

AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 4296-D5VJ9Q
Issue Date: November 20, 2024

St. Clair Management Corporation, as general partner for and on behalf of St. Clair Power,
L.P.
790 Petrolia Line
Lambton Shores, Ontario
N0N 1G0

Site Location: St. Clair Energy Centre
790 Petrolia Line
Parts 1, 2 & 3; Ref Plan 25R-9239
Lot 22 and 23, Concession 11
Township of St. Clair, County of Lambton
N0N 1G0

You have applied under section 20.2 of Part II.1 of the Environmental Protection Act, R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:

establishment, alteration/expansion, usage and operation of new and existing industrial Sewage Works, for the treatment of sewage from the proposed expanded transformer containment areas with a 1,150 L/min flow rate (single 150mm opening) directed towards the Existing Oil/Water Separator No. 3, and operational changes resulting in an increase in the Blowdown water to Heat Recovery Steam Generator with an additional flow of 42.9 L/min, and continued use of Existing sewage works for the collection, transmission, treatment and disposal of process effluent and storm water drainage from the St. Clair Energy Centre with nominal 698 Megawatt natural gas-fired combined cycle Power Station, running two (2) independent power generation trains, #3 and #4, each including one (1) combustion turbine and generator, one (1) heat recovery steam generator and one steam turbine and generator, as part of the proposed expansion and upgrades to the Existing CTG (Combustion Turbine Generator) No. 3 and No. 4 spill containment areas as part of new larger replacement Generator Step-Up (GSU) transformers comprising;

PROPOSED WORKS

- expansion and upgrades to the Existing CTG (Cumbustion Turbine Generator) No. 3 spill containment area, comprising an increased footprint in a 8.8m x 8.3m rectangular area, with an estimated capacity of 64.61 m³ designed for a **new Generator Step-Up (GSU) 3 Transformer Unit**, sized (96.43 m³), sized to contain the entire oil content in the transformer unit and rainfall volume from the containment basin as a result of the 24-hour duration 50-year rainfall event, comprised of;
 - a 600 mm thick reinforced concrete slab with interior wall containment area of approximately 7.925m x 7.925m;
 - a concrete transformer base protruding out of the reinforced concrete slab, approximately 1.63m x 4.3m and 4.3m x 1.2m on two sides;
 - a 300mmmm layer of fire-quenching stone placed on top of steel grating which rests on steel beams approximately 600mm above the concrete slab; and;
 - a concrete curb to contain the quenching stone layer;

the containment area is discharging via 150mm diameter openings out letting to Existing Oil Water Separator No. 3, with a collection sump within the containment with an outlet pipe with a shut-off valve (normally closed);

- One rectangular shape spill containment area with an estimated capacity of 64.61 m³ designed for a **new Generator Step-Up (GSU) 4 Transformer Unit**, sized (96.43 m³), to contain the entire oil content in the transformer unit and rainfall volume from the containment basin as a result of the 24-hour duration 50-year rainfall event, comprised of;
 - a 600 mm thick reinforced concrete slab with interior wall containment area of approximately 7.95m x 7.95m;
 - a concrete transformer base protruding out of the reinforced concrete slab, approximately 1.6m x 4.3m, and 4.3m x 1.2m on two sides;
 - a 300mm layer of fire-quenching stone placed on top of steel grating which rests on steel beams approximately 600mm above the concrete slab; and;
 - a concrete curb to contain the quenching stone layer;

the containment area is discharging via 150mm diameter openings out letting to Existing Oil Water Separator No. 3, with a collection sump within the containment with an outlet pipe with a shut-off valve (normally closed);

- Operational changes to the Existing Cooling Water Works to cause an increase in the Blowdown Water Flow Rate 441,482 L/day to 490,536 L/day, to be ultimately treated through the existing Final Wastewater Treatment System, that was previously receiving an overall Maximum Daily Flow Rate of 2,436 m³/day, to now 2,443 m³/day;

EXISTING WORKS

INTAKE WATER WORKS

pipng to convey up to approximately 13 cubic metres per minute of raw water from the NOVA Chemicals (Canada) Inc., (NOVA) Plant, for use as follows:

- as cooling water for the Wastewater Heat Exchanger;
- as direct quench water to the header to the Floc/Flash Mix Tank, as needed;
- as feedwater for the filtration/demineralization treatment system to produce service water and demineralized water;
- as make-up feed to the two (2) Chiller Cooling Towers; and
- as make-up to the main Cooling Tower, including one (1) on-line temperature monitor for the raw water supply from NOVA;

pipng to convey municipal potable water used for the following purposes:

- domestic use in various buildings, safety showers and eyewashes;
- emergency make-up to the Fire/Service water Storage Tank;
- as an alternative source of make-up to the Fire/Service water Storage Tank; and
- as an alternative feedwater for the Ultra Filtration System to produce service water
- occasionally, as needed, use a portable Demineralized Water Trailer to convert Service water into Demineralized water, with the Demineralized Water Trailer being sent off-site for regeneration.

PROCESS EFFLUENT WORKS

Raw Water Treatment Train

- piping to convey water from the main inlet header at normal rates up to approximately 719 - 1,249 litres per minute to the Water Treatment / Demineralization System;
- one (1) Raw Water Treatment / Demineralization System consisting of the following units, with control systems and pumps as required:
 - Raw Water Polymer Reaction Tank.
 - one (1) Ultrafiltration System rated for approximately 662 litres per minute, with air scour and backwash return to the Heat Recovery Steam Generators (HRSG) Blowdown Sump feeding the cooling tower basin and treated water conveyed to the Fire / Service Water Storage Tank, with regular maintenance cleans of the Ultrafiltration System using alkaline cleaning solution and an acidic cleaning solution with the spent cleaning solution being collected for authorized off-site disposal.
 - a Fire / Service Water Storage Tank to provide Service Water at approximately 40 litres per minute and feed to the Reverse Osmosis (RO) System at approximately 625 litres per minute.

- an integrated Reverse Osmosis (RO) / Electrodionization (EDI) System.
- an RO First and Second Pass Cartridges with RO reject sent to the HRSG #3 / #4 Blowdown System.
- an RO Product Water Storage Tank.
- an Electrodionization (EDI) Skid, with concentrate returned to the Oil/Water Separator #2 and the cell electrolyte bleed returned to the HRSG #3 / #4 Blowdown System, with no regeneration chemical nor neutralization requirements.
- an RO Cleaning Skid with heated water tank, pump and filter for use as required, with the spent cleaning solution collected for authorized off-site disposal.
- As needed, a rented mobile demineralized water trailer will be used to supplement or replace onsite RO equipment.

producing approximately 380 litres per minute of demineralized water which is pumped to the Demineralized Water Storage Tank.

Chemical Addition to the Raw Water / Service Water Treatment Train - Water Treatment Building

- Sodium Hypochlorite Solution Storage Tank, within a spill containment area, serving pump skids, as described below under the Chemical Addition to the Circulating Water Section.
- flocculent solution with metering pumps to feed flocculent solution to the inlet line of the Raw Water Polymer Reaction Tank.
- antiscalant solution with metering pumps to feed antiscalant solution to the inlet line of the RO Cartridge Filter.
- sodium bisulphite solution with metering pumps to feed sodium bisulphite solution to the inlet line of the RO Cartridge Filter and First Pass RO Skid.
- caustic solution with metering pumps to feed sodium hydroxide solution to the inlet line of the Second Pass RO Skid.

