Report Date:March 05, 2019 File:2149

Report Number:096625

REGISTERED MAIL

SKOOKUMCHUCK PULP INC.

95 - 10551 Shellbridge Way
Richmond BC V6X 2W8

Dear SKOOKUMCHUCK PULP INC.

Re: An Administrative Penalty Referral, Permit 2149, 4501 Farstad Way, Skookumchuck BC, Air

On November 19, 2018, Ministry of Environment and Climate Change Strategy, Environmental Protection Division staff conducted an inspection of your facility, SKOOKUMCHUCK PULP INC. located at 4501 Farstad Way, Skookumchuck BC with authorization number 2149 under the *Environmental Management Act*.

For your information, this inspection record is being referred for an Administrative Penalty.

Inspection Details:

Requirement Description:	**1. AUTHORIZED DISCHARGES, 1.1, 1.1.1** 1.1.1: This section applies to the discharge of air from a LOW ODOUR RECOVERY BOILER. The site reference number for this discharge is E215999. 1.1.1 The maximum rate of discharge is 5,040 cubic meters per minute.

Ministry of Environment and Climate Change Strategy

Compliance
Environmental Protection Division

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205 Industrial Rd G
Cranbrook BC V1C 7G5

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Details/Findings:	On November 19, 2018, Ministry of Environment and Climate Change Strategy (Ministry) Environmental Protection Officer Taylor White (Officer White) conducted a site inspection of Skookumchuck Pulp Inc. bleached kraft pulp mill located near Skookumchuck, BC to verify compliance with Permit 2149 (Permit). The Permit authorizes the discharge of emissions to air from a bleached kraft pulp mill. The Permit was first issued on July 14, 1978, and last amended on June 13, 2013. Present during the inspection was Environmental Protection Officer Kelly Mills and Brandy Craig (Environmental Coordinator, Skookumchuck Pulp Inc.). The time period covered by this inspection was from September 1, 2017 to November 19, 2018 (inspection period) and included a review of the following documentation: - "Authorization PA2149 Annual Report for 2017" (2017 Annual Report) prepared by Brandy Craig submitted on April 4, 2018; - "Internal Mill Stack Testing for SO2, TRS, and ClO2" (Monthly reports) prepared by Brandy Craig submitted monthly throughout the inspection period; - Non-compliance reports (NCRs) and Dangerous Goods Incident Reports (DGIRs) submitted throughout the inspection period; and, - Maintenance records for authorized works provided by Brandy Craig via email on November 21, 2018. As confirmed in the Monthly report submissions, the recovery boiler rate of discharge exceeded the permit limit of 5,040 m3/min on two occasions during the inspection period: November 20, 2017: 5,219 m3/min October 14, 2018: 5,062 m3/min
Compliance:	Out
Actions to be taken:	Maintain the rate of discharge below the maximum permit limit.
Requirement Description:	**1. AUTHORIZED DISCHARGES, 1.1, 1.1.2** 1.1.2: This section applies to the discharge of air from a LOW ODOUR RECOVERY BOILER. The site reference number for this discharge is E215999. 1.1.2 The characteristics of the discharge must be equivalent to or better than: Total Particulate Matter Maximum: 60 mg/m3 Total Reduced Sulphur - 24 hour average Maximum: 5 ppmv 1 hour average Maximum: 15 ppmv Sulphur Dioxide - 24 hour average Maximum: 75 ppmv

Details/Findings:	As confirmed in the Monthly report submissions, Total Reduced Sulphur (TRS) exceeded the 1 hour average maximum of 15 ppmv on six occasions during the inspection period: September 20, 2017 10:00 September 26, 2017 01:00 September 26, 2017 02:00 September 30, 2017 21:54 November 29, 2017 00:50 November 30, 2017 11:00
Compliance:	Out
Actions to be taken:	Operate the recovery boiler in a manner that maintains TRS below the permit limits.
Requirement Description:	**1. AUTHORIZED DISCHARGES, 1.1, 1.1.3** 1.1.3: This section applies to the discharge of air from a LOW ODOUR RECOVERY BOILER. The site reference number for this discharge is E215999. 1.1.3 The authorized works are a low odour recovery boiler, combustion air control system, electrostatic precipitator, and related appurtenances approximately located as shown on attached Site Plan A.
Details/Findings:	During the site inspection, the recovery boiler was observed at the location as shown on the site plan. Schematics of the combustion air control system, electrostatic precipitator and related appurtenances were observed on a DCS screen in the Power & Recovery Control Room.
Compliance:	In
Requirement Description:	**1. AUTHORIZED DISCHARGES, 1.2, 1.2.1** 1.2.1: This section applies to the discharge of contaminants to the air from a WOOD WASTE FIRED POWER BOILER. The site reference number for this discharge is E102357. 1.2.1 The maximum authorized rate of discharge is 2,821 cubic meters per minute.

Details/Findings:	As confirmed in Monthly report submissions, the rate of discharge exceeded the permit limit of 2,821 m3/min on two occasions during the inspection period: October 16, 2018: 3,100 m3/min January 19, 2018: 2,823.6 m3/min
Compliance:	Out
Actions to be taken:	Maintain the rate of discharge below the maximum permit limit.
Requirement Description:	**1. AUTHORIZED DISCHARGES, 1.2, 1.2.2** 1.2.2: This section applies to the discharge of contaminants to the air from a WOOD WASTE FIRED POWER BOILER. The site reference number for this discharge is E102357. 1.2.2 The characteristics of the discharge must not exceed: Total Particulate Maximum: 70 mg/m3, Sulphur Dioxide Maximum: 75 ppmv, Opacity: Discharge smoke opacity must not exceed 20% for periods longer than 3 minutes in any 1/2 hour interval and must not exceed 40% at any time. During cold start-up of the boiler, a variance from the above requirement to a maximum opacity of 40% is permitted for a maximum duration of two hours.
Details/Findings:	As confirmed in the Monthly report submissions, opacity exceeded 20% for greater than 3 minutes in a 30 minute period on 63 occasions during the inspection period. See the attached spreadsheet for a list of exceedance dates. Opacity exceeded 40% on five occasions during the inspection period that were not during cold start-up of the boiler: December 3, 2017 12:05; October 12, 2018 10:40, 13:56, 14:27; and, October 28, 2018 13:30.
Compliance:	Out
Actions to be taken:	Operate the power boiler in a manner that maintains opacity below the permit limits.

