Alberta Environment and Protected Areas

APPROVAL

PROVINCE OF ALBERTA

ENVIRONMENTAL PROTECTION AND ENHANCEMENT ACT
R.S.A. 2000, c.E-12, as amended.

APPROVAL NO.: 510358-00-00

APPLICATION NO.: 001-510358

EFFECTIVE DATE: Draftv2 , 2026

EXPIRY DATE: March 30, 2036

APPROVAL HOLDER: Armada Nowlit Energy Ltd.

ACTIVITY: **Construction, operation and reclamation of the**

Hoole natural gas-fired power plant

is subject to the attached terms and conditions.

Designated Director under the Act:

Date Signed: , 2026

TERMS AND CONDITIONS ATTACHED TO APPROVAL

PART 1: DEFINITIONS

SECTION 1.1: DEFINITIONS

1.1.1 All definitions from the Act and the regulations apply except where expressly defined in this approval.

1.1.2 In all PARTS of this approval:

(a) "Act" means the *Environmental Protection and Enhancement Act*, R.S.A. 2000, c.E-12, as amended;

(b) "air effluent stream" means any substance in a gaseous medium released by or from a plant;

(c) "application" means the written submissions from the approval holder to the Director in respect of application number 001-510358 and any subsequent applications where amendments are issued for this approval;

(d) "CEMS Code" means the *Continuous Emission Monitoring System (CEMS) Code*, Alberta Environmental and Parks, April 2021, as amended;

(e) "composite" when referring to a sample, means a composite of samples of the stream over one day at least every 15 minutes in a quantity proportional to the volume of the stream and which is representative of the stream sampled;;

(f) "container" means any portable device in which a substance is kept, including but not limited to drums, barrels and pails which have a capacity greater than 18 litres but less than 210 litres;

(g) "daily determination of concentration" means the determination of the concentration of a water substance or parameter in any sample by procedures authorized in this approval, and if more than one sample is collected and analyzed per day, the arithmetic average of their analytical results shall be considered as the daily determination of concentration;

(h) "daily determination of mass" means and is obtained from the following calculation for any day:

daily determination of mass (kilograms/day)
= (Q x C) / 1000

where: C is the daily determination of concentration in mg/L, and

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Q is the total flow of the stream sampled, in cubic meters, for the day over which the sample used to determine C was collected;

(i) "day", when referring to sampling, means any sampling period of 24 consecutive hours;

(j) "decommissioning" means the dismantling and decontamination of a plant undertaken subsequent to the termination or abandonment of any activity or any part of any activity regulated under the Act;

(k) "decontamination" means the treatment or removal of substances from the plant and affected lands;

(l) "Director" means an employee of the Government of Alberta designated as a Director under the Act;

(m) "dismantling" means the removal of buildings, structures, process and pollution abatement equipment, vessels, storage facilities, material handling facilities, railways, roadways, pipelines and any other installations that are being or have been used or held for or in connection with the plant;

(n) "domestic wastewater" means wastewater that is the composite of liquid and water-carried wastes associated with the use of water for drinking, cooking, cleaning, washing, hygiene, sanitation or other domestic purposes, together with any infiltration and inflow wastewater, that is released into a wastewater collection system;

(o) "downtime" means the period of time when equipment is not effectively functioning due to breakdown, repair, calibration, servicing, maintenance or replacement of any of its components;

(p) "dry" means a condition that does not include uncombined water vapour;

(q) "fugitive emissions" means emissions of substances to the atmosphere other than ozone depleting substances, originating from a plant source other than a flue, vent, or stack but does not include sources which may occur due to breaks or ruptures in process equipment;

(r) "grab", when referring to a sample, means an individual sample collected in less than 30 minutes and which is representative of the substance sampled;

(s) "ISO/IEC 17025" means the international standard, developed and published by International Organization for Standardization (ISO), specifying management and technical requirements for laboratories;

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(t) "incompatible waste" means waste materials which could cause dangerous reactions from direct contact with one another;

(u) "industrial runoff" means precipitation that falls on or traverses the plant developed area;

(v) "industrial runoff control system" means the parts of the plant that collect, store or treat industrial runoff from the plant;

(w) "industrial wastewater" means the composite of liquid wastes and water-carried wastes, any portion of which results from any industrial process carried on at the plant;

(x) "industrial wastewater control system" means the parts of the plant that collect, store or treat industrial wastewater;

(y) "local environmental authority" means the Department of Environment and Protected Areas, in the Province of Alberta, or the agency that has the equivalent responsibilities for any jurisdiction outside the Province;

(z) "manual stack survey" means a survey conducted in accordance with the *Alberta Stack Sampling Code*, Alberta Environment, 1995, as amended;

(aa) "maximum daily" means the value not to be exceeded by any daily determination of mass;

(bb) "maximum daily average" means the value which is not to be exceeded as determined by the arithmetic average of all daily determinations of mass, concentration or as specified during any month;

(cc) "month" means calendar month;

(dd) "nitrogen oxides" means the total of nitric oxide and nitrogen dioxide;

