

TSM Performance by Company

Vale



Vale is a global leader in the sustainable development of natural resources and is one of the world's largest and most diverse mining companies. Vale's Base Metals Division, headquartered in Toronto, is one of the industry's largest producers of nickel. Operating in Canada for more than 100 years, with more than 5,000 employees, Vale's goal is to continue its growth profitably, but only within a safe, environmentally respectful and sustainable environment.

Vale is committed to meeting or exceeding MAC's recommended *TSM* targets and is pleased to submit this summary of its 2016 performance.

ABORIGINAL AND COMMUNITY OUTREACH

Open and transparent communication, respectful engagement on concerns and issues, and diligent reporting to stakeholders are all firmly entrenched as the way in which Vale operates with Aboriginal communities. Vale proudly operates Aboriginal and community outreach activities and management programs that meet *TSM*'s performance expectations in all its Canadian facilities, each tailored to the site and the neighbouring communities' requirements.

Vale's Thompson, Sudbury and Voisey's Bay sites have achieved a Level AAA for all indicators under the *TSM Aboriginal and Community Outreach Protocol*. The Port Colborne Refinery earned a Level AAA for three of the four indicators; and a Level A for Indicator 4. In addition, the Voisey's Bay site was proud to be awarded the *TSM Community Engagement Excellence Award* for its Winter Shipping Program, which ensures minimal interference with traditional Aboriginal lifestyles and enables residents to safely cross the tracks of the company's ships.

In Sudbury, Vale collaborated with local First Nations and Métis communities to identify traditional lands and treaty rights potentially affected by its operations. The company provides engagement, dialogue and cultural training to employees and seeks traditional Aboriginal knowledge to support decisions and inform practices such as environmental monitoring.

At Voisey's Bay, Vale's COI identification process involved extensive community consultations for the environmental assessment of the mine and concentrator project, and the negotiation of separate Innu and Inuit impact and benefit agreements.

In 2016, in Long Harbour-Mount Arlington Heights where Vale has a new nickel processing plant and port facility, a community liaison committee connects the company and local residents quarterly, and a fisheries and aquaculture liaison committee communicates regularly with local fisheries and aquaculture stakeholders.

In addition, Vale is committed to supporting national outreach programs that also operate within the communities in which it operates, including Skills Canada, the Advanced Coronary Treatment (ACT) Foundation and Threads of Life.

ENERGY USE AND GHG EMISSIONS MANAGEMENT

Overall, Vale continues to improve its performance under the *TSM Energy Use and GHG Emissions Management Protocol*. All sites are at a Level A or higher, except Thompson, with two indicators below Level A, and Sudbury, with one below Level A.

Globally, Vale is committed to reducing its projected 2020 GHG emissions by 5% (its carbon target).

TAILINGS MANAGEMENT

In Sudbury, Vale maintained its Level AAA performance under the *TSM Tailings Management Protocol* for all indicators as a result of work completed by the third-party expert Tailings Review Board. The company has reviewed all tailings management policies with its COI, and senior management has endorsed and implemented the policies within budget allocations.

As well, Manitoba and Newfoundland and Labrador, Vale maintained its performance under the *TSM Tailings Management Protocol*, averaging a Level A or higher across all indicators.

CRISIS MANAGEMENT AND COMMUNICATIONS PLANNING

All sites as well as Vale's corporate offices satisfied the requirements of the *TSM Crisis Management and Communications Planning Protocol*. Crisis management planning and preparedness is a critical component of Vale's risk management activities. Vale's crisis management teams are well trained, and are willing to respond to internal emergencies and help the community when possible. Testing of the crisis management systems was conducted at all sites.

SAFETY AND HEALTH

At Vale, life matters most, and the company's commitment to this core value is reflected in its *TSM Safety and Health Protocol* assessments, which confirm continued high performance at all sites. For Indicator 3, Vale achieved a Level AAA for all its mining operations, and a Level AA or higher for Indicator 5 across all sites.

