirements. This determination is based on the following information:

This facility is a major source of Nitrogen Oxides (NOx) and Carbon Monoxide (CO). Each has a potentials to emit (PTE) of 110 tons per year (tpy) which is greater than the 100 tpy threshold for a major source.

**Program Applicability**

The following chart summarizes the applicability of LAIDLAW ENERGY AND ENVIRONMENTAL INC with regards to the principal air pollution regulatory programs:

<b>Regulatory Program</b>	<b>Applicability</b>
PSD	NO
NSR (non-attainment)	NO
NESHAP (40 CFR Part 61)	NO
NESHAP (MACT - 40 CFR Part 63)	NO
NSPS	YES
TITLE IV	NO
TITLE V	YES
TITLE VI	NO
RACT	YES
SIP	YES

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**NOTES:**

**PSD**            Prevention of Significant Deterioration (40 CFR 52) - requirements which pertain to major stationary sources located in areas which are in attainment of National Ambient Air Quality Standards (NAAQS) for specified pollutants.

**NSR**            New Source Review (6 NYCRR Part 231) - requirements which pertain to major stationary sources located in areas which are in non-attainment of National Ambient Air Quality Standards (NAAQS) for specified pollutants.

**NESHAP**        National Emission Standards for Hazardous Air Pollutants (40 CFR 61) - contaminant and source specific emission standards established prior to the Clean Air Act Amendments of 1990 (CAAA) which were developed for 9 air contaminants (inorganic arsenic, radon, benzene, vinyl chloride, asbestos, mercury, beryllium, radionuclides, and volatile HAP's)

**MACT**            Maximum Achievable Control Technology (40 CFR 63) - contaminant and source specific emission standards established by the 1990 CAAA. Under Section 112 of the CAAA, the US EPA is required to develop and promulgate emissions standards for new and existing sources. The standards are to be based on the best demonstrated control technology and practices in the regulated industry, otherwise known as MACT. The corresponding regulations apply to specific source types and contaminants.

**NSPS**            New Source Performance Standards (40 CFR 60) - standards of performance for specific stationary source categories developed by the US EPA under Section 111 of the CAAA. The standards apply only to those stationary sources which have been constructed or modified after the regulations have been proposed by publication in the Federal Register and only to the specific contaminant(s) listed in the regulation.

**Title IV**            Acid Rain Control Program (40 CFR 72 thru 78) - regulations which mandate the implementation of the acid rain control program for large stationary combustion facilities.

**Title VI**            Stratospheric Ozone Protection (40 CFR 82, Subparts A thru G) - federal requirements that apply to sources which use a minimum quantity of CFC's (chlorofluorocarbons), HCFC's (hydrofluorocarbons) or other ozone depleting substances or regulated substitute substances in equipment such as air conditioners, refrigeration equipment or motor vehicle air conditioners or appliances.

**RACT**            Reasonably Available Control Technology (6 NYCRR Parts 212.10, 226, 227-2, 228, 229, 230, 232, 233, 234, 235, 236) - the lowest emission limit that a specific source is capable of meeting by application of control technology that is reasonably available, considering technological and economic feasibility. RACT is a control strategy used to limit emissions of VOC's and NOx for the purpose of attaining the air quality standard for ozone. The term as it is used in the above table refers to those state air pollution control regulations which specifically regulate VOC and NOx emissions.

**SIP**                State Implementation Plan (40 CFR 52, Subpart HH) - as per the CAAA, all states are empowered and required to devise the specific combination of controls that, when implemented, will



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bring about attainment of ambient air quality standards established by the federal government and the individual state. This specific combination of measures is referred to as the SIP. The term here refers to those state regulations that are approved to be included in the SIP and thus are considered federally enforceable.

**Compliance Status**

Facility is in compliance with all requirements

**SIC Codes**

SIC or Standard Industrial Classification code is an industrial code developed by the federal Office of Management and Budget for use, among other things, in the classification of establishments by the type of activity in which they are engaged. Each operating establishment is assigned an industry code on the basis of its primary activity, which is determined by its principal product or group of products produced or distributed, or services rendered. Larger facilities typically have more than one SIC code.

