VIEWPOINTS:

Applying IFRS® Standards in the Mining Industry

RECLAMATION OBLIGATIONS

DECEMBER 2017

Background

Mining activities may have a significant impact on the environment which usually results in decommissioning, reclamation and environmental remediation activities being required, both during mining and after mining activities have been completed. In this Viewpoint the term "reclamation" is used to include decommissioning, reclamation and environmental remediation activities. In various jurisdictions the term "asset retirement obligation" (ARO) is also often used to describe these types of activities.

The costs of reclamation activities can be material and the measurement of such costs is often difficult, requiring significant estimates and the exercise of professional judgment. The liabilities may not be settled for a significant period of time (often subsequent to the end of the mine's life) and changes are likely to occur in these estimates prior to settlement.

IFRS provides specific guidance in IAS 37, *Provisions, Contingent Liabilities and Contingent Assets*, on accounting for provisions, which includes reclamation obligations. IFRIC 1, *Changes in Existing Decommissioning, Restoration and Similar Liabilities* contains additional guidance on accounting for changes in the measurement of these obligations.

This Viewpoint addresses how mining entities should recognize and measure reclamation obligations and how they should account for subsequent revisions to estimated reclamation obligations.

Mining Industry Task Force on IFRS

International Financial Reporting Standards (IFRS) create unique challenges for mineral resource companies. Financial reporting in the sector is atypical due to significant differences in characteristics between mineral resource companies and other types of companies. The Chartered Professional Accountants of Canada (CPA Canada) and the Prospectors & Developers Association of Canada (PDAC) created the Mining Industry Task Force on IFRS to share views on IFRS application issues of relevance to mineral resource companies. The views of the Task Force are provided in a series of papers available through free download. These views are of particular interest to chief financial officers, controllers and auditors.

The views expressed in this series are non-authoritative and have not been formally endorsed by CPA Canada, PDAC or the organizations represented by the task force members.

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This Viewpoint does not address those situations where a mining entity experiences a sudden and accidental discharge of pollutants into the environment (e.g. waste water spills) as the remediation of these expenditures is an expense and recognized in profit or loss for the period.

This Viewpoint also does not address those situations where a mining entity assumes reclamation obligations as part of a business combination.[1]

Issue

How should a mining entity:

1. initially recognize and account for reclamation obligations
2. initially measure reclamation obligations
3. account for subsequent revisions to the estimated reclamation obligations?

Viewpoints

1. Initial Recognition

There is often a requirement to return the mine site to its original condition or to an agreed-upon state at the end of the mine's life. This obligation generally arises as a result of environmental laws in the country where the mine is located or through contractual agreements that a mining entity may be required to enter into in order to obtain the necessary permits to operate the mine. A reclamation obligation may also arise as a result of the mining entity's constructive obligation to restore the mining operation upon completion.

In accordance with IAS 37, a constructive obligation arises from a mining entity's actions such as a promise, a published policy or an established pattern of past practice to perform reclamation activities regardless of law, statute or agreement. Constructive obligations may include commitments (either oral or written) to government officials or public promises to local communities to perform reclamation activities beyond what is required by law or agreement. While the law or agreement may require the land to be returned to its original state, a mining entity may go beyond that requirement and agree to turn the land into a usable recreational space or may promise the construction of infrastructure (e.g., a hospital or other community building) on the site. A mining entity may also have a policy or practice of reclamation regardless of whether or not a law exists, in which case a constructive obligation as to the future reclamation activities may exist.

Reclamation obligations may arise during the exploration, evaluation, development and production phases of a mine (e.g., as the environment is impacted and structures are put in place that will eventually require removal). In addition to the initial obligation created as the mine is constructed, there may be additional obligations incurred as mining activities takes place. For

1 **Viewpoints—Accounting for Decommissioning Liabilities Assumed in a Business Combination** discusses how to account for such decommissioning liabilities.

example, in the case of an open pit mine, the obligation for land reclamation may increase as the pit is expanded. There may be additional tailings areas created as the mine continues to produce and these may also need to be remediated at the end of the mine's life.