For the third consecutive year, risk management efforts at Vale's Voisey's Bay Mine earned the company the John T. Ryan National Award, Select Mines, for the lowest lost time injury frequency in the previous calendar year. Voisey's Bay achieved zero lost time injuries in 2016.

In 2017, Vale committed to an additional three years of national-level support for Threads of Life, a charity dedicated to promoting workplace health and safety and helping families touched by a work-related fatality, injury or occupational disease.

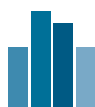
BIODIVERSITY

Vale maintains its commitment to continuous improvements under the *TSM Biodiversity Conservation Management Protocol*. The company's performance is assessed at a Level A or higher in Port Colborne, Voisey's Bay and Long Harbour. Thompson has three indicators below Level A and Sudbury has two indicators below Level A.

Vale's biodiversity protection projects demonstrate how much the company prizes the planet. They include support for Manitoba's woodland caribou collaring program, the Vale Living with Lakes Centre and extensive biodiversity studies in Voisey's Bay.

🔗 For more information, please visit www.vale.com/canada





2016 TSM Results

Vale



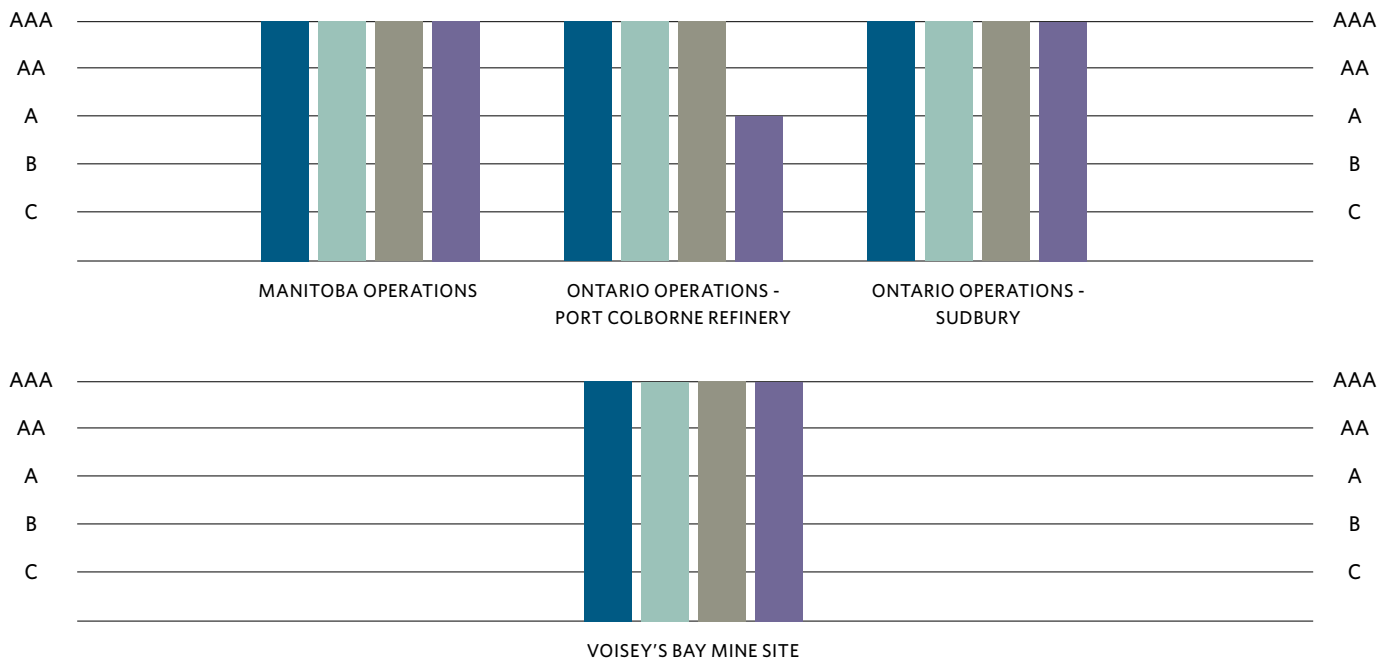
Crisis Management and Communications Planning Assessment