(ee) "PEMS" means a predictive emissions monitoring system as defined in the CEMS Code and authorized in writing by the Director;

(ff) "plant" means all buildings, structures, process and pollution abatement equipment, vessels, storage facilities, material handling facilities, roadways, railways, pipelines and other installations, and includes the land, located on LLD NE-36-080-25-W4M, that is being or has been used or held for or in connection with the Hoole power plant;

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(gg) "plant developed area" means the areas of the plant used for the storage, treatment, processing, transport, or handling of raw material, intermediate product, by-product, finished product, process chemicals, or waste material;

(hh) "QA/QC" means quality assurance and quality control;

(ii) "quarter year" means a time period of three consecutive months designated as January, February, and March; or April, May, and June; or July, August, and September; or October, November, and December;

(jj) "regulations" means the regulations enacted pursuant to the Act, as amended;

(kk) "representative grab" means a sample consisting of equal volume portions of water collected from at least four sites between 0.20-0.30 metres below the water surface within a pond;

(ll) "soil" means mineral or organic earthen materials that can, have, or are being altered by weathering, biological processes, or human activity;

(mm) "tank" means a stationary device, designed to contain an accumulation of a substance, which is constructed primarily of non-earthen materials that provide structural support including wood, concrete, steel, and plastic;

(nn) "topsoil" means the uppermost layer of soil and consists of:

(i) the A-horizons and all organic horizons as defined in *The Canadian System of Soil Classification* (Third Edition), Agriculture and Agri-Food Canada, Publication 1646, 1998, as amended, and

(ii) the soil ordinarily moved during tillage;

(oo) "upper subsoil" means the layer of soil directly below the topsoil layer that consists of the B-horizons as defined in *The Canadian System of Soil Classification,* (Third Edition), Agriculture and Agri-Food Canada, Publication 1646, 1998, as amended;

(pp) "volume estimate" means a technical evaluation based on the sources contributing to the release including but not limited to pump capabilities water metres, and batch release volumes;

(qq) "waste storage area(s)" means the area(s) designated for storage of waste as described in the application;

(rr) "week" means any consecutive 7-day period; and

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(ss) "year" means calendar year, unless otherwise specified.

PART 2: GENERAL

SECTION 2.1: REPORTING

2.1.1 The approval holder shall immediately report to the Director by telephone any contravention of the terms and conditions of this approval at 1-780-422-4505.

2.1.2 The approval holder shall submit a written report to the Director within 7 days of the reporting pursuant to 2.1.1.

2.1.3 The approval holder shall immediately notify the Director in writing if any of the following events occurs:

(a) the approval holder is served with a petition into bankruptcy;

(b) the approval holder files an assignment in bankruptcy or Notice of Intent to make a proposal;

(c) a receiver or receiver-manager is appointed;

(d) an application for protection from creditors is filed for the benefit of the approval holder under any creditor protection legislation; or

(e) any of the assets which are the subject matter of this approval are seized for any reason.

2.1.4 If the approval holder monitors for any substances or parameters which are the subject of operational limits as set out in this approval more frequently than is required and uses procedures authorized in this approval, then the approval holder shall provide the results of such monitoring as an addendum to the reports required by this approval.

2.1.5 The approval holder shall submit all monthly reports required by this approval to be compiled or submitted to the Director on or before the end of the month following the month in which the information was collected, unless otherwise specified in this approval.

2.1.6 The approval holder shall submit all annual reports required by this approval to be compiled or submitted to the Director on or before March 31 of the year following the year in which the information was collected, unless otherwise specified in this approval.

SECTION 2.2: RECORD KEEPING

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2.2.1 The approval holder shall:

(a) record; and

(b) retain

all the following information in respect of any sampling conducted or analyses performed in accordance with this approval for a minimum of ten years, unless otherwise authorized in writing by the Director:

(i) the place, date and time of sampling,

(ii) the dates the analyses were performed,

(iii) the analytical techniques, methods or procedures used in the analyses,

(iv) the names of the persons who collected and analysed each sample, and

(v) the results of the analyses.

SECTION 2.3: ANALYTICAL REQUIREMENTS

2.3.1 With respect to any sample required to be taken pursuant to this approval, the approval holder shall ensure that:

(a) collection;

(b) preservation;

(c) storage;

(d) handling; and

(e) analysis

shall be conducted in accordance with the following unless otherwise authorized in writing by the Director:

(i) for air:

(A) the *Alberta Stack Sampling Code*, Alberta Environment, 1995, as amended,

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(B) the *Methods Manual for Chemical Analysis of Atmospheric Pollutants*, Alberta Environment, 1993, as amended,

(C) the *Air Monitoring Directive,* Alberta Environment and Parks, 2016, as amended, and

(D) the CEMS Code;

(ii) for industrial wastewater, industrial runoff, groundwater and domestic wastewater:

(A) the *Standard Methods for the Examination of Water and Wastewater*, published jointly by the American Public Health Association, American Water Works Association, and the Water Environment Federation, 1998, as amended;

(iii) for whole effluent toxicity tests:

