



Conservation and Water Stewardship

Climate Change and Environmental Protection Division
Environmental Approvals Branch
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File: 2768.50

October 2, 2012

Colin Welch
Canexus Limited
8080 Richmond Ave. East
Brandon MB R7A 6A6

Dear Mr. Welch:

**Re: Canexus Chemicals Canada Limited Partnership – Brandon Sodium Chlorate Plant –
Licence No. 2619 RR – Notice of Alteration**

Receipt of the September 1, 2012 letter from Canexus Chemicals Canada Limited Partnership (Canexus Limited) is acknowledged as a notice of alteration in accordance with Section 14 of *The Environment Act*.

The requested change to the development as Licensed is to increase the maximum allowable sodium chlorate production rate from 299,500 metric tonnes per year to 310,000 metric tonnes per year. The letter also indicates Manitoba Conservation and Water Stewardship approved an increase to Canexus' water allotment in 2011 and that water monitoring and water consumption information will continue to be reported.

The potential environmental effects of the requested change to the development as Licensed are insignificant and considered to be a minor alteration in accordance with section 14(2) of *The Environment Act*. The request as indicated in the September 1, 2012 letter is approved and reflected in the attached **revised Environment Act Licence 2619 RRR**.

If you have any questions, please contact Jennifer Winsor, P.Eng. at 204-945-7012.

Yours truly,

Tracey Braun, M.Sc.
Director
Environmental Approvals

- c. Don Labossiere, Director, Environmental Compliance and Enforcement
Public Registries

NOTE: Confirmation of Receipt of this Licence No. 2619 RRR (*by the Licensee only*) is required by the Director of Environmental Approvals. Please acknowledge receipt by signing in the space provided below and faxing a copy (letter only) to the Department by October 16, 2012.

On behalf of Canexus Chemicals Canada Limited Partnership

Date

****A COPY OF THE LICENCE MUST BE KEPT ON SITE AT THE DEVELOPMENT AT ALL TIMES****

LICENCE

Licence No. / Licence n°	<u>2619 RRR</u>
Issue Date / Date de délivrance	<u>September 19, 2003</u>
Revised	<u>April 30, 2007</u>
Revised	<u>June 21, 2009</u>
Revised	<u>October 2, 2012</u>

In accordance with *The Environment Act* (C.C.S.M. c. E125) /
Conformément à la *Loi sur l'environnement* (C.P.L.M. c. E125)

Pursuant to Sections 10(1) and 14(2) / Conformément au Paragraphes 10(1) et 14(2)

THIS LICENCE IS ISSUED TO:/ CETTE LICENCE EST DONNÉE À :

CANEXUS CHEMICALS CANADA LIMITED PARTNERSHIP;
"the Licencee"

for the construction and operation of a Phase VII expansion to their existing Phase VI licensed Development, culminating in a 310,000 tonnes per year sodium chlorate production plant and associated facilities, located on the NE ¼ of Section 10, Township 10, Range 18 WPM, within the City of Brandon, in accordance with the Proposal filed under *The Environment Act* on July 17, 2003; and the Notice of Alteration filed on January 10, 2007, and September 1, 2012; and subject to the following specifications, limits, terms and conditions:

DEFINITIONS

In this Licence:

“**accredited laboratory**” means an analytical facility accredited by the Standard Council of Canada (SCC), or accredited by another accrediting agency recognized by Manitoba Conservation to be equivalent to the SCC, or be able to demonstrate, upon request, that it has the quality assurance/quality control (QA/QC) procedures in place equivalent to accreditation based on the international standard ISO/IEC 17025, or otherwise approved by the Director;

“**affected area**” means a geographical area, excluding the property of the Development;

“**approved**” means approved by the Director in writing;

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“aquifer” means a water saturated geological unit that will yield water to wells or springs at a sufficient rate so that the wells or springs can serve as practical sources of water supply;

“Director” means an employee of the department appointed as such by the Minister;

“effluent” means wastewater released into the environment;

“fugitive emissions” means particulate matter escaping from sources within the plant site into the atmosphere other than through a stack.