Oil/Water Separator #2 - Process Water Collection System

- one (1) in-ground, cylindrical, double-walled, carbon steel Oil/Water Separator #2, located south of the Stack serving the HRSG #3, rated for a flow of approximately 1.5 cubic metres per minute, with:
 - two (2) compartments and including a velocity head diffusion baffle at the inlet;
 - a parallel corrugated plate coalescer in the partition wall and a polypropylene bundle coalescer in the separation chamber; and

- an oil holding capacity of approximately 10 cubic metres

collecting process effluents from the following pipes tying into the Oil/Water Separator inlet header:

- a series of drain lines from Chiller Modules #1 and #2 and from the Secondary Pump House and a drain pipe from the Water Treatment Building, all tying into a dedicated header which connects with the Oil/Water Separator inlet header;
- Steam Turbine Building Area drains, including unit #3 and #4 Condenser drains, HRSG #3 and #4 pump drains, together with associated floor and trench drains conveyed to a dedicated header which connects with the Oil/Water Separator inlet header;
- one (1) drain line, with a normally closed shut-off valve, from the Chiller Auxiliary Transformer spill containment, located to the south of Oil/Water Separator #2, tying into the Oil/Water Separator inlet header; and
- one (1), drain line from the Wastewater Treatment Building Area drains and air compressors, located to the west of Oil/Water Separator #2, tying into the Oil/Water Separator inlet header.

with the Oil/Water Separator #2 effluent conveyed via an outlet downcomer and a line to adjacent Plant Sump #2.

- one (1) in-ground, outdoor, covered, reinforced concrete Plant Sump #2, located west of Oil/Water Separator #2, with an operating volume range between 4.5 and 6.4 cubic metres, with two (2) sump pumps, operating on level control and discharging via a pressure line to either:
 - the feed line to the Wastewater Treatment System, located in the Wastewater Treatment Building, just west of the Cooling Tower Pump House; and
 - a line feeding the main cooling tower basin.

Oil/Water Separator #3 - Process Water Collection System

- one (1) in-ground, cylindrical, double-walled, carbon steel Oil/Water Separator #3, located north of CTG#4, rated for a flow of approximately 1.5 cubic metres per minute with:
 - two (2) compartments and including a velocity head diffusion baffle at the inlet;
 - a parallel corrugated plate coalescer in the partition wall and a polypropylene bundle coalescer in the separation chamber; and
 - an oil holding capacity of approximately 10 cubic metres.

collecting process effluents from the following sources, via two (2) pipes tying into the Oil/Water Separator inlet header:

- one (1) drain line, with a normally closed shut-off valve, from the Combustion Turbine Generator (CTG) #3 step-up Transformer (T3) spill containment (**now being replaced and upgraded**), located to the north of CTG#3, tying into the Oil/Water Separator inlet header;
- one (1) drain line, with a normally closed shut-off valve, from the Combustion Turbine Generator (CTG) #4 step-up Transformer (T4) spill containment (**now being replaced and upgraded**), located north-east of CTG #4, tying into the Oil/Water Separator inlet header;
- one (1) drain line, with a normally closed shut-off valve, from the Station Service Transformer SST3 and SST4 spill containments, located north of Steam Turbine Generator Building, tying into a dedicated header which connects with the Oil/Water Separator inlet header;
- Combustion Turbine Generator (CTG) #3 and #4 drains;
- piping to convey Closed Loop Heat Exchanger (CLHE) #3 and #4 once through, non-contact cooling water, CLHE #3 and #4 drains, and drains associated with the Closed Loop Cooling Water Pumps to a dedicated header which connects with the Oil/Water Separator inlet header;
- two (2) separate but similar Spill Containment Areas, for Generator Step-Up (GSU) Transformers #3 and #4 (**now both being replaced and upgraded**), each with approximately 69 cubic metres of PCB-free oil, located north of their respective Combustion Turbine Generators, with a containment volume of approximately 131 cubic metres in each, and a collection sump within each containment with an outlet pipe with a shut-off valve (normally closed);
- one (1), Spill Containment Area with four compartments for Auxiliary Transformers #3 and #4, each containing approximately 7.5 cubic metres of PCB-free oil and for Service Transformers #3 and #4, each containing approximately 3.0 cubic metres of PCB-free oil, located north of the Steam Turbine Generator Building, with the Auxiliary Transformers #3 and #4, occupying the northern two (2) compartments, (north-east and north-west, respectively), and each with a containment volume of approximately 44 cubic metres, and the Service Transformers #3 and #4, occupying the southern two (2) compartments, (south-east and south-west, respectively), and each with a containment volume of approximately 36 cubic metres, and a collection sump within each containment with an outlet pipe with a single shut-off valve (normally closed) for all compartments;
- two (2) separate Spill Containment Areas for Excitation Transformers #3 and #4, each containing approximately 1.8 cubic metres of PCB-free oil, located north-west of their respective Combustion Turbine Generators #3 and #4, with a containment volume of approximately 32.0 cubic metres and a collection sump within each containment with an outlet pipe with a shut-off valve (normally closed); and

- one (1) Spill Containment Area for Load Commutated Inverter (LCI) Transformer #3 containing approximately 4.8 cubic metres of PCB-free oil, located next to Excitation Transformer #3, with a containment volume of approximately 39.0 cubic metres, with a collection sump within each containment with an outlet pipe with a shut-off valve (normally closed);

with the Oil/Water Separator #3 effluent conveyed via an outlet downcomer and a line to adjacent Plant Sump #3.

- one (1) in-ground, covered, reinforced concrete Plant Sump #3, located west of Oil/Water Separator #3, with an operating volume range between 4.5 and 6.4 cubic metres, with two (2) sump pumps, operating on level control and discharging via a pressure line to either:
 - the feed line to the Wastewater Treatment System, located in the Wastewater Treatment Building, just west of the Cooling Tower Pump House; and
 - a line feeding the main cooling tower basin.

Heat Recovery Steam Generator (HRSG) #3/#4 - Blowdown and Drain Works

- one (1) HRSG #3 / #4 Blowdown Sump, with lift pumps, each rated at approximately 2080 litres per minute, operating on level control, collection piped drainage from the following sources:
 - via one (1) inlet header, HRSG #3 blowdown at rates of 40 litres per minute during normal operation, with short-term peaks up to approximately 200 litres per minute for water chemistry adjustment or drum level control, and also including drains from the HRSG #3 System including #3 Stack drains, HRSG #3 area trench drains and CTG #3 air cooling coil drains;
 - via one (1) inlet header, HRSG #4 blowdown at rates of 40 litres per minute during normal operation, with short-term peaks up to approximately 200 litres per minute for water chemistry adjustment or drum level control, and also including drains from the HRSG #4 System including #4 Stack drains, HRSG #4 area trench drains and CTG #4 air cooling coil drains;
 - via two (2) separate inlets, condensate from the HRSG #3 and #4 Drain Header, respectively;
 - via one (1) inlet to convey first pass Reverse Osmosis Reject Solution at rates up to 230 litres per minute; and
 - via one (1) inlet to convey UF Backpulse Water via drains to the HRSG sump.

with pumped discharge to the Cooling Tower Basin.

