

Mr. David Post
Director of Research
Sustainability Accounting Standards Board
1045 Sansome Street, Suite 450
San Francisco, CA 94111

Re: Comments on SASB's Sustainability Accounting Standard for Extractive & Minerals Processing Sector, Coal Operations (SICS EM0201)

Dear Mr. Post:

The Sierra Club is pleased to submit its comments concerning the SASB's Sustainability Accounting Standard for Coal Operations (SIC# NR0201). These comments are based on a review of the 2017 *Proposed Changes to Provisional Standards, Exposure Drafts, Redline of Standards for Public Comment*,¹ *Extractives & Minerals Processing Sector, Coal Operations (Redline Draft)*, the June, 2014 *Provisional Standards* ("Provisional Standard"), the SASB Conceptual Framework, SEC Concept Paper *Business and Financial Disclosure Required by Regulation S-K*, Release No. 33-10364 and other materials referenced herein. The Sierra Club notes that three significant trends have emerged in the Coal Operations segment that warrant specific discussion and inclusion in the Guidance: (1) the impact of continued low natural gas prices associated with nonconventional natural gas production on the domestic thermal coal market, (2) the potential impact of increasing exports of nonconventional natural gas on the foreign thermal coal market and (3) the impact of the underlying economics and of government policies towards alternatives to coal-fired generation of electricity in China, India, Europe and elsewhere on the export thermal coal market.

We have provided detailed comments and suggestions for language change in our markup of the *Redline Draft* (Markup), attached as Annex 1. The following general comments provide context and our reasons for the changes suggested in the Markup.

GENERAL COMMENT

1. Distinction between facts and opinion, and the problem of generic disclosure. Under the Supreme Court's definition of materiality used in the *Redline Draft*, information is material if there is "a substantial likelihood that the disclosure of the omitted *fact* would have been viewed by the reasonable investor as having significantly altered the 'total mix' of information made available." (emphasis provided). Many of the potential risks in the Coal sector are susceptible to future market conditions and regulatory actions about which different evaluators may have different opinions. A company may opt to share its **opinion** about the likelihood of certain events occurring in the future, but such opinions should be separate from disclosure of the relevant **facts** that are known (or knowable) at the time of disclosure. In several instances the *Redline Draft* recommends that a registrant "discuss" certain relevant issues, such as changes in its GHG emissions over time and its calculation methodologies.² Such a discussion may indeed be helpful in placing the relevant facts in context, but the SASB should underscore that such explanations are in addition to, not in *lieu of*, providing the relevant facts.

A number of companies now routinely disclose that a number of broad topics, including climate

¹ We are not aware of the specific document that the "Redline Draft" purports to revise, but have observed that it is not the June, 2014, Provisional Standard. The Redline submitted as Attachment 1 compares both the Redline Draft and the Provisional Standard.

² See, e.g., EM0201-01.

change, government regulations, fuel prices, weather and other factors that may materially affect their financial condition or operating performance. Such generic disclosures do not provide the kind of information that would allow investors to understand the unique ways these risks could impact an individual company, or to make a peer-to-peer comparison of companies within a particular industry. We suggest that disclosures should include sufficient **facts** to allow a reasonable investor to understand the degree of potential risk and to conduct a peer-to-peer comparison of the company and its competitors. *The Sierra Club therefore recommends that the Guidelines be revised (1) to emphasize that the purpose of the disclosure is to provide **timely and relevant facts that may be useful to investors** and (2) to provide specific examples to assist investors in assessing sustainability topics.*

2. “Shall” versus “Should”. The *Redline Draft* offers the following distinction: “[t]he term “shall” is used throughout this document to indicate those elements that reflect requirements of the Standard. The terms “should” and “may” are used to indicate guidance, which, although not required, provides a recommended means of disclosure.”

A number of the recommendations in the *Redline Draft* – which is itself styled as “Guidance” – fall within the “should” category.³ The use of “guidance within guidance,” rather than simply setting out the requirements of the Guidance, is confusing at best, and may create unintended opportunities for “greenwashing” where a registrant meets only those items in the “shall” category and claims to have met SASB Guidelines. Throughout our comments, we have replaced “should” with “shall” where we believe the item is an essential component of the Guidelines. This does not mean that registrants must disclose each such item where disclosure would not provide additional material information.⁴

INDUSTRY DESCRIPTION

The description of the included industry should clarify that the guidance covers disclosure by registrants engaged in the mining, processing and transportation⁵ of coal (anthracite, bituminous, and subbituminous) and lignite. The Guidance should also clarify that where coal or lignite mining operations include ownership or operation of a co-located (minemouth) electric generating unit (EGU), the disclosures under SASB Guidance IF0101 (Electric Utilities) shall be made for such operations.

TOPICS:

1. Workforce Health, Safety and Well-being. The *Redline Draft* proposes to limit the “Workforce Health, Safety and Well-being” topic to “Employee Health and Safety.” We object to this proposed change. Other SASB standards include the entire work force, thus including contractors and subcontractors as well as direct employees. Moreover, “wellbeing” including worker retraining, pension protection and the like for companies with limited future life is an important sustainability issue. The *Redline Draft* offers no reason why facts concerning medical issues, accident and fatality

³ Thus, for example, a registrant would meet the GHG disclosure requirements of the *Redline Draft* simply by putting forth three numbers – (1) gross Scope 1 GHG emissions (total for all of its covered operations - in metric tons); (2) percentage covered by GHG emission limiting regulations; and (3) percentage covered by GHG emission reporting regulations. Disclosure of changes in GHG emissions over time, the reasons for such changes and the calculation methodology used to determine Scope 1 GHG emissions fall within the category of “should” and therefore need not be disclosed.

⁴ For example, where a registrant discloses that a particular unit will be closed in the near future, information about the potential risk of closure is superfluous and need not be separately disclosed. In such instances, however, disclosure of closure costs, bonding and worker retraining/resettlement issues should be provided.

⁵ This is not intended to capture common carriers as members of the coal operations segment. As explained below, emissions associated with the transport of coal by common carriers are Scope 3 emissions that are subject to disclosure by the coal company that mined or processed the coal.

rates of contractors working onsite or why programs relating to end of mining operations (or the lack thereof) should not be disclosed.

2. Lobbying and advocacy Within the “*Management of the Legal and Regulatory Environment*” topic, we recommend that registrants disclose their membership and expenditures associated with advocacy groups that promote accommodating our changing energy profile, such as the American Council for an Energy Efficient Economy (ACEEE) and the Center for Climate and Energy Solutions (C2ES), and those entities that have staked out positions in opposition to these changes, such as the American Legislative Council (ALEC), the American Council for Clean Coal Electricity (ACCCE) and pooled legal resource groups that regularly advocate and litigate environmental issues for industry members as a group. We believe this information will help inform potential investors about a key component of a registrant’s plans for managing the transformation to a new energy environment.