<b>SIC Code</b>	<b>Description</b>
2421	SAWMILLS & PLANING MILLS GENERAL
4911	ELECTRIC SERVICES

**SCC Codes**

SCC or Source Classification Code is a code developed and used by the USEPA to categorize processes which result in air emissions for the purpose of assessing emission factor information. Each SCC represents a unique process or function within a source category logically associated with a point of air pollution emissions. Any operation that causes air pollution can be represented by one or more SCC's.

<b>SCC Code</b>	<b>Description</b>
1-02-009-07	EXTERNAL COMBUSTION BOILERS - INDUSTRIAL INDUSTRIAL BOILER - WOOD/BARK WASTE Wood Cogeneration
2-01-002-01	INTERNAL COMBUSTION ENGINES - ELECTRIC GENERATION ELECTRIC UTILITY INTERNAL COMBUSTION ENGINE - NATURAL GAS Turbine
2-02-002-04	INTERNAL COMBUSTION ENGINES - INDUSTRIAL INDUSTRIAL INTERNAL COMBUSTION ENGINE - NATURAL GAS Reciprocating: Cogeneration

**Facility Emissions Summary**

In the following table, the CAS No. or Chemical Abstract Series code is an identifier assigned to every chemical compound. [NOTE: Certain CAS No.'s contain a 'NY' designation within them. These are not true CAS No.'s but rather an identification which has been developed by the department to identify

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groups of contaminants which ordinary CAS No.'s do not do. As an example, volatile organic compounds or VOC's are identified collectively by the NY CAS No. 0NY998-00-0.] The PTE refers to the Potential to Emit. This is defined as the maximum capacity of a facility or air contaminant source to emit any air contaminant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or air contamination source to emit any air contaminant, including air pollution control equipment and/or restrictions on the hours of operation, or on the type or amount or material combusted, stored, or processed, shall be treated as part of the design only if the limitation is contained in federally enforceable permit conditions. The PTE Range represents an emission range for a contaminant. Any PTE quantity that is displayed represents a facility-wide emission cap or limitation for that contaminant. If no PTE quantity is displayed, the PTE Range is provided to indicate the approximate magnitude of facility-wide emissions for the specified contaminant in terms of tons per year (tpy). The term 'HAP' refers to any of the hazardous air pollutants listed in section 112(b) of the Clean Air Act Amendments of 1990. Total emissions of all hazardous air pollutants are listed under the special NY CAS No. 0NY100-00-0. In addition, each individual hazardous air pollutant is also listed under its own specific CAS No. and is identified in the list below by the (HAP) designation.

Cas No.	Contaminant Name	PTE	
		lbs/yr	Range
000630-08-0	CARBON MONOXIDE		>= 100 tpy but < 250 tpy
0NY100-00-0	HAP		>= 10 tpy but < 25 tpy
007439-92-1	LEAD (HAP)		> 0 but < 10 tpy
0NY210-00-0	OXIDES OF NITROGEN		>= 100 tpy but < 250 tpy
0NY075-00-0	PARTICULATES		>= 2.5 tpy but < 10 tpy
0NY075-00-5	PM-10		>= 10 tpy but < 25 tpy
007446-09-5	SULFUR DIOXIDE		>= 10 tpy but < 25 tpy
0NY998-00-0	VOC		>= 2.5 tpy but < 10 tpy

**NOTIFICATION OF GENERAL PERMITTEE OBLIGATIONS**

**Item A:            Emergency Defense - 6NYCRR Part 201-1.5**

An emergency constitutes an affirmative defense to an action brought for noncompliance with emissions limitations or permit conditions for all facilities in New York State.

(a) The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

- (1) An emergency occurred and that the facility owner and/or operator can identify the cause(s) of the emergency;
- (2) The equipment at the permitted facility causing the emergency was at the time being properly operated;
- (3) During the period of the emergency the facility owner and/or operator took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and

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(4) The facility owner and/or operator notified the Department within two working days after the event occurred. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

(b) In any enforcement proceeding, the facility owner and/or operator seeking to establish the occurrence of an emergency has the burden of proof.

(c) This provision is in addition to any emergency or upset provision contained in any applicable requirement.

**Item B:            Public Access to Recordkeeping for Title V Facilities - 6NYCRR Part 201-1.10(b)**

The Department will make available to the public any permit application, compliance plan, permit, and monitoring and compliance certification report pursuant to Section 503(e) of the Act, except for information entitled to confidential treatment pursuant to 6NYCRR Part 616 - Public Access to records and Section 114(c) of the Act.