Chemical Addition to the HRSG Steam Systems

- for the HRSG #3 steam system, the following chemical addition units, including instruments, piping, valves and metering pumps, all within a spill containment area to add the following chemical solutions:
 - Oxygen Scavenger solution to the HRSG #3 Condensate Header;
 - Amine solution to the HRSG #3 Condensate Header; and
 - Phosphate solution via low pressure metering pumps to an inlet connection on a central header of an Automatic Makedown Module which also mixes demineralized water from an attached head tank via the header and provides an outlet port connection to the suction line of high pressure pumps, for final diluted solution feed to the HRSG #3 High Pressure and/or Intermediate Pressure Steam Drums, with the phosphate solution sourced from a phosphate solution storage tote.
- for the HRSG #4 steam system, the following chemical addition units, including instruments, piping, valves and metering pumps, all within a spill containment area to add the following chemical solutions;
 - Oxygen Scavenger solution to the HRSG #3 Condensate Header;
 - Amine solution to the HRSG #3 Condensate Header; and
 - Phosphate solution via low pressure metering pumps to an inlet connection on a central header of an Automatic Makedown Module which also mixes demineralized water from an attached head tank via the header and provides an outlet port connection to the suction line of high pressure pumps, for final diluted solution feed to the HRSG #3 High Pressure and/or Intermediate Pressure Steam Drums, with the phosphate solution sourced from a phosphate solution storage tote.

Combustion Turbine Wash Water Collection

one (1) in-ground, double-walled, CTG Water Wash Drains Tank, including a remote level readout and alarm, to serve the two (2) Combustion Turbines, located north of the Steam Turbine Building, collecting Turbine inlet manifold, casing and exhaust drainage and turbine wash water via floor drains and a connecting inlet header, with pumpout of the Tank, as needed.

COOLING TOWER SYSTEM

- one (1), nine (9) cell, induced draft, counter flow Cooling Tower with PVC Fill, positioned south to north, east of the Warehouse Building, rated for a circulating water flow of approximately 565 cubic metres per minute, a 5.7 degree Celsius Wet Bulb approach temperature, and a make-up water maximum flow of approximately 11.6 cubic metres per minute, operated with up to eight (8) cycles of concentration, including two (2) Circulating Water Pumps and one (1) Auxiliary Circulation Pump in the Basin, to deliver cooling water to:

- the two (2) Steam Surface Condensers at a rate of approximately 270 cubic metres per minute for each;
- two (2) Plate and Frame Closed Loop Cooling Heat Exchangers, each with a heat removal duty of approximately 5.5 million Kilogram-calories per hour, at a rate of approximately 14.3 cubic metres per minute for the Combustion Turbine Generator #3 and #4 Closed Loop Cooling Systems; and
- two (2) Plate and Frame Closed Loop Cooling Heat Exchangers, each with a heat removal duty of approximately 7.1 million Kilogram-calories per hour, at a rate of approximately 15.5 cubic metres per minute for the Steam Generator/Miscellaneous Closed Loop Cooling Systems.

with the spent cooling water returned to the Cooling Tower Basin.

- two (2) Auxiliary Cooling Towers for the Air Chiller System with an approximate raw water make-up feed of up to 1.3 cubic metres per minute, with piping to convey blowdown of up to approximately 0.4 cubic metres per minute to the Main Cooling Tower Basin.
- piping to convey up to approximately 1.5 cubic metres per minute of Cooling Tower Blowdown to the Wastewater Heat Exchanger located in the Wastewater Treatment Building.
- one (1) plate and frame Wastewater Heat Exchanger, operated throughout the year to cool Cooling Tower Blowdown, and rated for a raw water coolant flow of approximately 1.9 cubic metres per minute, with a design heat removal rate of approximately 0.9 million Kilogram-calories per hour, with the cooled Blowdown discharged to the Final Wastewater Treatment System.

Chemical Addition to the Cooling Tower Circulating Water

- one (1) vertical, FRP, Sodium Hypochlorite Solution Storage Tank, within a spill containment area, also serving the pump skid as described below:
 - feed pumps, operating on automatic control to feed hypochlorite solution to the Cooling Tower Basin and each of the two (2) Chiller Tower Basins, as needed, to maintain a target Total Residual Chlorine (TRC) Concentration in the Circulating Water, as measured by an on-line TRC analyzer.
- one (1) vertical, steel, Sulphuric Acid Storage Tank, within a spill containment area, with feed pumps operating on automatic control in response to a Circulating Water pH controller, to feed sulphuric acid solution, to the Cooling Tower Basin via an acid mixing trough installed in the Basin and also to each of the two (2) Chiller Tower Basins, as needed.
- one (1) vertical, FRP, Mineral Dispersant / Scale Inhibitor and Corrosion Inhibitor Solution Storage Tank, within a spill containment area, with metering pumps to feed a Deposit & Scale Control solution, in proportion to the CT Blowdown flow, to the Cooling Tower Basin and also to each of the two (2) Chiller Tower Basins, as needed.

- one (1) Corrosion Inhibitor Solution system, including instruments, piping, valves, with metering pumps area to add Mild Steel Corrosion Inhibitor solution, in proportion to the CT Blowdown flow, to the Cooling Tower Basin.
- one (1) shock biocide solution feed system, including instruments, piping, valves with metering pump with a manual start and timer, fed from a tank with capacity of no more than 1000 litres, to periodically add a shock biocide solution to the Cooling Tower Basin, provided that no CT Blowdown discharge occurs during biocide treatment cycle.
- manual addition of a biodispersant to the main cooling tower basins during shock biocide treatments to improve bacteria removal.
- manual addition of an antifoamer to the main cooling tower basins on an as needed basis to prevent excessive foaming that may occur, typically during shock biocide addition.

Chemical Addition to the Chiller Tower Circulating Water Systems

- one (1) Chiller Tower feed system, with two (2) metering pumps on each skid (one as spare), with piping and valves, all within a spill containment area, to feed a Deposit & Scale Control solution from the Main Cooling Tower Storage Tank, to the two (2) Chiller Tower basins in proportion to the Chiller Tower Blowdown flow, to the Main Cooling Tower Basin.
- one (1) Chiller Tower, feed system, to feed a shock biocide solution alcohol, to the two (2) Chiller Tower Basins, provided that no Chiller Tower Blowdown discharge occurs during biocide treatment cycle.
- one (1) Chiller Tower feed system, with metering pumps on, piping and valves, all within a spill containment area, to feed a corrosion inhibitor solution to the two (2) Chiller Tower basins.
- one (1) Chiller Tower feed system, with metering pumps on, piping and valves, all within a spill containment area, to feed a Sodium Hypochlorite to the two (2) Chiller Tower basins.
- manual addition of a biodispersant, to the cooling tower basins during shock biocide treatments to improve bacteria removal.
- manual addition of an antifoamer, to the cooling tower basins on an as needed basis to prevent excessive foaming that may occur, typically during shock biocide addition.

FINAL WASTEWATER TREATMENT SYSTEM (Now being Proposed to receive additional flow)

one (1) Final Wastewater Treatment System located in the Wastewater Treatment Building, rated at 3,744,000 L/day, for a maximum combined flow of Cooling Tower Blowdown, periodic quench water and the effluents from Plant Sumps #2 and #3 of approximately 2.6 cubic metres per minute, consisting of the following connected treatment units with supporting control systems and pumps as required:

- one (1) steel Floc/Flash Mix Tank, with provision for flocculent and coagulant addition from nearby skid-mounted feed units.
- one (1) steel, Parallel Plate Clarifier/Thickener with a lamella section and a weir overflow to the outlet pipe for conveyance to the Plant #1 Sump, which includes on-line monitors on the sump discharge for temperature, pH, turbidity and Total Residual Chlorine.
- one (1) steel Sludge Thickener Tank with a scraper system and an integral sludge hopper with a bottom outlet.
- two (2) Sludge Thickener Pumps (one as a spare) to convey thickened sludge to the Filter Press, as required.
- one (1) recessed chamber type, Filter Press.
- one (1) recirculation line from the Plant Sump #1 to the cooling tower basin, to enable flow in Sump 1 system when site is not discharging to the NOVA effluent line.
- one (1) mechanical media filter after the clarifier for the removal of suspended solids.

with filtrate collected in a Filtrate Sump and returned by means of two (2) Filtrate Sump Pumps to the Floc/Flash Mix Tank, and the dewatered sludge cake collected in a dumpster for authorized offsite disposal.

