Pursuant to paragraph 5 (3) (a) of the *Air Quality Regulation - Clean Air Act*, this Approval to Operate is hereby issued to:

**AV GROUP NB INC. / GROUPE AV NB INC.**

for the operation of the

**Nackawic Dissolving Grade Kraft Pulpmill**

Description of Source: A dissolving grade kraft pulpmill producing a nominal 540 tonnes per day of dissolving grade pulp.

Source Classification: Air Quality Regulation Class 1A

Parcel Identifier: 75217471, 01506500, 01514009, 01512847, 75447888

Mailing Address: 103 Pinder Road
Nackawic, NB  E6G 1W4

Conditions of Approval:  See attached Schedule "A" of this Approval

Supersedes Approval:  I-7842

Valid From:  October 01, 2017

Valid To:  September 30, 2022

Recommended by:  

Issued by:  

for the Minister of Environment and Local Government  Date
SCHEDULE "A"

A. DESCRIPTION AND LOCATION OF SOURCE

AV GROUP NB INC. - Nackawic Mill operates a dissolving grade Kraft pulpmill that has a production rate of approximately 540 air dry tonnes per day of bleached Kraft dissolving grade pulp. The pulpmill is located east of the confluence of the Nackawic Stream and the Mactaquac Headpond on the north shore of the Saint John River approximately 60 km upstream of Fredericton, New Brunswick. There exist potential environmental impacts from the release of trace amounts of air contaminants from a variation of Pulpmill Emission Sources.

The operation of the AV GROUP NB INC. - Nackawic Mill at the property referenced by the Parcel Identifiers 75217471, 01506500, 01514009, 01512847, and 75447888, located in the Town of Nackawic, York County, and the Province of New Brunswick, is hereby approved under the Air Quality Regulation - Clean Air Act and is subject to the following:

B. DEFINITIONS

1. "after hours" means the hours when the Department's offices are closed. These include statutory holidays, weekends, and the hours before 8:15 a.m. and after 4:30 p.m. from Monday to Friday.

2. "Approval Holder" means the entity to which this Approval is issued, as named on the Certificate page of this Approval.
3. “normal business hours” means the hours when the Department's offices are open. These include the period between 8:15 a.m. and 4:30 p.m. from Monday to Friday excluding statutory holidays.

4. "Department" means the New Brunswick Department of Environment and Local Government.

5. "Director" means the Director of the Impact Management Branch of the Department of Environment and Local Government and includes any person designated to act on the Director's behalf.

6. "environmental emergency" means a situation where there has been or will be a release, discharge, or deposit of a contaminant or contaminants to the atmosphere, soil, surface water, and/or groundwater environments of such a magnitude or duration that is could cause significant harm to the environment or put the health of the public at risk.

7. "Facility" means the property, buildings, and equipment and all contiguous property in the title of the Approval Holder at that location.

8. "Inspector" means an Inspector designated under the Clean Air Act, the Clean Environment Act, or the Clean Water Act.

9. "Pulpmill Emission Sources" means all stationary vents, stacks, and storage piles at the Facility that release or have the potential to release air contaminants to the environment.
10. “SWIM” means Environment Canada’s Single Window Information Manager, which is a one-window secure online electronic data reporting system accessible at www.ghgreporting.gc.ca.

C. TERMS AND CONDITIONS

EMERGENCY REPORTING

11. Immediately following the discovery of an environmental emergency, a designate representing the Approval Holder shall notify the Department in the following manner:

   During normal business hours, telephone the Department's applicable Regional Office until personal contact is made (i.e. no voice mail messages will be accepted) and provide all information known about the environmental emergency. The telephone number for the Regional Office is provided below:

   Fredericton Regional Office (506) 444-5149

   After hours, telephone the Canadian Coast Guard until personal contact is made and provide all information known about the environmental emergency. The telephone number for the Canadian Coast Guard is 1-800-565-1633.
12. Within 24-hours of the time of initial notification, a copy of a **Preliminary Emergency Report** shall be faxed, by a designate representing the Approval Holder, to the Department’s applicable Regional Office as well as the Department’s Central Office using the fax numbers provided below. The Preliminary Emergency Report shall clearly communicate all information available at the time about the environmental emergency.