METRICS

1. Plant-specific metrics. The *Redline Draft* provides for a number of metrics that are not particularly relevant to an understanding of a registrant’s performance on sustainability issues, particularly where they are set out on a company- wide basis. Reporting metrics on a company-wide basis may fail to reveal whether individual mines or processing facilities bear a high risk of poor financial performance or closure due to market conditions or regulatory impacts. Thus, if two of a company’s nine mines are failing because of market conditions, the risk of those units closing or their impact on the environment might not be apparent to an investor based on disclosure of a company-wide averages. Participants in the coal sector operate single digit numbers of separate mines, not hundreds of separate activities⁶ and routinely disclose operation specific data to the U.S. EPA, U.S. DOE, state regulators and others. Moreover, they commonly report production and other data by mine. It is also clear at this time that thermal and metallurgical coal are separate markets as, to a degree, are western opencast coal and eastern subsurface mining. Coal processing activities – lignite drying and coal washing each bring to bear a different set of environmental issues, as does long and short range transport of coal by truck, pipeline slurry, barge and rail. Accordingly, we recommend reporting of production of coal, by mine, type of coal and type of mining activity. We do not believe that requiring plant or mine specific disclosures would be unduly burdensome.

To minimize any additional reporting burden we recommend that registrants disclose by providing active links to existing sources of these data. Further, to provide investors with information about how the registrant is responding to large trends over time, we recommend disclosure of a number of facts over a 5 year period and comparison of performance with peers.

2. Pollution and pollution control metrics. The gross emissions of pollutants “near” an area of “dense” population is neither objective (given the lack of definition of “near”), nor particularly useful without additional information. PM_{2.5} and ozone impacts from minemouth EGUs, heavy duty diesel operations and fugitives from mining activities have far more significant health impacts than, for instance, VOC emissions from minemouth EGUs.⁷ Moreover, the adverse health consequences are more significant if a source is contributing to ambient loadings in nonattainment areas than otherwise.

Coal operations that include minemouth EGUs should report under both the coal and utility standards. Approximately one-third of existing coal-fired EGUs do not have modern controls for SO₂ (flue gas desulfurization or FGD), and even fewer have the most effective NO_x controls (selective catalytic reduction or SCR). These controls, while cost effective are nonetheless very costly – upwards of \$250

⁶ Arch Coal, the nation’s second largest coal producer, lists nine separate mines and production data for each mine. See, www.archcoal.com/aboutus/ourmines.aspx

⁷ SO₂ and NO_x contribute to the formation of PM_{2.5}. NO_x contributes to the formation of ozone.

million for a medium-sized plant. However, if a plant has state-of-the-art controls environmental regulatory authorities are unlikely to ask for more. Thus, in addition to dramatically reducing the adverse public health impact of ongoing fossil-fuel fired generation, these devices provide a form of insurance against the possibility of large capital costs being imposed in the future to comply with the revised PM_{2.5} National Ambient Air Quality Standards (NAAQS), New Source Review (NSR) requirements for modified units or Regional Haze requirements. Accordingly, one informative metric that is readily available is an identification of the control devices installed on each operating mine mouth EGU unit and the most recent performance test result for that unit.⁸ A related metric for mining operations is the number (and horsepower) of large onsite diesel powered machinery and whether those devices are equipped with PM traps and SCR for NO_x reduction.

Registrants can and should couple this information with source apportionment modeling to identify and disclose each facility's contribution to the ambient air quality in local and regional airshed. This modeling is commonly performed by air pollution control agencies in the development of the State Implementation Plans (SIPs) required under the CAA. This information, coupled with generation data for any minemouth EGUs, would allow investors to be better informed about whether the plant is at risk of closure in the coming years due to air pollution concerns.

Dewatering mines can require substantial water withdrawals with potentially significant impacts on underground aquifers, surface waters and those persons, animals and plants that rely on those water sources. Operations at mines in areas of high baseline water stress may be curtailed to limit this damage at times. Subsequent discharge to receiving bodies of water may then impair downstream users and the environment. Accordingly, we recommend disclosure of amounts withdrawn at each site, identification of withdrawals in high baseline water stress areas, adverse environmental impacts and incidents of non-compliance with permits, standards and regulations.

The more specific water and coal ash management metrics we recommend will better enable investors to gauge the risk of drought related or competing use generation curtailments, capital investment to meet environmental constraints and the cost and reputational risk associated with coal ash impoundment failure.

3. U.S. focused metrics. While some registrants may have foreign operations, almost all of the activities of this sector are primarily U.S.-based. For this reason we have included references to those U.S. regulations that may pose a material risk of operation of U.S. mining operations, *in lieu of*, the generic international norms presented in the *Redline Draft*. We also identify metrics, such as whether a mine-mouth coal-fired EGU is fully controlled and whether it impacts non-attainment areas, which are more likely to identify actual risks than those suggested in the *Redline Draft*.

4. Scope 1, 2 and 3 emissions. A key metric for this sector is the amount of methane emissions from mining and processing and after closure of the mine. Given the GHG warming potential of methane, the Guidelines should specifically require disclosure of amount of methane emissions, and efforts to minimize them. The *Redline Draft* requires GHG disclosures to Scope 1 emissions, which, although not specifically explained in the Draft, would seem to include methane emissions during active mining, but then combines these emissions with CO₂ emissions and calls for disclosure of a single CO_{2e} emission figure for all of registrant's activities. Scope 1 emissions cover emissions from

⁸ FGDs have been available for several decades and so, some older units may be at some risk of an upgrade or the addition of a small polishing unit. Others may be at or near the end of their useful lives, a fact that should be disclosed to investors given the high cost of replacement. Mercury control costs are nominal for units with well performing FGD, SCR and PM controls.

facilities owned or controlled by the registrant and so disclosure should include methane emissions before, during and after active mining operations. The Guidance should make this clear to users. Further, the *Redline Draft* excludes Scope 2 emissions associated with purchased power and Scope 3 emissions, including, but not limited to, transportation of coal by common carrier. No reason for deviating from international GHG reporting norms is given and we can think of no reason why these data should not be disclosed.

5. Site restoration. The risk that coal operators facing economic decline will fail to properly manage closure activities at their mines and fail to sufficiently fund post closure care is of substantial concern. Quite simply, we have seen this movie before, where coal mining companies have declared bankruptcy leaving the public to pick up the pieces. And in many cases, states and the Federal government have failed in their residual responsibilities to clean up the mess created by the original operators⁹ or to constrain or capture the ongoing methane emissions from these sources.¹⁰ The passage of the Surface Mine Control and Reclamation Act (SMCRA) in 1977 was supposed to ensure that the failures of the early 20th century would not be repeated, but a lack of funding and political will suggest that continued concern is reasonable.¹¹ In several instances, the rate of restoration of disturbed mining areas is far slower than the rate of disturbance of new mining sites and suggest that, where this continues for a prolonged period, significant and material sustainability issues are presented. For this reason we recommend that the Guidelines require disclosure of this information, including the trend over a 5 year period.

6. Mountaintop removal mining. Mountaintop removal mining involves removal of enormous amounts of overburden, which is commonly then dumped into valleys and streambeds. Since restoration of the mountain to “a state similar to surrounding terrain” and properly “reestablish wildlife and aquatic resources”, as required by the SMCRA would be costly, restorations to date have not met the standard we expect. With the revocation of the Stream Protection Rule in February of 2017, there is no reason to be optimistic that the situation will improve at any point in the near future. We recommend that registrants separately disclose the amount of past and ongoing MTR mining, including amount of overburden removed, streambed impacts, the extent to which they intend to voluntarily comply with the terms of the now-revoked Streambed Protection Rule and, if so, any deviations from the terms of the Streambed Protection Rule.