FACILITY	PREPAREDNESS	REVIEW	TRAINING
MANITOBA OPERATIONS	✓	✓	✓
ONTARIO OPERATIONS - PORT COLBORNE	✓	✓	✓
ONTARIO OPERATIONS - SUDBURY	✓	✓	✓
CORPORATE OFFICE	✓	✓	✓
VOISEY'S BAY MINE SITE	✓	✓	✓



Aboriginal and Community Outreach Assessment

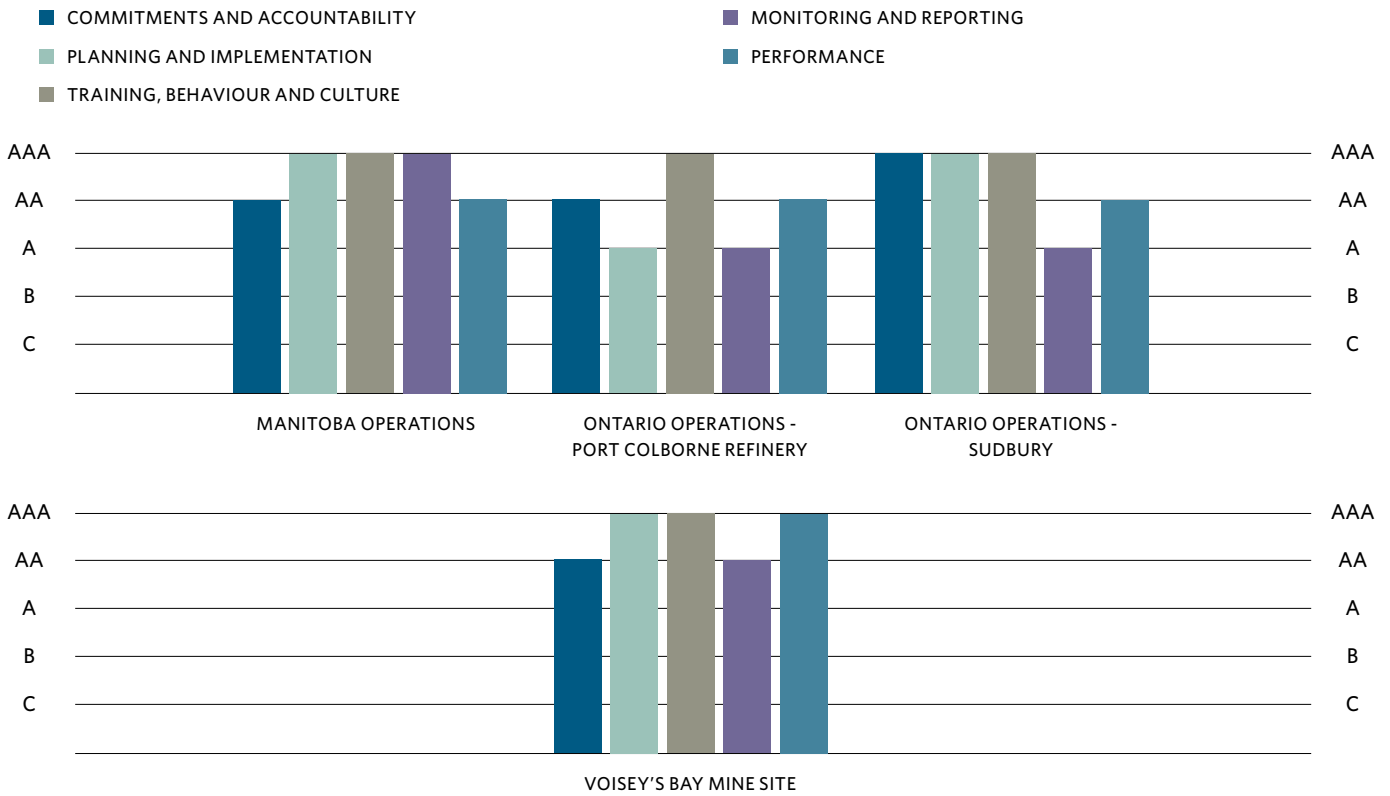
- COMMUNITY OF INTEREST (COI) IDENTIFICATION
- COI RESPONSE MECHANISM
- EFFECTIVE COI ENGAGEMENT AND DIALOGUE
- REPORTING



