

Consultation response

Part 1: Your details

Original language of response: English

Name: Colin Montgomery

Country of residence: Canada

Are you willing to let us publish your response publicly on the Global Tailings Review website? Yes

Please select which stakeholder group you are representing: Consultant (non-geotechnical)

If 'Other', please specify below:

Are you responding on behalf of an organization? Yes

Please give the name of the organization: 3v Geomatics Inc

Your level within the organisation: Other

Part 2: Your views on each of the Principles and Requirements in the Standard

Topic I: Knowledge Base

Principle 1

In your view, will compliance with this Principle and its Requirements contribute to the prevention of catastrophic failure of tailings facilities?

Not sure

Which aspects of Principle 1 do your comments relate to?

Your comments on Principle 1

Principle 2

In your view, will compliance with this Principle and its Requirements contribute to the prevention of catastrophic failure of tailings facilities?

Not sure

Which aspects of Principle 2 do your comments relate to?

Your comments on Principle 2

Topic II: Affected Communities

Principle 3

In your view, will compliance with this Principle and its Requirements contribute to the prevention of catastrophic failure of tailings facilities?

Not sure

Which aspects of Principle 3 do your comments relate to?

Your comments on Principle 3

Topic III: Design, Construction, Operation and Monitoring of the Tailings Facility

Principle 4

In your view, will compliance with this Principle and its Requirements contribute to the prevention of catastrophic failure of tailings facilities?

Not sure

Which aspects of Principle 4 do your comments relate to?

Your comments on Principle 4

Principle 5

In your view, will compliance with this Principle and its Requirements contribute to the prevention of catastrophic failure of tailings facilities?

Not sure

Which aspects of Principle 5 do your comments relate to?

Your comments on Principle 5

Principle 6

In your view, will compliance with this Principle and its Requirements contribute to the prevention of catastrophic failure of tailings facilities?

Not sure

Which aspects of Principle 6 do your comments relate to?

Your comments on Principle 6:

Principle 7

In your view, will compliance with this Principle and its Requirements contribute to the prevention of catastrophic failure of tailings facilities?

Not sure

Which aspects of Principle 7 do your comments relate to?

Your comments on Principle 7

Principle 8

In your view, will compliance with this Principle and its Requirements contribute to the prevention of catastrophic failure of tailings facilities?

Yes

Which aspects of Principle 8 do your comments relate to?

Comments on the Principle itself, Requirement 8.1, Requirement 8.4

Your comments on Principle 8

The implementation of effective monitoring systems for a comprehensive performance monitoring program is imperative for minimizing and eliminating risks associated with tailings facility failures. We urge the Global Tailings Standard Consultation to consider Interferometric Synthetic Aperture Radar (InSAR) for inclusion in the Tailings Standard under Topic III, Principle 8. InSAR is currently deployed as part of key monitoring infrastructure at most active tier 1 mines around the world and

is being adopted as a cost efficient monitoring technique at closed and rehabilitated sites. InSAR is an effective and proven tool for large scale monitoring with millimetric precision. Satellite imagery covers hundreds of square kilometers and can provide coverage over difficult terrain, or where right-of-way access may be an issue. The large footprint of a synthetic aperture radar (SAR) satellite image allows for the analysis of an entire mine site, including open pits, tailings dams, infrastructure depots, stockpiles, leach pads, access roads, etc. SAR imagery is collected over each area of interest (AOI) with every orbit. Differences between images are computed to highlight changes on the ground surface. Displacement as subtle as 1-2 millimeters per year, and up to a few meters per year, can be detected. Spatial resolution for satellite images ranges between a few meters, up to hundreds of square meters and can be selected to appropriately suit a project and budget. Images are typically collected every few days (sensor dependent) and can be processed into actionable monitoring data within hours from acquisition. Services typically act as a supplement to ground-based monitoring (prisms, radar, inclinometers etc.). Alerts can be provided for newly detected displacement or accelerating motion areas. Over time, these reports provide an early warning that can indicate progressive, regressive, and steady-state phenomena. InSAR monitoring is a cost-effective solution to reduce the risk of significant incidents and safeguard production. If you need more information on the benefits and limitations of InSAR, please feel free to get in touch. We would be happy to contribute impartial technical content, we have done so for similar efforts in the recent past including the Large Open Pit project and for a Remote Sensing publication by Springer Nature.