7. Impoundments. In 1972 a coal refuse retaining dam in West Virginia failed, releasing over 130 million gallons of black water, killing 125 persons and causing substantial social and economic damage.¹² This disaster led to passage of the Dam Control Act in 1975, but tailings dam failures have continued over the years with disturbing frequency, including coal tailings dam failures in 1981, 1987, 1988, 2000, 2008, 2013 and 2014.¹³ According to a recent publication by the National Park Service¹⁴

“When we consider the recorded life of tailings dams structures (a century at most) compared to the length of time that they must function (millennia), the number of failures observed in the first century of their operation is not

⁹ See, e.g., <http://www.dep.pa.gov/Citizens/JustForKids/Mines/Pages/AbandonedDangers.aspx>; <https://www.bizjournals.com/pittsburgh/news/2015/10/20/pennsylvania-abandoned-mine-problems.html>; https://www.wvgazette.com/news/abandoned-mines-remain-hazard-in-wv-as-cleanup-funds-limited/article_7c85084b-6cd3-5973-85c8-5e6fab1a0208.html

¹⁰ https://www.epa.gov/sites/production/files/2016-03/documents/amm_opportunities_database.pdf

¹¹ Indeed, the Sierra Club has been forced to sue states to accept even a portion of their obligations under the SMCRA. <https://content.sierraclub.org/press-releases/2017/05/west-virginia-treat-water-pollution-forfeited-coal-mines>

¹² <https://www.dailykos.com/stories/2012/2/7/1062372/-40-Years-Later-The-Buffalo-Creek-Disaster-Its-Aftermath>

¹³ See, <http://www.wise-uranium.org/mdaf.html>

¹⁴ Chambers, David, *Series: Alaska Park Science - Volume 13 Issue 2: Mineral and Energy Development Long-term Risk of Tailings Dam Failure*, National Park Service. <https://www.nps.gov/articles/aps-v13-i2-c8.htm>

comforting. To the author, the statistics suggest a rather severe underestimation of risk continuing even today in tailings dam permitting and construction.”

We have included a number of specific disclosures relating to this important sustainability issue, including the critical issue of bonding to cover the cost of long term responsibility for these impoundments. We address potential harm from acid mine drainage, which may also continue far into the future, in a similar manner.

8. Community relations and rights of indigenous peoples. We have suggested reporting of matters that are intended to provide specific facts that will assist investors in differentiating between companies that actually attempt to work with the communities that they impact and those that merely engage in superficial consultations. These include reporting instances where projects are modified at an early stage in response to community concerns and those instances where projects are modified only after the matter has escalated or a government agency has intervened. We also recommend disclosure of the registrant’s hiring practices, including hiring for mid-management and management positions, of persons in affected communities, including those on tribal lands. Finally, we also suggest some language revisions where the *Redline Draft* seems to reflect a pro-developer bias.

9. Labor relations. With today’s level of automation, production at a mine or other facility can be substantially impaired by a strike or slowdown of far fewer than the 1,000 workers set out in the *Redline Draft*. We recommend that this figure be revised downward.

10. Reserves valuation. Under the *Reserves Valuation* topic, the *Redline Draft* recommends valuation of reserves using potential coal price scenarios based on coal prices projected by the International Energy Agency (IEA). We agree with this notion, but would expand it to include that the price sensitivity of coal reserves also be evaluated based on the several forecasts by the U.S. Energy Information Agency, that more likely reflect U.S. rather than global economic trends. We also recommend that the scenarios evaluated and disclosed not only look at the forecasts for the price of coal, but also the price of natural gas, and renewable energy – as those factors may also ultimately impact the value of registrant’s coal reserves.

SUMMARY AND CONCLUSION

The Sierra Club appreciates the opportunity to provide comment on the SASB’s Sustainability Accounting Standards. We believe this is an important project that can, if properly implemented, provide critical information to investors who are increasingly considering sustainability issues in their decision making. The disclosures we recommend are not trade secrets or business confidential, and can be discerned by reviewing company filings with the EPA, FERC, EIA, State Corporation Commissions and other agencies and reports issued by S&P Global Intelligence/ Platts and others. Registrants can and should provide a road map to this information by providing plant specific data, and/or links to such data so that investors can read summaries of key information (such as a listing of poorly controlled units) and then move to more specific and detailed data sources if they choose. The Sierra Club is willing to work with the SASB to develop and implement a workable set of Sustainability Accounting Standards. Please contact Mr. Steven Herz at steve.herz@sierraclub.org if you have any questions, or wish to discuss any of the matters we recommend.

Sincerely,

Steven Herz



Sustainability Accounting Standards

PROPOSED CHANGES TO PROVISIONAL STANDARDS

EXPOSURE DRAFTS

REDLINE OF STANDARDS FOR PUBLIC COMMENT

**EXTRACTIVES & MINERALS PROCESSING
SECTOR**

Oil & Gas - Exploration & Production

Oil & Gas - Midstream

Oil & Gas - Refining & Marketing

Oil & Gas - Services

Coal Operations

Iron & Steel Producers

Metals & Mining

Construction Materials

Prepared by the
Sustainability Accounting Standards Board®

EXTRACTIVES & MINERALS PROCESSING SECTOR

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EXTRACTIVES & MINERALS PROCESSING SECTOR

COAL OPERATIONS*

Sustainability Accounting Standard

PROPOSED CHANGES TO PROVISIONAL STANDARDS

EXPOSURE DRAFT

REDLINE OF STANDARD FOR PUBLIC COMMENT

Prepared by the
Sustainability Accounting Standards Board[®]

October 2017

* Sustainable Industry Classification System™ (SICS™) #EM0201

COAL OPERATIONS

Sustainability Accounting Standard

About the SASB

The Sustainability Accounting Standards Board (SASB) was founded in 2011 as an independent standard-setting organization. The SASB issues and maintains sustainability accounting standards for 79 industries, focusing on the subset of industry-specific sustainability factors that are reasonably likely to have material financial impacts on companies within that industry. Companies can use the standards to disclose material information to investors in SEC filings, including Forms 10-K, 20-F, and 8-K, as well as S-1 and S-3, in a cost-effective and decision-useful manner. The standards are designed to help companies better comply with existing disclosure obligations, working within the framework of existing U.S. securities laws.

The SASB Standards Board is responsible for developing and issuing the standards, maintaining technical agendas, proposing updates to the standards, and executing the standard-setting process. The SASB staff is responsible for performing research and engaging in consultation on the standards, supporting the work of the Standards Board.

The SASB Foundation, an independent 501(c)3 non-profit, is responsible for the funding and oversight of the SASB, including safeguarding the SASB's independence and integrity through due process oversight and inquiry resolution. The SASB Foundation Board of Directors appoints members of the SASB.

About this Standard

This Standard is an exposure draft presented for public review and comment. **This version is not intended for implementation.**

The public comment period lasts for 90 days, beginning on October 2, 2017, and ending on December 31, 2017. The Standard is subject to change thereafter. SASB Standards are scheduled to be ratified by the SASB in early 2018.