Within five (5) days of the time of initial notification, a copy of a **Detailed Emergency Report** shall be faxed by a designate representing the Approval Holder to the Department’s applicable Regional Office as well as the Department's Central Office using the fax numbers provided below. The Detailed Emergency Report shall include, as a minimum, the following: i) a description of the problem that occurred; ii) a description of the impact that occurred; iii) a description of what was done to minimize the impact; and iv) a description of what was done to prevent recurrence of the problem.

**Fredericton Regional Office Fax No:** (506) 453-2893

**Central Office Fax No:** (506) 453-2390

**GENERAL**

13. **Annual Sulphur Dioxide (SO2) and Particulate Matter (PM) Emission Caps:**

The Approval Holder shall:

(a) limit the total SO2 emission from the pulpmill facility to a maximum of 1,735 tonnes per calendar year; and,
(b) limit the total PM emission from the recovery boiler, the woodwaste boiler, the lime kiln and the smelt dissolving tank to a maximum of 400 tonnes per calendar year.

14. **Recovery Boiler:**

The Approval Holder shall operate the Recovery Boiler as follows:

(a) particulate emissions from the Recovery Boiler Stack shall be limited to a maximum of 375 mg/m$^3$ of dry gas, corrected to 25.0° and 101.3 kpa, and to a maximum of 40 kgs/hr when tested following the *New Brunswick Department of the Environment and Local Government Guidance Document for Source Testing* and with the impinger catch reported, but not included in, the calculation of particulate matter concentration;

(b) a minimum of two particulate performance tests per year shall be conducted on the Recovery Boiler Stack with one test being done during the period January 1st to June 30th and one test done during the period July 1st to December 31st. The test shall follow the *New Brunswick Department of the Environment and Local Government Guidance Document for Source Testing* and shall report, but not include, the impinger catch in the calculation of particulate matter concentration. Testing shall be done during normal boiler operation and data documenting this shall be submitted along with the performance test results;

(c) TRS emissions from the Recovery Boiler Stack shall be limited to a maximum of 15 ppm, on a volume basis, at stack temperature and pressure, and corrected to 8% oxygen, for any 4-hour rolling average except during Recovery Boiler Scrubber bypasses and when accepting evaporator NCGs. Any TRS emission exceedances shall be reported by facsimile or electronic mail to the Department’s applicable Regional Office and the Central Office in Fredericton within one business day;
(d) In situations where the Woodwaste Boiler is unable to accept NCGs, such that evaporator NCGs are being directed to the Recovery Boiler Scrubber, the 15 ppm TRS limit on the Recovery Boiler Scrubber Stack described in (c) is waived, providing that the combined total number of minutes of direct venting of NCGs plus the number of minutes that the Recovery Boiler TRS limit is waived does not exceed 600 minutes in any month or 2,600 minutes in any calendar year;

(e) a continuous TRS emission monitor shall be operated on the Recovery Boiler Stack configured to provide the TRS concentration in ppm, on a volume basis, at stack temperature and pressure and corrected to 8% oxygen, for the 4-hour rolling average. The monitor shall be operated at all times that the boiler is operating except that the monitor may be removed from operation for short periods of time for maintenance, calibration and repair;

(f) a continuous opacity/PM meter shall be operated on the ductwork between the outlet of the Recovery Boiler ESP and the inlet of the Teller Scrubber and shall be equipped with the appropriate displays, data logging and alarms, and shall be used to minimize PM emissions from the Recovery Boiler ESP into the Teller Scrubber; and,

(g) the Recovery Boiler Scrubber shall not be bypassed while liquor is being burned in the boiler, for more than 25 hours in any calendar month or for more than 200 hours in the calendar year.

15.  **Woodwaste Boiler:**

The Approval Holder shall operate the Woodwaste Boiler as follows:
(a) the Woodwaste Boiler shall be equipped with a continuous opacity monitor and the opacity monitor shall be maintained in a state of good repair and calibration at all times. The opacity monitor shall be operated at all times that the boiler is operating except that the monitor may be removed from service for short periods of time for maintenance, calibration and repair. This condition may be waived by the Director in circumstances such as cold startups after extended shutdowns;

(b) the particulate emissions from the Woodwaste Boiler stack shall be limited to a maximum of 7.5 kilograms per hour;