Requirement Description:	**1. AUTHORIZED DISCHARGES, 1.2, 1.2.2** 1.2.2: This section applies to the discharge of contaminants to the air from a WOOD WASTE FIRED POWER BOILER. The site reference number for this discharge is E102357. 1.2.2 The characteristics of the discharge must not exceed: Total Particulate Maximum: 70 mg/m3, Sulphur Dioxide Maximum: 75 ppmv, Opacity: Discharge smoke opacity must not exceed 20% for periods longer than 3 minutes in any 1/2 hour interval and must not exceed 40% at any time. During cold start-up of the boiler, a variance from the above requirement to a maximum opacity of 40% is permitted for a maximum duration of two hours.
Details/Findings:	Total particulate matter concentration was less than the permit limit of 70 mg/m3 during all monitoring events conducted throughout the inspection period. Monitoring of sulphur dioxide is not required therefore compliance with the permit limit of 75 ppmv could not be determined.
Compliance:	In
Requirement Description:	**1. AUTHORIZED DISCHARGES, 1.2, 1.2.3** 1.2.3: This section applies to the discharge of contaminants to the air from a WOOD WASTE FIRED POWER BOILER. The site reference number for this discharge is E102357. 1.2.3 The authorized works are a wood residue fuelled power boiler and related appurtenances approximately located as shown on attached site plan A.
Details/Findings:	During the site inspection, the wood waste fired power boiler was observed at the location as shown on the site plan.
Compliance:	In
Requirement Description:	**1. AUTHORIZED DISCHARGES, 1.2, 1.2.4** 1.2.4: This section applies to the discharge of contaminants to the air from a WOOD WASTE FIRED POWER BOILER. The site reference number for this discharge is E102357. 1.2.4 Authorized fuels for combustion in the wood residue fuelled power boiler are natural gas, uncontaminated wood residue and dilute non-condensable gases which are a by product of the Kraft pulping process.
Details/Findings:	At the time of the site inspection, wood residue was being used as fuel for combustion.

Compliance:	In
Requirement Description:	**1. AUTHORIZED DISCHARGES, 1.3, 1.3.1** 1.3.1: This section applies to the discharge of contaminants to the air from a NATURAL GAS FIRED POWER BOILER. The site reference number for this discharge is E210075. 1.3.1 The maximum rate of discharge is 2,030 cubic meters per minute.
Details/Findings:	There are no monitoring requirements for the natural gas fired power boiler therefore compliance with the rate of discharge could not be determined for the inspection period. The natural gas fired power boiler was not operational during the site inspection.
Compliance:	Not Determined
Requirement Description:	**1. AUTHORIZED DISCHARGES, 1.3, 1.3.2** 1.3.2: This section applies to the discharge of contaminants to the air from a NATURAL GAS FIRED POWER BOILER. The site reference number for this discharge is E210075. 1.3.2 The characteristics of the discharge must be typical combustion products of natural gas.
Details/Findings:	The natural gas fired power boiler was not operational during the site inspection therefore compliance with this requirement could not be determined.
Compliance:	Not Determined
Requirement Description:	**1. AUTHORIZED DISCHARGES, 1.3, 1.3.3** 1.3.3: This section applies to the discharge of contaminants to the air from a NATURAL GAS FIRED POWER BOILER. The site reference number for this discharge is E210075. 1.3.3 The authorized works are the existing power boiler, stack, and related appurtenances approximately located as shown on attached Site Plan A.
Details/Findings:	During the site inspection, the natural gas fired power boiler was observed at the location as shown on the site plan.

Compliance:	In
Requirement Description:	**1. AUTHORIZED DISCHARGES, 1.4, 1.4.1** 1.4.1: This section applies to the discharge of air from a LIME KILN. The site reference number for this discharge is E220519. 1.4.1 The maximum rate of discharge is 900 cubic metres per minute.
Details/Findings:	As confirmed in the Monthly report submissions, the rate of discharge was less than the permit limit of 900 m3/min during all monitoring events conducted throughout the inspection period.
Compliance:	In
Requirement Description:	**1. AUTHORIZED DISCHARGES, 1.4, 1.4.2** 1.4.2: This section applies to the discharge of air from a LIME KILN. The site reference number for this discharge is E220519. 1.4.2 The characteristics of the discharge must be equivalent to or better than: Total Particulate Matter Maximum: 70 mg/m3, Total Reduced Sulphur Maximum: 12 ppmv, (average of 4 grab samples taken over 1 hour) Sulphur Dioxide 1 h average Maximum: 10 ppmv
Details/Findings:	As confirmed in the Monthly report submissions, TRS discharged from the lime kiln exceeded 12 ppmv on one occasion during the inspection period: October 24, 2017: 16.66 ppmv
Compliance:	Out
Actions to be taken:	Operate the lime kiln in a manner that maintains TRS below the permit limits, as required.
Requirement Description:	**1. AUTHORIZED DISCHARGES, 1.4, 1.4.3** 1.4.3: This section applies to the discharge of air from a LIME KILN. The site reference number for this discharge is E220519. 1.4.3 The authorized works are a lime kiln, electrostatic precipitator, and related appurtenances approximately located as shown on attached Site Plan B.