(A) the *Biological Test Method: Growth Inhibition Test Using the Freshwater Alga Selenastrum capricornutum*, Environment Canada, Environmental Protection Series, November 1992, as amended,

(B) the *Biological Test Method: Test of Larval Growth and Survival Using Fathead Minnows*, Environment Canada, Environmental Protection Series 1/RM/22, February 1992, as amended, and

(C) the *Biological Test Method: Toxicity Test Using Luminescent Bacteria (Photobacterium phosphoreum)*, Environment Canada, Environmental Protection Series, 1/RM/24, November 1992, as amended;

(iv) for soil:

(A) the *Soil Monitoring Directive,* Alberta Environment, May 2009, as amended,

(B) the *Soil Quality Criteria Relative to Disturbance and Reclamation*, Alberta Agriculture, March 1987, as amended, and

(C) the *Directive for Monitoring the Impact of Sulphur Dust on Soils*, Alberta Environment and Water, December 2011, as amended;

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(v) for waste:

(A) the *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, USEPA, SW-846, September 1986, as amended,

(B) the *Methods Manual for Chemical Analysis of Water and Wastes*, Alberta Environmental Centre, Vegreville, Alberta, 1996, AECV96-M1 as amended,

(C) the *Toxicity Characteristic Leaching Procedure (TCLP)* USEPA Regulation 40 CFR261, Appendix II, Method No. 1311, as amended, or

(D) the *Standard Methods for the Examination of Water and Wastewater*, American Public Health Association, American Water Works Association, and the Water Environment Federation, 2010, as amended.

2.3.2 The approval holder shall analyse all samples that are required to be obtained by this approval in a laboratory accredited pursuant to ISO/IEC 17025, as amended, for the specific parameter(s) to be analysed, unless otherwise authorized in writing by the Director.

2.3.3 The term sample used in 2.3.2 does not include samples directed to continuous monitoring equipment, unless specifically required in writing by the Director.

2.3.4 The approval holder shall comply with the terms and conditions of any written authorization issued by the Director under 2.3.2.

SECTION 2.4: OTHER

2.4.1 The terms and conditions of this approval are severable. If any term or condition of this approval or the application of any term or condition is held invalid, the application of such term or condition to other circumstances and the remainder of this approval shall not be affected thereby.

2.4.2 All tanks shall conform to the *Guidelines for Secondary Containment for Above Ground Storage Tanks,* Alberta Environmental Protection, 1997, as amended, unless otherwise authorized in writing by the Director.

2.4.3 All above ground storage tanks containing liquid hydrocarbons or organic compounds shall conform to the *Environmental Guidelines for Controlling Emissions of Volatile Organic Compounds from Aboveground Storage Tanks*, Canadian Council of Ministers of the Environment, PN 1180, 1995, as amended.

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PART 3: CONSTRUCTION

SECTION 3.1: GENERAL

3.1.1 If construction of the power plant as described in application 001-510358 has not commenced by May 31, 2027, the approval holder shall apply for an amendment to this approval unless otherwise authorized in writing by the Director.

3.1.2 The approval holder shall notify the Director in writing at least 14 days before commencing operations of the plant unless otherwise authorized in writing by the Director.

3.1.3 The approval holder shall construct the power plant as described in the application and shall include, at a minimum, all of the following:

(a) the nine 2200 kW natural gas-fired reciprocating engine generator units identified in the application as Gen1 through Gen9.

SECTION 3.2: AIR

3.2.1 The approval holder shall construct the stacks identified in TABLE 3.2-A according to the corresponding height requirements referred to in the TABLE 3.2-A.

TABLE 3.2-A STACK HEIGHTS

STACK	MINIMUM HEIGHT ABOVE GRADE (metres)
Each of the 2200 kW engines	8.3

MONITORING EQUIPMENT

3.2.2 The following stacks shall be equipped with sampling facilities:

(a) each of the nine 2200 kW natural gas-fired reciprocating engine generator units identified in the application as Gen1 through Gen9.

3.2.3 The sampling facilities required by 3.2.2 shall, at a minimum, be:

(a) installed;

(b) operated; and

(c) maintained

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to comply with:

(i) the *Alberta Stack Sampling Code,* Alberta Environment, 1995, as amended,

(ii) the CEMS Code, and

(iii) the *Air Monitoring Directive,* Alberta Environment and Parks, 2016, as amended.

POLLUTION ABATEMENT EQUIPMENT

3.2.4 The approval holder shall install, at a minimum, all of the following pollution abatement equipment:

(a) selective catalytic reduction (SCR) units for the abatement of nitrogen oxides on:

(i) each of the nine 2200 kW natural gas-fired reciprocating engine generator units identified in the application as Gen1 through Gen9.

SECTION 3.3: INDUSTRIAL WASTEWATER AND INDUSTRIAL RUNOFF

3.3.1 The approval holder shall construct the plant according to the application and shall include, at a minimum, all of the following:

(a) generator skids which include internal collection areas and sumps; and

(b) secondary containment for process chemicals.

