



## Audit at a Glance

### Audit of infrastructure renewal within the Meteorological Service of Canada

The Meteorological Service of Canada (MSC) at Environment and Climate Change Canada (ECCC) is the primary supplier of meteorological and water resources information in Canada. In accordance with the [Department of the Environment Act](#) (1971), ECCC is responsible for providing Canadians with the information they need to make informed decisions to protect their health, safety, security and economic prosperity in the face of changing weather and environmental conditions. It is therefore critical for ECCC to maintain a well-functioning infrastructure, to ensure that the Department carries out its core responsibility of predicting weather and environmental conditions.

### What the audit examined

The objective of the audit was to assess the effectiveness of the governance, risk management and control processes in place to oversee and manage the infrastructure renewal of the weather-monitoring framework.

The audit covered the period from April 2013 to December 2018. This period represents the first five years of the 10-year renewal plan ending in 2023. The audit focused on the governance structure, the management of risk and issues, the project management framework and the reporting processes in place to support MSC senior management decision making.

### What the audit found

#### Governance

- A governance framework is in place for the Canadian Weather Radar Renewal Project (CWRRP), which includes dedicated oversight committees.
- Infrastructure renewal activities for the Surface and Marine Weather and Climate Stations Network (SMWCSN), the Upper Air Network (UAN), and the Canadian Lightning Detection Network (CLDN) are managed as part of ongoing regular program activities.
- Governance documentation is incomplete and key decisions are not consistently documented.
- There is an opportunity to improve governance by strengthening the comprehensive oversight function at the director general level.

## Management of risks and issues

- The CWRRP actively tracks and manages risks and issues with an effective suite of risk management tools and defined processes.
- Risk documentation is limited in other areas of the Renewal II initiative.
- There is no overall risk framework to ensure that risks associated with the other renewal components are systematically identified, analyzed and managed.
- Without a consistent approach to risk identification, proper risk registries and documented mitigation strategies for all parts of the Renewal II initiative, it is unclear to what extent MSC senior management is equipped to manage effectively risks and issues associated with the initiative.

## Project management

- An overall strategic plan is in place that defines the Renewal II initiative. This key document supported the initial funding of the renewal of the ECCC weather monitoring network.
- An overall strategic plan is in place that defines the Renewal II initiative.
- There is a sound and comprehensive project management framework in place for CWRRP.
- The other network components of the Renewal II are managed through ongoing regular program activities.
- The absence of a project management framework increases the risk that the activities planned under these components may not be delivered on schedule and within budget, or may not produce the planned outcomes.

## Monitoring and reporting

- The CWRRP has effective monitoring and reporting processes in place to support decision making.
- Although the audit found some evidence of monitoring and reporting activities for the other three components of the Renewal II initiative, the process is not clear and the requirements are not specified.
- MSC management would benefit from clearly articulating and documenting the required content for monitoring and reporting, the frequency, the target audiences and the approval process.

## Recommendations and management responses

Four recommendations were issued to address the areas of concern. Management agrees with the recommendations and has provided an appropriate response and an action plan.

### Recommendation 1 – Governance

**The Assistant Deputy Minister, Meteorological Service of Canada, should strengthen the governance for the Renewal II initiative by:**

- **Clearly articulating how oversight is performed, specifically for components that have no dedicated governance structure**

- **Finalizing terms of reference for the oversight bodies**
- **Consistently documenting key decisions and action items, whether they are taken at the committee level or during bilateral discussions between project leads and senior management**

### **Management response**

Given that Renewal II investments represents a relatively small portion of MSC's monitoring expenditures and that oversight mechanisms are already in place, improvements to existing MSC governance will be the most effective way to address the recommendation.

As such, the MSC will address recommendations through improved governance to support awareness and decision making related to Renewal II initiatives. Specific actions to address the audit's findings will be incorporated into existing Branch efforts already underway to review and address governance supporting MSC's monitoring program, including:

- Documenting oversight mechanisms for decision making, reporting, and risk and issue management for Renewal II Initiatives
- Finalizing terms of reference for oversight committees
- Ensuring that key decisions related to Renewal II are captured and documented in the records of decisions

### **Recommendation 2 – Management of risks and issues**

**The Assistant Deputy Minister, Meteorological Service of Canada, should improve Renewal II risk management-related activities for the Surface and Marine Weather and Climate Stations Networks, Upper Air Network and Canadian Lightning Detection Network components, to ensure that risks are systematically identified, assessed, mitigated and communicated. This should include developing and updating risk registers and implementing mitigation strategies.**

### **Management response**

In addition to the recommendations outlined in the audit report, MDSD will build on the existing ISO-QMS process and develop a Risk Management Framework including an internal risk registry and issues log to capture risks related to program operations, including Renewal II. This will provide the evidence base for the management of program risks and will allow for risks to be contextualized and raised to appropriate management levels to support strategic decision making across the organization and with key stakeholders. MSC will:

- Implement a risk registry capable of capturing and tracking risks and mitigation strategies, including those related to Renewal II
- Communicate requirements to Renewal II leads to capture and record risks and mitigation strategies in the MDSD Risk Registry for Renewal II-related risks
- Develop a risk management framework that outlines how risks will be managed and addressed by management

- Develop a dashboard to roll-up and synthesize key risks for awareness and tracking

### **Recommendation 3 – Project management**

**The Assistant Deputy Minister, Meteorological Service of Canada, should improve plans, processes and tools to manage the implementation of the Surface and Marine Weather and Climate Stations Networks, Upper Air Network and Canadian Lightning Detection Network components of the Renewal II initiative for the remaining period of the initiative. The plans should clearly demonstrate how MSC effectively manages activities to achieve the planned goals.**

#### **Management response**

Noting that reports on risks, plans and progress have been reported to MMC and other committees within the branch, the MSC recognizes that there are opportunities to improve documentation (for example, Marine transformation).

MDSD is instituting work planning that addresses requirements for all operational activities, including renewal activities. The purpose of the improvements is to ensure that standardized work plans for programs and projects, including Renewal II, are well documented and regularly reported upon for key goals/objectives, milestones, activities, risks and related information.

Efforts for planning and reporting have been scaled according to the risks associated with the planned outcomes.

The MSC will ensure that plans are in place and updated on a regular basis. Plans will also be reviewed at mid-year to track progress. Where required, plans will align with Environment and Climate Change Canada (ECCC) Departmental Project Management Office (DPMO) guidelines and best practices.

### **Recommendation 4 – Monitoring and reporting**

**The Assistant Deputy Minister, Meteorological Service of Canada, should clarify the monitoring and reporting requirements for the Surface and Marine Climate Stations Networks, Upper Air Network and Canadian Lightning Detection Network components of the Renewal II initiative, to support timely and informed decision making.**

#### **Management response**

The MSC will conduct a review of its reporting requirements to ensure that they support timely and informed decision making, including MSC's management oversight and quality management system processes.