Topic IV: Management and Governance

Principle 9

In your view, will compliance with this Principle and its Requirements contribute to the prevention of catastrophic failure of tailings facilities?

Not sure

Which aspects of Principle 9 do your comments relate to?

Your comments on Principle 9

Principle 10

In your view, will compliance with this Principle and its Requirements contribute to the prevention of catastrophic failure of tailings facilities?

Not sure

Which aspects of Principle 10 do your comments relate to?

Your comments on Principle 10:

Principle 11

In your view, will compliance with this Principle and its Requirements contribute to the prevention of catastrophic failure of tailings facilities?

Not sure

Which aspects of Principle 11 do your comments relate to?

Your comments on Principle 11:

Principle 12

In your view, will compliance with this Principle and its Requirements contribute to the prevention of catastrophic failure of tailings facilities?

Not sure

Which aspects of Principle 12 do your comments relate to?

Your comments on Principle 12:

Principle 13

In your view, will compliance with this Principle and its Requirements contribute to the prevention of catastrophic failure of tailings facilities?

Not sure

Which aspects of Principle 13 do your comments relate to?

No

Your comments on Principle 13:

Principle 14

In your view, will compliance with this Principle and its Requirements contribute to the prevention of catastrophic failure of tailings facilities?

Not sure

Which aspects of Principle 14 do your comments relate to?

Your comments on Principle 14:

Topic V: Emergency Response and Long-Term Recovery

Principle 15

In your view, will compliance with this Principle and its Requirements contribute to the prevention of catastrophic failure of tailings facilities?

Not sure

Which aspects of Principle 15 do your comments relate to?

Your comments on Principle 15:

Principle 16

In your view, will compliance with this Principle and its Requirements contribute to the prevention of catastrophic failure of tailings facilities?

Not sure

Which aspects of Principle 16 do your comments relate to?

Your comments on Principle 16:

Topic VI: Public Disclosure and Access to Information

Principle 17

In your view, will compliance with this Principle and its Requirements contribute to the prevention of catastrophic failure of tailings facilities?

Not sure

Which aspects of Principle 17 do your comments relate to?

Your comments on Principle 17:

Part 3: Your views on the Standard

Your view as to whether the content of the Standard meets your expectations

Your view as to whether the content of the Standard meets your expectations (closed question):

5: Goes well beyond my expectations

Please summarize why you chose this option:

We are pleased to see that the Standard includes the design of a comprehensive performance monitoring program for tailings storage facilities.

Your view on whether the Standard will create a step change for the industry in the safety and security of tailings facilities

Your view on whether the Standard will create a step change for the industry in the safety and security of tailings facilities (closed question):

5: Will deliver a step change in all aspects of the safety and security of tailings facilities

Please summarize why you chose this option:

We believe the application of the Standard to all new and existing tailings infrastructure will have an industry changing impact. With pressures coming from investors, consumers, and regional authorities, the adoption of the Standard will have a step change in safety and security.

Does the content of the Standard address all aspects of tailings facility management adequately?

Does the content of the Standard address all aspects of tailings facility management adequately (closed question)?

Yes

Please explain why and/or what is missing:

The Standard has been designed with a multidisciplinary perspective which will lead to the improvement of Mining and tailings storage safety and security.

Part 4: Suggestions for topics to be included in the accompanying Recommendations Report

On which topics would you expect to have further clarification or guidance in this document?

What monitoring systems and procedures will be considered to fulfill a comprehensive performance monitoring program? What frequencies, other than quarterly, will be necessary to satisfy the company, regulatory and public disclosure requirements?

Other information

Non-fitting response text (text submitted which did was not in response to one of the questions above)

Attachment 1 reference (if applicable)

Attachment 2 reference (if applicable)