3.3.2 The approval holder shall construct the industrial runoff control system according to the application and shall include, at a minimum, all of the following:

(a) perimeter ditching and berms to prevent run-on; and

(b) site grading and contouring to control and direct runoff.

SECTION 3.4: WASTE MANAGEMENT

3.4.1 The approval holder shall construct the power plant according to the application and shall include, at a minimum, all of the following:

(a) a waste storage area for the collection and storage of waste consisting of, at a minimum, the following:

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(i) an impervious pad compatible with the wastes being stored;

(ii) curbing to prevent releases;

(iii) a roof to protect the area from precipitation; and

(b) a waste oil tank to collect used oil from the plant.

SECTION 3.5: DOMESTIC WASTEWATER

3.5.1 The approval holder shall construct the domestic wastewater system according to the application and shall include, at a minimum, all of the following:

(a) piping and connections to direct domestic wastewater to the domestic wastewater holding tank; and

(b) a domestic wastewater holding tank.

SECTION 3.6: LAND CONSERVATION

3.6.1 The approval holder shall:

(a) salvage; and

(b) conserve

all topsoil for land reclamation.

3.6.2 The approval holder shall:

(a) salvage; and

(b) conserve

all upper subsoil for land reclamation.

3.6.3 The approval holder shall:

(a) conserve; and

(b) stockpile

all topsoil separately from the upper subsoil.

3.6.4 The approval holder shall locate all:

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(a) topsoil stockpiles; and

(b) upper subsoil stockpiles

at the plant.

3.6.5 The approval holder shall stockpile all topsoil as follows:

(a) on stable foundations; and

(b) on undisturbed topsoil.

3.6.6 The approval holder shall stockpile all upper subsoil as follows:

(a) on stable foundations; and

(b) on areas where the topsoil has been removed.

3.6.7 The approval holder shall take all steps necessary to prevent erosion, including but not limited to, all of the following:

(a) revegetating the stockpiles; and

(b) any other steps authorized in writing by the Director.

3.6.8 The approval holder shall immediately suspend conservation of:

(a) topsoil; and

(b) upper subsoil

when wet or frozen conditions will result in mixing, loss or degradation of topsoil or upper subsoil.

3.6.9 The approval holder shall recommence conservation of:

(a) topsoil; and

(b) upper subsoil

only when wet or frozen field conditions in 3.6.8 no longer exist.

PART 4: OPERATIONS, LIMITS, MONITORING AND REPORTING

SECTION 4.1: AIR

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OPERATIONS

4.1.1 The approval holder shall not release any air effluent streams to the atmosphere except as authorized by this approval.

4.1.2 The approval holder shall only release air effluent streams to the atmosphere from the following sources:

(a) each of the SCR units servicing each of the nine 2200 kW generator engine exhaust stacks identified in the application as Gen1 through Gen9;

(b) the space ventilation exhaust stacks as described in the application;

(c) the space heater exhaust vents as described in the application;

(d) any other source authorized in writing by the Director.

4.1.3 In addition to the limits specified in 4.1.8 and subject to 4.1.9, the approval holder shall not operate the process equipment unless and until the following pollution abatement equipment associated with the process equipment is operating:

(a) the SCR unit servicing that generator engine.

4.1.4 The approval holder shall maintain the following stacks according to the minimum height requirements specified in TABLE 4.1-A.

TABLE 4.1-A STACK HEIGHTS

STACK	MINIMUM HEIGHT ABOVE GRADE (metres)
Each of the 2200 kW engines	8.3

4.1.5 The approval holder shall control fugitive emissions and any source not specified in 4.1.2 in accordance with 4.1.6 of this approval unless otherwise authorized in writing by the Director.

4.1.6 With respect to fugitive emissions and any source not specified in 4.1.2, the approval holder shall not release a substance or cause to be released a substance that causes or may cause any of the following:

(a) impairment, degradation or alteration of the quality of natural resources;

(b) material discomfort, harm or adverse effect to the well being or health of a person; or

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(c) harm to property or to vegetative or animal life.

4.1.7 The approval holder shall not burn any debris by means of an open fire unless authorized in writing by the Director.

AIR LIMITS

4.1.8 Releases of the following substances to the atmosphere shall not exceed the limits specified in TABLE 4.1-B.

4.1.9 Downtime for the pollution abatement equipment shall not exceed the maximum cumulative allowable time limits as specified in TABLE 4.1-C

TABLE 4.1-B LIMITS

PLANT UNIT	EMISSION SOURCE	SUBSTANCE	LIMIT
Gen1	SCR Unit	Nitrogen Oxides	0.70 kg/h
Gen2	SCR Unit	Nitrogen Oxides	0.70 kg/h
Gen3	SCR Unit	Nitrogen Oxides	0.70 kg/h
Gen4	SCR Unit	Nitrogen Oxides	0.70 kg/h
Gen5	SCR Unit	Nitrogen Oxides	0.70 kg/h
Gen6	SCR Unit	Nitrogen Oxides	0.70 kg/h
Gen7	SCR Unit	Nitrogen Oxides	0.70 kg/h
Gen8	SCR Unit	Nitrogen Oxides	0.70 kg/h
Gen9	SCR Unit	Nitrogen Oxides	0.70 kg/h

TABLE 4.1-C TIME LIMITS

POLLUTION ABATEMENT EQUIPMENT	MAXIMUM CUMULATIVE ALLOWABLE TIME LIMITS FOR DOWNTIME
Each SCR unit servicing the associated generating engine	12.0 hours per month

MONITORING AND REPORTING

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4.1.10 The approval holder shall monitor the air emission sources as specified in TABLE 4.1-D.