For instructions on providing comments to SASB, please click [here](https://www.sasb.org/public-comment) (<https://www.sasb.org/public-comment>).

SUSTAINABILITY ACCOUNTING STANDARDS BOARD

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Purpose & Structure

This document contains the SASB Sustainability Accounting Standard (SASB Standard) for the Coal Operations industry.

SASB Sustainability Accounting Standards comprise **(1) disclosure guidance and (2) accounting standards or metrics** for use by U.S. and foreign public companies in their disclosures to investors, such as in annual reports and filings with the U.S. Securities and Exchange Commission (SEC), including Forms 10-K, 20-F, 40-F, 10-Q, 8-K and S-1 and S-3. The Standards facilitate the meaningful disclosure of sustainability information that is useful to investors in making decisions on investments and corporate suffrage.¹ The Standards reflect the fact that certain sustainability information is important for assessing the future financial performance of an issuer, particularly over the long term.

SASB Standards identify sustainability topics that are reasonably likely to constitute material information for a company within a particular industry. Company management is responsible for determining whether those identified topics reflect information that is material to investors and should be disclosed in filings, based on that company's specific circumstances. For further details regarding the use of the SASB Standards, in particular guidance on determinations of materiality, please see SASB's Implementation Guide.²

SASB Standards provide companies with sustainability metrics designed to communicate performance on industry-level sustainability topics in a concise, comparable format using existing reporting mechanisms. Companies can use the Standards to help ensure that disclosure is reliable, decision-useful for investors, and cost-effective for issuers.

SASB Standards are intended to constitute "suitable criteria" for purposes of an attestation engagement as defined by Paragraph .A42 of AT-C section 105³ and referenced in AT-C section 395.⁴ "Suitable criteria" have the following attributes:

- *Relevance*—Criteria are relevant to the subject matter.
- *Objectivity*—Criteria are free from bias.
- *Measurability*—Criteria permit reasonably consistent measurements, qualitative or quantitative, of subject matter.
- *Completeness*—Criteria are complete when subject matter prepared in accordance with them does not omit relevant factors that could reasonably be expected to affect decisions of the intended users made on the basis of that subject matter.

Industry Description

The Coal Operations industry includes companies that mine coal and those that manufacture and process coal products. Mining activity covers both underground and surface mining, and thermal and metallurgical coal. The industry includes production, processing and transportation of anthracite, bituminous, subbituminous coals and lignite.

Typically, U.S. coal mining

¹ The AICPA defines sustainability information in its Guide, [Attestation Engagements on Sustainability Information \(Including Greenhouse Gas Emissions Information\)](#) (Issued July 2017), as follows: "information about sustainability matters (such as economic, environmental, social and governance performance)." It further explains that "sustainability metrics and sustainability indicators are components of sustainability information. Sustainability information may be nonquantitative (narrative), historical, or forward-looking."

² <https://library.sasb.org/implementation-guide>

³ <https://www.aicpa.org/Research/Standards/AuditAttest/DownloadableDocuments/AT-C-00105.pdf>

⁴ <http://pcaobus.org/Standards/Attestation/Pages/AT701.aspx>

companies have domestic operations; however, some of the largest U.S.-listed companies also have operations in the Asia-Pacific region. Some mining companies also either own or operate electric generating units, typically co-located mine-mouth operations, which are covered by the more specific SASB Standard #IF0101 as well as this standard.

Users of the SASB Standards

The SASB Standards are intended for use by public companies and by investors to inform investment decisions. The standards facilitate disclosure of financially material sustainability-related information in a concise, comparable, cost-effective, decision-useful format.

The SASB Standards are designed for integration into existing reporting mechanisms, such as SEC filings. This keeps the administrative and cost burden to a minimum. SEC filings include Form 10-K for U.S. companies, Form 20-F for foreign issuers, Form 40-F for Canadian issuers, quarterly reports on Form 10-Q, current reports on Form 8-K, and registration statements on Forms S-1 and S-3. The SASB Standards are also recognized by the European Commission as a suitable framework for companies to provide information to investors pursuant to EU Directive 2014/95/EU. See “Guidelines on non-financial reporting (methodology for reporting non-financial information).”⁵ Thus, SASB standards are a cost-effective way to satisfy both U.S. and European reporting requirements.

SASB evaluates the materiality of sustainability-related topics by using the high threshold of financial materiality that is established under the U.S. securities laws.⁶ Although designed to meet the rigorous disclosure requirements of the U.S. capital markets (thereby producing a high-quality set of evidence-based standards focused on material investor-focused topics), the standards represent a best practice that can be used by companies of all types (public and private) to describe their material sustainability-related risks and opportunities.

Guidance for Disclosure of Sustainability Topics in SEC Filings

1. Industry-Level Sustainability Topics

For the Coal Operations industry, the SASB has identified the following sustainability disclosure topics:

- Greenhouse Gas Emissions
- Water Management
- Waste Management
- Biodiversity Impacts
- Community Relations & Rights of
- Indigenous Peoples
- ~~Workforce Health, Safety, and Well-being~~ Employee Health and Safety
- Labor Relations
- Reserves Valuation & Capital Expenditures

2. Determination of Materiality

Commented [BB1]: Object to proposed change – other standards include work force – that includes contractors and subcontractors. Wellbeing includes worker retraining, pension protection and similar for companies with limited future life.

In the U.S., sustainability disclosures are governed by the same laws and regulations that generally govern disclosures by securities issuers. According to the U.S. Supreme Court, a fact is material if, in the event such fact is omitted from a particular disclosure, there is a substantial likelihood that the disclosure of the omitted fact would have been viewed by the reasonable investor as having significantly altered the 'total mix' of the information made available.⁷

⁵ https://ec.europa.eu/info/publications/170626-non-financial-reporting-guidelines_en

⁶ https://library.sasb.org/materiality_bulletin/

⁷ *TSC Industries v. Northway, Inc.*, 426 U.S. 438 (1976).

Through a rigorous process of research, review of evidence, and public input, the SASB has identified sustainability topics that are reasonably likely to have a material effect on the financial condition or operating performance of companies within each Sustainable Industry Classification System™ (SICS™) industry.⁸ **However, the issuer must determine what information is (or is reasonably likely to be) material to the reasonable investor.** For further information regarding a process that corporations can use to assess the financial materiality of the sustainability-related topics in SASB standards, please see SASB's Implementation Guide.⁹

3. SEC Requirements Relating to Disclosure of Material Sustainability Information

If a public company determines that certain sustainability information is reasonably likely to be material, it must then determine whether disclosure of some or all of the information under applicable SASB Standards is required under the .S. Federal securities laws. Several provisions of those laws are relevant to sustainability disclosures.