IAS 37 requires a provision to be recognized when there is a present obligation as a result of a past event. In the early years of a mine's development, or over the life of the mine, there will often be a difference between the reclamation activities required as a result of activity to date and the expected total reclamation activities at the end of the mine's life. The obligation for reclamation costs at a point in time is based on reclamation activities which would be required based on the then present state of the mining operations (i.e., the obligation is only to remediate past events). It is not appropriate to recognize the expected total reclamation obligation at the end of the mine's life if certain mining assets have not yet been constructed or certain disturbances have not yet occurred (e.g., the life-of-mine (LOM) plan may include a second tailings facility; however, until construction of the facility has started, it would not be appropriate to include the cost of the future reclamation of that new facility in the measurement of the reclamation obligation on the measurement date).

2. Initial Measurement

A reclamation obligation is measured at the best estimate of the future remediation costs. It reflects the amount that the mining entity would be required to pay to settle the obligation as of the reporting date.

Accounting for reclamation obligations requires mining entities to assess various significant estimates, including uncertainties related to those estimates, when determining the measurement of their reclamation obligations, such as:

- amount of future cash flows
- timing of future cash flows
- uncertainty in future cash flows
- discount rate
- inflation.

In the experience of the Mining Industry Task Force, assessing the above estimates may require specialized knowledge of environmental issues (e.g., the quantity and type of contaminants involved, the local geography, remediation costs). The estimates typically should be made with input from environmental experts.

Amount of Future Cash Flows

Future cash flows to settle reclamation obligations generally would include incremental direct costs such as amounts paid to consultants, the cost of equipment dedicated to the reclamation, the cost of materials used in the reclamation activities and the cost of employees and contractors performing the reclamation effort. Proceeds from expected disposals of assets (e.g., salvage costs) should not be considered when measuring the reclamation obligation (i.e., disposal proceeds are part of the residual value of an asset and are incorporated in the amortization accounting for that asset).

Various specific factors impact the nature of reclamation activities such as geography, the laws and regulations in the jurisdiction in which the mine is located, the mining entity's past practices or stated policies, the nature of mining operations, and whether the reclamation itself will be performed in-house or by third parties.

Examples of activities typically associated with reclamation include, but are not limited to, the following:

- planning and engineering, including environmental studies or assessments to evaluate reclamation activities
- closure of open pit or underground mining works
- containment of tailing facilities
- removal of buildings and equipment
- containment and removal of chemicals
- soil and water management and treatment
- mobilization/demobilization of reclamation equipment
- project management of the reclamation activities
- health and safety and environmental monitoring related to the reclamation activities
- costs of travel and housing of workers undertaking reclamation activities.

Future developments that may affect the estimate of the amount required to settle an obligation are reflected in the amount of the provision when there is sufficient objective evidence that they will occur. For example, anticipated cost savings arising from improvements in technology are considered in measuring the provision if there is a reasonable expectation those improvements will occur by the time of the remediation.

IAS 37 prohibits the recognition of a provision for future operating costs or losses. Management should consider carefully whether costs relate to future operations of the mining entity or are required to perform reclamation activities related to the disturbance at the measurement date. For example, certain site security, ongoing monitoring and management oversight costs may not relate directly to reclamation activities and, therefore, are not appropriate to include within the reclamation obligation.

Timing of Future Cash Flows

The majority of a mine's reclamation activities are typically expected to occur in the future after the mine has ceased production. In order to calculate the present value of future cash flows, a mining entity must estimate when the future reclamation activities are expected to be performed and the associated expenditures incurred. Such estimates typically require significant judgment and should be supported by management's LOM plans. LOM plans may extend over a significant period of time and include separate mine phases and ongoing reclamation activities which should be reflected in the estimated timing of cash flows.

Uncertainty in Future Cash Flows

Because future events are difficult to predict, reclamation costs are inherently uncertain. The uncertainty about future costs should be reflected in the measurement of the provision. Uncertainty is not a reason for not recognizing a reclamation obligation. Estimation uncertainty of cash flows is expected to diminish as the length of time between the date of the estimate and the date(s) of the settlement of the obligation decreases.

Uncertainty and risks are reflected either by adjusting the expected future cash flows or the discount rate applied to those cash flows. When estimating the expected cash outflows required to settle the future reclamation obligation, it is often easier to adjust the cash flows for risks and to discount the expected cash flows at a risk-free interest rate (See "Discount Rate" below). Adjusting the discount rate for risks can be more complex and require a greater degree of judgment (Note that adjusting for risks in the discount rate results in a reduction from the risk-free interest rate). In the experience of the Mining Industry Task Force, common practice in the mining sector is to risk-adjust the expected future cash flows rather than incorporate risk into the discount rate.

