

**AMENDED AND RESTATED AGREEMENT
REGARDING THE MANAGEMENT OF HYDROMETEOROLOGICAL NETWORKS
IN THE PROVINCE OF BRITISH COLUMBIA**

BETWEEN:

**HER MAJESTY THE QUEEN IN RIGHT OF
THE
PROVINCE OF BRITISH COLUMBIA,**
as represented by the Minister of Environment and
Climate Change Strategy (“ENV”)

**HER MAJESTY THE QUEEN IN RIGHT OF
THE
PROVINCE OF BRITISH COLUMBIA,**
as represented by the Minister of Agriculture
 (“AGRI”)

**HER MAJESTY THE QUEEN IN RIGHT OF
THE
PROVINCE OF BRITISH COLUMBIA,**
as represented by the Minister of Forests, Lands,
Natural
Resource Operations and Rural Development
 (“FLNRORD”)

**HER MAJESTY THE QUEEN IN RIGHT OF
THE
PROVINCE OF BRITISH COLUMBIA,**
as represented by the Minister of Transportation
and Infrastructure (“TRAN”)

(collectively - the “Province”)

AND:

**BRITISH COLUMBIA HYDRO AND
POWER AUTHORITY,**
a Crown Corporation existing under the laws of
British Columbia (“BC Hydro”)



AND:

RIO TINTO INC.,
a corporation duly incorporated under the laws of
Canada ("**Rio Tinto**")



AND:

**METRO VANCOUVER REGIONAL
DISTRICT,** a regional district pursuant to the
Local Government Act (British Columbia)
("**MVRD**")



AND:

CAPITAL REGIONAL DISTRICT,
a regional district pursuant to the *Local
Government Act* (British Columbia) ("**CRD**")



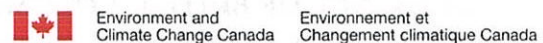
AND:

**PACIFIC CLIMATE IMPACTS
CONSORTIUM,**
a non-profit organization duly incorporated
under the laws of Canada ("**PCIC**")



AND:

**HER MAJESTY THE QUEEN
IN RIGHT OF CANADA,**
as represented by the
Minister of the Environment ("**ECCC**")



(Each a "**Party**" and collectively, the "**Parties**")

WHEREAS:

- A) The Parties (with the exception of ECCC) are party to the **Agreement in Regards to the Management of Meteorological Networks in the Province of British Columbia** (the "**Original Agreement**") dated as of March 8, 2018;
- B) The Parties wish to amend and restate the Original Agreement in its entirety to provide for, among other things:

**Amended and Restated Agreement on Management of
Hydrometeorological Networks in the Province of British Columbia**

- i) the addition of ECCC as a full party to the Agreement; and
 - ii) the updating of the title and content incorporating the ability to include hydrometric data into the Agreement.
- C) Each Party to this Agreement manages, operates and maintains independent Hydrometeorological Data collection and data management systems, data archives, reporting systems and/or websites in the Province of British Columbia ("B.C.") as follows:
- ENV maintains Networks of Hydrometeorological Stations for river forecasting and air quality monitoring to ensure public safety.
 - FLNRORD maintains Networks of Hydrometeorological Stations
 - in support of fire management activities including wildfire preparedness and suppression for public safety and resource protection, and
 - for research to support an innovative, competitive and sustainable natural resource industry.
 - TRAN maintains a Network of Hydrometeorological Stations for avalanche forecasting and winter highway maintenance and seasonal strength loss programs to ensure public safety and maintaining provincial infrastructure.
 - AGRI assists and adds value to data collected by private and public Networks to assist agricultural users to ensure sustainable use of resources.
 - BC Hydro maintains a Network of Hydrometeorological Stations to monitor and forecast flow for hydro-generation and flood control to ensure sustainable use of resources.
 - Rio Tinto maintains a Network of Hydrometeorological Stations to monitor and forecast flow for hydro generation and flood control to ensure sustainable use of resources.
 - MVRD maintains Networks of air quality and Hydrometeorological Stations to support water and air quality monitoring activities in the Metro Vancouver and Fraser Valley Regional Districts.
 - CRD maintains a Network of Hydrometeorological Stations to support water management activities.
 - PCIC quantifies the impacts of climate change and variability on the physical environment in the Pacific and Yukon region of North America to ensure that adaptation policies use good quality scientific information for decisions. PCIC acts as

Amended and Restated Agreement on Management of Hydrometeorological Networks in the Province of British Columbia

a Hydrometeorological Data aggregator for the Parties and maintains a publicly accessible dataset of current and historical Hydrometeorological Data.