**Item C:            Timely Application for the Renewal of Title V Permits - 6 NYCRR Part 201-6.3(a)(4)**

Owners and/or operators of facilities having an issued Title V permit shall submit a complete application at least 180 days, but not more than eighteen months, prior to the date of permit expiration for permit renewal purposes.

**Item D:            Certification by a Responsible Official - 6 NYCRR Part 201-6.3(d)(12)**

Any application, form, report or compliance certification required to be submitted pursuant to the federally enforceable portions of this permit shall contain a certification of truth, accuracy and completeness by a responsible official. 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.

**Item E:            Requirement to Comply With All Conditions - 6 NYCRR Part 201-6.5(a)(2)**

The permittee must comply with all conditions of the Title V facility permit. Any permit non-compliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

**Item F:            Permit Revocation, Modification, Reopening, Reissuance or**

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**Termination, and Associated Information Submission Requirements - 6 NYCRR Part 201-6.5(a)(3)**

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 does not stay any permit condition.

**Item G:            Cessation or Reduction of Permitted Activity Not a Defense - 6 NYCRR Part 201-6.5(a)(5)**

It shall not be a defense for a permittee in an enforcement action to claim that a cessation or reduction in the permitted activity would have been necessary in order to maintain compliance with the conditions of this permit.

**Item H:            Property Rights - 6 NYCRR Part 201-6.5(a)(6)**

This permit does not convey any property rights of any sort or any exclusive privilege.

**Item I:            Severability - 6 NYCRR Part 201-6.5(a)(9)**

If any provisions, parts or conditions of this permit are found to be invalid or are the subject of a challenge, the remainder of this permit shall continue to be valid.

**Item J:            Permit Shield - 6 NYCRR Part 201-6.5(g)**

All permittees granted a Title V facility permit shall be covered under the protection of a permit shield, except as provided under 6 NYCRR Subpart 201-6. Compliance with the conditions of the permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that such applicable requirements are included and are specifically identified in the permit, or the Department, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the major stationary source, and the permit includes the determination or a concise summary thereof. Nothing herein shall preclude the Department from revising or revoking the permit pursuant to 6 NYCRR Part 621 or from exercising its summary abatement authority. Nothing in this permit shall alter or affect the following:

- i.            The ability of the Department to seek to bring suit on behalf of the State of New York, or the Administrator to seek to bring suit on behalf of the United States, to immediately restrain any person

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causing or contributing to pollution presenting an imminent and substantial endangerment to public health, welfare or the environment to stop the emission of air pollutants causing or contributing to such pollution;

ii. The liability of a permittee of the Title V facility for any violation of applicable requirements prior to or at the time of permit issuance;

iii. The applicable requirements of Title IV of the Act;

iv. The ability of the Department or the Administrator to obtain information from the permittee concerning the ability to enter, inspect and monitor the facility.

**Item K: Reopening for Cause - 6 NYCRR Part 201-6.5(i)**

This Title V permit shall be reopened and revised under any of the following circumstances:

i. If additional applicable requirements under the Act become applicable where this permit's remaining term is three or more years, a reopening shall be completed not later than 18 months after promulgation of the applicable requirement. 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 original permit or any of its terms and conditions has been extended by the Department pursuant to the provisions of Part 201-6.7 and Part 621.

ii. The Department or the Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

iii. The Department or the Administrator determines that the Title V permit must be revised or reopened to assure compliance with applicable requirements.

iv. If the permitted facility is an "affected source" subject to the requirements of Title IV of the Act, and additional requirements (including excess emissions requirements) become applicable. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit.

Proceedings to reopen and issue Title V facility permits shall follow the same procedures as apply to initial permit issuance but shall



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affect only those parts of the permit for which cause to reopen exists.

Reopenings shall not be initiated before a notice of such intent is provided to the facility by the Department at least thirty days in advance of the date that the permit is to be reopened, except that the Department may provide a shorter time period in the case of an emergency.