Regulation S-K sets forth certain disclosure requirements associated with Form 10-K and other SEC filings. Item 303 of Regulation S-K requires companies to, among other things, describe in the Management's Discussion and Analysis of Financial Condition and Results of Operations (MD&A) section of Form 10-K "any known trends or uncertainties that have had or that the registrant reasonably expects will have a material favorable or unfavorable impact on net sales or revenues or income from continuing operations. If the registrant knows of events that will cause a material change in the relationship between costs and revenues (such as known future increases in costs of labor or materials or price increases or inventory adjustments), the change in the relationship shall be disclosed."¹⁰

Furthermore, the instructions to Item 303 state that the MD&A "shall focus specifically on material events and uncertainties known to management that would cause reported financial information not to be necessarily indicative of future operating results or of future financial condition."¹¹

The SEC has provided guidance for companies to use in determining whether a trend or uncertainty should be disclosed. The two-part assessment prescribed by the SEC can be applied to the topics included within this Standard:

- First, a company is not required to make disclosure about a known trend or uncertainty if its management determines that such trend or uncertainty is not reasonably likely to come to fruition occur.
- Second, if a company's management cannot make a reasonable determination of the whether a trend or uncertainty is likely to come to fruition likelihood of an event or uncertainty, then disclosure is required "unless management determines that a material effect on the registrant's financial condition or results of operation is not reasonably likely to occur."

Commented [BB2]: Tracking the language of the SEC Guidance

Companies should also consider the applicability of other Regulation S-K requirements. Specifically, Item 101 (“Description of Business”) requires a company to provide a description of its business and its subsidiaries. Item 103 (“Legal Proceedings”) requires a company to describe briefly any material pending or contemplated legal proceedings; instructions to Item 103 provide specific disclosure requirements for administrative or judicial proceedings arising from

⁸ https://library.sasb.org/materiality_bulletin/

⁹ <https://library.sasb.org/implementation-guide>

¹⁰ C.F.R. 229.303(Item 303)(a)(3)(ii).

¹¹ SEC [Release Nos. 33-8056; 34-45321; FR-61] Commission Statement about Management’s Discussion and Analysis of Financial Condition and Results of Operations: “We also want to remind registrants that disclosure must be both useful and understandable. That is, management should provide the most relevant information and provide it using language and formats that investors can be expected to understand. Registrants should be aware also that investors will often find information relating to a particular matter more meaningful if it is disclosed in a single location, rather than presented in a fragmented manner throughout the filing.”

laws and regulations that target discharge of materials into the environment, or that are primarily for the purpose of protecting the environment. Item 503(c) (“Risk Factors”) requires a company to provide discussion of the most significant factors that make an investment in the registrant speculative or risky, clearly stating the risk and specifying how it affects the company.

Finally, as a general matter, Securities Act Rule 408 and Exchange Act Rule 12b-20 require a registrant to disclose, in addition to the information expressly required by law or regulation, “such further material information, if any, as may be necessary to make the required statements, in light of the circumstances under which they are made, not misleading.”

4. Where Disclosures Should Be Made in SEC Filings

In using the definition of materiality established under the U.S. federal securities laws, the SASB has identified and developed industry-specific sustainability topics and metrics that are reasonably likely to have a material effect on the financial condition or operating performance of companies within a particular industry. As a general matter, the SASB believes that investors are best served when disclosure of such information is made in SEC filings. An issuer might, for example, make the disclosure in a sub-section of MD&A with a caption, “**Sustainability-Related Information**,” with a section that includes the material topics, performance metrics, and management’s view with respect to corporate positioning. See SASB’s “Mock 10-Ks” for examples of preparing an MD&A using the SASB Standards.¹² Issuers are not precluded from using the Standards elsewhere, such as in stand-alone communications to investors or in sustainability reports (sometimes referred to as corporate social responsibility reports or environmental, social, and governance reports), company websites, or elsewhere. Corporate communication on material topics, including sustainability-related material topics, should be consistent across communication channels. As discussed above, SEC regulations may compel inclusion of material sustainability information in an SEC filing where it is deemed financially material.

~~The SASB recognizes that sustainability topics are relatively new areas of investor interest, and it may be difficult to determine whether particular sustainability information is material in certain situations. Accordingly, issuers might also consider using the SASB Standards in filings using Form 8-K, Item 8.01 (“Other Events”). This provision states that “The registrant may, at its option, disclose under this Item 8.01 any events, with respect to which information is not otherwise called for by this form, that the registrant deems of importance to security holders.” Making a disclosure under Item 8.01 would not require the issuer to make a decision regarding materiality, and might also provide the company with more time to make the disclosure than is permitted under filing rules applicable to Form 10-K, thereby facilitating the completeness and accuracy of the disclosed information.~~

When using the Standards, issuers should cite or refer to the relevant SASB Standard.

More detailed guidance on preparing disclosures of material information related to sustainability topics and making topic-level materiality determinations can be found in the **SASB Conceptual Framework**, available for download via <http://www.sasb.org/approach/conceptual-framework/>, and the **SASB Implementation Guide for Companies**, available for download via <https://library.sasb.org/implementation-guide/>.

¹² <http://using.sasb.org/mock-10-k-library/>

Commented [BB3]: •This is inconsistent with the reference on p 149, above, requiring disclosure where there is uncertainty. – “Second, if a company’s management cannot make a reasonable determination of the likelihood of an event or uncertainty, then disclosure is required ‘unless management determines that a material effect on the registrant’s financial condition or results of operation is not reasonably likely to occur.’”

Guidance on Accounting for Sustainability Topics

The SASB has identified accounting metrics for each sustainability topic included in this Standard. The SASB recommends that companies within this industry consider using these sustainability accounting metrics when preparing disclosures on the sustainability topics identified herein.

When disclosing information related to a sustainability topic identified by this Standard, companies – and consistent with Rule 12b-20¹⁵ – ~~should~~ *shall disclose all relevant and material facts and* consider including a narrative description of any material factors necessary to ensure completeness, accuracy, and comparability of the data reported, as appropriate. ~~Such a description might in certain circumstances include a discussion of the following~~ *Where not addressed by the specific accounting metrics, but relevant, the registrant shall disclose and discuss the following, related to the topic:*¹³

- The registrant’s **governance** around the risks and opportunities related to the topic, including board oversight of and management’s role in assessing and managing such risks and opportunities.
- The registrant’s **strategic approach** regarding actual and potential impacts of topic-related risks and opportunities on the organization’s **businesses, strategy, and financial planning**, over the **short, medium, and long term**.
- The registrant’s process to **identify, assess, and manage** topic-related risks, and how these risks are integrated into the registrant’s overall risk management process.
- The registrant’s **use of metrics or targets** to assess and manage topic-related risks and opportunities.
- the registrant’s **competitive positioning** with respect to sustainability issues;
- the **degree of control** the registrant has over relevant sustainability issues;
- any **measures the registrant has undertaken or plans to undertake to improve sustainability performance**; and
- Data for the registrant’s **last three completed fiscal years** (when available).

The SASB recommends that registrants use SASB Standards specific to their primary industry as identified in SICSTM. If a registrant generates significant revenue from multiple industries, the SASB recommends that it also consider sustainability topics that the SASB has identified for those industries, and disclose the associated SASB accounting metrics.

Further, the SASB recommends that companies design, implement, ~~and~~ maintain, *and disclose* adequate systems of internal control over sustainability performance information to provide reasonable confidence regarding the achievement of related reporting objectives, such as those relating to the reliability of disclosed information.¹⁴

The SASB takes no position as to whether third-party attestation is necessary to enhance the credibility of the disclosed sustainability information, but as a matter of good governance, the SASB suggests that such assurance be considered.¹⁵ In disclosing to SASB Standards, it is expected that registrants disclose with no less than the level of rigor, accuracy, and

Commented [BB4]: This reference (and footnote) is contained in the interim guidance and seems relevant to the discussion.

