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Tracking Number: [sign]TrackingNumber
Authorization Number: 8808

REGISTERED MAIL

ATLANTIC POWER PREFERRED EQUITY LTD.
Bag Service 1000
Williams Lake BC V2G 4R7

Dear Permittee:

Enclosed is Amended Permit 8808 issued under the provisions of the *Environmental Management Act*. Your attention is respectfully directed to the terms and conditions outlined in the permit. An annual fee will be determined according to the Permit Fees Regulation.

This permit does not authorize entry upon, crossing over, or use for any purpose of private or Crown lands or works, unless and except as authorized by the owner of such lands or works. The responsibility for obtaining such authority rests with the permittee. This permit is issued pursuant to the provisions of the *Environmental Management Act* to ensure compliance with Section 120(3) of that statute, which makes it an offence to discharge waste, from a prescribed industry or activity, without proper authorization. It is also the responsibility of the permittee to ensure that all activities conducted under this authorization are carried out with regard to the rights of third parties, and comply with other applicable legislation that may be in force.

This decision may be appealed to the Environmental Appeal Board in accordance with Part 8 of the *Environmental Management Act*. An appeal must be delivered within 30 days from the date that notice of this decision is given. For further information, please contact the Environmental Appeal Board at (250) 387-3464.

Administration of this permit will be carried out by staff from the Environmental Protection Division's Regional Operations Branch. Plans, data and reports pertinent to the permit are to be submitted by email or electronic transfer to the Director, designated Officer, or as further instructed.

Yours truly,

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for Director, *Environmental Management Act*
Authorizations - North

Enclosure

cc: Environment Canada

Environmental Protection
Division

Ministry of Environment

Suite 400-640 Bordland St
Williams Lake, BC V2G 4T1

Authorizations - North Region
Telephone: (250) 398-4530
Facsimile: (250) 398-4214



**MINISTRY OF
ENVIRONMENT**

PERMIT

8808

Under the Provisions of the Environmental Management Act

ATLANTIC POWER PREFERRED EQUITY LTD.

**4455 Mackenzie Avenue North
Williams Lake BC V2G 4R7**

is authorized to discharge emissions to the air from an electrical power generating plant located at 4455 Mackenzie Avenue North in Williams Lake, British Columbia, subject to the terms and conditions listed below. Contravention of any of these conditions is a violation of the *Environmental Management Act* and may lead to prosecution.

This Permit supersedes and amends all previous versions of Permit 8808 issued under Part 2, Section 14 of the *Environmental Management Act*.

1. AUTHORIZED DISCHARGES

1.1 This section applies to the discharge of air contaminants from a **BIOMASS FUELLED BOILER**. The site reference number for this discharge is E218415.

1.1.1 The characteristics of the discharge and operating parameters must be equivalent to or better than the limits contained in Table 1.

1.1.2 The authorized discharge period is continuous.

1.1.3 The authorized works are a biomass fired boiler, multi-clones, a five field electrostatic precipitator and related appurtenances approximately located as shown on the attached Site Plan.

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Table 1: Boiler Air Discharge Limits

Parameter	Maximum authorized	Units	Discharge Period
Rate of Discharge	110	m ³ /second	Continuous
Total Particulate Concentration	20	mg/m ³ at 8% O ₂	Hourly average
SOx as SO ₂ *	110	mg/m ³ at 8% O ₂	Daily average
SOx as SO ₂ *	193	mg/m ³ at 8% O ₂	1 hour rolling average
NOx as NO ₂	320	mg/m ³ at 8% O ₂	Hourly average
Opacity	10	%	90% of operating day
HCl	78*	mg/m ³ at 8% O ₂	1 hour rolling average
Minimum Temperature [†]	1000*	Degrees Celsius	Hourly average
Class I (Pb, Sb, Cu, Mg, V, Zn)	4.7*	mg/m ³ at 8% O ₂	Hourly average
Class II (As, Cr, Co, Ni, Se, Te)	0.9*	mg/m ³ at 8% O ₂	Hourly average
Class III (Tl, Cd, Hg)	0.2*	mg/m ³ at 8% O ₂	Hourly average
Total Dioxins and Furans (as PCDD/F TEQ)	0.1*	ng/m ³ at 8% O ₂	Hourly average
Chlorophenols	1.3*	µg/m ³ at 8% O ₂	Hourly average
Chlorobenzenes	1.3*	µg/m ³ at 8% O ₂	Hourly average
Polycyclic Aromatic Hydrocarbons (PAH)	6.5*	µg/m ³ at 8% O ₂	Hourly average

*When using rail ties as feedstock

†As measured at a location acceptable to the Director.