**Item L:                    Permit Exclusion - ECL 19-0305**

The issuance of this permit by the Department and the receipt thereof by the Applicant does not and shall not be construed as barring, diminishing, adjudicating or in any way affecting any legal, administrative or equitable rights or claims, actions, suits, causes of action or demands whatsoever that the Department may have against the Applicant for violations based on facts and circumstances alleged to have occurred or existed prior to the effective date of this permit, including, but not limited to, any enforcement action authorized pursuant to the provisions of applicable federal law, the Environmental Conservation Law of the State of New York (ECL) and Chapter III of the Official Compilation of the Codes, Rules and Regulations of the State of New York (NYCRR). The issuance of this permit also shall not in any way affect pending or future enforcement actions under the Clean Air Act brought by the United States or any person.

**Item M:                    Federally Enforceable Requirements - 40 CFR 70.6(b)**

All terms and conditions in this permit required by the Act or any applicable requirement, including any provisions designed to limit a facility's potential to emit, are enforceable by the Administrator and citizens under the Act. The Department has, in this permit, specifically designated any terms and conditions that are not required under the Act or under any of its applicable requirements as being enforceable under only state regulations.

**NOTIFICATION OF GENERAL PERMITTEE OBLIGATIONS**

**Item A:                    General Provisions for State Enforceable Permit Terms and Condition - 6 NYCRR Part 201-5**

Any person who owns and/or operates stationary sources shall operate and maintain all emission units and any required emission control devices in compliance with all applicable Parts of this Chapter and existing laws, and shall operate the facility in accordance with all criteria, emission limits, terms, conditions, and standards in this permit. Failure of such person to properly operate and maintain the effectiveness of such emission units and emission control devices may be sufficient reason for the Department to revoke or deny a

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permit.

The owner or operator of the permitted facility must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility regulated by this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations or law.

**Regulatory Analysis**

<b>Location Facility/EU/EP/Process/ES</b>	<b>Regulation</b>	<b>Short Description</b>	<b>Condition</b>
FACILITY	ECL 19-0301	Powers and Duties of the Department with respect to air pollution control	27
U-00001	40CFR 52-A.21	Prevention of Significant Deterioration	1-17, 1-18
U-00001	40CFR 60-A.13 (a)	General provisions - Monitoring requirements	1-24
FACILITY	40CFR 60-A.4	General provisions - Address	8
U-00001	40CFR 60-A.4	General provisions - Address	14
U-00001	40CFR 60-A.7 (a)	Notification and Recordkeeping	1-20
U-00001	40CFR 60-A.7 (b)	Notification and Recordkeeping	15
U-00001	40CFR 60-A.7 (c)	Notification and Recordkeeping	1-21
U-00001	40CFR 60-A.7 (d)	Notification and Recordkeeping	1-22
U-00001	40CFR 60-A.8 (a)	Performance Tests	1-23
U-00001	40CFR 60-Db.43b(c) (1)	Standard for Particulate Matter Firing Greater Than 30% Wood.	1-25
U-00001	40CFR 60-Db.43b(f)	Standard for Particulate Matter Opacity.	1-26
U-00001	40CFR 60-Db.46b(d)	Compliance and Performance Test Methods and Procedures for Particulate Matter and Nitrogen Oxides.	1-27
U-00001	40CFR 64	COMPLIANCE ASSURANCE MONITORING	1-28, 1-29
FACILITY	40CFR 68	Chemical accident prevention provisions	1-15
FACILITY	40CFR 82-F	Protection of Stratospheric Ozone - recycling and emissions reduction	10
FACILITY	6NYCRR 200.6	Acceptable ambient air quality.	1-1



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Table with 4 columns: Facility, 6NYCRR Code, Description, and Page Number. Rows include various facility types and their corresponding regulatory codes and page references.

Applicability Discussion:



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Mandatory Requirements: The following facility-wide regulations are included in all Title V permits:

ECL 19-301.

This section of the Environmental Conservation Law establishes the powers and duties assigned to the Department with regard to administering the air pollution control program for New York State.

6NYCRR Part 200-.6

Acceptable ambient air quality - prohibits contravention of ambient air quality standards without mitigating measures

6NYCRR Part 200-.7

Anyone owning or operating an air contamination source which is equipped with an emission control device must operate the control consistent with ordinary and necessary practices, standards and procedures, as per manufacturer's specifications and keep it in a satisfactory state of maintenance and repair so that it operates effectively

6NYCRR Part 201-1.4

This regulation specifies the actions and recordkeeping and reporting requirements for any violation of an applicable state enforceable emission standard that results from a necessary scheduled equipment maintenance, start-up, shutdown, malfunction or upset in the event that these are unavoidable.