Commented [BB5]: From utilities std.

Commented [BB6]: These three items are in the interim guidance and seem relevant. Specific reference to sustainability topics in italics has been added for clarity.

¹⁵ SEC Rule 12b-20: “In addition to the information expressly required to be included in a statement or report, there shall be added such further material information, if any, as may be necessary to make the required statements, in the light of the circumstances under which they are made not misleading.”

responsibility as they apply to all other information contained in their SEC filings. Registrants are encouraged to provide links to online materials where full disclosure involves significant amount of factual materials and/or analyses.

Commented [BB7]: From Utilities STD

The SASB Standards are intended to provide guidance for companies that engage in public offerings of securities registered under the Securities Act of 1933 (the Securities Act) and those that issue securities registered under the Securities Exchange Act of 1934 (the Exchange Act),⁷ for use in SEC filings, including, without limitation, annual reports on Form 10-K (Form 20-F for foreign issuers), quarterly reports on Form 10-Q, current reports on Form 8-K, and registration statements on Forms S-1 and S-3. Disclosure with respect to the SASB Standards is not required or endorsed by the SEC or other entities governing financial reporting, such as FASB, GASB, or IASB.

Commented [BB8]: From Utilities STD

¹³ These areas for possible additional narrative description are generally aligned with the [Recommendations of the Task Force on Climate-related Financial Disclosures](#), which contains a more extensive discussion of such disclosure matters.

¹⁴ In this regard, companies are referred to the report of a group of experts in this area. Robert H. Herz, Brad J. Monterio, Jeffrey C. Thomson, Leveraging the COSO Internal Control – Integrated Framework to Improve confidence in Sustainability Performance Data (August 2017).

¹⁵ The AICPA's Guide (see supra note 1) provides guidance to assist accounting practitioners in performing attestation engagements on sustainability information.

Scope of Disclosure

Unless otherwise specified, the SASB recommends:

- That a registrant disclose information on sustainability topics and metrics for itself and for entities that are consolidated for financial reporting purposes, as defined by accounting principles generally accepted in the United States (“US GAAP”), for consistency with other accompanying information within SEC filings;¹⁶
- That for consolidated entities, disclosures be made, and accounting metrics calculated, for the whole entity, regardless of the size of the minority interest; and
- That information from unconsolidated entities not be included in the computation of SASB accounting metrics. However, the registrant should disclose information about unconsolidated entities to the extent that the registrant considers the information necessary for investors to understand the effect of sustainability topics on the company’s financial condition or operating performance. (Typically, this disclosure would be limited to risks and opportunities associated with these entities.)

Reporting Format

Use of Financial Data

In instances where accounting metrics, activity metrics, and technical protocols in this Standard incorporate financial data (e.g., revenues, cost of sales, expenses recorded and disclosed for fines, etc.), such financial data shall be prepared in accordance with US GAAP, and be consistent with the corresponding financial data reported in the registrant’s SEC filings. Should accounting metrics, activity metrics, and technical protocols in this Standard incorporate disclosure of financial data that is not prepared in accordance with US GAAP, the registrant shall disclose such information in accordance with SEC Regulation G.¹⁷

Activity Metrics and Normalization

The SASB recognizes that normalizing accounting metrics is important for the analysis of SASB disclosures.

The SASB recommends that a registrant disclose any basic business data that may assist in the accurate evaluation and comparability of disclosure, to the extent that they are not already disclosed in Form 10-K (e.g., revenue, EBITDA, etc.).

Such data—termed “activity metrics”—may include high-level business data, including total number of employees, quantity of products produced or services provided, number of facilities, or number of customers. It may also include industry-specific data such as plant capacity utilization (e.g., for specialty chemical companies), number of transactions (e.g., for Internet media and services companies), hospital bed days (e.g., for health care delivery companies), or proven and probable reserves (e.g., for oil and gas exploration and production companies).

¹⁶ See US GAAP consolidation rules (Section 810).

¹⁷ <https://www.sec.gov/rules/final/33-8176.htm>

Activity metrics disclosed should:

- Convey contextual information that would not otherwise be apparent from SASB accounting metrics.
- Be deemed generally useful for investors relying on SASB accounting metrics to perform their own calculations and create their own ratios.
- Be explained and consistently disclosed from period to period to the extent that they continue to be relevant. However, a decision to make a voluntary disclosure in one period does not obligate a continuation of that disclosure if it is no longer relevant, or if a better metric becomes available.¹⁸

Where relevant, the SASB recommends specific activity metrics that—at a minimum—should accompany SASB accounting metric disclosures.

Table 1. Activity Metrics

ACTIVITY METRIC	CATEGORY	UNIT OF MEASURE	CODE
Production of thermal coal <u>at each mine, type of mining activity – underground, surface mining, mountaintop removal</u>	Quantitative	Million metric tons (MMT [†])	NR0201 EM0201-A
<u>Exports of thermal coal</u>	<u>Quantitative</u>	<u>Million metric tons (MMT)</u>	
Production of metallurgical coal <u>at each mine, type of mining activity</u> ¹⁹	Quantitative	Million metric tons (MMT [†])	NR0201 EM0201-B
<u>Processing of coal, Identification of processing facilities, tons of coal processed at each facility</u>	<u>Quantitative</u>	<u>Million metric tons (MMT)</u>	
<u>Transportation of coal, by media, ton-miles transported</u>	<u>Quantitative</u>	<u>Million metric ton-miles (MMT-mi)</u>	

Units of Measure

Unless specified, disclosures should be reported in International System of Units (SI units).

Uncertainty

The SASB recognizes that there may be inherent uncertainty when measuring or disclosing certain sustainability data and information. This uncertainty may be related to variables such as the reliance on data from third-party reporting systems and technologies, or the unpredictable nature of climate events. Where uncertainty around a particular disclosure exists, ~~the SASB recommends that the registrant shall~~ should consider discussing ~~discuss~~ its nature and likelihood.²⁰

Commented [BB9]: Consistent with earlier statements about the treatment of uncertainty.

Estimates

The SASB recognizes that scientifically-based estimates, such as the reliance on certain conversion factors or the

exclusion of *de minimis* values, may occur for certain quantitative disclosures. Where appropriate, the SASB does not discourage the use of estimates or ranges. When using an estimate for a particular disclosure, the SASB expects that the registrant will disclose the source of the estimate relied upon, discuss its nature and substantiate its basis.

¹⁸ Improving Business Reporting: Insights into Enhancing Voluntary Disclosures, FASB Business Reporting Research Project, January 29, 2001.

¹⁹ Note to **NR0201EM0201-B** – The scope includes pulverized coal injection used in blast furnaces and other metallurgical processes.

²⁰ The AICPA's Guide (see supra note 1) provides guidance related to measurement uncertainty.

Timing

Unless otherwise specified, disclosure shall be for the registrant's fiscal year.

Limitations

There is no guarantee that SASB Standards address all sustainability impacts or opportunities associated with a sector, industry, or company; therefore, a company must determine for itself the topics that warrant discussion in its SEC filings.