1.1.4 The location of the facilities from which the discharge originates and the point of discharge is Lot B of District Lot 72 Cariboo District Plan PGP35292 (Parcel Identifier: 017-247-276).

1.2 This section applies to the discharge of air contaminants from **WATER COOLING TOWERS**. The site reference number for this discharge is E218417.

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- 1.2.1 The rate of discharge is estimated to be 5,800 m³/second.
- 1.2.2 The authorized discharge period is continuous.
- 1.2.3 The characteristics of the discharge must consist of water droplets including dissolved minerals naturally present and water conditioning additives for pH control and prevention of algal growth, water vapour and air.
- 1.2.4 The authorized works are three cooling towers, piping and related appurtenances approximately located as shown on the attached Site Plan.
- 1.2.5 The location of the facilities from which the discharge originates and the point of discharge is the same as Section 1.1.4 above.
- 1.3 This section applies to the discharge of air contaminants from **MISCELLANEOUS VENTS**. The site reference number for this discharge is E218418.
- 1.3.1 The maximum rate of discharge is variable and intermittent.
- 1.3.2 The authorized discharge period is continuous.
- 1.3.3 The characteristics of the discharge are of the nature of steam and water safety relief vents at a biomass fuelled electrical generating facility.
- 1.3.4 The authorized works are fans, piping, vents and related appurtenances approximately located as shown on the attached Site Plan.
- 1.3.5 The location of the facilities from which the discharge originates and the point of discharge is the same as Section 1.1.4 above.
- 1.4 This section applies to the discharge of effluent contaminants from **site storm water runoff to municipal storm water system**. The site reference number for this discharge is E305515.
- 1.4.1 The maximum rate of discharge is variable and intermittent.
- 1.4.2 The authorized discharge period is continuous.
- 1.4.3 The characteristics of the storm water runoff that is discharged to the

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storm water system must meet the municipal requirements.

1.4.4 The authorized works are pumps, weir, pipes, valves and related appurtenances approximately located as shown on the attached Site Plan.

1.4.5 The location of the facilities from which the discharge originates and the point of discharge is the same as Section 1.1.4 above.

2. **GENERAL REQUIREMENTS**

2.1 **Standard Conditions**

For the administration of this permit all gaseous volumes must be converted to standard conditions of 293.15 K and 101.325 kPa with zero percent moisture.

2.2 **Qualified Professional**

For the purposes of administration of this permit a Qualified Professional means an individual who:

(a) is registered in British Columbia with a professional organization, is acting under that organization's code of ethics and is subject to disciplinary action by that organization, and

(b) through suitable education, experience, accreditation and knowledge, may reasonably be relied on to provide advice within his or her area of expertise, which area of expertise is applicable to the duty or function.

2.3 **Maintenance of Works and Emergency Procedures**

The authorized works must be inspected regularly and maintained in good working order. In the event of an emergency or condition beyond the control of the Permittee which prevents effective operation of the authorized works or leads to an unauthorized discharge, the Permittee must take appropriate remedial action and notify the Director immediately. The Director may reduce or suspend operations to protect the environment until the authorized works has been restored, and/or corrective steps taken to prevent unauthorized discharges.

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2.4 **Bypasses**

Any bypass of the authorized works is prohibited unless the approval of the Director is obtained and confirmed in writing.

2.5 **Process Modifications**

The Director must be notified prior to implementing changes to any process that may adversely affect the quality and/or quantity of the discharge. Despite notification under this section, permitted levels must not be exceeded.

2.6 **Disposal of Ash**

The residue of combustion must be removed from the boiler regularly and must be disposed of on a site and in a manner approved by the Director.

2.7 **Authorized Fuel**

The authorized fuel is clean untreated wood residue, logging debris and woody arboricultural debris unless authorized below or the approval of the Director is obtained and confirmed in writing.