Details/Findings:	During the November 19, 2018 site inspection, the lime kiln was observed at the location as shown on the site plan. Schematics of the electrostatic precipitator and related appurtenances were observed on a DCS screen in the Power & Recovery Control Room.
Compliance:	In
Requirement Description:	**1. AUTHORIZED DISCHARGES, 1.5, 1.5.1** 1.5.1: This section applies to the discharge of contaminants from a SMELT DISSOLVING TANK. The site reference number for this discharge is E216000. 1.5.1 The maximum rate of discharge is 500 cubic metres per minute.
Details/Findings:	As confirmed in the Monthly report submissions, the rate of discharge from the smelt dissolving tank was less than the permit limit of 500 m3/min during all monitoring events conducted throughout the inspection period.
Compliance:	In
Requirement Description:	**1. AUTHORIZED DISCHARGES, 1.5, 1.5.2** 1.5.2: This section applies to the discharge of contaminants from a SMELT DISSOLVING TANK. The site reference number for this discharge is E216000. 1.5.2 The characteristics of the discharge must be equivalent to or better than: Total Particulate Matter Maximum: 180 mg/m3, Total Reduced Sulphur Maximum: 20 ppmv, Sulphur Dioxide Maximum: 20 ppmv.
Details/Findings:	As confirmed in a November 8, 2017 NCR, sulphur dioxide exceeded the permit limit of 20 ppmv on two occasions during the inspection period: November 7, 2017: 45.5 ppmv, 47.6 ppmv
Compliance:	Out

Requirement Description:	**1. AUTHORIZED DISCHARGES, 1.5, 1.5.3** 1.5.3: This section applies to the discharge of contaminants from a SMELT DISSOLVING TANK. The site reference number for this discharge is E216000. 1.5.3 The authorized works are wet scrubber, ducts, fan, stack, and related appurtenances approximately located as shown on attached Site Plan A.
Details/Findings:	During the site inspection, schematics of the authorized works were observed on a DCS screen in the Power & Recovery Control Room, however, authorized works were not visually observed at the location as shown on the site plan as part of the inspection.
Compliance:	Not Determined
Requirement Description:	**1. AUTHORIZED DISCHARGES, 1.6, 1.6.1** 1.6.1: This section applies to the discharge of air from a CHIP AIR DENSITY CYCLONE. The site reference number for this discharge is E210089. 1.6.1 The maximum rate of discharge is 700 cubic meters per minute.
Details/Findings:	There are no monitoring requirements for the chip air density cyclone therefore compliance with the rate of discharge could not be determined.
Compliance:	Not Determined
Requirement Description:	**1. AUTHORIZED DISCHARGES, 1.6, 1.6.2** 1.6.2: This section applies to the discharge of air from a CHIP AIR DENSITY CYCLONE. The site reference number for this discharge is E210089. 1.6.2 The characteristics of the discharge must be equivalent to or better than: Total Particulate Matter Maximum: 230 mg/m3
Details/Findings:	There are no monitoring requirements for the chip air density cyclone therefore compliance with the characteristics of the discharge could not be determined.
Compliance:	Not Determined

Requirement Description:	**1. AUTHORIZED DISCHARGES, 1.6, 1.6.3** 1.6.3: This section applies to the discharge of air from a CHIP AIR DENSITY CYCLONE. The site reference number for this discharge is E210089. 1.6.3 The authorized works are a cyclone, and related appurtenances approximately located as shown on attached Site Plan B.
Details/Findings:	During the site inspection, the chip air density cyclone was observed at the location as shown on the site plan.
Compliance:	In
Requirement Description:	**1. AUTHORIZED DISCHARGES, 1.7, 1.7.1** 1.7.1: This section applies to the discharge of contaminants from the following sources: Point of Discharge: Bleach Plant Stack - Site Reference Number: E216008; Point of Discharge: Chlorine Dioxide Tail Gas Scrubber - Site Reference Number: E210082; Point of Discharge: Tower 20 Vent - Site Reference Number: E216009; Point of Discharge: Tower 40 Vent - Site Reference Number: E216010. 1.7.1 The combined maximum rate of discharge is 1,288 cubic meters per minute.
Details/Findings:	As confirmed in the Monthly report submissions, the combined rate of discharge was below the permit limit of 1,288 m3/min during monitoring events throughout the inspection period.
Compliance:	In
Requirement Description:	**1. AUTHORIZED DISCHARGES, 1.7, 1.7.2** 1.7.2: This section applies to the discharge of contaminants from the following sources: Point of Discharge: Bleach Plant Stack - Site Reference Number: E216008; Point of Discharge: Chlorine Dioxide Tail Gas Scrubber - Site Reference Number: E210082; Point of Discharge: Tower 20 Vent - Site Reference Number: E216009; Point of Discharge: Tower 40 Vent - Site Reference Number: E216010. 1.7.2 The characteristics of the discharge must not exceed: Total Chloride (as ClO2) Maximum 39 ppmv (in the bleach plant stack and tail gas scrubber)