- ECCC maintains Hydrometeorological Stations in accordance with its mandate.

D) Each Party to this Agreement agrees and understands that:

- It shares a common interest in hydrometeorological monitoring and environmental quality management, dissemination of environmental information, and promoting science-based decisions.
- Its respective mandate can be fulfilled more effectively through the exchange of Hydrometeorological Data and associated Meta Data and sharing of information, methods and procedures, experience, expertise and knowledge of hydrometeorological observations and Network operations. Collaboration between the Parties will optimize the value of existing data and Networks, by:
 - Increasing the availability and effectiveness of Hydrometeorological Data and information through a shared hydrometeorological resource in B.C.;
 - Improving and adding value to available sources of Climate Data in B.C. and Canada;
 - Identifying and addressing spatial gaps in the Network coverage;
 - Assessing the impacts of climate change and climate variability; and
 - Creating a Climate Data set to enhance understanding of the scope of climate change and climate variability within B.C.

E) All Parties acknowledge that:

- i) The non-public sector Parties to this Agreement, Rio Tinto and BC Hydro, are going beyond their functional mandates to participate in data sharing and the creation of a Provincial Climate Data Set to create a long-term public benefit; and
- ii) It is in the public interest to use data sharing and open data concepts to ensure access to information, tools and data.

F) All Parties acknowledge that ECCC:

- i) is the primary source of Hydrometeorological Data and Climate Data for Canada;

Amended and Restated Agreement on Management of Hydrometeorological Networks in the Province of British Columbia

- ii) recognizes the important role that more localized Networks have to supplement Hydrometeorological Data and Climate Data that assist the Parties' decision making;
- iii) is pursuing consistent access to Hydrometeorological Data and Climate Data through its Collaborative Monitoring Initiative; and
- iv) is responsible for the Canadian Centre for Climate Services (CCCS) which
 - a. provides access to authoritative climate information to help the other Parties and the public make decisions to adapt to climate change; and
 - b. is developing the capability to provide authoritative climate information.

NOW THEREFORE, for the good and valuable consideration, the receipt of which is acknowledged, the Parties agree as follows:

SECTION 1 – DEFINITIONS

Where used in this Agreement,

- 1.1 **Administrators Committee** – means a committee with individuals representing each of the Parties as described in Schedule A of the Agreement that meets to set strategic direction of the Climate Related Monitoring Program.
- 1.2 **Associated Agencies** – means any organization, research group or private operator that can and will contribute Hydrometeorological Data to the Provincial Climate Data Set without being a full Party to this Agreement. Representatives of Associated Agencies are welcome to contribute to committee discussions as non-voting members of those committees.
- 1.3 **Climate Data** – means any data derived or summarized from Hydrometeorological Data which may be used to inform decision makers and the public about significant changes and trends in seasonal, annual, or longer statistical climatic patterns in B.C.
- 1.4 **Climate Related Monitoring Program or CRMP** – means the coordinating program for the implementation and management of a Provincial Climate Data Set. This B.C. Government program facilitates all the purposes as outlined in Section 2 in this Agreement.
- 1.5 **Climate Networks Coordinator** – means an ENV position responsible for the administration and operation of this Agreement and the Climate Related Monitoring Program for the Province. This role involves promoting the work of the CRMP and facilitating communications between Networks and between the Coordinators

Amended and Restated Agreement on Management of Hydrometeorological Networks in the Province of British Columbia

Committee, Administrators Committee and the Technical Committee with the overarching goal of improving Hydrometeorological Data and Network operations in B.C.

- 1.6 **Collaborative Monitoring Initiative** – means an initiative undertaken by ECCC to improve sharing of Hydrometeorological Data, Meta Data and Network information between provinces and territories, federal departments and other network operators/data owners (e.g. academia, regional/municipal governments, private sector) to support long-term monitoring, operational decision making and improve data quality, access and interoperability.
- 1.7 **Composite Material** – means Material which is produced by a Party independently of any other Party and which includes Incorporated Material.
- 1.8 **Coordinators Committee** – means a committee with individuals representing each of the Parties as described in Schedule A of the Agreement that meets to make operational decisions and follows direction from the Administrators Committee.
- 1.9 **Hydrometeorological Data** – means surface based observed parameters describing fluxes of energy and water collected at Hydrometeorological Stations which can be used to monitor climate.
- 1.10 **Hydrometric Data** – means surface based observed parameters describing water quantity (as example but not limited to lake volumes, discharge, flow, temperature).
- 1.11 **Hydrometeorological Stations** – means surface based, environmental monitoring stations that collect data of fluxes of water and energy between the land surface and the lower atmosphere, as well as data about water storage on the land surface (weather, climate and hydrometric).
- 1.12 **Incorporated Material** – means any Source Material of a Party which another Party incorporates or embeds into Composite Material.
- 1.13 **Materials** – means any reports, records, findings, data, specifications, drawings, products, summaries or climate information created as a result of this Agreement, including;
- findings based on technical expertise and acquisition practices
 - Hydrometeorological or Hydrometric Data;
 - Meta Data;
 - the Provincial Climate Data Set; and,
 - Primary Controlled Data.