2.7.1 The incineration of rail ties treated with creosote and/or a creosote-pentachlorophenol (PCP) blended preservative is authorized subject to the following conditions:

- The parameters in section 1.1.3 are met;
- The combined treated wood and clean demolition debris component must not exceed 50% on a wet weight basis of the total biomass fuel supply calculated on an annual basis;
- Tie material is received at the site in an un-shredded state unless prior written authorized is received from the Director;
- The permittee measures and records the weight and the source of treated wood residue received;
- Un-shredded tie material will be protected from the elements;
- The treated wood waste must be well mixed with untreated wood waste prior to incineration; and
- Wood residue treated with metal derived preservatives including telephone or power poles is excluded.

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2.7.2 The incineration of up to 872 L of hydrocarbon contaminated absorbent material originating from accidental spills is authorized provided the hydrocarbon material meets the Hazardous Waste Regulation Specification for Use as Fuel. All other materials or quantities require the authorization in accordance with section 52 of the Hazardous Waste Regulation.

2.7.3 Vegetative residues (i.e. green foliage, invasive weeds, diseased plants, etc.), seedling boxes, paper records and clean demolition debris sourced from the Cariboo Regional District are authorized as fuel provided such materials constitute less than 1% of the daily feed into the boiler.

Non-biomass contaminants (e.g. plastic, glass metal) must not exceed 1% of the daily feed into the boiler.

The facility is allowed to incinerate narcotics and drug paraphernalia confiscated by law enforcement authorities. A record of the dates and amount must be maintained and made available to a Ministry of Environment Officer upon request.

2.7.4 Prior to the acceptance of rail tie material at the facility the Permittee must implement a waste acceptance plan based on U.S. EPA 40 CFR 258.2 and certified by a Qualified Professional for the exclusion of non-approved fuel types. The plan must include at a minimum:

- a) random inspections of incoming loads or other steps to ensure that incoming loads do not contain prohibited materials;
- b) Records of any inspections;
- c) Weighing of deliveries;
- d) Training of facility personnel to recognized non-authorized materials; and
- e) Procedures for the segregation or rejection of non-conforming materials.

2.8 **Fuel Stockpile Management and Fire Prevention and Control**

The un-shredded rail ties must be contained an area separate from the clean biomass and protected from precipitation and storm water runoff.

A maximum of 3000 tonnes of shredded rail tie material may be stored on site at any one time and must be in an enclosed bin, protected from the elements.

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Prior to the acceptance of rail tie material at the facility the Permittee must prepare, implement and maintain a revised Fire Prevention and Control Plan (FPCP). The FPCP must documents plans and procedures to prevent and control spontaneous combustion of stockpiled hog fuel. The plan must be certified by a Qualified Professional that it meets the requirements of the British Columbia Fire Code.

2.9 **Fugitive Dust Control**

Fugitive dust created within the operational area must be suppressed. If fugitive dust becomes a concern, the Director will, in consultation with the Permittee, evaluate the sensitivity of the receiving environment, the contribution of the sources, plus any other pertinent information. The Director may require development and submission of a Fugitive Dust Management Plan or additional control measures on fugitive dust sources.

2.10 **Rail Tie Odour and Polycyclic Aromatic Hydrocarbon Control**

Fugitive odour and polycyclic aromatic hydrocarbon (PAH) emissions, within the boundaries of the City of Williams Lake, from the transport, storage and processing of rail tie feedstock material must be controlled and suppressed. If, in the opinion of the Director, odour or PAH becomes a nuisance the Director may suspend authorization to incinerate rail ties until satisfied that adequate preventative and mitigative measures have been implemented.

2.11 **Storm Water Management**

Prior to the acceptance of rail tie material at the facility the Permittee must have an updated storm water and effluent management plan approved by a Qualified Professional. The plan must be implemented and maintained and include documents plans and procedures to control site runoff and protect water quality of receiving waters and city effluent treatment system. The Plan must include, but not be limited to, a description of surface water flow patterns, water quality characteristics, measures to control and manage site runoff, rail tie material run off and biofuel leachate.

3. **MONITORING AND REPORTING REQUIREMENTS**

The Director may, in writing, change the monitoring and reporting requirements outlined below. All submissions under this permit must be in a format acceptable

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to the Director.