Details/Findings:	As confirmed in the Monthly report submissions, the discharge exceeded the total chlorine (as ClO2) permit limit of 39 ppmv on seven occasions during the inspection period: Tail Gas Scrubber: - July 13, 2018: 63.51 ppmv (Initial routine stack test) - July 13-22, 2018: 90.29, 91.1, 84.74, 47.72, 41.3 ppmv (Subsequent retests) Bleach Plant Stack: - November 8, 2017: 41.16 ppmv
Compliance:	Out
Actions to be taken:	Manage the bleach plant in a manner that maintains the discharge below permit limits.
Requirement Description:	**1. AUTHORIZED DISCHARGES, 1.7, 1.7.3** 1.7.3: This section applies to the discharge of contaminants from the following sources: Point of Discharge: Bleach Plant Stack - Site Reference Number: E216008; Point of Discharge: Chlorine Dioxide Tail Gas Scrubber - Site Reference Number: E210082; Point of Discharge: Tower 20 Vent - Site Reference Number: E216009; Point of Discharge: Tower 40 Vent - Site Reference Number: E216010. 1.7.3 The authorized works are scrubbers, fans, ducts, piping, tanks, and related appurtenances approximately located as shown on attached Site Plans B and C.
Details/Findings:	During the site inspection, schematics of the authorized works were observed on a DCS screen in the Bleach Plant Control Room, however, authorized works were not visually observed at the location as shown on the site plan as part of the inspection.
Compliance:	Not Determined
Requirement Description:	**1. AUTHORIZED DISCHARGES, 1.8, 1.8.1** 1.8.1: This section applies to the discharge of air from a NON-CONDENSIBLE GAS (NCG) INCINERATOR. The site reference number for this discharge is E216025. 1.8.1 The maximum rate of discharge is 200 cubic metres per minute.
Details/Findings:	As confirmed in the Monthly report submissions, the rate of discharge from the NCG Incinerator was below the permit limit of 200 m3/min during monitoring events throughout the inspection period.

Compliance:	In
Requirement Description:	**1. AUTHORIZED DISCHARGES, 1.8, 1.8.2** 1.8.2: This section applies to the discharge of air from a NON-CONDENSIBLE GAS (NCG) INCINERATOR. The site reference number for this discharge is E216025. 1.8.2 The characteristics of the discharge must be equivalent to or better than: Sulphur Dioxide Maximum: 30 ppmv
Details/Findings:	As confirmed in the Monthly report submissions, the sulphur dioxide concentration was below the permit limit of 30 ppmv during all monitoring events conducted throughout the inspection period.
Compliance:	In
Requirement Description:	**1. AUTHORIZED DISCHARGES, 1.8, 1.8.3** 1.8.3: This section applies to the discharge of air from a NON-CONDENSIBLE GAS (NCG) INCINERATOR. The site reference number for this discharge is E216025. 1.8.3 The authorized works are a stand-alone NCG incinerator, scrubber, ducts, fans, and related appurtenances approximately located as shown on attached Site Plan A.
Details/Findings:	During the site inspection, the NCG incinerator was observed at the location as shown on the site plan. Schematics of the scrubber, ducts, fans, and related appurtenances were observed on a DCS screen in the Power & Recovery Control Room.
Compliance:	In
Requirement Description:	**1. AUTHORIZED DISCHARGES, 1.9, 1.9.1** 1.9.1: This section applies to the discharge of contaminants from the following sources: See PDF file "2013-06-13 Amended Permit 2149 - Section 1.9". 1.9.1 The combined maximum rate of discharge is 1,800 cubic meters per minute.
Details/Findings:	Monitoring of the combined rate of discharges from sources authorized under section 1.9 is not required therefore compliance cannot be determined.

Compliance:	Not Determined
Requirement Description:	**1. AUTHORIZED DISCHARGES, 1.9, 1.9.2** 1.9.2: This section applies to the discharge of contaminants from the following sources: See PDF file "2013-06-13 Amended Permit 2149 - Section 1.9". 1.9.2 The characteristics of the discharge must not exceed: Total Reduced Sulphur Maximum: 0.1 kg/adut
Details/Findings:	As confirmed in the 2017 Annual Report, TRS from the sources authorized under section 1.9 was less than 0.1 kg/adut in 2017.
Compliance:	In
Requirement Description:	**1. AUTHORIZED DISCHARGES, 1.9, 1.9.3** 1.9.3: This section applies to the discharge of contaminants from the following sources: See PDF file "2013-06-13 Amended Permit 2149 - Section 1.9". 1.9.3 The authorized works are the respective tanks, washers, vents, and their related appurtenances approximately located as shown on attached Site Plan A,B, and C.
Details/Findings:	The section 1.9 authorized works were not observed as part of the site inspection therefore compliance could not be determined.
Compliance:	Not Determined
Requirement Description:	**2. GENERAL REQUIREMENTS, 2.1 Works Complete and Operational** 2.1: The authorized works detailed in Section 1 must be complete and in operation while discharging.
Details/Findings:	DCS screens in the Power & Recovery Control Room and Bleach Plant Control room were observed as part of the site inspection. All authorized works were complete and operational at the time of inspection.
Compliance:	In

Requirement Description:	**2. GENERAL REQUIREMENTS, 2.3 Maintenance of Works and Emergency Procedures** 2.3: The Permittee must inspect the authorized works regularly and maintain them in good working order. In the event of an emergency or condition beyond the control of the Permittee which prevents effective operation of the authorized works or leads to unauthorized discharge, the Permittee must: i) Comply with all applicable statutory requirements, including the Spill Reporting Regulation; ii) Immediately notify the Regional Manager, Environmental Protection or an Officer designated by the Director; and a. by e-mail and telephone if the condition occurs between the hours of 08:00 and 16:30 Monday to Friday; or b. by e-mail and fax if the condition occurs at any other time. iii) Take appropriate remedial action for the prevention of pollution. The Director may reduce or suspend operations to protect the environment during an emergency until the authorized works have been restored and/or corrective steps have been taken to prevent unauthorized discharges. During and/or after the emergency event or condition, the Permittee must conduct sampling and analysis of discharges which may be equivalent to or more stringent than the monitoring requirements of this permit and/or applicable statutory requirements. As the results of such sampling become available, the Permittee must provide the results to the Regional Manager, Environmental Protection. The Director may require additional monitoring at any time by specifying such in writing to the Permittee. The Permittee must prepare contingency plans outlining emergency procedures to be undertaken in the event of foreseeable emergency incidents that may result in significant release of contaminants to the atmosphere.
Details/Findings:	Maintenance records were not presented upon request during the site inspection because the maintenance manager was unavailable. Maintenance records were provided via email on November 21, 2018 at the request of Officer White. The records demonstrate that routine and emergency maintenance was conducted on authorized works throughout the inspection period. During the site inspection, control room operators were able to describe procedures for restoring effective operation of authorized works in the event of emergencies or unexpected conditions such as electrostatic precipitator trips or ambient TRS exceedances. During the site inspection, the status of authorized works was reviewed on the DCS screens in the relevant control rooms. All authorized works were operational.
Compliance:	In
Requirement Description:	**2. GENERAL REQUIREMENTS, 2.4 Emergency Venting- NCG** 2.4: The Permittee must immediately notify the Regional Manager, Environmental Protection, of periods of venting of NCG from any of the sources authorized in Section 1, that are of one hour or longer duration. A summary of these venting periods must also be provided in the Annual Report as required by Section 4.