In this Agreement, Materials can be further defined as Composite Material, Incorporated Material, or Source Material (Sections 1.6, 1.11, or 1.17 respectively).

Amended and Restated Agreement on Management of Hydrometeorological Networks in the Province of British Columbia

- 1.14 **Meta Data** – means information about the configuration, operation and location of Hydrometeorological Stations or Networks.
- 1.15 **Network** – means a collection of Hydrometeorological Stations.
- 1.16 **Primary Controlled Data** – means Hydrometeorological Data which has undergone an initial level of quality control screening.
- 1.17 **Provincial Climate Data Set** – means an updated suite of information products and data based on Hydrometeorological Data from B.C. that is constructed, maintained and made publicly available by PCIC.
- 1.18 **Source Material** – means Material that is obtained, collected, developed or produced by a Party independently of any other Party.
- 1.19 **Standard Operation Procedures** – means any procedures that a Party incorporates as a normal process in the management and day-to-day use of its Network.
- 1.20 **Technical Committee** – means a committee with individuals representing each of the Parties as described in Schedule A of the Agreement that meets to discuss technical issues, makes operational recommendations and follows direction from the Coordinators Committee and/or Administrators Committee.

SECTION 2 - PURPOSE

The purposes of this Agreement are to:

- 2.1 Improve public access to Climate Data, Meta Data, Hydrometeorological Data or Hydrometric Data collected by the Parties in B.C.
- 2.2 Improve sharing and understanding of Hydrometeorological Data and Climate Data, improve efficiencies and harmonization between Parties with respect to Network operations, and improve the use of the hydrometeorological resource resulting in the improved understanding of climate change in B.C. through the use of operational data.
- 2.3 Establish terms of collaboration for the Parties.
- 2.4 Support the continued development and maintenance of;
- collaborative monitoring efforts between multiple Networks to make better use of the existing data;
 - a Provincial Climate Data Set housed at PCIC; and
 - Hydrometric Data in a central data repository housed at ENV.
- 2.5 Facilitate planning, harmonization and co-operation between the Parties in relation to:

Amended and Restated Agreement on Management of Hydrometeorological Networks in the Province of British Columbia

- Hydrometeorological Station location(s) and configuration(s);
 - Transmission and documentation of Hydrometeorological Data, Meta Data, Climate Data; and
 - Exchange and use of Materials in accordance with each Party's respective abilities.
- 2.6 Improve Climate Data interpretation consistency by ensuring that interpretation and analysis of CRMP products are transparent and open.

SECTION 3 - ROLES AND RESPONSIBILITIES

3.1 Each Party will:

- 3.1.1 Share Climate Data or Hydrometeorological Data and Materials from Hydrometeorological Stations operated by the Party and share Meta Data about the Networks located in B.C. and - if feasible – to make that data available under open data policies.
- 3.1.2 Use and apply recognized climate and Network operating and management standards whenever reasonably possible.
- 3.1.3 Exchange information and Materials on each Party's respective existing and future Hydrometeorological Stations.
- 3.1.4 Notify the other Parties in writing as soon as reasonably possible if, due to extenuating circumstances, a Party cannot meet the general terms and conditions of cooperation contained in this Agreement.
- 3.1.5 Wherever reasonably possible, adapt common Standard Operation Procedures to increase quality of data and support development of the Networks and Materials.
- 3.1.6 Whenever reasonably possible, harmonize Network operation(s) by defining relevant standards and protocols to coordinate operations carried out under this Agreement.
- 3.1.7 Acquire and use the Materials in a manner that respects the scientific value of the Materials and the legal rights of Parties and Associated Agencies.
- 3.1.8 Participate with appropriate representation (dependent on the size of the Network and its operations) in the Administrators Committee, Coordinators Committee and Technical Committee.
- 3.1.9 Retain responsibility to maintain a Party's respective Network and ensure the integrity and security of its Hydrometeorological Stations, data polling, databases and reporting systems.