6NYCRR Part 201-1.7

Requires the recycle and salvage of collected air contaminants where practical

6NYCRR Part 201-1.8

Prohibits the reintroduction of collected air contaminants to the outside air

6NYCRR Part 201-3.2(a)

An owner and/or operator of an exempt emission source or unit may be required to certify that it operates within the specific criteria described in this Subpart. All required records must be maintained on-site for a period of 5 years and made available to department representatives upon request. In addition, department representatives must be granted access to any facility which contains exempt emission sources or units, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations, or law.

6NYCRR Part 201-3.3(a)

The owner and/or operator of a trivial emission source or unit may be required to certify that it operates within the specific criteria described in this Subpart. All required records must be maintained on-site for a period of 5 years and made



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available to department representatives upon request. In addition, department representatives must be granted access to any facility which contains trivial emission sources or units subject to this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations, or law.

#### 6NYCRR Part 201-6

This regulation applies to those terms and conditions which are subject to Title V permitting. It establishes the applicability criteria for Title V permits, the information to be included in all Title V permit applications as well as the permit content and terms of permit issuance. This rule also specifies the compliance, monitoring, recordkeeping, reporting, fee, and procedural requirements that need to be met to obtain a Title V permit, modify the permit and demonstrate conformity with applicable requirements as listed in the Title V permit. For permitting purposes, this rule specifies the need to identify and describe all emission units, processes and products in the permit application as well as providing the Department the authority to include this and any other information that it deems necessary to determine the compliance status of the facility.

#### 6NYCRR Part 201-6.5(c)

This requirement specifies, in general terms, what information must be contained in any required compliance monitoring records and reports. This includes the date, time and place of any sampling, measurements and analyses; who performed the analyses; analytical techniques and methods used as well as any required QA/QC procedures; results of the analyses; the operating conditions at the time of sampling or measurement and the identification of any permit deviations. All such reports must also be certified by the designated responsible official of the facility.

#### 6NYCRR Part 201-6.5(c)(2)

This requirement specifies that all compliance monitoring and recordkeeping is to be conducted according to the terms and conditions of the permit and follow all QA requirements found in applicable regulations. It also requires monitoring records and supporting information to be retained for at least 5 years from the time of sampling, measurement, report or application. Support information is defined as including all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

#### 6NYCRR Part 201-6.5(c)(3)(ii)

This regulation specifies any reporting requirements incorporated into the permit must include provisions regarding the notification and reporting of permit deviations and incidences of noncompliance stating the probable cause of such deviations, and any corrective actions or preventive measures taken.

#### 6NYCRR Part 201-6.5(e)

Sets forth the general requirements for compliance certification content; specifies



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an annual submittal frequency; and identifies the EPA and appropriate regional office address where the reports are to be sent.

#### 6NYCRR Part 202-1.1

This regulation allows the department the discretion to require an emission test for the purpose of determining compliance. Furthermore, the cost of the test, including the preparation of the report are to be borne by the owner/operator of the source.

#### 6NYCRR Part 202-2.1

Requires that emission statements shall be submitted on or before April 15th each year for emissions of the previous calendar year.

#### 6NYCRR Part 202-2.5

This rule specifies that each facility required to submit an emission statement must retain a copy of the statement and supporting documentation for at least 5 years and must make the information available to department representatives.

#### 6NYCRR Part 211-.2

This regulation prohibits any emissions of air contaminants to the outdoor atmosphere which may be detrimental to human, plant or animal life or to property, or which unreasonably interferes with the comfortable enjoyment of life or property regardless of the existence of any specific air quality standard or emission limit.

#### 6 NYCRR Part 211.3

This condition requires that the opacity (i.e., the degree to which emissions other than water reduce the transmission of light) of the emissions from any air contamination source be less than 20 percent (six minute average) except for one continuous six-minute period per hour of not more than 57 percent.

#### 6 NYCRR Part 215

Prohibits open fires at industrial and commercial sites.