“hazardous waste” means a product, substance or organism that meets the criteria set out in the Classification Criteria for Products, Substances and Organisms Regulation, Manitoba Regulation 282/87, and that is intended for treatment or disposal and includes recyclable material;

“noise nuisance” means a continuous or repeated noise, in an affected area, which is troublesome, annoying or disagreeable to a person:

- a) residing in an affected area;
- b) working in an affected area; or
- c) present at a location in an affected area which is normally open to the members of the public;

if the unwanted sound

- d) is the subject of at least 5 written complaints, received by the Director in a form satisfactory to the Director within a 90-day period, from 5 different persons falling within clauses (a), (b) or (c), who do not live in the same household; or
- e) is the subject of at least one written complaint, received by the Director in a form satisfactory to the Director, from a person falling within clauses (a), (b) or (c), and the Director is of the opinion that if the unwanted sound had occurred in a more densely populated area there would have been at least 5 written complaints received within a 90-day period from 5 different persons who do not live in the same household;

“NO_x” means oxides of nitrogen, and refers collectively to nitric oxide (NO) and nitrogen dioxide (NO₂) expressed as a nitrogen dioxide equivalent;

“opacity” means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background;

“particulate matter” means finely divided liquid or solid matter other than water droplets;

“point source” means any point of emission from the Development where pollutants are emitted to the atmosphere by means of a stack;

“pollutant” means a pollutant as defined by the Environment Act;

“**PM**” means particulate matter;

“**PM_{2.5}**” means particulate matter with a mean aerodynamic diameter equal to or less than 2.5 microns;

“**PM₁₀**” means particulate matter with a mean aerodynamic diameter equal to or less than 10 microns;

“**process wastewater**” means any wastewater stream, excluding sanitary wastewater, containing foreign matter or pollutants related to the production of sodium chlorate at the Development;

“**relevant stack**” means any individual stack which in whole or in part contributes to the release of a particular air pollutant;

“**sanitary wastewater**” means sewage containing human body, toilet, liquid, waterborne culinary, sink or laundry waste;

“**sludge**” means accumulated solid material containing large amounts of entrained water, which has separated from wastewater by gravity;

“**solid waste**” means solid waste as defined in *Manitoba Regulation 150/91* respecting waste disposal grounds, or any future amendments thereto;

“**stack**” means a duct, pipe, chimney, vent, opening or other structure through which pollutants are emitted to the atmosphere.

“**Standard Methods for the Examination of Water and Wastewater**” means the most recent edition of Standard Methods for the Examination of Water and Wastewater published jointly by the American Public Health Association, the American Waterworks Association and the Water Environment Federation;

“**visible emissions**” means any air-borne particulate matter which obscures visibility; and

“**wastewater**” means any liquid waste stream associated with the Development and containing one or more pollutants;

GENERAL TERMS AND CONDITIONS

This Section of the Licence contains requirements intended to provide guidance to the Licencee in implementing practices to ensure that the environment is maintained in such a manner as to sustain a high quality of life, including social and economic development, recreation and leisure for present and future Manitobans.

1. Notwithstanding any of the following limits, terms and conditions specified in this Licence, the Licencee shall, upon the request of the Director:

- a) sample, monitor, analyze and/or investigate specific areas of concern regarding any segment, component or aspect of pollutant storage, containment, handling, treatment, and disposal or emission systems, for such pollutants or ambient quality, aquatic toxicity, leachate characteristics and discharge or emission rates, for such duration and at such frequencies as may be specified;
 - b) determine the environmental impact associated with the release of any pollutant(s) from the Development; or
 - c) provide the Director, within such time as may be specified, with such reports, drawings, specifications, analytical data, descriptions of sampling and analytical procedures being used, bioassay data, flow rate measurements and such other information as may from time to time be requested.
2. The Licencee shall, unless otherwise specified in this Licence, carry out all preservations and analyses of liquid samples in accordance with the methods prescribed in the Standard Methods for the Examination of Water and Wastewater or in accordance with equivalent preservation and analytical methodologies acceptable to the Director.
 3. The Licencee shall, where required through the provisions of this Licence:
 - a) carry out all stack sampling and ambient air sampling in accordance with protocols, procedures and type of equipment acceptable to the Director; and
 - b) have any stack sampling and ambient air sampling undertaken by persons qualified in this field.
 4. The Licencee shall have all analytical determinations undertaken by an accredited laboratory.
 5. The Licencee shall report all the information requested through the provisions of this Licence in a manner and form acceptable to the Director.
 6. The Licencee shall at all times maintain a high standard of equipment maintenance and good housekeeping practices consistent with meeting the limits, terms and conditions prescribed in this Licence.