**Amended and Restated Agreement on Management of
Hydrometeorological Networks in the Province of British Columbia**

3.1.10 Provide reciprocal credit and recognition to Parties who provide Source Material by indicating on websites, in publications, and, where otherwise warranted, acknowledgment identifying the providing Party or Parties. For the purposes of providing reciprocal credit under this section, if a Party (the “**First Party**”)

- a) specifies a particular logo of the First Party to be used by another Party (the “**Second Party**”) for the purposes of acknowledging the contribution of the First Party; and
- b) provides express written permission to the Second Party to use the specified logo for the purposes of acknowledging the contribution of the First Party,

the Second Party will include the First Party’s specified logo when acknowledging contribution of the First Party.

3.1.11 Encourage participation on the Administrators Committee, Coordinators Committee and Technical Committee from other Network operating agencies, either as an Associated Agency or as a full Party to this Agreement.

3.2 In addition, ENV will be responsible for:

3.2.1 Fulfilling the role of the Climate Networks Coordinator to support the work requirements resulting from this Agreement.

3.2.2 Managing B.C. Government funds specifically acquired by ENV for the purposes of acquiring and improving equipment that supports the augmentation of Hydrometeorological Stations, including existing Networks operated by the Parties, and the goals of improving climate monitoring under this Agreement. This does not include those funds acquired specifically by Parties for internal operations improvement projects.

3.2.3 Where feasible, ensuring that the Hydrometric Data provided by the Parties under this Agreement is housed and accessible to the public through open government policies.

3.3 In addition, PCIC will be responsible for:

3.3.1 Ensuring that the Provincial Climate Data Set is maintained, refreshed with current information and made publicly available;

3.3.2 Producing publicly available reports and summaries based on the Provincial Climate Data Set that deepens the understanding of climate variability in British Columbia; and

Amended and Restated Agreement on Management of Hydrometeorological Networks in the Province of British Columbia

- 3.3.3 Providing the complete Provincial Climate Data Set back to ENV should it be unable to continue as a Party under this Agreement.
- 3.4 The roles and responsibilities of the Administrators Committee, Coordinators Committee, and Technical Committee are described in Schedule A of this Agreement.

SECTION 4 – INTELLECTUAL PROPERTY

- 4.1 The Parties agree that:
 - 4.1.1 Each Party owns all intellectual property, including copyright, in its own Source Material, other than intellectual property in Source Material which is owned by a third party (who has not entered into this Agreement); and
 - 4.1.2 A Party that produces Composite Material exclusively owns all intellectual property, including copyright, in the Composite Material, other than any Materials which is Incorporated Material.
- 4.2 This Agreement recognizes that Source Material or Composite Material available through open data policies can be freely shared.
- 4.3 For Source Material not shared through open data policies and being shared under this Agreement by a Party (the “**Sharing Party**”), the Sharing Party grants to each other Party and any subsequent Party to this Agreement, to the extent that the Sharing Party has the power to grant rights to use the Source Material, a non-exclusive, perpetual, irrevocable, royalty-free, worldwide licence to exercise, in respect of that Source Material, the rights set out in the *Copyright Act* (Canada), including the right to use, reproduce, modify, publish and distribute that Source Material. The grant of licence under this section is made by the Sharing Party at no cost.
- 4.4 Each Party irrevocably waives in the other Parties’ favour any moral rights which a Party may have in the Materials. Upon the request of the Coordinators Committee, a Party must deliver to the Coordinators Committee documents satisfactory to the Coordinators Committee to reflect this waiver. To the extent employees or subcontractors of a Party, or the employees of a subcontractor, have any moral rights in Materials, each Party agrees to use its reasonable best efforts to obtain a waiver of such moral rights.
- 4.5 Where appropriate, a Party that uses or publishes Materials produced by another Party will explicitly identify the other Party as the originator of the Materials.
- 4.6 The Provincial Climate Data Set and Materials generally known to the public will be made publicly available without charge.

**Amended and Restated Agreement on Management of
Hydrometeorological Networks in the Province of British Columbia**

SECTION 5 - PERFORMANCE MEASURES AND EVALUATION

- 5.1 Annual priorities developed by the Administrators Committee, the Coordinators Committee and the Technical Committee will be logged and tracked during the term of this Agreement by the Climate Networks Coordinator.
- 5.2 Annual progress reports from the Coordinators Committee and Technical Committee will be shared through the Climate Networks Coordinator with all Parties and Associated Agencies.
- 5.3 The Administrators Committee will meet annually to review the past year's progress and review and set goals and objectives for the year.
- 5.4 The Coordinators Committee will meet face to face twice annually and on a set schedule (monthly via teleconference) to work through set priorities, implement changes and report on progress.
- 5.5 The Technical Committee will meet face to face once annually and on a set schedule (quarterly via teleconference) to work through set priorities, implement changes and report on progress.