#### 40 CFR Part 68.

This Part lists the regulated substances and their applicability thresholds and sets the requirements for stationary sources concerning the prevention of accidental releases of these substances.

#### 40 CFR Part 82, Subpart F

Subpart F requires the reduction of emissions of class I and class II refrigerants to the lowest achievable level during the service, maintenance, repair, and disposal of appliances in accordance with section 608 of the Clean Air Act Amendments of 1990. This subpart applies to any person servicing, maintaining, or repairing appliances except for motor vehicle air conditioners. It also applies to persons disposing of appliances, including motor vehicle air conditioners, refrigerant reclaimers, appliance owners, and manufacturers of appliances and recycling and recovery

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equipment. Those individuals, operations, or activities affected by this rule, may be required to comply with specified disposal, recycling, or recovery practices, leak repair practices, recordkeeping and/or technician certification requirements.

### Facility Specific Requirements

In addition to Title V, LAIDLAW ENERGY AND ENVIRONMENTAL INC has been determined to be subject to the following regulations:

#### 40CFR 52-A.21

This citation applies to facilities that are subject to Prevention of Significant Deterioration (PSD) provisions; i.e. facilities that are located in an attainment area and that emit pollutants which are listed in 40 CFR 52.21(b)(23)(i). The permit uses citation 6NYCRR 201-7 to cap carbon monoxide (CO) emissions so the permittee does not become subject to PSD. The permittee used a CO emission factor that is lower than the one published in EPA's AP-42 guidance document, which the permittee based on other Wellons fuel cell boilers listed in the supporting information of AP-42. The permittee used an emission factor of 0.22 lb CO/mmBtu and the published emission factor is 0.60 lb CO/mmBtu. If emissions are at the published rate the facility would be subject to PSD, but at the lower rate they are not. Emission testing will be conducted upon startup to determine the actual emissions.

#### 40CFR 60-A.13 (a)

This regulation specifies that all New Source Performance Standard (NSPS) affected sources that are required to have continuous monitoring systems (CMS) are subject to the requirements of Appendix B of 40 CFR Part 60 and if the CMS is used to demonstrate compliance with emission limits on a continuous basis, then it is also subject to Appendix F of 40 CFR Part 60.

#### 40CFR 60-A.4

This condition lists the USEPA Region 2 address for the submittal of all communications to the "Administrator". In addition, all such communications must be copied to NYSDEC Bureau of Quality Assurance (BQA).

#### 40CFR 60-A.7 (a)

This regulation requires any owner or operator subject to a New Source Performance Standard (NSPS) to furnish the Administrator with notification of the dates of: construction or reconstruction, initial startup, any physical or operational changes, commencement of performance testing for continuous monitors and anticipated date for opacity observations as required.

#### 40CFR 60-A.7 (b)

This regulation requires the owner or operator to maintain records of the occurrence and duration of any startup, shutdown, or malfunction of the source or control equipment or continuous monitoring system.

#### 40CFR 60-A.7 (c)

This requirement details the information to be submitted in excess emissions and monitoring systems performance reports which must be submitted at least semi-annually for sources with compliance

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monitoring systems.

40CFR 60-A.7 (d)

This condition specifies the required information and format for a summary report form and details when either a summary form and/or excess emissions reports are required.

40CFR 60-A.8 (a)

This regulation contains the requirements for the completion date and reporting of Performance Testing (stack testing), at the facility. 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 owner or operator of the facility must conduct performance test(s) and furnish a written report of the test results.

40CFR 60-Db.43b (c) (1)

This regulation specifies maximum allowable particulate emissions for wood fired furnaces. The particulate emissions may not exceed 0.10 pounds per million Btu. This Federal limit is more restrictive than the State particulate limit, so the State limit was not included in the permit. Compliance Assurance Monitoring (CAM) applies to the PM emissions are included in a separate permit condition.

40CFR 60-Db.43b (f)

This regulation specifies maximum allowable opacity for affected sources. The opacity of the emission may not exceed 20%, except for one six minute period when the maximum opacity may not exceed 27%. This Federal limit is identical to the State limit so the State limit and citation were not included in the permit.

40CFR 60-Db.46b (d)

This citation requires initial performance testing for particulate emissions and opacity.