Details/Findings:	A summary of 29 NCG venting events of one hour or longer in duration was provided in the 2017 Annual Report. As confirmed in NCRs submitted between January 1, 2018 and November 19, 2018, the permittee provided 12 notifications of NCG venting events one hour or longer in duration.
Compliance:	In
Actions to be taken:	Please ensure the duration of venting events is included in future annual report summaries and NCRs.
Requirement Description:	**2. GENERAL REQUIREMENTS, 2.5 Bypasses** 2.5: The discharge of contaminants which have bypassed the authorized treatment works is prohibited unless the prior approval of the Director is obtained and confirmed in writing.
Details/Findings:	The following bypasses of authorized treatment works received prior approval of the Director: November 29, 2017 0800-1700: bypass of SO2 monitor to remove current monitor and replace with old TRS monitor; November 22, 2017 0800-1700: bypass of TRS monitor for installation of replacement monitor; January 21-26, 2018: bypass of opacity monitoring system for power boiler stack; and, July 15, 2018, 6 hour period: bypass of turbo tak scrubber for bleach plant stack.
Compliance:	In
Requirement Description:	**2. GENERAL REQUIREMENTS, 2.5 Bypasses** 2.5: The discharge of contaminants which have bypassed the authorized treatment works is prohibited unless the prior approval of the Director is obtained and confirmed in writing.

Details/Findings:	As confirmed in NCRs submitted throughout the inspection period, unauthorized bypasses of authorized treatment works occurred on the following occasions: January 22, 2018: NCG incinerator SO2 scrubber offline for an acid wash (Section 1.8.3). February 2, 2018: Bleach plant turbo-tak scrubber re-circulation pump offline from 15:01-15:29 for repairs (Section 1.7.2). October 24, 2018: Bleach plant turbo-tak scrubber re-circulation pump offline from 22:47-02:00 for repairs (Section 1.7.2). October 25, 2018: ClO2 scrubber effluent re-circulation pump offline due to potential pump failure (Section 1.7.2). November 1, 2018: ClO2 scrubber effluent re-circulation pump offline to replace leaking section of pipe (Section 1.7.2). November 17, 2018: Dissolving tank SO2 scrubber offline from 12:06-13:29 for an acid wash (Section 1.5.3).
Compliance:	Out
Actions to be taken:	Obtain prior approval of the Director before bypassing authorized treatment works.
Requirement Description:	**2. GENERAL REQUIREMENTS, 2.6 Process Modifications** 2.6: The Regional Manager, Environmental Protection, must be notified prior to implementing changes to any process that may adversely affect the quality and/or quantity of the discharge.
Details/Findings:	During the site inspection, Ms. Craig confirmed that no process modifications have been implemented during the inspection period therefore, compliance with this requirement is not applicable for the inspection period.
Compliance:	Not Applicable
Requirement Description:	**2. GENERAL REQUIREMENTS, 2.7 Notification** 2.7: The Regional Manager, Environmental Protection, must be notified of a change in ownership of the works within 10 days of an ownership change.

Details/Findings:	During the site inspection, Ms. Craig confirmed that no there has been no change in ownership therefore, compliance with this requirement is not applicable for the inspection period.
Compliance:	Not Applicable
Requirement Description:	**2. GENERAL REQUIREMENTS, 2.8 Future Upgrading of Works** 2.8: The continued use of the existing treatment and disposal works is authorized for the time being. Upgrading of the treatment works and disposal facilities may be required at any time based on monitoring results, and/or any other pertinent information.
Details/Findings:	Upgrading of treatment works and disposal facilities have not been required therefore, compliance with this requirement is not applicable for the inspection period.
Compliance:	Not Applicable
Requirement Description:	**2. GENERAL REQUIREMENTS, 2.9 Standard Conditions** 2.9: For the administration of this permit all gaseous volumes must be converted to standard conditions of 293.15 K and 101.325 kPa with zero percent moisture. Where applicable, boiler particulate losses must be corrected to 8% oxygen.
Details/Findings:	Monthly reports submitted throughout the inspection period do not indicate if gaseous volumes were converted to standard conditions therefore compliance with this requirement could not be determined.
Compliance:	Not Determined
Requirement Description:	**3. MONITORING REQUIREMENTS, 3.1 Source Monitoring** 3.1: The following monitoring program is to be carried out by the permittee: See PDF file "2013_06_13 2149 - 3.1 Source Monitoring".