SECTION 6 - FINANCIAL ARRANGEMENTS

- 6.1 With the exception of access to the Provincial Climate Data Set and Materials generally known to the public, nothing in Section 4 prohibits the charging of fees to cover the costs of information retrieval and processing of requests for Materials from individuals or organizations not a Party to this Agreement.

SECTION 7 – STATEMENTS AND RECORDS

- 7.1 Each Party will notify the other Parties – with reasonable notice - of any planned changes that may impact Hydrometeorological Data collection and reporting.

SECTION 8 – ACCESS TO INFORMATION AND CONFIDENTIALITY

- 8.1 This Agreement is subject to all applicable provincial and federal laws, including the *Freedom of Information and Protection Privacy Act* (R.S.B.C., 1996, c. 165), the *Access to Information Act* (R.S.C., 1985, c. A-1) and the *Privacy Act* (R.S.C., 1985, c. P-21).
- 8.2 Subject to any law requiring a Party to disclose information in its control, including the *Freedom of Information and Protection of Privacy Act* (R.S.B.C., 1996, c. 165) and any

Amended and Restated Agreement on Management of Hydrometeorological Networks in the Province of British Columbia

applicable federal laws, the Parties will treat as confidential all information or Materials which are clearly marked as confidential.

- 8.3 For greater certainty, nothing in this Agreement shall be interpreted so as to preclude ECCC from disclosing information that ECCC may be required or ordered to disclose under the *Access to Information Act* (R.S.C., 1985, c. A-1) or otherwise, pursuant to any applicable federal laws.

SECTION 9 - DISPUTE RESOLUTION

- 9.1 The Parties agree to use all reasonable efforts to resolve a dispute amicably.
- 9.2 Unresolved disputes between specific Parties at the Coordinators Committee or Technical Committee will first be referred to the Climate Networks Coordinator for further discussion and clarification. If the dispute cannot be resolved, then it will be elevated to the Administrator Committee representative of the Parties in dispute for a decision.

SECTION 10 – TERM, EXTENSION, AMENDMENTS AND TERMINATION

- 10.1 The Original Agreement was effective March 8, 2018. This Agreement expires on March 31, 2026, unless all Parties withdraw from the Agreement under Section 10.3.
- 10.1.1 All Parties agree that this Agreement will be in effect when
- a) all duly appointed representatives of the Parties within the Original Agreement have signed this Agreement; and
 - b) the Agreement is countersigned by ECCC.
- 10.1.2 All Parties agree that this Agreement will not be offered to ECCC for countersigning under Section 14.3 until the Parties in the Original Agreement have accepted of this Agreement by signing in Section 14.2.
- 10.2 This Agreement may be amended at any time with the written consent of all the Parties by their respective duly authorized signatories named in Section 14.2. With the exception of any extensions to the Agreement term, a notice of proposed amendments is required three (3) months prior to any formalized discussion of proposed changes to this Agreement.
- 10.3 A Party may, by giving to the other Parties at least six (6) months written notice of its intent to withdraw, withdraw from this Agreement. Upon withdrawal from this Agreement, any equipment loaned to a Party for use in its Network shall be returned to the Party that owns the equipment.

**Amended and Restated Agreement on Management of
Hydrometeorological Networks in the Province of British Columbia**

- 10.4 The Parties agree that should a Party withdraw from this Agreement:
- 10.4.1 The remaining Parties and the withdrawing Party may continue to use the Materials exchanged under this Agreement up to the withdrawing Party's official withdrawal date; and,
- 10.4.2 As of the date of withdrawal, the Party exercising its right of withdrawal shall cease to provide and receive Materials under this Agreement.
- 10.5 The Parties agree that an Associated Agency may become a Party to this Agreement only after a recommendation is provided by the Administrators Committee in consultation with the Coordinators Committee.
- 10.6 In the case where PCIC can no longer remain a Party to this Agreement, PCIC will work with the Province to plan and implement a transfer of the Provincial Climate Data Set back to the Province (or a designated 3rd party) in its entirety. All Parties acknowledge that this may take longer than the six (6) month notice of withdrawal outlined in Section 10.3.
- 10.7 This Agreement, including Schedules A and B:
- 10.7.1 Embodies the entire agreement and understanding of the Parties with respect to the subject matter; and
- 10.7.2 Supersedes all contracts, representations, warranties, promises, covenants, arrangements, communications, and understandings, oral or written, express or implied, between or among the Parties with respect to the subject matter, including, without limitation, the Original Agreement, which Original Agreement shall be deemed null and void, and of no further force or effect whatsoever following the date the Agreement is countersigned by ECCC.
- Notwithstanding the foregoing, this Agreement does not terminate or amend any agreements in force on related subjects that bind any two or more Parties.
- 10.8 A Party that wishes to carry out specific, joint or bilateral projects with another Party or Associated Agency may do so by specifying the terms and conditions of such collaborations through the exchange of letters, a Memorandum of Understanding or an agreement between the interested Parties and/or Associated Agencies.
- 10.9 This Agreement may be executed and delivered in one or more counterparts, which may be delivered by email transmission in PDF or similar secure format, and each executed and delivered counterpart will be deemed an original and all counterparts will together constitute one and the same document.