Use of the SASB Standards is voluntary. The Standards are not intended to replace any legal or regulatory requirements that may be applicable to a company's operations. When such laws or regulations address legal or regulatory topics, disclosure under SASB Standards is not meant to supersede those requirements.

~~SASB Standards are intended to be aligned with the principles of materiality enforced by the SEC. However, use of the SASB Standards is not required or endorsed by the SEC or various entities governing financial reporting, including the Financial Accounting Standards Board, the Government Accounting Standards Board, or the International Accounting Standards Board.~~

Commented [BB10]: Deleted from interim draft with no justification. Deletion undercuts the purpose of the SASB Standards.

Forward-Looking Statements

Disclosures on sustainability topics ~~shall include can, in some circumstances,~~ involve disclosure of material facts and discussion of future trends and uncertainties related to the registrant's operations and financial condition, including those influenced by external variables (e.g., environmental, social, regulatory, and political). Companies making these disclosures in SEC filings should familiarize themselves with the safe harbor provisions of Section 27A of the Securities Act, and Section 21E of the Exchange Act, which preclude civil liability for material misstatements or omissions in such statements if the registrant takes certain steps. These include, among other things, identifying the disclosure as "forward-looking," and accompanying such disclosure with "meaningful cautionary statements identifying important factors that could cause actual results to differ materially from those in the forward-looking statements."

Notes on the Sustainability Accounting Standards

The following sections contain the disclosure guidance associated with each accounting metric, including guidance on definitions, scope, accounting, compilation, and presentation.

The term "shall" is used throughout this document to indicate those elements that reflect requirements of the Standard. The terms "should" and "may" are used to indicate guidance, which, although not required, provides a recommended means of disclosure.

Commented [BB11]: Unless carefully monitored and implemented, this distinction runs the risk of undercutting the Standards and facilitating "greenwashing".

Table 2. Sustainability Disclosure Topics & Accounting Metrics

TOPIC	ACCOUNTING METRIC	CATEGORY	UNIT OF MEASURE	CODE
Greenhouse Gas Emissions	Gross global Scope 1-GHG emissions, (2) emissions covered under emissions-limiting regulations and (3) emissions covered under emissions-reporting programs percentage covered under a regulatory program	Quantitative	Metric tons CO ₂ -e, Percentage (%)	NR0201 EM0201-01
	Description of long-term and short-term strategy or plan to manage Scope 1-GHG emissions, emissions reduction targets, and an analysis of performance against those targets	Discussion and Factual Analysis	Various	NR0201 EM0201-02
Air Quality	Identification of installed controls and documentation of emissions performance each onsite fossil-fuel fired EGU; estimated cost to fully control each onsite fossil fuel-fired EGU and each piece of large construction equipment (>250bhp).	Quantitative	Metric tons (t), dollars (million)	Air Quality
	Direct emissions of the following pollutants: NO _x , SO _x , particulate matter (PM ₁₀) and Hg, from each onsite fossil fuel-fired EGU and other equipment at each mine owned or operated by registrant.	Quantitative	mTons	
	Modeled contribution of direct air emissions on PM _{2.5} and ozone concentrations within the airshed of each fossil fuel-fired EGU that is less than fully controlled.	Quantitative	ppm/ppb	
	Modeled adverse health impacts of emissions from each onsite fossil fuel-fired EGU that is less than fully controlled	Quantitative	premature mortality, asthma impacts lost work days	
Water Management	(1) Total fresh water withdrawn, by activity, including coal treatment and transport; percentage recycled; (2) total water consumed in each such activity, percentage of each, percentage in regions with High or Extremely High Baseline Water Stress	Quantitative	Cubic meters (m ³), Percentage (%)	NR0201 EM0201-03
	2) Total water discharges, by activity and location, impacts on vegetation, aquatic life, drinking water quality	Quantitative	Number	NR0201-04 TA04-26-01

Commented [BB12]: Applies to minemouth EGUs and large mobile sources

Waste Management	<p><u>Number, identification of tailings impoundments by MSHA hazard potential, amounts stored in each such impoundment, proximity to surface waters and viable aquifers, identification of unlined impoundments, projected future capacity, structural integrity, closure and monitoring obligations (including cost and bonding obligations)</u></p> <p><u>Disclosure of fully remediated mining sites (hectares) during each of the last 5 years and any newly disturbed areas that will require remediation in the future. Ratio of remediation completed to newly disturbed areas.</u></p>	Quantitative	Number, <u>hectares</u>	NR0201 <u>EM0201-05</u>
Biodiversity Impacts	Description of environmental management policies and practices for active sites	Discussion and Analysis	n/a	NR0201 <u>EM0201-06</u>
	<u>Identification of each mountaintop removal mining operation, length of impacted streambeds, area of impacted bottomland and habitat. This includes disclosure of affected species</u>	<u>Quantitative</u>	<u>meters, hectares</u>	
	<u>Identification of each other surface mining operation, area and habitat impacted</u>	<u>Quantitative</u>	<u>hectares</u>	
	<u>Percentage of identification of each mine sites where acid rock drainage is: (1) predicted to occur, (2) actively mitigated, and/or (3) under treatment or remediation; amount of drainage that is treated and untreated</u>	Quantitative	<u>Percentage (%)</u> <u>cubic meters (m³)</u>	NR0201 <u>EM0201-07</u>
(1) Proven and (2) probable reserves in or near sites with protected conservation status or endangered species habitat	Quantitative	Million metric tons (t <u>MMT</u>)	NR0201 <u>EM0201-08</u>	
Community Relations & Rights of Indigenous Peoples	Discussion of process to manage risks and opportunities associated with community rights and interests	Discussion and Analysis	n/a	NR0201 <u>EM0201-09</u>
	<u>Disclosure of any projects where eminent domain was used to obtain access to land</u>	Quantitative	<u>Number, Days</u> <u>Various</u>	NR0201 <u>EM0201-10</u>
	<u>Disclosure of projects voluntarily modified before formal processes commenced, disclosure of projects modified (voluntarily or otherwise) after commencement of formal processes, including the nature, cost and benefits of such modifications. Number and duration of non-technical delays</u>			
(1) Proven and (2) probable reserves in or near indigenous land	Quantitative	Million metric tons (t <u>MMT</u>)	NR0201 <u>EM0201-11</u>	
Workforce Employee Health, and	(1) MSHA All-Incidence Rate, (2) Fatality Rate, and (3) Near-Miss Frequency Rate <u>for employees, contractors and sub-contractors</u>	Quantitative	Rate	NR0201 <u>EM0201-12</u>

Safety and Well-Being	Discussion of management of accident and safety risks and long-term health and safety risks	Discussion and Analysis	n/a	NR0201 EM0201-13
	Disclosure of programs for retraining, alternate work programs heath care and pension protection for employees at mines that may close	Quantitative and Discussion	various	
Labor Relations	Percentage-Number of active workforce covered under collective-bargaining agreements, broken down by U.S. and foreign employees; number of non-union employees	Quantitative	Percentage-(%) number	NR0201 EM0201-14