4.1.11 The approval holder shall report to the Director the results of the air emission source monitoring as required in TABLE 4.1-D.

TABLE 4.1-D SOURCE MONITORING AND REPORTING

EMISSION SOURCE	PARAMETER	FREQUENCY	METHOD OF MONITORING	SAMPLE LOCATION	REPORTING
Gen1	Nitrogen Oxides; Flowrate; Temperature; Moisture.	Each Emission Source once within 12 months of commissioning; and subsequently Each Emission Source Once every three years.	Manual Stack Survey	Alberta Stack Sampling Code	As required in the Air Monitoring Directive
Gen2					
Gen3					
Gen4					
Gen5					
Gen6					
Gen7					
Gen8					
Gen9					

4.1.12 In the event that the approval holder chooses to install a continuous emission monitor on any engine at the plant for the purpose of developing a PEMS, the approval holder shall:

(a) submit a CEMS Monitoring Plan in accordance with the CEMS Code;

(b) specify which engine will be equipped with the CEMS;

(c) specify a time period in which the CEMS will be collecting data;

(d) install and maintain the CEMS in accordance with the CEMS Code;

(e) create, document, and maintain a Quality Assurance Plan for the CEMS in accordance with the CEMS Code;

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(f) conduct all quality control and quality assurance requirements in the CEMS Code, including, but not limited to:

(i) certification;

(ii) inspection;

(iii) verification;

(iv) calibration;

(v) relative accuracy; and

(vi) linearity;

(g) retain all data from the CEMS needed to develop the PEMS as specified in section 10 of the CEMS Code

4.1.13 In addition to other requirements in this approval the approval holder shall:

(a) monitor; and

(b) report

the information required by:

(i) 4.1.10; and

(ii) 4.1.11.

4.1.14 The information required in 4.1.12, shall at a minimum, comply with:

(a) the *Alberta Stack Sampling Code*, Alberta Environment, 1995 as amended;

(b) the *Air Monitoring Directive,* Alberta Environment and Parks, 2016, as amended, as amended.

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4.1.15 In addition to the requirements of 4.1.12, the approval holder shall submit an Annual Air Emissions Summary Report to the Director, containing at a minimum, the following information:

(a) the operational hours for each generating unit for the previous year;

(b) the operational hours for each selective catalytic reduction unit on each generating unit for the previous year;

(c) a calculation of the annual emission intensity of Nitrogen Oxides for each generating unit in grams per kilowatt-hour for the previous year; and

(d) any other information as required in writing by the Director.

4.1.16 The approval holder shall notify the Director in writing a minimum of two weeks prior to any manual stack survey that is required to be conducted by this approval.

SECTION 4.2: INDUSTRIAL WASTEWATER

OPERATIONS

4.2.1 The approval holder shall not release any substances from the plant to the surrounding watershed except as authorized by this approval.

4.2.2 The approval holder shall:

(a) maintain; and

(b) inspect at a minimum frequency of once per week

the secondary containment collection areas and sumps in the generator skids.

4.2.3 The approval holder shall only dispose of industrial wastewater as follows:

(a) to a wastewater treatment plant holding a current Approval or Registration under the Act;

(b) to an Alberta Energy Regulator approved disposal well;

(c) to an Alberta Energy Regulator approved Waste Processing and Disposal Facility; or

(d) as otherwise authorized in writing by the Director.

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4.2.4 The approval holder shall direct all industrial runoff from the plant developed area to the Industrial Runoff Control System.

4.2.5 The approval holder shall only release industrial runoff from the Industrial Runoff Control System to the surrounding watershed by infiltration at the perimeter berm of the plant.

SECTION 4.3: WASTE MANAGEMENT

OPERATIONS

4.3.1 The approval holder shall dispose of waste generated at the plant only:

(a) to facilities holding a current Act authorization;

(b) to facilities approved by a local environmental authority outside of Alberta; or

(c) as otherwise approved in writing by the Director.

4.3.2 The approval holder shall not:

(a) release; or

(b) dispose of

any waste to the surrounding environment, except in accordance with 4.3.1.

4.3.3 The approval holder shall not:

(a) receive; or

(b) store

any third party waste at the plant.

4.3.4 The approval holder shall:

(a) treat; and

(b) store

waste generated at the plant in accordance with this approval.

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4.3.5 The approval holder shall store hazardous waste or hazardous recyclables stored in containers or tanks in accordance with the *Hazardous Waste Storage Guidelines*, June 1988, Alberta Environment, as amended.