Amended and Restated Agreement on Management of Hydrometeorological Networks in the Province of British Columbia

SECTION 11 – LEGALITY

- 11.1 This Agreement constitutes an administrative agreement and, with the exception of Sections 4 and 8 inclusive, is not intended to create legally enforceable obligations. It is an expression of the shared intent of the Parties on how to work together to accomplish a common goal. This Agreement is entered into solely for the purposes of sharing data, information and in-kind or operational resources to enable more effective management, dissemination and reporting of environmental data by all Parties.

SECTION 12 – INSURANCE AND WARRANTY

- 12.1 Subject to Section 12.2, each Party will maintain, at its own expense, all necessary insurance relating to its respective responsibilities in concordance with this Agreement and that Party's internal policies.
- 12.2 The Parties agree that Her Majesty the Queen in Right of Canada and Her Majesty the Queen in right of the Province of British Columbia shall be entitled to self-insure with respect to insurance required under this Agreement and shall be deemed, for the purpose of this Agreement, to have satisfactorily taken out such insurance.
- 12.3 With respect to Materials, the Parties make no warranties or representations, express or implied to any other Party as to the accuracy and the suitability of the Materials for any intended use of it by any Party and anyone else. No Party shall be liable to any other Party for loss, damage, or costs incurred directly or indirectly from a Party's reliance on the Materials.

SECTION 13 - MISCELLANEOUS

- 13.1 Nothing in this Agreement is intended to replace or amend obligations of the Parties that they are bound or obligated by law to perform.
- 13.2 In this Agreement, singular terms include the plural term and vice versa.

**Amended and Restated Agreement on Management of
Hydrometeorological Networks in the Province of British Columbia**

SECTION 14 – SIGNATURES

- 14.1 The following Parties confirmed their understanding and acceptance of the terms and conditions of the Original Agreement:

On behalf of the **Ministry of Environment and Climate Change Strategy**



Mark Zacharias, Deputy Minister

March 8, 2018

Date

On behalf of the **Ministry of Agriculture**



Wes Shoemaker, Deputy Minister

February 28, 2018

Date

On behalf of the **Ministry of Forests, Lands, Natural Resource
Operations and Rural Development**



Tim Sheldan, Deputy Minister,

18.01.22

Date

On behalf of the **Ministry of Transportation and Infrastructure**

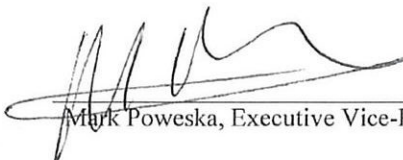


Grant Main, Deputy Minister,

Feb 13/18

Date

On behalf of **BC Hydro**



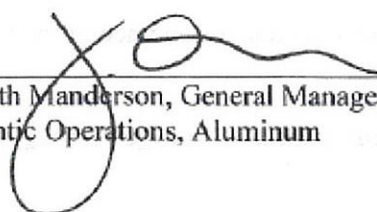
Mark Poweska, Executive Vice-President Operations

JAN. 30/2018

Date

**Amended and Restated Agreement on Management of
Hydrometeorological Networks in the Province of British Columbia**

On behalf of **Rio Tinto**



Gareth Manderson, General Manager – British Columbia Works,
Atlantic Operations, Aluminum

3 Feb '18
Date

On behalf of **Metro Vancouver Regional District**



Carol Mason, Commissioner/Chief Administrative Officer

January 19, 2018
Date


On behalf of the **Capital Regional District**



Robert Lapham, Chief Administration Officer

JAN 29, 2018
Date

On behalf of the **Pacific Climate Impacts Consortium**




Francis Zwiers, Director, President and CEO

9 January 2018
Date

14.2 IN WITNESS WHEREOF, the Parties confirm their understanding and acceptance of the terms and conditions of this (Amended and Restated) Agreement:

For the Ministry of Agriculture:




Stephanie Tam,
Water Management Engineer

Sep 28, 2020
Date

**Amended and Restated Agreement on Management of
Hydrometeorological Networks in the Province of British Columbia**

For the Ministry of Environment and Climate Change Strategy:



Tarik Dessouki,
Director, Environmental and Climate Monitoring
Section

September 28, 2020
Date

For the Ministry of Forests, Lands Natural Resource Operations and Rural Development:



Robert Warner,
Manager of Wildfire Operations


September 28, 2020
Date



Vanessa Foord,
Research Climatologist

Sep 28, 2020
Date

For the Ministry of Transportation and Infrastructure:



Robb Andersen,
Manager, Avalanche and Weather Programs

September 29 2020
Date

**Amended and Restated Agreement on Management of
Hydrometeorological Networks in the Province of British Columbia**

For BC Hydro:

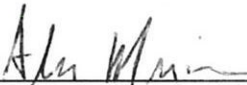


Stephanie Smith,
Manager, Hydrology, Generation Systems Operations

Sep 25, 2020

Date

For Rio Tinto:



Alec Mercier,
Water Resources Engineer, Regional Services

9/28/2020

Date

For Metro Vancouver Regional District:



Jerry Dobrovolsky,
Commissioner/Chief Administrative Officer

OCTOBER 30, 2020

Date

**Amended and Restated Agreement on Management of
Hydrometeorological Networks in the Province of British Columbia**

For Capital Regional District:




Joel Ussery,
Manager Resource Planning

October 9, 2020

Date

For the Pacific Climate Impacts Consortium:

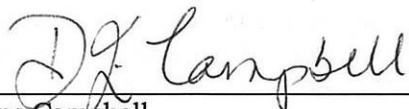


Francis Zwiers,
Director, President and CEO

25 Sept 2020

Date

14.3 IN WITNESS WHEREOF, this Amended Agreement has been signed by the duly authorized representative of Environment and Climate Change Canada:



Diane Campbell,
Assistant Deputy Minister,
Meteorological Service of Canada

Feb 18/21

Date

**Amended and Restated Agreement on Management of
Hydrometeorological Networks in the Province of British Columbia
SCHEDULE A**

SCHEDULE A - COMMITTEES

Date: September 1st, 2020

- A.1 The Parties will encourage participation by Associated Agencies on the Administrators Committee, Coordinators Committee or Technical Committee. Additional participation will be encouraged from those agencies and researchers that maintain research and other Networks.
- A.2 Any changes with respect to the members in the Administrators Committee, Coordinators Committee or Technical Committee shall be communicated in writing to the Climate Networks Coordinator and verbally to all Parties by the Party who is replacing its member.
- A.3 The Coordinators Committee will be able to set up sub committees, working groups or other mechanisms as appropriate to help carry out the Agreement and maximize program benefits.
- A.4 Where possible, Party representatives will differ for two (2) of the three (3) committees.
- A.5 Where possible, a preference exists for different representatives for each Party to be selected for the Coordinators Committee and Administrators Committee.
- A.6 Mandates for the Administrators Committee, Coordinators Committee or Technical Committee will be maintained within Schedule A. Changes to these mandates will be approved by the Administrators Committee.
- A.7 Participants/Membership for each Administrators Committee, Coordinators Committee or Technical Committee will be maintained within Schedule B and will be updated when changes occur within each Party.
- A.8 Administrators Committee**
 - A.8.1 An Administrators Committee will be set up and will include membership from each Party. An Associated Agency may be invited to sit on the Committee. The names and positions of the people in the Administrators Committee will be maintained annually by the Climate Networks Coordinator.
 - A.8.2 The members of the Administrators Committee shall meet in June or July to:
 - A.8.2.1 Affirm and if necessary, renew after the Agreement expires the provisions of this Agreement;
 - A.8.2.2 Review and set the performance objectives and measures for each year this Agreement is in effect; and
 - A.8.2.3 Review achievement against performance measures established in the previous year for the effective operation of the Agreement.

**Amended and Restated Agreement on Management of
Hydrometeorological Networks in the Province of British Columbia
SCHEDULE A**

A.8.3 At each meeting, the Administrators Committee will review, approve and report out the following:

A.8.3.1 A status report on the project work undertaken by each committee or sub committee since the previous Administrators Committee meeting; and

A.8.3.2 A suggested list of projects to be developed by each committee or sub-committee for the next year.

A.9 Coordinators Committee

A.9.1 A Coordinators Committee will be set up and membership may include Network coordinators for each Party. An Associated Agency may be invited to sit on the committee.