- one (1) in-ground, covered, reinforced concrete Plant Sump #1, with sump pumps, rated up to 1890 litres per minute, operating on level control and discharging via a pressure line with an automatic control valve, an on-line temperature, pH, TRC and turbidity monitors and a flow meter, which runs south and then west along Petrolia Line to connect to the NOVA Plant outfall pipe at a point downstream of the NOVA MISA Regulated Compliance Point, for final discharge via the NOVA 10 port outfall diffuser outfall to the St. Clair River;

Chemical Addition to the Wastewater Treatment Train

- one (1) coagulant feed system, including instruments, piping and valves with metering pumps, all within a spill containment area, to add coagulant solution to the Floc/Flash Mix Tank.
- one (1) flocculent feed system, including instruments, piping and valves, with metering pumps, all within a spill containment area, to add flocculent solution to the Floc/Flash Mix Tank.
- one (1) sodium bisulphite solution feed system, including instruments, piping and valves, with metering pumps, all within a spill containment area, to add sodium bisulphite solution to the outlet of the Lamella Clarifier, based on the Clarifier Outlet Total Residual Chlorine and total flow rate.

STORM WATER MANAGEMENT

storm drainage from road areas, parking areas, operational and non-operational areas, swales and low lying parts within the approximate 8.5 hectare developed area of the Site, conveyed via connecting culverts and storm ditches with rip rap protected discharge areas, from the central areas to the Site east side storm ditch system and also to the south and west side storm ditch system and thus, in turn, to the Site Storm Water Management System:

- via the east side storm ditch, north-west to a rip rap lined entrance area of the East Forebay
 - via the west side storm ditch, north to a rip rap lined entrance area of the West Forebay, and
 - via a connecting pipe, north-west from a low area south of the Switchyard to the same rip rap lined entrance area of the West Forebay, as described above, but nearer its eastern edge.
- one (1) L-shaped Storm Water Retention Pond, straddling the northwest corner of the Site, consisting of an approximately 12 metre wide by 100 metre long East-to-West Pool Leg and an approximately 9 metre wide and 82 metre long South-to-North Pool Leg, to provide an enhanced level of quality control at 80 percent (annual average) Total Suspended Solids removal, and to control post development peak flow discharge rates from the Pond below the pre-development peak flow rates for all design storm events in the range of 2 to 100 year return periods, including:
 - a Pond permanent pool volume of approximately 3341 cubic metres at a depth of 1.07 metres.
 - an extended detention volume of approximately 3119 cubic metres at a storage depth of 0.76 metres, for a 5 hour detention of a 12 hour, 100 year storm.
 - two (2) Forebays at either end - an East Forebay, and a West Forebay, each 1.37 metres deep with a submerged exit berm at approximately 0.15 metres below the permanent pool level to connect the Forebay flows with the main Pond with storm water conveyed from the east side over a submerged exit berm of the East Forebay and from south over a submerged exit berm from the West Forebay.
 - a reinforced concrete Outlet Structure on the west bank, at the elbow of the L-shaped Pond, with:
 - an inlet of a 152 millimetre diameter orifice pipe at the permanent pool elevation to control drainage from the Pond;
 - a grating covered upward-sloped open top, set to collect extended detention flows with a rim elevation of 0.67 metres above the permanent pool elevation; and
 - a pipe, from the structure, with its invert at the permanent pool level and including a maintenance slide gate/valve inside the outlet structure and an open, flared outlet at the discharge end to a rip rap lined flared apron in the receiving ditch just south of the Gibb Drain, including a flap gate on the pipe end prior to the flared outlet section.

- a rip rap lined emergency spillway over the west bank near the south end of the Pond at an elevation of 1.67 metres above the permanent pool elevation to the existing south to north flowing storm ditch connecting with the Gibb Drain.
- a perimeter access road around the Pond and the Forebays and a maintenance access road to the East Forebay.

with final discharge from the Pond via the Outlet Structure to the existing Municipal Gibb Drain, which in turn runs west to the Austin Drain which drains to Talfourd Creek and hence to the St. Clair River.

- plantings along the top and banks of the Retention Pond to discourage use of the Pond by water fowl.

all other controls, auxiliaries, electrical equipment, instrumentation, piping, pumps, valves and appurtenances essential for the proper operation of the aforementioned sewage Works.

all in accordance with the Schedule A.

For the purpose of this environmental compliance approval, the following definitions apply:

"Application" means the application for an environmental compliance approval submitted to the Ministry for approval by or on behalf of the Owner and dated September 12, 2014.

"Approval" means this entire document and any schedules attached to it, and the Application;

"Composite sample" is defined in Section 3.1.2 of the Ministry publication, 'Protocol for the Sampling and Analysis of Industrial/Municipal Waste Water', dated January 1999, and as amended;

"Director" means a person appointed by the Minister pursuant to section 5 of the EPA for the purposes of Part II.1 of the EPA;

"District Manager" means the District Manager of the Sarnia District Office of the Ministry;

"EPA" means the *Environmental Protection Act, R.S.O. 1990, c.E.19* , as amended;

"Grab sample" is defined in Section 3.1.1 of the Ministry publication 'Protocol for the Sampling and Analysis of Industrial/Municipal Waste Water', dated January 1999, and as amended;

"LC50" means median lethal concentration i.e. the concentration of a test solution that results in a 50 percent mortality of the test species in a standard test, i.e. a 48 hour duration test for *Daphnia magna* ;

"Ministry" means the ministry of the government of Ontario responsible for the EPA and OWRA and includes all officials, employees or other persons acting on its behalf;

"Owner" means St. Clair Power, L.P., and its successors and assignees;

"OWRA" means the *Ontario Water Resources Act, R.S.O. 1990, c. O.40* , as amended; and

"Process material" means any raw material, product, by-product, intermediate product, lubricant, solvent, additive chemical, waste material or any other chemical used in the Works approved by this Approval;

"Works" means the sewage works described in the Owner's Application, and this Approval.

The following symbols are abbreviations for the monitoring frequencies indicated:

"C" means continuously during the operation of the chlorination system and continuously throughout the year for temperature monitoring or in the case of failure or unavailability of an on-line monitor, at a grab sample frequency of three times per twelve hours with at least three hours between successive samples with the immediate analysis/measurement performed in the field for each grab sample

"D" means daily, i.e. once per day during chlorination operations

"M" means monthly, i.e. once per calendar month, with at least 15 days between successive samples

"Q" means quarterly, i.e. once every calendar quarter with at least 45 days between successive samples

"W" means weekly, i.e. once every 7 days with at least 4 days between successive samples.

You are hereby notified that this environmental compliance approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

1. GENERAL CONDITION

1. The Owner shall ensure that any person authorized to carry out work on or operate any aspect of the Works is notified of this Approval and the conditions herein and shall take all reasonable measures to ensure any such person complies with the same.
2. Except as otherwise provided by these conditions, the Owner shall design, build, install, operate and maintain the Works in accordance with the description given in this Approval, and the application for approval of the Works.
3. Where there is a conflict between a provision of any document in the schedule referred to in this Approval and the conditions of this Approval, the Conditions in this Approval shall take precedence, and where there is a conflict between the documents in the schedule, the document bearing the most recent date shall prevail.

4. Where there is a conflict between the documents listed in the Schedule A, and the application, the application shall take precedence unless it is clear that the purpose of the document was to amend the application.
5. The Conditions of this Approval are severable. If any Condition of this Approval, or the application of any requirement of this Approval to any circumstance, is held invalid or unenforceable, the application of such condition to other circumstances and the remainder of this Approval shall not be affected thereby.