SPECIFICATIONS, LIMITS, TERMS AND CONDITIONS

Respecting Wastewater

7. The Licencee shall not discharge or direct the flow of: any process wastewater; railcar wash water; initial flush roof drainage water from plant process buildings; or fluids from any exterior liquid containments; off the plant site property or onto the surface of the plant site property (other than into a lined trench/sump system wherein such fluids report to the "Contaminated Water Tank" or are otherwise recycled into the process stream).

8. The Licencee shall direct the final disposal of all excess reverse osmosis reject water from the reject water storage tank only into the on-site reject water deep injection well, unless otherwise approved in writing by the Director.
9. The Licencee shall ensure that the maximum pressure setting on the high pressure shutdown switch downstream of the injection pumps is always set at such a level that the pressure at the well head cannot and does not exceed 6,000 kilopascals at either of the 6.3 litres per second or 12.6 litres per second pumping rates.
10. The Licencee shall ensure that the reverse osmosis reject water storage tank is located within a dyked impoundment, lined on the interior with an impervious liner satisfactory to the Director, and maintained to be capable of containing, either independently or by way of integration with the plant's main sumps, a volume of fluid equal to or greater than the volume of the said storage tank.
11. The Licencee shall provide and maintain to the satisfaction of the Director:
 - a) a water flow meter, on the reject water line, that is capable of continuously and cumulatively measuring the quantity of reject water being directed into the on-site deep injection well to within an accuracy of at least plus or minus 2 percent of the actual quantity;
 - b) a wellhead pressure meter to continuously display and record the wellhead pressure being applied to the reject water deep injection well; and
 - c) sampling taps for the purposes of obtaining representative water samples at each on-site raw water source well and at the reject water deep injection well or storage tank.
12. The Licencee shall calibrate the deep injection well flow meter at least annually, and tag the meter with a tag displaying the date of calibration, the serial number of the meter, and the meter factor.
13. The Licencee shall notify the Director if and when:
 - a) any substance foreign to the two onsite freshwater wells is detected in, or proposed to be mixed with, the reverse osmosis reject water; or
 - b) the deep well injection rate is proposed to be increased to a rate in excess of 1,090 m³/day.
14. The Licencee shall:
 - a) direct all sanitary wastewater to the existing septic tank and field system for treatment and disposal;
 - b) not direct or discharge the drainage of any process water or process wastewater streams into the existing septic tank and field system;
 - c) comply with *Manitoba Regulation 83/2003*, or any future amendment thereto, in regards to any sewage generated and managed at the Development; and
 - d) dispose any sewage and septage that is transported off-site from the Development into a facility which has an Environment Act Licence or Environment Act Permit authorizing the acceptance of sewage and septage.

Respecting Air Emissions

15. The Licencee shall not release particulate matter from any point source of emission from the Development in excess of 0.23 grams per dry standard cubic metre, calculated at 25 degrees Celsius and 760 millimetres of mercury, and corrected to 12 percent carbon dioxide for processes involving combustion.
16. The Licencee shall not release visible emissions from any source of the Development (excluding the on-site Class III Waste Disposal Ground) that exhibit an opacity equal to or greater than:
 - a) 20 percent as the average of any 24 consecutive opacity observations taken at 15 second intervals;
 - b) 20 percent for more than 16 individual opacity observations taken within any 1-hour period; or
 - c) 40 percent for any individual opacity observation.
17. The Licencee shall restrict the release of any fugitive emissions beyond the property line of the Development to the extent that:
 - a) distinct plume forming emissions do not exhibit an opacity greater than 5%; and
 - b) non plume forming fugitive emissions are not visible at any time.
18. The Licencee shall not emit chlorine gas in excess of four parts per million by volume determined as a one hour average from any point source at the Development.
19. In the circumstance where ambient air quality monitoring data gathered from within the area of influence (beyond the property lines) of the Development, indicates that:
 - a) one or more of Manitoba's "Ambient Air Quality Guidelines" is being exceeded; or
 - b) the Ontario ambient air quality criterion for PM₁₀ (being 50 micrograms per cubic metre averaged over a 24-hour period) is being exceeded; or
 - c) the CCME Canada-Wide Standard for PM_{2.5} being 30 micrograms per cubic metre averaged over a 24-hour period) is being exceeded; or
 - d) the Ontario ambient air quality guideline for nitrous oxide (being 9000 micrograms per cubic metre averaged over a 24-hour period), is being exceeded;and the Director is satisfied that the Development is the cause or a significant contributor to the prevailing ambient air quality condition, the Licencee shall undertake such mitigation measures as may be specified by the Director to improve the ambient air quality condition.
20. The Licencee shall, upon the written request of the Director, install stack sampling facilities where they may be required and in a manner satisfactory to the Director, and shall ensure that such sampling facilities include proper sampling ports, safe sampling platforms, safe access, access to electrical power to operate