A.9.2 The Role of the Coordinators Committee will be to:

A.9.2.1 Recognize the status of this Agreement and ensure that the Administrators Committee is updated with respect to said status;

A.9.2.2 Set both short- and medium-term targets for the coming year, based on performance objectives defined by the Administrators Committee;

A.9.2.3 Review and report on performance relative to the performance objectives established in the previous year by the Administrators Committee;

A.9.2.4. Set standards for data collection and management;

A.9.2.5 Learn about each Party's operating maintenance and planning activities;

A.9.2.6 Ensure adequate follow-up on defined projects;

A.9.2.7 Discuss methods and procedures used;

A.9.2.8 Identify areas in Network management that are of mutual interest that could be the subject of exchanges or collaborations, such as (but not limited to):

- Reviewing business process across the Parties to streamline as much as possible business practices around land tenure;
- Improving data collection from third parties to meet basic monitoring objectives and better sharing of information;

And ensure that those areas identified as higher priority are followed up on;

A.9.2.9 Assess the results obtained from sharing data and harmonizing activities;

A.9.2.10 Identify the Hydrometeorological Stations covered by this Agreement;

A.9.2.11 Seek funding sources with other agencies or under federal initiatives to supplement and improve the information gathered by the Parties under this Agreement; and,

**Amended and Restated Agreement on Management of
Hydrometeorological Networks in the Province of British Columbia
SCHEDULE A**

- A.9.2.12 Set, in coordination with the Technical Committee, performance objectives to be achieved by the Technical Committee.

A.10 Technical Committee

- A.10.1 A Technical Committee with membership including on the ground station operators for each Party or Associated Agency will be maintained and will include membership from each Party.
- A.10.2 The Technical Committee will meet face to face at least once annually and more frequently by teleconference as required to:
- A.10.2.1 Review and report on performance relative to the performance objectives established in the previous year by the Administrators Committee and Coordinators Committee;
- A.10.2.2 Learn about each Party's operating maintenance and planning activities;
- A.10.2.3 Discuss and improve methods and procedures used by sharing Standard Operation Procedures and verification methods appropriately;
- A.10.2.4 Identify areas of mutual interest that could be the subject of exchanges or collaborations including use of similar technologies, collaboration on maintenance practices, training (safety or otherwise);
- A.10.2.5 Assess the results obtained from sharing data and harmonizing activities; and
- A.10.2.6 Report on requests for information and progress made on defined technical projects.

**Amended and Restated Agreement on Management of
Hydrometeorological Networks in the Province of British Columbia
SCHEDULE B**

SCHEDULE B – COMMITTEE PARTICIPANTS

Date: September 1st, 2020

B.1 Administrators Committee

- Director, Environmental and Climate Monitoring, ENV
- Manager, Avalanche and Weather Programs, TRAN
- Director, President and CEO, PCIC
- Manager, Hydrology, Generation Systems Operations, BC Hydro
- Representative, Rio Tinto
- Director Wildfire Operations, FLNRORD
- Research Climatologist, FLNRORD
- Water Management Engineer, AGRI
- Superintendent, Environmental Sampling and Monitoring, MVRD
- Manager Resource Planning, CRD
- Manager, Regional Operations, ECCC
- Coordinators Committee Chair
- Technical Committee Chair

B.2 Coordinators Committee

- Unit Head – Air and Climate Networks (Climate Networks Coordinator) Environmental Monitoring, Reporting and Economics, ENV
- Weather Specialist, Avalanche and Weather Programs, TRAN
- Snow Survey Program Coordinator or Snow and Groundwater Technology Specialist, ENV
- Wildfire Prevention Specialist, FLNRORD
- Research Climatologist, FLNRORD
- Research Hydrologist, FLNRORD
- Water Management Engineer, AGRI
- Representative, BC Hydro
- Climatologist, PCIC
- Hydraulic Engineer, Rio Tinto
- Air Quality Analyst, MVRD
- Supervisor of Environmental Management, MVRD
- Senior Hydrologist, CRD
- Manager, PYR Operations, ECCC

B.3 Technical Committee

- Representative, Snow Program, ENV
- Representative from BC Hydro

**Amendment to the Agreement on Management of
Hydrometeorological Networks in British Columbia
SCHEDULE B**

- Research Climatologist, FLNRORD
- Research Hydrologist, FLNRORD
- Manager, Weather Network Program TRAN
- Radio Communication Technician, CSNR, for FLNRORD
- Senior Hydrologist, Capital Regional District
- Representative(s), MVRD
- Representative(s), ENV Air Program
- Representative(s), ECCC
- Others where and when appropriate