2. CHANGE OF OWNER

1. The Owner shall notify the District Manager and the Director, in writing, of any of the following changes within thirty (30) days of the change occurring:
 - a. change of Owner or operating authority, or both;
 - b. change of address of Owner or operating authority or address of new Owner or operating authority;
 - c. change of partners where the Owner or operating authority is or at any time becomes a partnership, and a copy of the most recent declaration filed under the *Partnerships Registration Act*;
 - d. change of name of the corporation and a copy of the most current information filed under the *Corporations Information Act, R.S.O. 1990, c. C.39* shall be included in the notification;
2. In the event of any change in ownership of the Works, the Owner shall notify in writing the succeeding owner of the existence of this Approval, and a copy of such notice shall be forwarded to the District Manager.
3. The Owner shall ensure that all communications made pursuant to this condition refer to the number of this Approval.

3. EXPIRY OF APPROVAL

1. This Approval will cease to apply to those parts of the Works which have not been constructed within five (5) years of the date of this Approval.

4. CONSTRUCTION OF PROPOSED WORKS/RECORD DRAWINGS

1. Upon the construction of the Works, the Owner shall prepare a statement, certified by a Licensed Engineering Practitioner, that the Works are constructed in accordance with this Approval, and upon request, shall make the written statement available for inspection by Ministry personnel.
2. Within **one (1) year** of the construction of the Proposed Works, a set of as-built drawings showing the Works “as constructed” shall be prepared. These drawings shall be kept up to date through revisions undertaken from time to time and a copy shall be retained at the Works for the operational life of the Works.
3. A set of record drawings of the Works shall be kept up to date through revisions undertaken from time to time and a copy shall be readily accessible for reference at the Works.

5. OPERATION AND MAINTENANCE

1. The Owner shall make all necessary investigations, take all necessary steps and obtain all necessary approvals so as to ensure that the physical structure, siting and operations of the Works do not constitute a safety, health or flooding hazard to the general public.
2. The Owner shall undertake an inspection of the condition of the Works, at least once a year, and undertake any necessary cleaning and maintenance to ensure that sediment, debris and excessive decaying vegetation are removed from the Works to prevent the excessive build-up of sediment, oil/grit, debris and/or decaying vegetation, to avoid reduction of the capacity and/or permeability of the Works, as applicable. The Owner shall also regularly inspect and clean out the inlet to and outlet from the Works to ensure that these are not obstructed.
3. The Owner may periodically carry out maintenance on the Cooling Tower and Chiller Towers by treating the Circulating Cooling Water Systems and thus the Cooling/Chiller Towers with a shock biocide solution, as fed from the approved skid system, provided that there is no discharge from Plant Sump #1 to the NOVA effluent line (i.e. blowdown does not cease during shock treatments) for the duration of biocide treatment cycle and discharges are not restarted until a grab sample of the Circulating Water, when analyzed for the major biocide components, shows each concentration to be at or less than the analytical method detection limit. The typical duration is a 6-8 hour circulation of the solution through the system, until such time when a sample of the Circulating Water shows a less than detection analytical result for the biocide components
4. The Owner shall construct, operate and maintain the Works with the objective that the effluent from the Works is essentially free of floating and settleable solids and does not contain oil or any other substance in amounts sufficient to create a visible film, sheen, foam or discoloration on the receiving waters.

5. The Owner shall ensure the immediate clean-out of the Works after a fuel or oil spill capture.
6. The Owner shall ensure that equipment and material for the containment, clean-up and disposal of fuel and oil and materials contaminated with such, is on hand and in good repair for immediate use in the event of:
 - a. loss of fuel or oil to the Works; or
 - b. a spill within the meaning of Part X of the EPA.
7. The Owner shall prepare an operations manual prior to the commencement of operation of the Works that includes, but is not necessarily limited to, the following information:
 - a. operating and maintenance procedures for routine operation of the Works;
 - b. inspection programs, including frequency of inspection, for the Works and the methods or tests employed to detect when maintenance is necessary;
 - c. repair and maintenance programs, including the frequency of repair and maintenance for the Works;
 - d. contingency plans and procedures for dealing with potential abnormal situations and for notifying the District Manager; and
 - e. procedures for receiving, responding and recording public complaints, including recording any follow-up actions taken.
8. The Owner shall maintain an up to date operations manual and make the manual readily accessible for reference at the Works for the operational life of the Works. Upon request, the Owner shall make the manual available to Ministry staff.
9. The Owner shall maintain a logbook to record the results of these inspections and any cleaning and maintenance operations undertaken, and shall keep the logbook at the Works for inspection by the Ministry. The logbook shall include the following:
 - a. the name of the Works;
 - b. the date and results of each inspection, maintenance and cleaning, including an estimate of the quantity of any materials removed and method of clean-out of the Works; and
 - c. the date of each spill within the catchment area, including follow-up actions and remedial measures undertaken.

10. The Owner shall retain for a minimum of **five (5) years** from the date of their creation, all records and information related to or resulting from the operation and maintenance activities required by this Approval.

6. TEMPORARY EROSION AND SEDIMENT CONTROL

1. The Owner shall install and maintain temporary sediment and erosion control measures during construction and conduct inspections **once every two (2) weeks** and after each significant storm event (a significant storm event is defined as a minimum of 25 millimetres of rain in any 24 hours period). The inspections and maintenance of the temporary sediment and erosion control measures shall continue until they are no longer required and at which time they shall be removed and all disturbed areas reinstated properly.
2. The Owner shall maintain records of inspections and maintenance which shall be made available for inspection by the Ministry, upon request. The record shall include the name of the inspector, date of inspection, and the remedial measures, if any, undertaken to maintain the temporary sediment and erosion control measures.

7. EFFLUENT OBJECTIVES

1. The Owner shall design and undertake everything practicable to operate the Works in accordance with the following objectives:
 - a. Effluent parameters design objectives listed in the table(s) included in **Schedule B**.
 - b. Effluent from the Works is essentially free of floating and settleable solids and does not contain oil or any other substance in amounts sufficient to create a visible film or sheen or foam or discolouration on the receiving waters.
2. In the event of an exceedance of the objective set out in subsection 1, the Owner shall:
 - a. notify the District Manager as soon as possible during normal working hours;
 - b. take immediate action to identify the source of contamination; and
 - c. take immediate action to prevent further exceedance.
3. The Owner may hypochlorinate the circulating water system using the herein approved Works, up to a target Total Residual Chlorine concentration where the daily average does not exceed 1.0 milligram per litre.