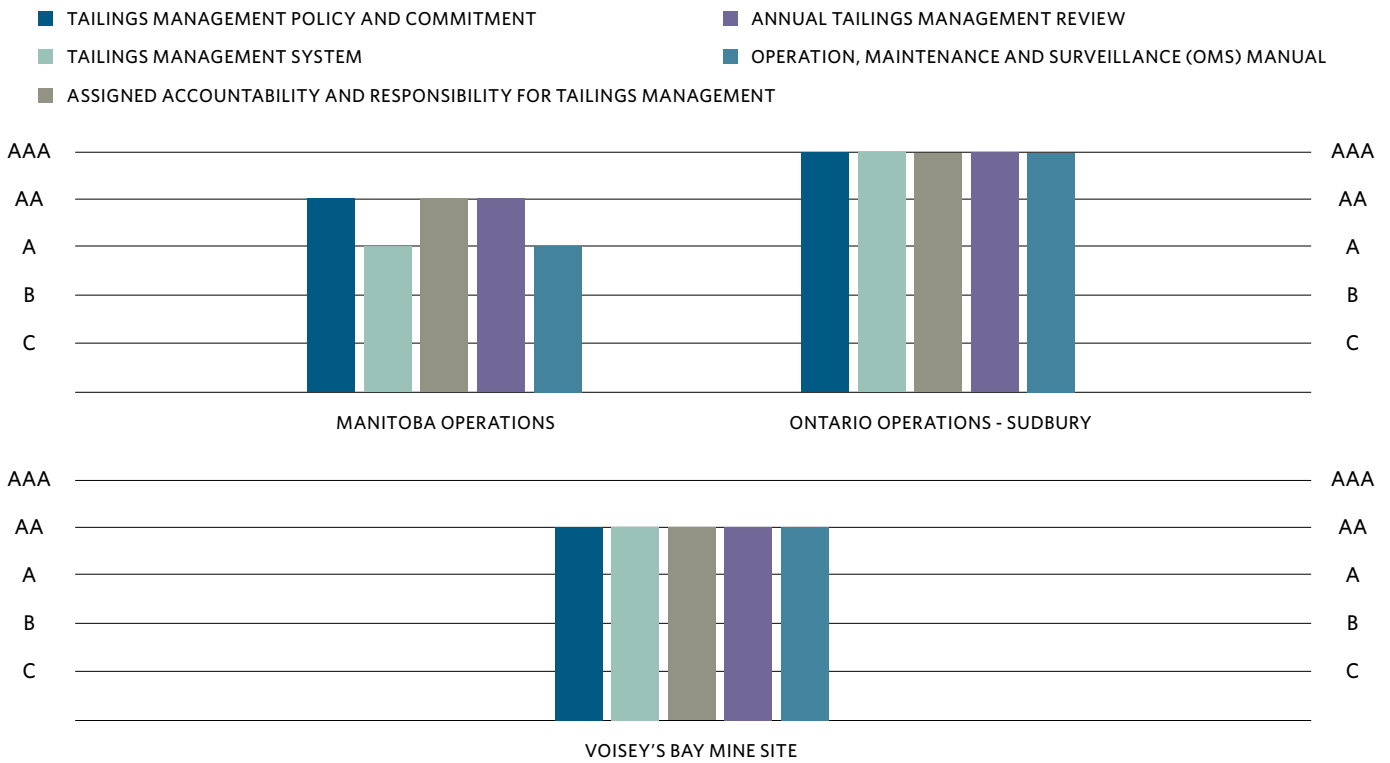
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Safety and Health Assessment