(c) a minimum of one particulate performance test per year shall be conducted on the Woodwaste Boiler. The tests shall follow the *New Brunswick Department of the Environment and Local Government Guidance Document for Source Testing* and shall report, but not include, the impinger catch in the calculation of particulate concentration. Testing shall be done during normal boiler operation and data documenting this, including the boiler steam flow, shall be submitted along with the performance test results;

(d) the Woodwaste Boiler shall be equipped with a continuous SO₂ monitor and the SO₂ monitor shall be maintained in a state of good repair and calibration at all times. The SO₂ monitor shall be operated at all times that the boiler is operating except that the monitor may be removed from service for short periods of time for maintenance, calibration and repair;

(e) small quantities of oily waste, spilled oil, commercial absorbents approved by the Director, oily rags, bark or sawdust used to absorb spilled oil, as a result from regular maintenance work or the cleanup of small spills, may be burned in the woodwaste boiler providing that these materials are added directly to the woodwaste stream as close to the boiler as possible;
(f) woodwaste that has come in contact with salt water, or any other salt source, shall not be burned in the Woodwaste Boiler;

(g) TDF may be burned in the woodwaste boiler subject to the following:

(i) TDF shall be transported to the mill in covered trucks, or by other means, such that fugitive dust emissions in transit are prevented;

(ii) TDF shall be stored at the mill in a manner such that fugitive TDF dust does not leave the mill property;

(iii) The maximum amount of TDF permitted to be stored at the mill at any time is 150 tonnes, the maximum basal area of the TDF storage pile shall not exceed 1,000 m² and the maximum height of the TDF storage pile shall not exceed 3 metres;

(iv) TDF may be burned up to a maximum of 5% by weight of the bark feed to the boiler;

(v) Once per month, for the first four months during which TDF has been burned, a representative sample of the TDF/bark mixture being fed to the boiler shall be taken and the sample shall be hand sorted to determine the % TDF by weight and this value shall be reported in the Monthly Report;

(vi) Within 12 months after commissioning the TDF system, the Approval Holder shall repeat the stack gas measurements taken during the June 2010 test burn and shall submit a report of the test results to the Department; and,
(vii) The Approval Holder shall add a Section dealing with TDF issues, such as fire fighting methods, to the Emergency Response Plan.

(h) MDF wastes may be burned in the Woodwaste Boiler up to a maximum of approximately 15,000 tonnes per year as fired. MDF waste shall not be fed to the boiler at a rate greater than approximately 7% of the feed to the boiler. The MDF waste shall be transported in covered trucks and stored at the mill in a manner such that fugitive MDF dust does not leave the property.

16. **Lime Kiln:**

The Approval Holder shall operate the Lime Kiln as follows:

(a) particulate emissions from the Lime Kiln stack shall be limited to a maximum of 10.0 kilograms per hour when tested following the New Brunswick Department of the Environment and Local Government Guidance Document for Source Testing and with the impinger catch reported, but not included, in the calculation of particulate matter concentration;

(b) a minimum of two particulate performance tests per year shall be conducted on the lime kiln with one test being done during the period January 1st to June 30th and one test done during the period July 1st to December 31st. Testing shall follow the New Brunswick Department of the Environment and Local Government Guidance Document for Source Testing. Impinger catch shall be reported, but not included, in the calculation of particulate matter concentration. Testing shall be done during normal Lime Kiln operation and data documenting this shall be submitted along with the performance test results;
(c) TRS emissions from the Lime Kiln stack shall be limited to a maximum of 15 ppm, on a volume basis, at stack conditions, for any 4-hour rolling average. Any TRS emission exceedances shall be reported by facsimile or electronic mail to the Department's applicable Regional Office and the Central Office in Fredericton within one business day;

(d) a continuous TRS emission monitor shall be operated on the Lime Kiln stack and shall be configured to provide the TRS concentration in ppm, on a volume basis, at stack temperature and pressure for the 4-hour rolling average. The monitor shall be operated at all times that the kiln is operating except that the monitor may be removed from operation for short periods of time for maintenance, calibration and repair; and,

(e) temperature and oxygen in the Lime Kiln shall be measured on a continuous basis.

17. **Dissolving Tank Vent:**

The Approval Holder shall direct the dissolving tank vent to the Recovery Boiler Scrubber at all times that the Recovery Boiler Scrubber is in operation. This requirement may be waived by the Director in situations when the Dissolving Tank ducting has become plugged.