4. The Owner may add to the Feedwater / Demineralizer Treatment train, in addition to sodium hydroxide, sodium hypochlorite and sodium bisulphite solutions, as needed, the two (2) chemical additive aqueous solutions, containing the active ingredients listed in the Table 4 of the **Schedule B**, at the typical solution dosages shown, unless otherwise required in writing by the District Manager:
5. The Owner may add to the RO, EDI and UF systems to carry out periodic clean-in-place operations, the specialty chemical additive aqueous solutions, provided that the spent solutions from in-place cleaning and any additional rinse solutions are collected in dedicated tanks for authorized offsite disposal, Cleaning solutions will consist of a membrane biocides and membrane cleaners.
6. The Owner may add to the HRSG #3 and #4 boiler and condensate systems, the three (3) specialty chemical additive aqueous solutions, containing the active ingredients listed in the Table 5 of the **Schedule B**, at the typical solution dosages shown, unless otherwise required in writing by the District Manager:
7. The Owner may add to the circulating Cooling Tower Basin, in addition to sulphuric acid and sodium hypochlorite solutions, as needed, the five (5) specialty chemical additive aqueous solutions, containing the active ingredients listed in the Table 5, at the typical solution dosages shown, unless otherwise required in writing by the District Manager, provided that no effluent is discharged from Plant Sump #1 to the NOVA effluent line whenever the Shock Biocide solution is being circulated through the system, until such time when a sample of the Circulating Water shows a less than detection analytical result for the biocide solution components listed in the Table 6 of the **Schedule B**. Sodium bisulphate may be added, as needed, at typical solution dosage rates to complete the deactivation of the shock biocide solutions. During the Shock Biocide treatment, manual addition of a biodispersant and antifoamer, as needed, at typical dosages shown may be used.
8. The Owner may add to the Chiller Tower water system, in addition to sulphuric acid and sodium hypochlorite solutions, as needed, the four (4) specialty chemical additive aqueous solutions, containing the active ingredients listed in the Table 7 of the **Schedule B**, at the typical solution dosages shown, unless otherwise required in writing by the District Manager, provided that no Chiller Tower Blowdown discharge occurs whenever the Shock Biocide solution is being circulated through the system, until such time when a sample of the Circulating Water shows a less than detection analytical result for the biocide solution components or a Total Residual Chlorine of less than 0.1 milligram per litre:
9. The Owner may add to the Closed Loop Cooling system, the one (1) specialty chemical additive aqueous solution, containing the active ingredients listed in the Table 8 of the **Schedule B**, at the typical solution dosages shown, unless otherwise required in writing by the District Manager, provided that the spent solution when drained is collected for authorized offsite disposal.

10. The Owner may add to the Floc/Flash Mix Tank and/or the Filter Press, in addition to sodium bisulphite, one (1) coagulant and one (1) flocculent solution containing the respective active ingredients listed in the Table 9 of the **Schedule B**, at the typical solution dosages shown, unless otherwise required in writing by the District Manager:

8. EFFLUENT LIMITS

1. The Owner shall design, construct and operate the Works such that the concentrations of the materials listed as effluent parameters in the Effluent Limits Table in **Schedule C** are not exceeded in the effluent from the Works.
2. The Owner shall ensure that each rainbow trout acute lethality test and each Daphnia magna acute lethality test performed on any grab sample collected from the Plant Sump #1 Effluent prior to discharge into the NOVA effluent sewer pipe, results in mortality of no more than 50 percent of each of the test species in 100 percent effluent.
3. The Owner shall ensure that the accuracy of the temperature measurements required to demonstrate compliance under this Section, is within plus or minus 0.5 degree Celsius as demonstrated by periodic calibration, as recommended by the manufacturer.
4. For the purposes of determining non-compliance with and enforcing Subsection (1):
 - a. non-compliance with respect to the Total Residual Chlorine (TRC) Concentration Limit is deemed to have occurred when any single grab sample analyzed for TRC is greater than the maximum concentration for that parameter set out in the Table included in the Schedule C.
 - b. non-compliance with respect to the Total Suspended Solids (TSS) Concentration Limits is deemed to have occurred when any daily composite sample analyzed for TSS is greater than the maximum daily limit concentration set out in the Table included in the Schedule C or when the calculated monthly average TSS concentration, of all daily TSS composite samples during a given month, is greater than the maximum monthly average limit concentration set out in the Table included in the Schedule C
 - c. non-compliance with respect to the Oil and Grease (O&G) Concentration Limit is deemed to have occurred when any composite sample analyzed for O&G is greater than the maximum concentration set out in the Table included in the Schedule C
 - d. non-compliance with respect to temperature is deemed to have occurred when the calculated 24 hour average temperature is greater than the value shown in the Table included in the Schedule C on any day or the 24 hour average temperature differential (Maximum Temperature Rise) is calculated to be greater than the maximum temperature rise value shown in the Table included in the Schedule C, on any day

- e. non-compliance with respect to pH is deemed to have occurred when a 10 minutes rolling average is outside of the range indicated in the Table included in the Schedule C

9. EFFLUENT - VISUAL OBSERVATIONS

1. Notwithstanding any other Condition in this Approval, the Owner shall ensure that the effluent from the Works is essentially free of floating and settleable solids and does not contain oil or any other substance in amounts sufficient to create a visible film, sheen, foam or discolouration on the receiving waters.

10. EFFLUENT MONITORING

1. The Owner shall, upon commencement of operation of the Works, carry out a monitoring program, and all samples and measurements taken for the purposes of this Approval are to be taken at a time and in a location characteristic of the quality and quantity of the effluent stream over the time period being monitored.
2. Samples shall be collected and analyzed at the following sampling point(s), at the sampling frequencies and using the sample type specified for each parameter listed in the effluent monitoring table in **Schedule D**.
3. The methods and protocols for sampling, analysis, toxicity testing, and recording shall conform, in order of precedence, to the methods and protocols specified in the following:
 - a. the Ministry's publication "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater Version 2.0" (January 2016), PIBS 2724e02, as amended;
 - b. the publication "Standard Methods for the Examination of Water and Wastewater" (21st edition) as amended from time to time by more recently published editions;
 - c. for any parameters not mentioned in the documents referenced in Paragraphs 3.a and 3.b, the written approval of the District Manager shall be obtained prior to sampling.
4. The Owner shall retain for a minimum of **five (5) years** from the date of their creation, all records and information related to or resulting from the monitoring activities required by this Approval.
5. All metals shall be reported as total unfiltered concentrations in milligrams per litre.

6. The Owner shall ensure, to the extent possible, that the grab and composite samples, required to be collected under Table 1 of the **Schedule D**, are taken on a day when quench water is not lined up to the Wastewater Treatment Train.
7. The Owner shall determine and record, in cubic metres, the daily volume of the final Station Effluent from Plant Sump #1 and the daily volume of the tempering/quench water flow, whenever it is added to the Wastewater Treatment Train, both to an accuracy within plus or minus 15 percent.
8. The Owner shall estimate and record the effluent flow from the Storm Water Retention Pond at the time of the pick up of the samples required under Table 4 of the **Schedule D** using methods that allow the flow to be determined to an accuracy within plus or minus 20 percent.
9. Where an acute lethality test, performed under Table 3 and 4 of the **Schedule D**, results in mortality of more than 50 percent of either test species, the Owner shall, henceforth, collect the required samples and perform the acute lethality tests required under Table 4 of the **Schedule D**, at a monthly, instead of a quarterly frequency.
10. If three (3) consecutive acute lethality tests, performed under Tables 3 and 4 of the **Schedule D** Subsection (9) above, result in mortality of more than 50 percent of either test species, the Owner shall submit to the District Manager, a toxicity elimination report with respect to the effluent tested, no later than 6 months after the day on which the third of three consecutive acute lethality tests was performed that resulted in mortality of more than 50 percent of either test species.
11. A toxicity elimination report with respect to the tested effluent shall set out the following information:
 - a. a detailed analysis of the causes and sources of the mortality of more than 50 percent of either test species;
 - b. a summary of any studies conducted to support the analysis;
 - c. a description of the methods by which the quality of the effluent could be controlled to eliminate the mortality of more than 50 percent for both test species; and
 - d. an evaluation of the technical feasibility and the cost of implementing each of the methods outlined under (c) above.

12. Where the Owner has performed three (3) consecutive monthly acute lethality tests on samples collected in accordance with Subsection (9) above, and the mortality of both test species in each test did not exceed 50 percent, the Owner is relieved of the obligations under Subsection (9) above for that effluent, and may return to the acute lethality testing frequency under Tables 3 and 4 of the **Schedule D**.