4.3.6 The approval holder shall not:

(a) transfer;

(b) treat; or

(c) store

waste or recyclables in an amount or in a manner that will cause or may cause an adverse effect on human health or the environment.

4.3.7 The approval holder shall not:

(a) treat; or

(b) store

waste or recyclables at the plant in an amount or in a manner that causes or may cause:

(i) fire,

(ii) explosion,

(iii) violent reaction,

(iv) emission of toxic dust, mist, fumes or gases, or

(v) emission of flammable fumes or gases.

4.3.8 The approval holder shall store waste generated at the plant only in the waste storage area.

4.3.9 The approval holder shall:

(a) provide and maintain an adequate aisle space between containers in the waste storage area to allow:

(i) inspection, and

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(ii) unobstructed movement of personnel, fire protection equipment, spill control equipment and decontamination equipment to any area of the waste storage area; and

(b) arrange inspection aisles in the waste storage area such that the identification label on each container is readable.

4.3.10 The approval holder shall prevent direct contact of incompatible waste with one another.

MONITORING AND REPORTING

4.3.11 Prior to the consignment or storage of any waste generated at the plant, the approval holder shall:

(a) identify;

(b) characterize; and

(c) classify

the waste but not including industrial runoff and air effluent streams, in accordance with the:

(i) *Industrial Waste Identification and Management Options*, Alberta Environment, May 1996, as amended, and

(ii) *Alberta User Guide for Waste Managers*, Alberta Environment, August 1996, as amended.

4.3.12 The approval holder shall measure or, when not practical to measure, estimate the quantity of waste generated at the plant each year.

4.3.13 The approval holder shall maintain a daily inventory of waste stored in the waste storage area.

4.3.14 The approval holder shall submit a copy of the daily inventory required in 4.3.13 when requested by the Director.

4.3.15 The approval holder shall compile all the information required by 4.3.11 and 4.3.12 in an Annual Waste Management Summary Report:

(a) as indicated in TABLE 4.3-A; and

(b) in accordance with the:

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(i) *Industrial Waste Identification and Management Options*, Alberta Environment, May 1996 as amended, and

(ii) *Alberta User Guide for Waste Managers*, Alberta Environment, August 1996, as amended.

TABLE 4.3-A ANNUAL WASTE MANAGEMENT SUMMARY

Waste Name	Uniform Waste Code				Quantity (kg or L)		Stored	Recycled		Disposed	
	WC	PIN	Class	Mgmt	Hazardous	Non-hazardous	On-site	On-site	Off-site	On-site	Off-site
				TOTAL							

4.3.16 The approval holder shall submit the Annual Waste Management Summary Report to the Director.

SECTION 4.4: DOMESTIC WASTEWATER

OPERATIONS

4.4.1 The approval holder shall not release any substances from the domestic wastewater system to the surrounding watershed.

4.4.2 The approval holder shall direct all domestic wastewater to the domestic wastewater collection tank.

4.4.3 The approval holder shall dispose of domestic wastewater generated at the plant only:

(a) to a plant holding a current Approval or Registration under the Act; or

(b) as otherwise authorized in writing by the Director.

SECTION 4.5: GROUNDWATER

4.5.1 If a Soil Management Program Proposal is required pursuant to 4.6.8 the approval holder shall develop a proposal for a Groundwater Monitoring Program for the plant which shall include, at a minimum, all of the following:

(a) a hydrogeologic description and interpretation of the plant;

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(b) a map and description of surface water drainage patterns for the plant;

(c) a lithologic description and maps, including cross-sections, of the surficial and the upper bedrock geologic materials at the plant;

(d) a site map showing the location and type of current and historical potential sources of groundwater contamination;

(e) a cross-section(s) showing depth to water table, patterns of groundwater movement and hydraulic gradients at the plant;

(f) the hydraulic conductivity of all surficial and bedrock materials at the plant;

(g) a map showing the location of existing and additional proposed groundwater monitoring wells at the plant;

(h) a lithologic description of all boreholes drilled at the plant;

(i) construction and completion details of existing groundwater monitoring wells;

(j) a rationale for proposed groundwater monitoring well locations and proposed completion depths of those wells;

(k) a description of groundwater monitoring well development protocols;

(l) a list of parameters to be monitored and the monitoring frequency for each groundwater monitoring well or group of groundwater monitoring wells at the plant;

(m) a description of the groundwater sampling and analytical QA/QC procedures;

(n) details of a groundwater response plan specifying actions to be taken should contaminants be identified through the Groundwater Monitoring Program; and

(o) any other information relevant to groundwater quality at the plant.

4.5.2 The approval holder shall submit the proposal for the Groundwater Monitoring Program to the Director

(a) on or before the date specified in writing by the Director; and

(b) within 180 days of the applicable date required by 4.6.9.

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4.5.3 If the Groundwater Monitoring Program proposal is found deficient by the Director, the approval holder shall correct all deficiencies as outlined in writing by the Director, within the timeline specified in writing by the Director.