Details/Findings:	As confirmed in the Monthly reports, source monitoring was conducted as required by section 3.1 throughout the inspection period with the exception of the following: Continuous monitoring of recovery boiler TRS was not monitored between November 16 - 23, 2018 due to a failure of the TRS analyzer.
Compliance:	Out
Actions to be taken:	Ensure monitoring is conducted as required by the section 3.1 source monitoring program.
Requirement Description:	**3. MONITORING REQUIREMENTS, 3.2 Ambient Monitoring, 3.2.1 Ambient Monitoring Program** 3.2.1: The following ambient air quality monitoring program is to be carried out by the permittee. Location: Farstead Way - EMS ID: E254190 - Parameter: TRS, PM 2.5 - Frequency: Continuous, Every 6th Day. In addition, the permittee must operate a meteorological station consisting of an anemometer, wind vane, and delta temperature sensors on a 10 meter tower located on site. The permittee must provide facilities to allow the Regional Manager, Environmental Protection to access the meteorological and ambient information and be uploaded to the ministry's database.
Details/Findings:	As confirmed in the Monthly reports, PM 2.5 ambient air quality monitoring was conducted every 6th day throughout the inspection period with the exception of a missed sampled on December 15, 2017 due to a measurement error. A review of the Ministry's EMS database confirmed that PM 2.5 data has been uploaded throughout the inspection period. TRS was monitored continuously throughout the inspection period with the exception of occasional outages. TRS data has been uploaded to the BC Air Quality database. The permittee is out of compliance with section 3.2.1 for the missed PM 2.5 analysis on December 15, 2017.
Compliance:	Out
Actions to be taken:	Ensure monitoring is conducted at the frequency required by section 3.2.1.

Requirement Description:	**3. MONITORING REQUIREMENTS, 3.2 Ambient Monitoring, 3.2.2 Ambient TRS Control Regime** 3.2.2: TRS emissions from the mill are to be controlled so that 90% of all measured 1- hour average values in any calendar month are less than or equal to 5 ppbv (7 ug/m3) and no 1 hour average exceeds 20 ppbv (28 ug/m3) at the ambient station detailed in Section 3.2.1. The method for calculating 1-hour average values must be approved by the Director. In the event of an hourly TRS average at any one station exceeding 20 ppbv the permittee is required to immediately notify the Regional Manager, Environmental Protection, or an Officer designated by the Director. The notification must include the duration, magnitude, possible reason and steps taken to resolve the exceedance, location, meteorological conditions, date and time of such an occurrence and be issued through e-mail to the Ministry.
Details/Findings:	As confirmed in the Monthly reports and NCRs, TRS exceeded the 1-hour average of 20 ppbv on 8 occasions during the inspection period. TRS was less than or equal to 5 ppbv for less than 90% of the time in the following months: February 2018 - 82% October 2017 - 88.8% September 2017 - 83% August 2017 - 63%
Compliance:	Out
Actions to be taken:	Control TRS emissions from the mill in a manner that 90% of all measured 1- hour average values in any calendar month are less than or equal to 5 ppbv (7 ug/m3) and no 1-hour average exceeds 20 ppbv (28 ug/m3) at the ambient station detailed in section 3.2.1.
Requirement Description:	**3. MONITORING REQUIREMENTS, 3.3 Plant Operating Conditions** 3.3: For the purpose of validating the sampling and monitoring data, sampling should be conducted at "actual operating conditions" of the plant. Actual operating conditions are defined as representing an operational level equal to or greater than the 90th percentile for the ninety (90) days prior to the date the sample is to be taken. This information should be retained by the permittee for inspection by the Ministry of Environment upon request. This requirement may be waived with the prior written permission of the Director.
Details/Findings:	Datasheets for stack tests performed on the lime kiln, dissolving tank, and bleach plant stacks throughout the inspection period were provided to the Ministry. All datasheets provided confirmation that none of the stack tests were conducted while operating at or greater than the 90th percentile.
Compliance:	Out

Actions to be taken:	Conduct sampling at actual operating conditions as defined by section 3.3.
Requirement Description:	**3. MONITORING REQUIREMENTS, 3.4 Sampling Procedure** 3.4: Source testing procedures for the measurement of sulphur dioxide (SO2), particulates, total reduced sulphur compounds (TRS) and nitrogen oxides (NOx) is to be carried out in accordance with those procedures described in the most recent edition of the "British Columbia Field Sampling Manual for Continuous Monitoring and the Collection of Air, Air-emission, Water, Wastewater, Soil, sediment, and Biological Samples". Alternate test methods must be approved in writing by the Director prior to performing source testing.
Details/Findings:	Part B, Appendix 9.1 (Page 85) of the "British Columbia Field Sampling Manual for Continuous Monitoring and the Collection of Air, Air-emissions, Water, Wastewater, Soil, sediment, and Biological Samples" lists required information for stationary emissions survey reports (stack test results). The permittee has not consistently included the following information, required by Appendix 9.1, in all stack test results submitted in monthly reports throughout the inspection period: a discussion section, data sheets for all tests conducted, stack sampling site diagram, cyclonic flow check, completed instrument calibration forms for equipment used during the survey, detailed sampling system description and schematic diagram, or certificates of completion for relevant stack sampling course.
Compliance:	Out
Actions to be taken:	Include all information required by Part B, Appendix 9.1 of the "British Columbia Field Sampling Manual for Continuous Monitoring and the Collection of Air, Air-emissions, Water, Wastewater, Soil, sediment, and Biological Samples" when submitting future stack test results. Part B, Appendix 9.1 can be viewed at the following link: https://www2.gov.bc.ca/assets/gov/environment/research-monitoring-and-reporting/monitoring/emre/bc_field_sampling_manual_part_b.pdf
Requirement Description:	**3. MONITORING REQUIREMENTS, 3.6 Quality Assurance** 3.6: All analyses of samples must be conducted by a laboratory acceptable to the Director. At the request of the Director, the Permittee must provide the laboratory quality assurance data, associated field blanks, and duplicate analysis results.
Details/Findings:	As confirmed in the Monthly reports, stack test data was analysed in-house by certified stack samplers Barry Christie and/or Kevin Martin.