18. **NCG System:**

The Approval Holder shall operate the NCG collection and incineration system as follows:

(a) the NCG collection and incineration system shall collect TRS and organic gases from the digester and evaporator areas with these gases being incinerated in the Woodwaste Boiler and with the Lime Kiln serving as a backup incinerator;
(b) the power boiler shall be equipped with a dedicated NCG burner; and,

(c) the NCG collection and incineration system shall be operated such that NCGs are vented for a maximum of 600 minutes in any month and vented a maximum of 2,600 minutes in any calendar year.

19. **Bleach Plant Scrubber:**

   The Approval Holder shall operate the Bleach Plant Scrubber as follows:

   (a) gases from the ClO2 absorption tower vent, the bleach plant towers, the bleach plant seal tanks and the digester air evacuation fan shall be collected and directed to the Bleach Plant Scrubber;

   (b) the Bleach Plant Scrubber shall be operated such that there is no visible colored plume at the stack and shall limit the emission of Cl2 and ClO2 from the Bleach Plant Scrubber stack to a maximum of 4.0 kg/hour of Cl2 and 4.0 kg/hour of ClO2 when measured following the *New Brunswick Department of the Environment and Local Government Guidance Document for Source Testing*; and,

   (c) once per month, the Cl2 and ClO2 emissions from the bleach plant scrubber shall be measured following the *New Brunswick Department of the Environment and Local Government Guidance Document for Source Testing*. The measurements shall be taken during normal bleach plant operation and data documenting this shall be submitted with the test results.
20. **Maximum Ambient TRS Limit:**

The Approval Holder shall operate the Facility in compliance the *Air Quality Regulation*. In addition, the Approval Holder shall operate the Facility such that ambient TRS does not exceed 10.8 parts per billion (ppb) for any 1-hour average or 3.5 ppb for any 24-hour rolling average at any location off the Facility property.

21. **Ambient Monitoring Station:**

The Approval Holder shall operate an ambient air quality monitoring station as follows:

(a) the ambient air quality monitoring station shall be configured to measure, on a continuous basis, SO2, TRS, PM2.5 and wind speed and direction and with telemetry back to a data logger at the mill; and,

(b) the ambient monitoring station shall be maintained in a state of good repair and calibration at all times, except that the ambient monitors may be removed from service for short periods of time for maintenance, calibration and repair.

22. **Operation of Chemical Plant:**

The Approval Holder shall ensure that the chemical plant hypo tower is in operation at all times that the chemical plant is in operation.

23. ** Burning of Waste Derived Fuel:**

The Approval Holder is permitted to use Waste Derived Fuel as a fuel source subject to the following restrictions:
(a) the Waste Derived Fuel can be used in the Woodwaste Boiler, the Recovery Boiler, and the Lime Kiln; and,

(b) the Waste Derived Fuel is only permitted to be received and used as a fuel if the supplier can provide a copy of the test results that demonstrates that the Waste Derived Fuel being supplied has been sampled and analyzed and meets the concentration limits listed in the *Used Oil Regulation*.

**REPORTING**

24. In the event the Approval Holder receives a complaint from the public regarding unfavourable environmental impacts associated with the Facility, the Approval Holder is to report this complaint by facsimile or electronic mail to the Department's applicable Regional Office within one business day of receiving the complaint.

25. In the event the Approval Holder violates any Term and Condition of this Approval or the *Air Quality Regulation*, the Approval Holder is to immediately report this violation by facsimile or electronic mail to the Department's applicable Regional Office and the Central Office in Fredericton. In the event the violation may cause the health or safety of the general public to be at risk and/or significant harm to the environment could or has resulted, the Approval Holder shall follow the Emergency Reporting procedures contained in this Approval.