11. REPORTING

1. **One (1) week** prior to the start-up of the operation of the Works, the Owner shall notify the District Manager (in writing) of the pending start-up date.
2. The Owner shall report to the District Manager orally **as soon as possible** any non-compliance with the compliance limits, and in writing **within seven (7) days** of non-compliance.
3. The Owner shall, upon request, make all reports, manuals, plans, records, data, procedures and supporting documentation available to Ministry staff.
4. In addition to the obligations under Part X of the EPA and O. Reg. 675/98 (Classification and Exemption of Spills and Reporting of Discharges) made under the EPA, the Owner shall, within **fifteen (15) days** of the occurrence of any reportable spill as provided in Part X of the EPA and O. Reg. 675/98, submit a full written report of the occurrence to the District Manager describing the cause and discovery of the spill, clean-up and recovery measures taken, preventative measures to be taken and a schedule of implementation.
5. The Owner shall prepare performance reports on a calendar year basis and submit to the District Manager not later than **forty-five (45) days** after the end of each calendar quarter. The reports shall contain, but shall not be limited to, the following information pertaining to the reporting period:
 - a. a summary and interpretation of all monitoring data including effluent/quench water flow data and a comparison of the results to the effluent objectives and effluent limits specified in Conditions 7, 8 and 9, including an overview of the success and adequacy of the Works;
 - b. the quarterly usage in kilograms of all treatment chemicals including the individual specialty chemical additives, based on consumption records and measured inventory; and
 - c. a description of any operating problems encountered and corrective actions taken;
 - d. a summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the Works, including an estimate of the quantity of any materials removed from the Works;

- e. a summary of the calibration and maintenance carried out on all effluent monitoring equipment;
- f. a summary of any effluent quality assurance or control measures undertaken in the reporting period;
- g. a description of efforts made and results achieved in meeting the Effluent Objectives of Condition 7.
- h. a summary of any complaints received during the reporting period and any steps taken to address the complaints;
- i. a summary of all spill or abnormal discharge events; and
- j. any other information the District Manager requires from time to time.

12. SPILL CONTINGENCY PLAN

1. Within **six (6) months** from the issuance of this Approval the Owner shall implement a spill contingency plan - that is a set of procedures describing how to mitigate the impacts of a spill within the area serviced by the Works. The Owner shall, upon request, make this plan available to Ministry staff. This plan shall include as a minimum:
 - a. the name, job title and location (address) of the Owner, person in charge, management or person(s) in control of the facility;
 - b. the name, job title and 24-hour telephone number of the person(s) responsible for activating the spill contingency plan;
 - c. a site plan drawn to scale showing the facility, nearby buildings, streets, catch-basins and manholes, drainage patterns (including direction(s) of flow in storm sewers), any receiving body(ies) of water that could potentially be significantly impacted by a spill and any features which need to be taken into account in terms of potential impacts on access and response (including physical obstructions and location of response and clean-up equipment);
 - d. steps to be taken to report, contain, clean up and dispose of contaminants following a spill;
 - e. a listing of telephone numbers for: local clean-up company(ies) who may be called upon to assist in responding to spills; local emergency responders including health institution(s); and Ministry Spills Action Centre 1-800-268-6060;
 - f. Safety Data Sheets (SDS) for each hazardous material which may be transported or stored within the area serviced by the Works;

- g. the means (internal corporate procedures) by which the spill contingency plan is activated;
 - h. a description of the spill response training provided to employees assigned to work in the area serviced by the Works, the date(s) on which the training was provided and by whom;
 - i. an inventory of response and clean-up equipment available to implement the spill contingency plan, location and, date of maintenance/replacement if warranted; and
 - j. the date on which the contingency plan was prepared and subsequently, amended.
2. The spill contingency plan shall be kept in a conspicuous, readily accessible location on-site.
 3. The spill contingency plan shall be amended from time to time as required by changes in the operation of the facility.

The reasons for the imposition of these terms and conditions are as follows:

1. Condition 1 is imposed to ensure that the Works are built and operated in the manner in which they were described for review and upon which approval was granted. This condition is also included to emphasize the precedence of Conditions in the Approval and the practice that the Approval is based on the most current document, if several conflicting documents are submitted for review.
2. Condition 2 is included to ensure that, when the Works are constructed, the Works will meet the standards that apply at the time of construction to ensure the ongoing protection of the environment.
3. Condition 3 is included to ensure that the Ministry records are kept accurate and current with respect to approved Works and to ensure that subsequent owners of the Works are made aware of the Approval and continue to operate the Works in compliance with it.
4. Condition 4 regarding construction of Proposed Works/record drawings is included to ensure that the Works are constructed in accordance with the Approval and that record drawings of the Works "as constructed" are updated and maintained for future references.
5. Condition 5 is included to ensure that a comprehensive operations manual governing all significant areas of operation, maintenance and repair is prepared, implemented and kept up-to-date by the Owner and made available to the Ministry. Such a manual is an integral part of the operation of the Works. Its compilation and use should assist the owner in staff training, in proper plant operation and in identifying and planning for contingencies during possible abnormal conditions. The manual will also act as a benchmark for Ministry staff when reviewing the owner's operation of the Works.
6. Condition 6 is included as installation, regular inspection and maintenance of the temporary sediment and erosion control measures is required to mitigate the impact on the downstream receiving watercourse during construction until they are no longer required.
7. Condition 7 is imposed to establish non-enforceable effluent quality objectives which the Owner is obligated to use best efforts to strive towards on an ongoing basis. These objectives are to be used as a mechanism to trigger corrective action proactively and voluntarily before environmental impairment occurs and before the compliance limits of Condition 7 are exceeded.
8. Conditions 8 and 9 are imposed to ensure that the effluent discharged from the Works meets the Ministry's effluent quality requirements thus minimizing environmental impact on the receiver.
9. Condition 10 is included to require the Owner to demonstrate on a continual basis that the quality and quantity of the effluent from the approved Works is consistent with the (design objectives and) effluent limits specified in the Approval and that the approved Works does not cause any impairment to the receiving watercourse.

10. Condition 11 is included to provide a performance record for future references and to ensure that the Ministry is made aware of problems as they arise, so that the Ministry can work with the Owner in resolving the problems in a timely manner.
11. Condition 12 is included to ensure that the Works are operated in accordance with the application and supporting documentation submitted by the Owner, and not in a manner which the Director has not been asked to consider. These Conditions are also included to ensure that a Professional Engineer has reviewed the proposed modifications and attests that the modifications are in line with that of Limited Operational Flexibility, and provide assurance that the proposed modifications comply with the Ministry's requirements stipulated in the Terms and Conditions of this Approval, MOE policies, guidelines, and industry engineering standards and best management practices.

Schedule A

1. Application for Environmental Compliance Approval dated August 31, 2023 and received on January 18, 2024.

Schedule B

Effluent Objectives

Table 1
Oil/Water Separator #2 Effluent

EFFLUENT PARAMETER	EFFLUENT OBJECTIVE
Oil and Grease	15 milligrams per litre

Table 2
Oil/Water Separator #3 Effluent

EFFLUENT PARAMETER	EFFLUENT OBJECTIVE
Oil and Grease	15 milligrams per litre

Table 3
The Station Treated Process Effluent from Plant Sump #1 - prior to discharge into the NOVA Chemicals (Canada) Ltd., final outfall pipe

EFFLUENT PARAMETERS	EFFLUENT OBJECTIVE
Total Residual Chlorine (TRC)	< 0.035 milligrams per litre**
Total Suspended Solids	25 milligrams per litre

** as measured continuously during chlorination operations by an on-line TRC analyzer with the effluent objective being a 10 minute rolling average.