4.5.4 The approval holder shall implement the Groundwater Monitoring Proposal as authorized in writing by the Director.

4.5.5 The approval holder shall:

(a) protect from damage; and

(b) keep locked except when being sampled

all groundwater monitoring wells unless otherwise authorized in writing by the Director.

4.5.6 If a representative groundwater sample cannot be collected because the groundwater monitoring well is damaged or is no longer capable of producing a representative groundwater sample, the approval holder shall:

(a) clean, repair or replace the groundwater monitoring well; and

(b) collect and analyse a representative groundwater sample prior to the next scheduled sampling event

unless otherwise authorized in writing by the Director.

4.5.7 In addition to the sampling information recorded in 2.2.1, the approval holder shall record the following sampling information for all groundwater samples collected:

(a) a description of purging and sampling procedures;

(b) the static elevations above sea level, and depth below ground surface of fluid phases in the groundwater monitoring well prior to purging;

(c) the temperature of each sample at the time of sampling;

(d) the pH of each sample at the time of sampling; and

(e) the specific conductance of each sample at the time of sampling.

4.5.8 The approval holder shall carry out remediation of the groundwater in accordance with the following:

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(a) *Alberta Tier 1 Soil and Groundwater Remediation Guidelines*, Alberta Environment, February 2009, as amended; and

(b) *Alberta Tier 2 Soil and Groundwater Remediation Guidelines*, Alberta Environment, February 2009, as amended.

4.5.9 If required to by 4.5.4, the approval holder shall compile a Groundwater Monitoring Report which shall include, at a minimum, all of the following information:

(a) a completed *Record of Site Condition Form*, Alberta Environment, 2009, as amended;

(b) a legal land description of the plant and a map illustrating the plant boundaries;

(c) a topographic map of the plant;

(d) a description of the industrial activity and processes;

(e) a map showing the location of all surface and groundwater users, and, a listing describing surface water and water well use details, within at least a five kilometre radius of the plant;

(f) a general hydrogeological characterization of the region within a five kilometre radius of the plant;

(g) a detailed hydrogeological characterization of the plant, including an interpretation of groundwater flow patterns;

(h) a cross-section(s)(3-dimensional map) showing depth to water table, patterns of groundwater movement and hydraulic gradients at the plant;

(i) borehole logs and completion details for groundwater monitoring wells;

(j) a map showing locations of all known buried channels within at least five kilometre of the plant;

(k) a map of surface drainage within the plant and surrounding area to include nearby water bodies;

(l) a map of groundwater monitoring well locations and a table summarizing the existing groundwater monitoring program for the plant;

(m) a summary of any changes to the groundwater monitoring program made since the last groundwater monitoring report;

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(n) analytical data recorded as required in 4.5.4 and 4.5.6(b);

(o) a summary of fluid elevations recorded as required in 4.5.7(b) and an interpretation of changes in fluid elevations;

(p) an interpretation of QA/QC program results;

(q) an interpretation of all the data in this report, including the following:

(i) diagrams indicating the location and extent of any contamination,

(ii) a description of probable sources of contamination, and

(iii) a site map showing the location and type of current and historical potential sources of groundwater contamination;

(r) a summary and interpretation of the data collected since the groundwater monitoring program began including:

(i) control charts which indicate trends in concentrations of parameters, and

(ii) the migration of contaminants;

(s) a description of the following:

(i) contaminated groundwater remediation techniques employed,

(ii) source elimination measures employed,

(iii) risk assessment studies undertaken, and

(iv) risk management studies undertaken;

(t) a proposed sampling schedule for the following year(s);

(u) a description of any contaminant remediation, risk assessment or risk management action conducted at the plant; and

(v) recommendations for changes to the groundwater monitoring program to make it more effective.

4.5.10 The approval holder shall submit the Groundwater Monitoring Report to the Director:

(a) on or before a date specified in writing by the Director; or

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(b) within 270 days of the date required in 4.6.9(b).

4.5.11 If the Groundwater Monitoring Report is found deficient by the Director, the approval holder shall correct all deficiencies identified in writing by the Director, within the timeline specified in writing by the Director.

SECTION 4.6: SOIL

4.6.1 In addition to any other requirements specified in this approval, the approval holder shall conduct all of the following activities related to soil monitoring and soil management required by this approval in accordance with the *Soil Monitoring Directive,* Alberta Environment, 2009, as amended:

(a) designing and developing proposals for the Soil Monitoring Program;

(b) designing and developing proposals for the Soil Management Program;

(c) all other actions, including sampling, analysing, and reporting, associated with the Soil Monitoring Program; and

(d) all other actions, including sampling, analysing and reporting, associated with the Soil Management Program.

MONITORING AND REPORTING

4.6.2 The approval holder shall submit the Soil Monitoring Program proposal to the Director according to the following schedule:

(a) on or before October 31, 2033

unless otherwise authorized in writing by the Director.

4.6.3 If any Soil Monitoring Program proposal is found deficient by the Director, the approval holder shall correct all deficiencies identified in writing by the Director by the date specified in writing by the Director.

4.6.4 Subject to 4.6.3, the approval holder shall implement the Soil Monitoring Program as authorized in writing by the Director.