sampling equipment and such additional provisions as deemed necessary by the Director.

21. The Licencee shall not cause or permit a noise nuisance to be created as a result of the construction, operation or alteration of the Development, and shall take such steps as the Director may require to eliminate or mitigate a noise nuisance.

Respecting Solid/Sludge Waste Management

22. The Licencee shall dispose of all solid wastes and qualifying sludges generated at the Development into a waste disposal ground (which is registered under *Manitoba Regulation 150/91* (or any future amendment thereto) or is licensed under *The Environment Act*,) under the consent of the operator of that waste disposal ground, excepting:
 - a) any regulated hazardous waste; and
 - b) such waste substances which are otherwise stored on-site, recycled or otherwise managed in a manner approved by the Director.

Respecting Dangerous Goods or Hazardous Wastes

23. The Licencee shall comply with all the applicable requirements of:
 - a) *Manitoba Regulation 188/2001* or any future amendment thereto, respecting the storage and handling of petroleum products and allied products; and
 - b) *The Manitoba Dangerous Goods Handling and Transportation Act*, and regulations issued thereunder, respecting the handling, transport, storage and disposal of any dangerous goods brought onto or generated at the Development.
24. The Licencee shall store any petroleum product or allied product not captured under *Manitoba Regulation 188/2001*, within a diked or curbed storage holding area designed to contain a volume of liquid equal to 110% of the volume of the largest storage tank located therein plus the effective displacement volume of all other tanks and structures located therein, and maintain the integrity of the facility by regularly removing precipitation accumulations (if located outdoors).
25. The Licencee shall, with respect to any used petroleum based oil or hydraulic fluids removed from on-site machinery, collect, transport and store these substances in secure, properly labeled, non-leaking containers and regularly send them to a recycling facility or to a facility approved to accept hazardous wastes.
26. The Licencee shall ensure that spill recovery equipment is available on-site at all times to address a spill of any liquid dangerous good or hazardous waste which may not be totally captured by any existing containment provisions.

Respecting Monitoring, Record Keeping and Reporting

27. The Licencee shall:
- a) measure and record in each month the quantity of water extracted from each groundwater well used as source water for the Development's sodium chlorate manufacturing process;
 - b) measure and record in each month the volume of reject water pumped into the on-site deep injection well, as well as the maximum wellhead pressure reading recorded on that well in that same month;
 - c) once every 12 months, sample each freshwater well and groundwater recovery well, and analyze each sample for: pH, total dissolved solids, sodium, chlorides, sulfates, total chromium, hexavalent chromium, and such other parameter(s) as may from time to time be specified by the Director; and
 - d) sample the reverse osmosis reject water, if and when requested by the Director, analyze the sample for such parameters as may be requested by the Director, and submit the results of the analyses to the Director within 30 days of the date that the sample(s) were taken.
28. The Licencee shall submit to the Director the information collected pursuant to Sub-clauses 27(a), 27(b) and 27(c) of this Licence, in hard copy and in an electronic format satisfactory to the Director, by February 1st of each calendar year.
29. The Licencee shall:
- a) at the request of the Director, conduct stack emission testing for any or all of the type of emissions listed in Clause 30 of this Licence, within 60 days of the Director's written request, and in a manner satisfactory to the Director;
 - b) arrange the scheduling of the sampling program such that a representative of Manitoba Conservation may be available to monitor and audit the implementation of the sampling program;
 - c) perform all stack sampling in accordance with the most recent version of Manitoba Conservation Report No. 96-07, *Interim Stack Sampling Performance Protocol*, unless otherwise approved by the Director; and
 - d) submit a report, for the approval of the Director, of the completed sampling and analysis plan within 30 days of the receipt of the analytical results of that sampling plan. The report shall contain at a minimum:
 - i) the raw data collected;
 - ii) a discussion of the sampling and analytical portions of the program including any anomalies of sampling and analysis; and
 - iii) a discussion of the significance of the data gathered with specific attention to:
 - the significance for potential acute and chronic impacts to health or environment from exposure to concentrations of the compounds detected;
 - the need for risk assessment of the impact of emissions;