Tailings Management Assessment

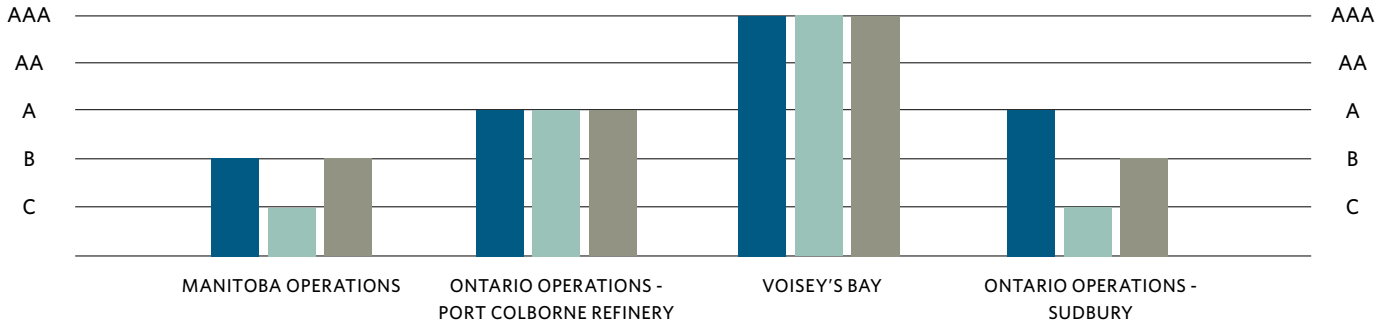


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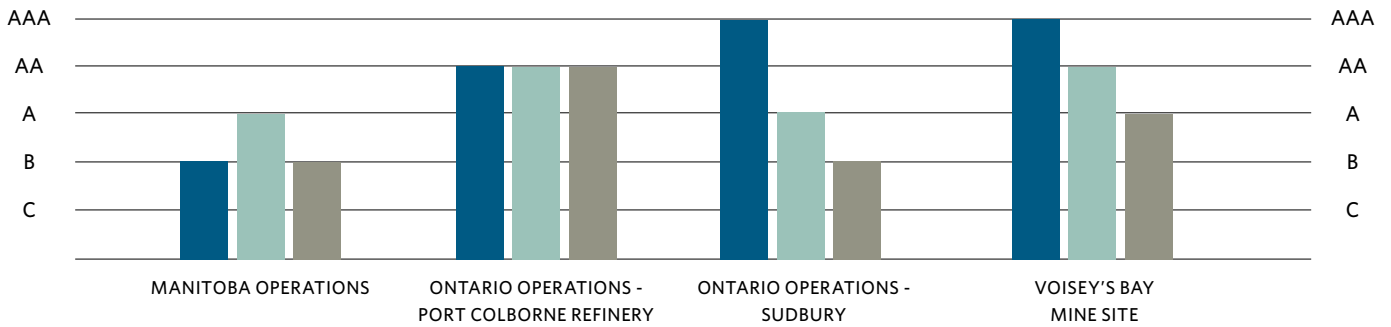
Biodiversity Conservation Management Assessment

- CORPORATE BIODIVERSITY CONSERVATION POLICY, ACCOUNTABILITY AND COMMUNICATIONS
- FACILITY-LEVEL BIODIVERSITY CONSERVATION PLANNING AND IMPLEMENTATION
- BIODIVERSITY CONSERVATION REPORTING



Energy Use and GHG Emissions Management Assessment

- ENERGY USE AND GHG EMISSIONS MANAGEMENT SYSTEMS
- ENERGY USE AND GHG EMISSIONS REPORTING SYSTEMS
- ENERGY AND GHG EMISSIONS PERFORMANCE TARGETS



Externally verified in 2016; next external verification 2019.