Table 4

Active Ingredients	Daphnia magna LC50 (milligrams per litre)	Purpose	Dosage (milligrams per litre)
cationic liquid blend of polymeric inorganic and organic coagulant	2500	Flocculent	10
Polymer dispersant	5000	Scale Inhibitor	3.5

Table 5

Active Ingredients	Daphnia magna LC50 (milligrams per litre)	Purpose	Dosage (milligrams per litre)
Polymer dispersant with phosphate corrosion inhibitor	4060	Scale Inhibitor	2.5
Organic Oxygen Scavenger	850	Oxygen Scavenger	0.3
Ammonia amine based corrosion inhibitor	< 145	Corrosion Inhibitor	1.0

Table 6

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Active Ingredients	Daphnia magna LC50 (milligrams per litre)	Purpose	Dosage (milligrams per litre)
Organic Deposit & Scale Control	3600	Scale Inhibitor	50
Phosphate based Corrosion Inhibitor	1275	Corrosion Inhibitor	20
Surface type non-oxidizing biocide solution	3.3	Microbial Control	50
Non-ionic surfactant	2000	Bio-dispersa nt	50
Water based anti-foam, proprietary fatty alcohol	3608	Antifoamer	50

Table 7

Active Ingredients	Daphnia magna LC50 (milligrams per litre)	Purpose	Dosage (milligrams per litre)
Organic Deposit & Scale Control and Phosphate based and yellow metal Corrosion Inhibitor	1112	Corrosion Inhibitor and Scale Inhibitor	125
Surface type non-oxidizing biocide solution	3.3	Microbial Control	50
Non-ionic surfactant	2000	Bio-dispersan t	50
Water based anti-foam, proprietary fatty alcohol	3608	Antifoamer	50

Table 8

Active Ingredients	Daphnia magna LC50 (milligrams per litre)	Purpose	Dosage (milligrams per litre)
Nitrite based Corrosion Inhibitor	100	Corrosion Inhibitor	5500

Table 9

Active Ingredients	Daphnia magna LC50 (milligrams per litre)	Purpose	Dosage (milligrams per litre)
Cationic polymer	150	Coagulant	100
Isoparaffinic petroleum distillate	0.8	Flocculent	2

Schedule C

Effluent Limits

The Station Treated Process Effluent from the Plant Sump #1 - prior to discharge to the NOVA effluent sewer pipe

EFFLUENT PARAMETERS	EFFLUENT LIMITS
Total Residual Chlorine	0.01 milligram per litre
Total Suspended Solids:	
Daily Limit	50 milligrams per litre
Monthly Average Limit	25 milligrams per litre
Oil and Grease	15 milligrams per litre
Hydrogen Ion (pH)	6.0 - 9.5 (pH Units)
Maximum Effluent Temperature - daily average	30 degrees Celsius
Maximum Temperature Rise, (i.e. Effluent minus Intake Temperature) - daily average	10 degrees Celsius

Schedule D

Monitoring Program

Table 1
Oil/Water Separator #2 Effluent

EFFLUENT PARAMETER	MONITORING FREQUENCY	SAMPLE TYPE
Oil and Grease	W	Grab

Table 2
Oil/Water Separator #3 Effluent

EFFLUENT PARAMETER	MONITORING FREQUENCY	SAMPLE TYPE
Oil and Grease	W	Grab

Table 3
**The Station Treated Process Effluent from Plant Sump #1- prior to discharge
into the NOVA effluent sewer pipe**

EFFLUENT PARAMETER	MONITORING FREQUENCY	SAMPLE TYPE
Total Residual Chlorine	D	Grab
Total Residual Chlorine	C	On-line
Temperature	C	On-line
Hydrogen ion (pH)	C	On-line
Dissolved Organic Carbon (DOC)	W	Composite
(Ammonia + Ammonium) Nitrogen	W	Composite
(Nitrate + Nitrite) Nitrogen	W	Composite
Total Kjeldahl Nitrogen	W	Composite
Total Phosphorus	W	Composite

Total Suspended Solids	D	Composite
Total Metals (ATG 9)***	Q	Composite
Iron	Q	Composite
Phenolics (4AAP)	W	Composite
Oil and Grease	W	Composite
Acute Lethality with Rainbow Trout and Daphnia magna	Q	Grab

*** in accordance with the protocols referenced under Section 8.(4)(a)

Table 4
Storm Water Retention Pond- sampled at the Outlet Pipe prior to discharge to the Storm Ditch outletting to the Gibb Drain

EFFLUENT PARAMETER	MONITORING FREQUENCY	SAMPLE TYPE
Total Organic Carbon (TOC)	Q	Grab
Total Kjeldahl Nitrogen	Q	Grab
Total Phosphorus	Q	Grab
Total Suspended Solids	Q	Grab
Oil and Grease	Q	Grab
Hydrogen ion (pH)	Q	Grab
Escherichia coli (E. coli)	Q	Grab
Acute Lethality with Rainbow Trout and Daphnia magna	Q	Grab

Note: No sampling is required during any calendar quarter in which there is no discharge from the Pond.

Table 5

Site Intake Water - temperature measured at the supply line from NOVA - prior to filtration

EFFLUENT PARAMETER	MONITORING FREQUENCY	SAMPLE TYPE
Temperature	C	On-line

Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s). 4428-9W4KZK issued on May 2, 2016.

In accordance with Section 139 of the *Environmental Protection Act*, you may by written notice served upon me, the Ontario Land Tribunal and in accordance with Section 47 of the *Environmental Bill of Rights*, 1993, the Minister of the Environment, Conservation and Parks, within 15 days after receipt of this notice, require a hearing by the Tribunal. The Minister of the Environment, Conservation and Parks will place notice of your appeal on the Environmental Registry. Section 142 of the *Environmental Protection Act* provides that the notice requiring the hearing ("the Notice") shall state:

- a. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
- b. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

Pursuant to subsection 139(3) of the *Environmental Protection Act*, a hearing may not be available with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

1. The name of the appellant;
2. The address of the appellant;
3. The environmental compliance approval number;
4. The date of the environmental compliance approval;
5. The name of the Director, and;
6. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

Registrar*
Ontario Land Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5
OLT.Registrar@ontario.ca

and

The Minister of the Environment,
Conservation and Parks
777 Bay Street, 5th Floor
Toronto, Ontario
M7A 2J3

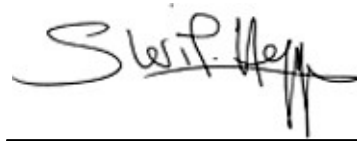
and

The Director appointed for the purposes of
Part II.1 of the *Environmental Protection Act*
Ministry of the Environment,
Conservation and Parks
135 St. Clair Avenue West, 1st Floor
Toronto, Ontario
M4V 1P5

* Further information on the Ontario Land Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349 or 1 (866) 448-2248, or www.olt.gov.on.ca

This instrument is subject to Section 38 of the *Environmental Bill of Rights*, 1993, that allows residents of Ontario to seek leave to appeal the decision on this instrument. Residents of Ontario may seek leave to appeal within 15 days from the date this decision is placed on the Environmental Registry. By accessing the Environmental Registry at <https://ero.ontario.ca/>, you can determine when the leave to appeal period ends.

The above noted activity is approved under s.20.3 of Part II.1 of the *Environmental Protection Act*.
DATED AT TORONTO this 20th day of November, 2024



Sherif Hegazy, P.Eng.
Director
appointed for the purposes of Part II.1 of the
Environmental Protection Act

KH/

c: District Manager, MECP Sarnia District.
Tariq Abou Jarboua, Dillon Consulting Limited