- the need for the establishment of ambient air monitoring stations;
- the need for dispersion modelling of emissions;
- results and conclusions of the QA/QC program; and
- other issues as may be determined by the Director.

30. The Licencee shall:

- a) determine the preceding year's annual air emissions from each relevant stack of the Development with respect to:
 - i) Total Particulate Matter;
 - ii) PM₁₀;
 - iii) PM_{2.5};
 - iv) Carbon Dioxide (CO₂);
 - v) Nitrous Oxide (N₂O);
 - vi) Methane (CH₄);
 - vii) Nitrogen Oxides (NO_x as NO₂);
 - viii) Chlorine gas (Cl₂);
 - ix) Sulphur Dioxide (SO₂);
 - x) Volatile Organic Compounds (VOC's);using identified emission rate factors and estimation methodologies satisfactory to the Director; and
- b) submit an annual report to the Director in hard copy and in an electronic format satisfactory to the Director, by February 1st of each year (commencing with February 1, 2004) listing the determinations made pursuant to Sub-clause 30(a) of this Licence, as well as the annual grand total of each referenced type of emission.

Emergency Response Plan

31. The Licencee shall, within 24 hours of the occurrence of a spill or detected leakage of liquid pollutants having occurred on the surface property of the Development:
 - a) report to the Director the details of the spill or leakage of the liquid pollutants (including those substances already required to be reported in accordance with Manitoba Regulation 439/87), having occurred on the property of the Development and potentially posing a threat to surface or groundwater quality or air quality, and outline the action being undertaken or proposed to be undertaken to recover and mitigate the spill; and
 - b) undertake such recovery and mitigation measures as approved, or otherwise specified, by the Director.
32. The Licencee shall continually maintain the Emergency Response Plan approved on November 13, 2007 in a current status for the duration of the operation of the Development.

Respecting the Rate of Production at this Development

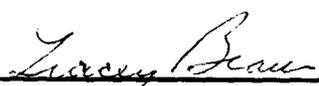
33. Notwithstanding the maximum annual production rating identified in the header of this Licence, the Licencee may undertake on-site experimental modifications aimed at exploring ways and means of increasing the annual production rate of the Development provided that the Licencee issues an advance written notice of this intention to the Director, and provided that the duration of any such experimental undertakings do not extend beyond a cumulative maximum of 30 days over any 12 consecutive months in the absence of an approved notice of alteration pursuant to Section 14 of the Environment Act.

Respecting Decommissioning, Remediation and Closure

34. The Licencee shall
- a) provide to the Director a written notice at least three months in advance of any intent to close the Development;
 - b) submit a Closure Plan to the Director, before the Development is closed, for approval by the Director;
 - c) implement the approved Closure Plan to the satisfaction of the Director, following the closure of the Development.

REVIEW AND REVOCATION

- A. This Licence replaces Environment Act Licence No. 2619RR which is hereby rescinded.
- B. If the Licencee has not commenced the construction of the Phase VII expansion to the existing Development within three years of the date of this Licence, the Licence is revoked.
- C. If, in the opinion of the Director, the Licencee has exceeded or is exceeding or has or is failing to meet the specifications, limits, terms, or conditions set out in this Licence, the Director may, temporarily or permanently, revoke this Licence.
- D. If, in the opinion of the Director, new evidence warrants a change in the specifications, limits, terms or conditions of this Licence, the Director may require the filing of a new proposal pursuant to Section 10 of The Environment Act.


Tracey Braun, M.Sc.
Director
Environment Act