4.6.5 If an authorization or a deficiency letter is not issued within 120 days of the applicable date required by 4.6.2, the approval holder shall implement the Soil Monitoring Program:

(a) in accordance with the program as set out in the proposal submitted by the approval holder; and

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(b) within 270 days after the applicable date required by 4.6.2.

4.6.6 The approval holder shall submit to the Director each Soil Monitoring Program Report obtained from the soil monitoring referred to in 4.6.4 and 4.6.5 according to the following schedule:

(a) on or before October 31, 2034

unless otherwise authorized in writing by the Director.

4.6.7 If any Soil Monitoring Program Report is found deficient by the Director, the approval holder shall correct all deficiencies identified in writing by the Director by the date specified in writing by the Director.

SOIL MANAGEMENT PROGRAM

4.6.8 If the Soil Monitoring Program, or any other soil monitoring, reveals that there are substances present in the soil at concentrations greater than any of the applicable concentrations set out in the standards in the *Soil Monitoring Directive*, Alberta Environment, 2009, as amended, the approval holder shall develop a Soil Management Program Proposal.

4.6.9 If a Soil Management Program Proposal is required pursuant to 4.6.8, the approval holder shall submit a Soil Management Program Proposal to the Director according to the following schedule:

(a) for Soil Management Program Proposal that is triggered by the findings from the first soil monitoring event on or before the date in 4.6.6(a); or

(b) for any other soil monitoring event not specified in this approval within six months of completion of the soil monitoring event.

4.6.10 If any Soil Management Program Proposal is found deficient by the Director, the approval holder shall correct all deficiencies identified in writing by the Director by the date specified in writing by the Director.

4.6.11 The approval holder shall implement the Soil Management Program as authorized in writing by the Director.

4.6.12 If the approval holder is required to implement a Soil Management Program pursuant to 4.6.11, the approval holder shall submit a written Soil Management Program Report to the Director on or before March 31 of each year following the year in which the information was collected.

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4.6.13 If any Soil Management Program Report is found deficient by the Director, the approval holder shall correct all deficiencies identified by the Director by the date specified in writing by the Director.

PART 5: FINANCIAL SECURITY REQUIREMENTS

Not in use at this time.

PART 6: DECOMMISSIONING AND LAND RECLAMATION

SECTION 6.1: GENERAL

6.1.1 The approval holder shall apply for an amendment to this approval to reclaim the plant by submitting a:

(a) Decommissioning Plan; and

(b) Land Reclamation Plan

to the Director.

6.1.2 The approval holder shall submit the:

(a) Decommissioning Plan; and

(b) Land Reclamation Plan

referred to in 6.1.1 within six months of the plant ceasing operation, except for repairs and maintenance, unless otherwise authorized in writing by the Director.

SECTION 6.2: DECOMMISSIONING

6.2.1 The Decommissioning Plan referred to in 6.1.1 shall include, at a minimum, all of the following:

(a) a plan for dismantling the plant;

(b) a comprehensive study to determine the nature, degree and extent of contamination at the plant and affected lands;

(c) a plan to manage all wastes at the plant;

(d) evaluation of remediation technologies proposed to be used at the plant and affected lands;

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(e) a plan for decontamination of the plant and affected lands in accordance with the following:

(i) for soil or groundwater, *Alberta Tier 1 Soil and Groundwater Remediation Guidelines*, Alberta Environment, February 2009, as amended,

(ii) for soil or groundwater, *Alberta Tier 2 Soil and Groundwater Remediation Guidelines*, Alberta Environment, February 2009, as amended,

(iii) for drinking water, *Canadian Environmental Quality Guidelines*, Canadian Council of Ministers of the Environment, PN 1299, 1999, as amended, and

(iv) for surface water, *Surface Water Quality Guidelines for Use in Alberta*, Alberta Environment, November 1999, as amended;

(f) confirmatory testing to indicate compliance with the remediation objectives;

(g) a plan for maintaining and operating contaminant monitoring systems;

(h) a schedule for activities (a) through (g) above; and

(i) any other information as required in writing by the Director.

6.2.2 If the Decommissioning Plan is found deficient by the Director, the approval holder shall correct all deficiencies identified in writing by the Director by the date specified in writing by the Director.

SECTION 6.3: LAND RECLAMATION

6.3.1 The Land Reclamation Plan referred to in 6.1.1 shall include, at a minimum, all of the following:

(a) the final use of the reclaimed area and how equivalent land capability will be achieved;

(b) removal of infrastructure;

(c) restoration of drainage;

(d) soil replacement;

(e) erosion control;

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(f) revegetation and conditioning of the plant including:

(i) species list, seed source and quality, seeding rates and methods,

(ii) fertilization rates and methods, and

(iii) wildlife habitat plans where applicable;

(g) reclamation schedule; and

(h) any other information as required in writing by the Director.

6.3.2 If the Land Reclamation Plan is found deficient by the Director, the approval holder shall correct all deficiencies identified in writing by the Director by the date specified in writing by the Director.

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DATE

DESIGNATED DIRECTOR UNDER THE ACT