A mining entity may consider multiple scenarios when determining a future reclamation plan for a mine and use a probability weighted estimate (adjusting possible outcomes by their associated probabilities) to determine the expected future cash flows. Alternatively, a risk contingency may be applied to the estimated future cash flows. For example, if cash flows include estimated costs to construct a water treatment plant, it may be appropriate to include a risk contingency to reflect inherent uncertainty at the design stage.

Both of these approaches require significant judgment and assumptions about future events that could impact estimated future cash flows which should be supported by sufficient objective evidence. When a risk-contingency approach is utilized, the risk contingency should be allocated to the various expenditures to be incurred as opposed to an overall "general" contingency on the estimated cash flows. For example, mining entities should consider contingency factors used in quotes from third-party engineering firms for similar work or published industry guidelines.

Discount Rate

Reclamation activities often occur far into the future and, therefore, the effects of discounting can be material. IAS 37 requires the discount rate to be a pre-tax rate that reflects the current market assessment of the time value of money and the risks specific to the obligation. As previously noted, when those risks are adjusted through cash flows rather than the discount rate, the discount rate usually used is a risk-free rate; however, if the discount rate is adjusted for risks specific to the obligation, the cash flows should not also be adjusted for those risks (a mining entity must ensure that it does not "double count" risks in estimating a reclamation obligation).

The risks specific to the obligation do not include risks of the mining entity. Therefore, the use of the mining entity's average or incremental borrowing rate would not be an automatic proxy for the discount rate. IAS 37 does not address whether a mining entity's own credit risk should be considered specific to an individual liability. The IFRS Interpretations Committee

noted its understanding that the predominant practice is to exclude own credit risk and observed that own credit risk is generally viewed as a risk of the mining entity rather than a risk specific to the liability. There is, however, some mixed practice amongst Canadian mining entities in using a risk-free rate versus a credit adjusted risk-free rate.

The risk-free rate is usually determined by considering the interest rate on a government bond in the same currency as the underlying future cash flows and with a similar timing as the future cash flows. Typically, a government bond "yield" rate (not the coupon rate) in the currency in which the obligation will be settled is used because this is a nominal, risk-free pre-tax rate. Complexities can arise when the cash flows are in a currency where the related bonds are thinly traded or don't have terms extending to when the cash flows are estimated to occur. In these circumstances further analysis would be required to determine the appropriate risk-free rate.

Inflation

When determining the discount rate, a mining entity should consider whether a nominal or a real discount rate should be used. If cash flows have been adjusted for estimated future inflation, then a nominal discount rate should be used. If cash flows are expressed in current prices, then a real discount rate should be used. There needs to be consistency in the basis of the cash flows and the discount rate used. In some jurisdictions, the real rate may be negative. In some views, it is not appropriate to use a negative real rate; therefore, the rate would be capped at 0% (i.e., no discounting effect would result). Other approaches may, however, be appropriate depending on the specific facts and circumstances.

Foreign Exchange

Mining operations exist in many countries resulting in foreign currency issues that arise in the measurement of the reclamation obligation. IFRS does not provide specific guidance on the accounting treatment for exchange differences related to a foreign-currency-denominated reclamation obligation. In order to determine how reclamation obligations should be translated into a mining entity's functional currency, a mining entity needs to determine whether the obligation is monetary or non-monetary. A monetary liability is translated at the spot exchange rate at the reporting date, whereas a non-monetary liability is translated using historical exchange rates.

A reclamation obligation is likely to have some costs that would be considered monetary and others that are non-monetary in nature. A reclamation obligation is monetary to the extent that it is expected to be settled by payment in a fixed or determinable number of units of currency (e.g., future payments to employees or third parties for goods and/or services) and non-monetary to the extent that it will be settled by delivery, consumption or use of a previously recognized non-monetary asset (e.g., using materials on hand). The determination of whether a reclamation obligation is a monetary or non-monetary liability is subject to significant judgment.

A monetary reclamation obligation denominated in a foreign currency should be calculated by discounting the foreign-currency denominated cash flows using a discount rate appropriate for the currency in which the cash flows will be incurred and the resulting present value should be translated into the functional currency at the spot exchange rate at the date of initial recognition and, subsequently, at each reporting date. As discussed previously, there may be factors which might lead a mining entity to conclude that the interest rate on a government bond is not representative of the risk-free rate.