3.1 **Discharge Monitoring**

The Permittee must monitor the emissions from the power boiler E258837 in accordance with the following monitoring program when discharging:

3.1.1 Continuous Monitoring

Parameter	Location	Sampling Frequency
SOx as SO ₂ *	Stack	Continuous Emission Monitor
NOx as NO ₂	Stack	Continuous Emission Monitor
HCl*	Stack	Continuous Emission Monitor
Opacity	Stack	Continuous Parameter Monitoring
Minimum Temperature in combustion zone*	Combustion Zone	Continuous Parameter Monitoring
CO*	Stack	Continuous Parameter Monitoring

* When using rail ties as feedstock.

3.1.2 Discrete Monitoring

Until the Permittee commences using rail tie material as feedstock test regime Schedule A applies.

Subject to section 3.1.4 upon the commencement of incinerating rail tie material Schedule B applies for any calendar quarter in which rail tie material is burnt.

Upon completion of three consecutive (Schedule B) stack tests that demonstrate compliance with the discharge requirements outlined in Section 1.1, the Schedule C testing regime applies for any year in which rail tie material is burnt.

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If any stack testing conducted under Schedule C indicates that discharge is in excess of permit requirements, testing will resume as per Schedule B and then subsequently as per Schedule C upon three consecutive successful tests.

Schedule A

Parameter	Location	Sampling Frequency
Rate of Discharge	Stack	Annually
Total Particulate Concentration	Stack	Annually

Schedule B

Parameter	Location	Sampling Frequency
Rate of Discharge	Stack	Quarterly
Total Particulate Concentration	Stack	Quarterly
Class I (Pb, Sb, Cu, Mg, V, Zn)	Stack	Quarterly
Class II (As, Cr, Co, Ni, Se, Te)	Stack	Quarterly
Class III (Tl, Cd, Hg)	Stack	Quarterly
Total Dioxins and Furans (as PCDD/F TEQ)	Stack	Quarterly
Chlorophenols	Stack	Quarterly
Chlorobenzenes	Stack	Quarterly
Polycyclic Aromatic Hydrocarbons (PAH)	Stack	Quarterly

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Schedule C

Parameter	Location	Sampling Frequency
Rate of Discharge	Stack	Annually
Total Particulate Concentration	Stack	Annually
Class I (Pb, Sb, Cu, Mg, V, Zn)	Stack	Annually
Class II (As, Cr, Co, Ni, Se, Te)	Stack	Annually
Class III (Tl, Cd, Hg)	Stack	Annually
Total Dioxins and Furnas (as PCDD/F TEQ)	Stack	Annually
Chlorophenols	Stack	Annually
Chlorobenzenes	Stack	Annually
Polycyclic Aromatic Hydrocarbons (PAH)	Stack	Annually

3.1.3 Ash Analysis

The Permittee must monitor the ash collected from the pollution control equipment (flyash) from the power boiler E258837 in accordance with the following monitoring program:

Until the Permittee commences incinerating rail tie material test regime Schedule D applies.

Upon the commencement of incinerating rail tie material Schedule E applies with the first set of tests to be conducted within 30 days for any calendar quarter in which rail tie material is burnt.

Upon completion of three consecutive Schedule E, tests that demonstrate levels below the Hazardous Waste Regulation, Schedule D applies in which rail tie material is burnt.

If any ash test conducted under Schedule D indicates that discharge is in excess of Hazardous Waste Regulation criteria, testing will resume as per Schedule E

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and then subsequently as per Schedule D upon three consecutive successful tests.

Schedule D

Parameter	Method	Sampling Frequency
Leachable Metals	USEPA method 1311	Annually
Dioxin/Furan TEQ	USEPA Method 8280	Annually
Polycyclic Aromatic Hydrocarbon	USEPA Method 8275	Annually

Schedule E

Parameter	Method	Sampling Frequency
Leachable Metals	USEPA method 1311	Quarterly
Dioxin/Furan TEQ	USEPA Method 8280	Quarterly
Polycyclic Aromatic Hydrocarbon	USEPA Method 8275	Quarterly

3.1.4 Performance Verification

Within 30 days of commencing operation of the shredder the Permittee must conduct a verification trial at greater than 40% rail tie material based on wet weight. Data is to include the parameters outlined in Schedule B and, Schedule D and an additional size fractionation test of particulate to determine PM₁₀ and PM_{2.5} content. The results must be compiled in a format acceptable to the Director and submitted within 45 days of the end of the month it was collected.

3.2 Ambient Monitoring

The Permittee must participate in an ambient monitoring program satisfactory to the Director.