26. **By the end of each month**, the Approval Holder shall submit to the Central and Regional Office, a Monthly Air Quality Report for the previous month, which may be in electronic format, containing the following information:
(a) A cover letter, signed by an Approval Holder official, stating that the information in the Monthly Air Quality Report has been reviewed and found to be accurate and highlighting any air quality related events that occurred during the month;

(b) A summary of any air quality related incidents reported pursuant to the Emergency Reporting Section of this Approval, and of any violations of the Clean Air Act, the Air Quality Regulation, or of this Approval and a summary of any operating problems related to environmental control equipment, the continuous air emission monitoring devices, the non-condensable gas system, and/or the ambient monitoring station;

(c) The total production of dissolving grade pulp during the month;

(d) A table showing the number of high opacity events at the Power Boiler, the minutes of high opacity per event and a comment on the cause of the high opacity event;

(e) The number of truckloads of TDF delivered to the mill that month, an estimate of the amount of TDF burned that month, an estimate of the amount of woodwaste burned that month, a calculation of the % TDF by weight burned that month and an estimate of the amount of TDF stored onsite at the end of the month;

(f) The number of truckloads of MDF delivered to the mill that month, an estimate of the amount of MDF burned that month, an estimate of the amount of woodwaste burned that month, a calculation of the % MDF by weight burned that month and an estimate of the amount of MDF stored onsite at the end of the month;
(g) a table showing the hourly average SO₂ readings from the Power Boiler SO₂ CEM;

(h) tables showing the 1-hour average and 4-hour rolling average of TRS emissions from the Recovery Boiler Stack;

(i) the number of hours in the month when the temperature of the weak black liquor in storage was >165°F and the maximum temperature of the weak black liquor in storage if the temperature was >165°F;

(j) the number of hours of Recovery Boiler bypass and a calculation of the monthly percent bypass and, in the December report, the annual total hours of bypass and the annual percent bypass;

(k) the number of minutes per month that the Dissolving Tank Vent bypassed the Recovery Boiler Scrubber;

(l) a table showing the 4-hour rolling average of TRS emissions from the Lime Kiln Stack;

(m) the result of the monthly bleach plant scrubber exhaust Cl₂ and ClO₂ test;

(n) a table showing:
   (i) the number of minutes of direct NCG venting;
   (ii) the number of minutes that NCGs have been directed to the Recovery Boiler; and,
   (iii) in the December report, the total of the minutes from (i) and (ii) for the year and also expressed as an annual percentage.
(o) the number of minutes in the month when the digester air evacuation fan was vented to atmosphere;

(p) the results of any source tests done that month in the format specified by the *New Brunswick Department of the Environment and Local Government Guidance Document for Source Testing*; and,

(q) a summary of the ambient air quality data from the ambient monitoring station showing the one hour average and the 24-hour rolling average of TRS and SO₂ in ppb, the PM2.5 reading in micrograms per cubic meter, and a table showing the hourly average wind speed and direction.

27. **By January 31st of each year**, the Approval Holder shall submit to the Department an Annual Air Quality Report, for the previous calendar year, including:

(a) a table showing the amount of each type of fuel burned including fuel oil, woodwaste, propane, TDF, and any other fuel (including NCGs) and the % sulphur content of each fuel and the basis for this information;

(b) an itemized list of any process sources of SO₂ or a statement that there are no process sources of SO₂;

(c) calculations showing the total annual emission of SO₂ in tonnes and in kilograms per tonne of annual production;
(d) a summary of the particulate stack tests done during the year, a calculation of the annual particulate emissions from each boiler and kiln, taking into account the operating time of each unit and the total particulate emission from the mill in tonnes per year and in kilograms per tonne of annual production;

(e) calculations showing the total annual emission of TRS in tonnes and in kilograms per tonne of annual production;

(f) the annual average ambient SO$_2$ reading from the Caverhill Road monitoring station; and,

(g) the 98th percentile of the 24-hour average readings from the PM2.5 analyzer at Caverhill.

28. **By June 1st of each year**, the Approval Holder shall submit a greenhouse gas emissions report, for the previous calendar year, to the Department by means of the SWIM system. Reporting shall be consistent with Environment Canada's Greenhouse Gas Emissions Reporting Program (GHGRP). Reporting requirements are published annually in the Canada Gazette, Part 1 under the authority of subsection 46(1) of the *Canadian Environmental Protection Act, 1999* (CEPA 1999).

29. **By July 1st of each year**, the Approval Holder shall prepare and submit an Annual Greenhouse Gas Progress Report to the Department, for the previous calendar year, in accordance with the Guidelines for Greenhouse Gas Management for Industrial Emitters in New Brunswick.
Prepared by: ______________________________
Impact Management Branch