Accounting for Reclamation Costs

Upon initial recognition, the cost of the reclamation obligation is generally not expensed through profit or loss but is recognized as part of the capital cost of the mining asset to which it relates. If, however, it arose from production activities, the cost should be recognized as part of the cost of inventory. The reclamation asset is then depreciated over the asset's useful life by inclusion as a part of the cost of producing inventory and subsequently expensed through profit or loss as the inventory is sold. In practice, the cost of the future reclamation activities is most often capitalized as part of the mineral property balance and depreciated over the mine's life. In some cases, however, it might be more appropriate to capitalize the cost of the obligation to a component asset (e.g., costs related to reclamation of a specific plant).

There are situations where reclamation costs should not be capitalized as part of the cost of an asset, such as for closed mines where there is no depreciable asset base and sudden and accidental discharges of pollutants where there is no expected future benefit. In these cases, the amount of the reclamation obligation would be charged directly to profit or loss.

3. Revisions to Reclamation Obligations

At the end of each reporting period, a mining entity must review and adjust the measurement of a reclamation obligation to reflect changes in the estimated timing or amount of cash outflows required to settle the obligation as well as the discount rate applied to the estimate of such cash flows. These changes along with the passage of time (unwinding of the discount) will affect the measurement of the obligation. A change in the estimated discounted cash flows may arise from various factors including but not limited to changes in:

- cash outflows expected to be incurred to settle the obligation (e.g., labour or material costs)
- expected mine's life, which will impact the timing of the settlement of the reclamation obligation (e.g., changes in mine reserves)
- legal or regulatory requirements for reclamation activities
- foreign exchange rates
- the discount rate.

Timing of Revisions

In practice, due to the complexity of determining reclamation costs, many mining entities periodically use external specialists to assist with estimating the amount of the future reclamation cash flows. Mining entities are, however, required to ensure cash flow estimates are current and reflect any material changes as of each period end and not just periodically. When a mining entity has concluded there are no material changes to a past estimate, one approach that may be used to accommodate the requirement that the measurement of the liability remains current is to inflate the most recent reclamation cost estimates to current dollars based on the actual inflation rate for such costs.

The discount rate should also be assessed at each reporting period.

Changes in Reclamation Obligations

When the initial estimate of the reclamation obligation is included as part of the cost of an asset, changes in the measurement of the reclamation obligation (other than those due to the accretion of the reclamation obligation) are generally added to or deducted from the cost of the related asset[2] in the period of change. The cash generating unit to which the asset belongs cannot, however, be increased to an amount above its recoverable amount. If the decrease in the reclamation costs exceeds the carrying amount of the underlying asset, the difference is immediately recognized in profit or loss since the asset cannot be below zero.

Unwinding the Discount

The unwinding of the discount relating to the reclamation obligation (i.e., accretion) is recognized in profit or loss as a finance cost as it occurs. Capitalization of accretion under IAS 23, *Borrowing Costs* is not permitted.

Changes in Foreign Exchange Rates

Changes in foreign exchange rates will affect the measurement of a reclamation obligation. Such changes are generally regarded as a revision of estimated future cash flows although some may consider that foreign exchange gains or losses are financing costs treated in accordance with IAS 21, *The Effects of Changes in Foreign Exchange Rates*, where foreign currency movements are recorded through profit or loss.

Changes Resulting from Production Activities

The cost of reclamation obligations that arise from production activities is considered a part of the cost of inventory. Consequently, these costs are capitalized to inventory and expensed through profit or loss as the inventory is sold. For example, a pushback in an open pit mine that is not capitalized as a stripping cost may increase the reclamation obligation and would be included in inventory as the inventory is produced. As a result, changes to this portion of the reclamation obligation would not be recorded as part of the cost of the mineral property asset but would form part of the cost of the inventory produced.

In practice, it can often be very difficult to distinguish between reclamation obligations that arise from the construction of a mine and those attributable to production. A significant portion of the reclamation obligation is generally incurred during the development of the

2 In the *Viewpoint*, the related asset is assumed to be measured using the cost model. Should a mining entity measure the related asset using the revaluation model, different requirements apply. Refer to IFRIC 1 for further details.

mine. Certain reclamation activities, such as the removal of buildings or plant and equipment, do not change materially with changes in production levels. Generally, reclamation obligations are less likely to result from current production in an underground mine than in an open pit mine.

Because reclamation obligations are often not settled for a significant period of time, changes in cash flow estimates and timing can make the tracking of the reclamation obligations incurred as a result of the production of inventory versus those incurred in the development of the mine complicated. A mining entity must develop a process to track these obligations separately if they are significant.

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