40CFR 64

The Federal Compliance Assurance Monitoring (CAM) rule, 40 CFR Part 64, requires monitoring of control device, capture system, and/or process parameters to provide a reasonable assurance of compliance with emission limitations or standards. It applies to emission units that use a control device to comply with certain standards and limitations and that have potential pre-control device emissions equal to or greater than a major source threshold.

The pre-control particulate emission are about 168 tons per year (tpy) which is greater than 100 tpy major facility threshold. The boiler is subject to 40CFR Part 60 subpart Db, NSPS for Industrial-Commercial-Institutional Steam Generating Units (100 - 250 million Btu/hour) which was promulgated in 1987 and regulates particulate emissions, so the source is not exempt from CAM. The CAM for PM includes monitoring opacity, the pressure drop across the baghouse, daily inspection of the bag cleaning system, and annual internal inspection and testing of the baghouse. If any of these are not satisfactory the facility must conduct an inspection, take corrective actions, and explain the event to the Department in the semi-annual compliance certification.

The potential nitrogen oxide (NOx) emissions are about 110 tpy, so the pre-control emissions would be higher. The boiler is subject to 6NYCRR 227-2, NOx Reasonably Available Control Technology (RACT) which set an NOx emission limit. Since the potential NOx emissions are greater than 100 tpy the source is subject to CAM for NOx. The NOx CAM plan includes monitoring the excess air/flue gas oxygen verses steam load, the flue gas recirculation damper position, and flue gas temperatures. If any of



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these indicators are not satisfactory the facility must conduct an inspection, take corrective actions, and explain the event to the Department in the semi-annual compliance certification.

6NYCRR 201-6.5 (c) (3) (ii)

This regulation specifies any reporting requirements incorporated into the permit must include provisions regarding the notification and reporting of permit deviations and incidences of noncompliance stating the probable cause of such deviations, and any corrective actions or preventive measures taken.

6NYCRR 201-7

Section Part 201-7.2 specifies the criteria that need to be met in order to restrict emissions to avoid otherwise applicable requirements using federally enforceable permit conditions. The permittee limited the carbon monoxide emissions to 0.22 lb/mmBtu and heat input to no more than 115 million Btu/hr avoid applicability of the Prevention of Significant Deterioration (PSD) requirements. The heat input limit also limits the potential NOx emissions from to avoid the applicability of Non-Attainment New Source Review (NSR). Emission testing will evaluate the actual emissions, and periodic monitoring will monitor heat input.

6NYCRR 227-2.4 (b) (2)

This condition lists the Nitrogen Oxide (NOx) emission limitations for large boilers (100 - 250 million Btu/hour heat input) based on Reasonable Available Control Technology (RACT). A case-by-case RACT determination was performed for the boiler and concluded that combustion controls are RACT. The boiler will use staged combustion and flue gas recirculation as combustion controls (FGR). FGR, excess air/oxygen, and flue gas temperature will be monitored under the NOx CAM plan listed under 40 CFR Part 64 to ensure compliance with the NOx emission limit.

6NYCRR 231-2.2 (a) (3)

The provisions of Subpart 231-2 apply to new or modified major facilities. The contaminants of concern state-wide are nitrogen oxides and volatile organic compounds since New York State is located in the ozone transport region and because there are ozone non-attainment areas within the state. The purpose of Section 231-2.2 is to define what new or modified facilities are subject to the requirements set forth in the other sections of the rule.

When the gas turbine operated in this emission unit it had a potential to emit 55 tpy of NOx. This project has a potential to emit 110 tpy of NOx. The increase in NOx emissions is only 55 tons from the gas turbine emission. However if the increase was more than 100 tons then the project would be subject to Non-Attainment New Source Review (NSR). NOx RACT limits the NOx emissions to 0.22 lb/mmBtu and the permittee capped the heat input to less than 115 mmBtu/hr so the emissions could not increase by 100 tpy to 155 tpy.

**Compliance Certification**

Summary of monitoring activities at LAIDLAW ENERGY AND ENVIRONMENTAL INC:

<b>Location Facility/EU/EP/Process/ES</b>	<b>Type of Monitoring</b>	<b>Cond No.</b>
U-00001	record keeping/maintenance procedures	1-24



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Table with 3 columns: ID, Description, and Reference. Rows include intermittent emission testing, monitoring of process or control device, record keeping/maintenance procedures, and FACILITY entries.