Compliance:	In
Requirement Description:	**4. REPORTING REQUIREMENTS** 4.b: The Permittee must submit reports in a format satisfactory to the Director including: b. Monthly Data Submissions i. The permittee must submit the results of any source monitoring including discharge volumes and ambient air quality monitoring data to the Regional Manager, Environmental Protection or designate. This information must be submitted prior to the end of the month following the month of collection of the data. This information must be tabulated and in a form suitable for release to the public. ii. Data must be submitted monthly to the Ministry of Environment computer database. iii. Ambient monitoring data and meteorological data must be submitted to the Provincial Air Data Management System or its equivalent upgrade. The first submission must be on or before June 30th, 2011. iv. All occurrences of non-compliance with the requirements of this permit or applicable statutory requirements, all relevant results of sampling and analysis, explanation of the most probable cause(s) of the occurrences, and corresponding corrective and preventive actions. v. Failures of Ministry audits of continuous monitors, explanation of the most probable cause(s) of the failures, and corresponding corrective and preventive actions.

Details/Findings:	Monthly reports were submitted for all months throughout the inspection period. i. Reports were submitted prior to the end of the month following the month of data collection except for the January 2018 and April 2018 Monthly reports, which were submitted late. The following reports included illegible data tables which was not suitably tabulated or in a form suitable for release to the public: October 2017, November 2017, January - April 2018, and June 2018. ii. A review of the Ministry's Environmental Monitoring System (EMS) database on October 10, 2018 confirms that not all data has been submitted to the database monthly. iii. TRS and meterological data have been submitted to the BC Air Quality database. Ambient PM 2.5 data has been submitted to the EMS database. iv. All occurrences of non-compliance with permit requirements were not included in the Monthly reports. The occurrences of non-compliance which were reported did not include an explanation of the most probable cause(s) or corresponding corrective and preventative actions. v. All Ministry audits of continuous monitors during the inspection period have resulted in a pass therefore compliance with requirement 4.b.v. is not applicable for the inspection period. The permittee is out of compliance with section 4.b. for late submission of monthly reports; data tables which were not suitably tabulated or in a form suitable for public release; failure to submit all data to the EMS database; failure to include all occurrences of permit non-compliances in monthly reports; and, failure to provide an explanation of most probably cause(s) for permit non-compliances and corresponding corrective and preventative actions.
Compliance:	Out
Actions to be taken:	Include all information required by section 4.b. in future monthly report submissions.

Requirement Description:	**4. REPORTING REQUIREMENTS** 4.c: The Permittee must submit reports in a format satisfactory to the Director including: c. Annual Reports Each year on or before March 31: i. A compilation and interpretation of all occurrences of non-compliance with this permit or applicable statutory requirements, and continuous monitor audits of the previous calendar year, with evaluation of the corrective and preventive actions taken. A summary of all previous year's emergency venting periods of NCG. ii. A comprehensive review and analysis of the ambient air monitoring data and meteorological data obtained during the previous calendar year as this data relates to Provincial objectives, this includes but is not limited to trend analysis, conclusions and recommendations. iii. The annual report must summarize source monitoring as per subsection 3.1. The source monitoring analysis must include but not limited to the following; trend lines, the statistical significance of the trend, for time series data log scale data to determine descriptive statistics.
Details/Findings:	The 2017 Annual Report was submitted to the Ministry on April 4, 2018. i. The report included a summary of all non-compliance events however, an evaluation of the corrective and preventive actions taken was not included. The results of continuous monitoring audits and a summary of NCG venting periods were included. ii. The report included a review and analysis of ambient TRS and PM 2.5 data and meteorological data obtained in 2017. The report did not include a comparison of ambient TRS to provincial objectives, conclusions or recommendations regarding ambient TRS. iii. The report included a summary of source monitoring as per subsection 3.1 with trend lines and statistical significance of trends for time series data log scale. The permittee is out of compliance with section 4.c for late submission of the report, failure to include an evaluation of corrective and preventative actions for non-compliance events; failure to include a comparison to provincial objectives for all ambient air quality parameters; and, failure to include conclusions or recommendations for all ambient air quality parameters.
Compliance:	Out
Actions to be taken:	Include all requirements of section 4.c. in future annual reports.

Compliance History:
2017-08-02 IR64431 Warning: Recovery Boiler TRS exceedances; Power Boiler opacity exceedances; Kiln TRS exceedances; Bleach Plant ClO2 exceedance; Ambient TRS exceedances; Failure to conduct source testing in compliance with the BC Field Sampling Manual.
2016-04-22 IR27467 Advisory: Recover Boiler TRS exceedances; Power Boiler opacity exceedances; Ambient TRS exceedances; Non-compliant annual reporting.
2016-01-15 IR27168 Investigation: Failure to maintain works resulting in NCG venting to atmosphere
2015-07-07 IR21007 Warning: Failure to upload ambient and meteorological data; Ambient TRS exceedances.
2015-05-27 IR20607 Advisory: Bleach Plant ClO2 exceedance; Failure to maintain works.
2015-04-22 IR20547 Advisory: Recovery Boiler particulate exceedance; Bleach Plant ClO2 exceedance; Failure to upload ambient and meteorological data;Non-compliant annual reporting.
2013-04-16 IR9488 Advisory: NCG Incinerator and TRS issues.
2013-04-10 IR9304 Advisory: Recovery Boiler opacity exceedance.
2012-12-12 IR7042 Advisory: Ambient TRS exceedances; Non-compliant monthly reporting.

Please submit all annual/quarterly/monthly reports and data submissions to the Ministry's Routine Environmental Reporting Submission Mailbox at EnvAuthorizationsReporting@gov.bc.ca. More information about the reporting requirements may be found at https://www2.gov.bc.ca/gov/content/environment/waste-management/waste-discharge-authorization/data-and-report-submissions

Please be advised that this inspection report may be published on the provincial government website within 7 days.

Below are attachments related to this inspection.

If you have any questions about this letter, please contact the undersigned.