The Permittee must submit an ambient monitoring plan prepared by a Qualified

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Air Quality Meteorologist that is acceptable to the Director and have the plan implemented prior to the incineration of rail tie material at the facility.

3.3 **Operating Conditions**

The Permittee must sample the emissions from the boiler in section 1.1 under steam load and rail tie fuel percentage operating conditions that are as close as reasonably practical to the specified 90th percentile for the 100 operating days prior to the date of sampling and greater than the average for the previous 30 full operating days.

3.4 **Sampling and Analyses Procedures**

Sampling is to be carried out in accordance with the procedures described in the most recent edition of the "British Columbia Field Sampling Manual for Continuous Monitoring Plus the Collection of Air, Air-Emission, Water, Wastewater, Soil, Sediment, and Biological Samples", or by suitable alternative procedures as authorized by the Director.

A copy of the above manual may be purchased from the Queen's Printer Publications Centre, P. O. Box 9452, Stn. Prov. Gov't. Victoria, British Columbia, V8W 9V7 (1-800-663-6105 or (250) 387-6409). A copy of the manual may be viewed online at:

www.env.gov.bc.ca/epd/wamr/labsys/field_man_03.html

Analyses are to be carried out in accordance with procedures described in the most recent edition of the "British Columbia Laboratory Methods Manual for the Analysis of Water, Wastewater, Sediment, Biological Materials and Discrete Ambient Air Samples", or by suitable alternative procedures as authorized by the Director.

A copy of the above manual may be purchased from the Queen's Printer Publication Centre, P. O. Box 9452, Stn. Prov. Govt. Victoria, British Columbia, V8W 9V7 (1-800-663-6105 or (250) 387-6409). The manual is also available for review at all Environmental Protection offices. A copy of the manual may be viewed online at:

www.env.gov.bc.ca/epd/wamr/labsys/lab_meth_manual.html

3.5 **Non-Compliance**

If any stack sampling event is found to exceed the limits identified in this

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permit, then the Permittee must immediately notify the Regional Environmental Protection office, and re-test the non-compliant emission source within 30 days of receipt of the failed test result.

If the results of the re-test exceed any of the permit limits the Permittee must take immediate corrective action and retest within 30 days.

If the third test fails the discharge from the non-compliant emission source must cease until the problem has been corrected, unless authorized in writing, by the Director. Upon completion of the corrective action, the Permittee may resume operation of the authorized works. However, a fourth confirmation test must be conducted to ensure the works meet the allowable limits. This additional testing and verification does not grant an allowance to exceed permit limits.

If the sampling event is non-compliant, retests must be for the full suite of parameters identified in section 3.1 for the non-compliant discharge source.

The original non-compliant test and subsequent follow-up tests along with the additional process information required in Section 3.1 must be compiled into a report and submitted within 30 days of the end of the month in which testing occurring.

If the availability of a Continuous Emission Monitors is less than 90% based on a calendar month the permittee must immediately notify the Regional Environmental Protection office.

3.6 **Reporting**

Subject to sections 3.1.4 and 3.5, the Permittee must submit an annual report by March 1st of each year containing the following information:

1. A tabulated report on the continuous emission and continuous parameter monitoring conducted under section 3.1.1. The report must include:
 - i. A record of the amount and type of the materials used as fuel as listed in section 2.7 for the preceding calendar year;
 - ii. The average levels of SO₂, NO₂ and Opacity per day;
 - iii. The maximum hourly NO₂, and HCl per day;
 - iv. The maximum rolling average hourly SO₂ per day; and
 - v. Daily minimum temperature.

2. A tabulated report of the results of discrete sampling conducted under

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sections 3.1.2. The report must include the:

- i. Original source testing report; and
 - ii. Test and historical operating conditions as specified in section 3.5.
3. A tabulated report of the results of discrete sampling conducted under sections 3.1.3. The report must include the:
- i. Original laboratory test analysis;
 - ii. Test and historical operating conditions as specified in section 3.5; and
 - iii. A comparison to the applicable Hazardous Waste Regulation parameters.

All Continuous Monitoring Emission and Continuous Parameter Monitoring data must be maintained by the Permittee for a minimum period of three years.

All plans and data cited in this permit must be made available to an officer, as defined by the Environmental Management Act, within 24 hours of request.

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SITE PLAN

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