Basis for Monitoring

Most of the monitoring requirements contained in this permit are based on specific monitoring methods and observations as prescribed in the applicable rules. Facility specific monitoring conditions were written to assure that reliable information is obtained representing the facility's compliance status for the following issues:

- 1. The majority of the permit conditions at the facility level are based on citations from 6 NYCRR Parts 200, 201, 202, 211, 215, ECL 19-0305, and 40 CFR 70.6(b) which are conditions that are in every Title V (five) permit.
2. Permit conditions that list 40 CFR 60 subpart A (General Provisions for New Source Performance Standards - NSPS) as the applicable requirement address the operation, maintenance, quality control, quality assurance and reporting requirements associated with the applicable requirements of 40 CFR 60 subpart Db (NSPS for Industrial-Commercial-Institutional Steam Generating Sources).
3. Permit conditions that list 40 CFR Part 60 subpart Db (NSPS for Industrial-Commercial-Institutional Steam Generating Sources) as the applicable regulation address the NSPS particulate and opacity requirements for the boiler.
4. The permit conditions that lists 40 CFR Part 64 (Compliance Assurance Monitoring (CAM)) as the applicable requirement summarizes the parametric monitoring that will be conducted to ensure the particulate control devices and the NOx control process are operating properly.



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the have come off, holes in the structure of the baghouse or other failures, and I/M will indicate if the bags are being cleaned as required, and includes an annual internal inspection to make sure the unit is in good shape, and an annual black light leak test to make sure there are no leaks.

5. The permit conditions that list 6 NYCRR 201-7.2 (Federally Enforceable Emission Caps) as the applicable requirement limit the Carbon Monoxide (CO) emission rate to 0.22 pounds per million Btu to avoid the applicability of the Prevention of Significant Deterioration requirements. The Environmental Protection Agency's guidance document for emission factors, AP-42 provided a CO emission factor of 0.60 lb/mmBtu for wood fired boilers which is higher than the proposed limit of 0.22 lb/mmBtu. The 0.60 lb/mmBtu emission factor calculates a PTE of 302 tpy which would require a Prevention of Significant Deterioration (PSD) applicability determination. The facility choose to limit their emission rate to 0.22 lb/mmBtu to avoid PSD with a PTE of 110 tpy. Periodic stack testing will evaluate CO emissions to ensure compliance.

In addition the heat input to the boiler is limited to 115 mmBtu/hr to limit the likely hood of the NOx emissions from reaching 155 tpy which would make the project subject to New Source Review(NSR) non-attainment, 6 NYCRR 231-2. The project PTE for NOx is 110 tpy based on the NOx RACT limit which is monitored with the CAM plan explained above. The heat input limit is an additional way to limit CO emissions.

6. The permit conditions that list 6NYCRR 227-2.4(b)(2) (Reasonably Available Control Technology (RACT) for Oxides of Nitrogen) as the applicable requirement limit the Nitrogen Oxide (NOx) emissions from the boiler to 0.22 pounds per million Btu. A case-by-case RACT analysis was conducted by the permittee and considered Selective Catalytic Reduction (SCR), Selective Non-catalytic Reduction (SNCR), and Combustion Controls technology as ways of reducing NOx. They concluded that using combustion controls such as staged combustion with secondary and tertiary over fire air coupled with flue gas recirculation was RACT. These processes minimize the formation of thermal NOx by keeping the combustion temperatures below 2200F. The Department concurred. The permittee will conduct periodic emission testing for compliance, and follow a CAM plan as described in 40CFR Part 64 above.

7. This facility contains five emission sources that are exempt from permitting. Two are the natural gas fired emergency Caterpillar generator sets (CAT 3, CAT4), that are exempt from permitting provided each one operates less than 500 hours annually, per 6NYCRR Part 201-3.2(c)(6). The facility must be able to demonstrate to the Department that each engine operated less the 500 hours upon request. Two other exempt sources are the non-contact steam condensing/cooling towers. The fifth exempt emission source is the 4.18 mmBtu/hr natural gas fired boiler that is exempt because its rated heat input is less than 10 million Btu per hour, per 6NYCRR Part 201-3.2(c)(1).