Yours truly,

Taylor White
Environmental Protection Officer

cc:

Attachments:
1) 2013_06_13 2149 - 3.1 Source Monitoring.pdf 2013-06-13 2149 - 3.1 Source Monitoring
2) 2018-09-17 Section 1.2.2 Opacity Exceedances Sep 1 2017-Nov 19 2018.pdf2018-09-17 Section 1.2.2 Opacity Exceedances Sep 1 2017-Nov 19 2018

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Ministry of Environment and Climate Change Strategy
Compliance
Environmental Protection Division
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Cranbrook BC V1C 7G5
Telephone: 250 489 8540
Facsimile: 250 489 8506
Website: www.gov.bc.ca/env

3. MONITORING REQUIREMENTS

3.1 Source Monitoring

The following monitoring program is to be carried out by the permittee:

Source	Section	Parameters	Type	Frequency
Recovery Boiler	1.1	Particulate	Isokinetic	Quarterly
Recovery Boiler	1.1	Flow		Quarterly
Recovery Boiler	1.1	NO_x as NO_2	Grab	Quarterly
Recovery Boiler	1.1	TRS		Continuous
Recovery Boiler	1.1	SO_2		Continuous
Recovery Boiler	1.1	Opacity		Continuous
Wood Waste Boiler	1.2	Particulate	Isokinetic	Quarterly
Wood Waste Boiler	1.2	Flow		Quarterly
Wood Waste Boiler	1.2	Opacity		Continuous
Lime Kiln	1.4	Particulate	Isokinetic	Quarterly
Lime Kiln	1.4	Flow		Quarterly
Lime Kiln	1.4	SO_2	Grab-GC	Quarterly
Lime Kiln	1.4	NO_x as NO_2	Grab	Quarterly
Lime Kiln	1.4	TRS	Grab- GC	Monthly
Smelt Dissolving Tank	1.5	Particulate	Isokinetic	Quarterly
Smelt Dissolving Tank	1.5	Flow		Quarterly
Smelt Dissolving Tank	1.5	TRS	Grab-GC	Monthly
Smelt Dissolving Tank	1.5	SO_2	Grab-GC	Monthly
Bleach Plant Stack	1.7	Total Cl as ClO_2	Grab	Monthly
Bleach Plant Stack	1.7	Flow		Monthly
ClO_2 Tail Gas Scrubber	1.7	Total Cl as ClO_2	Grab	Annually
ClO_2 Tail Gas Scrubber	1.7	Flow		Annually
NCG Incinerator	1.8	SO_2	Grab-GC	Monthly
Section 1.9 Sources	1.9	TRS	Grab-GC	Annually

Note: For purposes of reporting the TRS cumulative loading of the sources in section 1.9 is to be based on the average of four grab samples taken over a one hour period.

Monitoring Definitions:

Opacity means the degree to which an emission reduces the passage of light or and is expressed numerically from 0 per cent (transparent) to 100 per cent (opaque).

NO_x as NO_2 means nitrogen oxides including NO, NO_2, and N_20 expressed as NO_2.

GC means gas chromatograph analyses.

Continuous means continuous reading of values resulting from analyses of a continuous sample extracted from the stack.

Grab means a discrete sample taken at a point in time and represents concentration at that point in time only.

Document : 2013_06_13 2149 - 3.1 Source Monitoring.pdf
Document comment: 2013-06-13 2149 - 3.1 Source Monitoring

Permit 2149 - Section 1.2.2 Wood Waste Boiler Exceedances between September 1, 2017 and November 19, 2018

Date	Time
November 18, 2025	15:15
November 16, 2018	19:24
October 28, 2018	**13:30**
October 26, 2018	4:06
October 24, 2018	15:07-15:23
October 24, 2018	14:30-14:33
October 24, 2018	11:40-11:41
October 23, 2018	0:25
October 12, 2018	**14:27**
October 12, 2018	**13:56**
October 12, 2018	**10:40**
September 13, 2018	13:25
September 13, 2018	4:50
September 10, 2018	16:14
September 4, 2018	23:20-23:47
September 1, 2018	18:05-19:05
August 31, 2018	1:00
August 28, 2018	9:05
August 1, 2018	11:09-11:16
July 28, 2018	09:13-09:41
July 24, 2018	8:40
July 7, 2018	5:20
July 5, 2018	11:30
June 21, 2018	17:45
June 15, 2018	09:30-09:54
June 12, 2018	14:50
May 28, 2018	12:28-13:42
May 28, 2018	08:00-08:36
May 1, 2018	10:10
February 24, 2018	4:30
February 23, 2018	20:03-20:33
February 21, 2018	10:50
February 16, 2018	12:59
February 13, 2018	15:51
February 5, 2018	11:13-11:27
January 30, 2018	10:35
January 20, 2018	15:22
January 13, 2018	3:22
January 12, 2018	13:23-13:58
January 12, 2018	11:06-11:39
January 11, 2018	0:30
January 10, 2018	12:00
January 6, 2018	21:45
January 6, 2018	18:00
January 5, 2018	21:05
January 5, 2018	18:30
January 5, 2018	18:00
January 5, 2018	17:00
January 4, 2018	20:07
January 4, 2018	19:37
January 4, 2018	19:17
January 3, 2018	9:30
January 3, 2018	0:13
January 2, 2018	23:43
January 2, 2018	23:13
January 2, 2018	22:43
December 31, 2018	05:31-05:38
December 28, 2017	11:05-11:35
December 3, 2017	**12:05**
November 30, 2017	19:20
October 5, 2017	04:25-05:30
September 5, 2017	09:44-09:52
September 5, 2017	09:27-09:34

*Bold indicates opacity was 40% or greater.

Document : 2018-09-17 Section 1.2.2 Opacity Exceedances Sep 1 2017-Nov 19 2018.pdf
Document comment: 2018-09-17 Section 1.2.2 Opacity Exceedances Sep 1 2017-Nov 19 2018