TOPIC	ACCOUNTING METRIC	CATEGORY	UNIT OF MEASURE	CODE
	Number and duration of strikes and lockouts ²¹	Quantitative	Number, Days	NR0201 EM0201-15
Reserves Valuation & Capital Expenditures	Sensitivity of coal reserve levels to future price projection scenarios that account for a price on carbon emissions	Quantitative	Million metric tons (MMT)/ USDS	NR0201 EM0201-16
	Estimated carbon dioxide GHG emissions embedded in proven coal reserves	Quantitative	Million Metric tons (MMT)CO ₂ - e	NR0201 EM0201-17
	Discussion-Disclosure of how price and demand for coal and/or climate regulation influence the capital expenditure strategy for exploration, acquisition, and development of assets <u>within the company</u>	Discussion-Disclosure and Analysis	various	NR0201 EM0201-18
Management of the Legal & Regulatory Environment	<u>Disclosure of regulatory and political environment related to environmental and social factors</u>	<u>Disclosure</u> <u>and Analysis</u>	<u>Various</u>	IF0101-19
	<u>Disclosure of membership and financial contributions to lobbying and litigating organizations</u>	Factual <u>Quantitative</u>	<u>Membership,</u> <u>USD (\$)</u>	IF0101-20
	<u>Discussion of positions on the regulatory and political environment related to environmental and social factors and description of efforts to manage risks and opportunities presented</u>	<u>Discussion</u> <u>and Analysis</u>	<u>various</u>	IF0101-21

²¹ Note to ~~NR0201~~EM0201-15 – Disclosure shall include the number, duration, and reason for the stoppage.

Greenhouse Gas Emissions

Description

Coal operations are energy-intensive and generate significant direct greenhouse gas (GHG) emissions, including carbon dioxide from fuel use and methane released from coal beds during mining and post-mining activities. The relative magnitude of GHG emissions from the industry exposes it to higher operating and capital expenditures from emissions regulations at the state, national, and regional levels, with a high degree of uncertainty about future emissions regulations. Companies that cost-effectively reduce GHG emissions from their operations by implementing industry-leading technologies and processes can create operational efficiency. They can mitigate the impact on value from increased fuel costs and regulations that limit – or put a price on – carbon emissions, which are occurring as regulatory and public concerns about climate change are increasing in the U.S. and globally.

Accounting Metrics

NR0201EM0201-01. Gross global Scope 1-GHG emissions, percentage covered under a regulatory program

- .1 The registrant shall disclose gross global Scope 1, 2 and 3 greenhouse gas (GHG) emissions to the atmosphere of the six greenhouse gases covered under the Kyoto Protocol: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride from each mining site or other covered activity.
 - Emissions of all gases shall be disclosed in metric tons of carbon dioxide equivalent (CO₂-e), calculated in accordance with published global warming potential (GWP) factors. To date, the preferred source for global warming potential factors is the Intergovernmental Panel on Climate Change's (IPCC) Fourth-Fifth Assessment Report (2007-2013).
 - ☐ Gross emissions are GHGs emitted to the atmosphere before accounting for any GHG reduction activities, offsets, or other adjustments for activities in the reporting period that have reduced or compensated foremissions.
- .2 Scope 1, 2 and 3, emissions are defined by the World Resources Institute and the World Business Council on Sustainable Development (WRI/WBCSD) The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard, Revised Edition, March 2004 (hereafter, the "GHG Protocol").
 - ☐ These emissions include direct emissions of GHGs from stationary or mobile sources; these sources include but are not limited to: coal seam methane emissions, emissions from large (>250 bhp) mobile sources, draglines and other equipment at mine sites, GHG emissions from mine-mouth electric generating facilities, production and processing facilities such as coal washing facilities, storage facilities, office buildings, and transportation (marine, road, and rail) (Scope 1 emissions).
 - ☐ These emissions include emissions of GHG from generation of imported electricity or steam at the mine (Scope 2 emissions) and from use of the coal and end of life emissions from coal ash (Scope 3 emissions).
 - ☐ Disclosure shall include an identification of each fossil-fuel fired EGU subject to regulation under either state or national GHG emission limiting programs.
 - ☐ Disclosure shall include the amount of purchased power and registrant's best estimate of the CO₂ emissions associated with the generation of that power, including supporting documentation for that estimate

- .3 GHG emission data shall be consolidated according to the approach with which the registrant consolidates its financial reporting data, which is generally aligned with:

- The Financial Control approach defined by the GHG Protocol and referenced by the CDP Guidance for companies reporting on climate change on behalf of investors & supply chain members 2014 (hereafter, the “CDP Guidance”).²²
 - The approach detailed in Section 4.23 “Organizational boundary setting for GHG emissions reporting” of Climate Disclosure Standards Board (CDSB) Climate Change Reporting Framework (CCRF).²³
4. The underlying technical approach to data collection, analysis, and disclosure shall be consistent with the CDP Guidance.
- ☐ The registrant shall consider the CDP Guidance as a normative reference; thus, any updates made year- on-year shall be considered updates to this guidance.
5. The registrant shall disclose the ~~percentage amount~~ of its emissions that are covered under a regulatory program, such as the Clean Power Plan, the European Union Emissions Trading Scheme (EU ETS), the Western Climate Initiative (WCI), California Cap- and- Trade (California Global Warming Solutions Act), or other regulatory programs.
- ☐ Regulatory programs include cap-and-trade schemes and carbon tax/fee systems.
 - ☐ Disclosure shall exclude emissions covered under voluntary trading systems and disclosure-based regulations (e.g., the U.S. Environmental Protection Agency (EPA) mandatory reporting rule).
6. The registrant ~~should shall report relevant facts and~~ discuss the any changes in its emissions ~~from the previous over the prior 5 -fiscal years, and the reasons or the changes, including -such as if the extent to which the changes was were~~ due to emissions reductions at existing mining sites, equipment or EGUs, or occasioned by mine closures or EGU retirements or reduced utilization, energy efficiency programs, divestment, acquisition, mergers, changes in output, and/or changes in calculation methodology.
7. In the case that current reporting of GHG emissions to the CDP or other entity (e.g., a national regulatory disclosure program) differs in terms of the scope and consolidation approach used, the registrant may disclose those emissions. However, primary disclosure shall be according to the guidelines previously mentioned.
8. The registrant ~~should shall disclose and~~ discuss the calculation methodology for its direct emission disclosure, such as if data are from continuous emissions monitoring systems (CEMS), engineering calculations, mass balance calculations, etc.
9. The registrant shall disclose the methods used to determine coal seam methane and other GHG contained in its coal and lignite reserves, the methods used to determine the amount of methane and other GHG released during the mining, processing and transportation of its product and the methane and other GHG released during storage and combustion of its product. This disclosure shall set forth the technical basis for the methods, including any peer reviewed evaluation of the methods employed and the uncertainty inherent in the methods.
10. Where sufficient data to estimate the GHG content of its coal reserves, the registrant shall employ such direct measurement of the coal reserves at each site it owns or operates. Where sufficient representative data are not available, registrant shall employ the most representative data published by the U.S. Energy Information Agency (EIA)

Commented [BB13]: Note that this material is repeated in the Reserves Estimation and Valuation section below.

or the USEPA, see, e.g. www.epa.gov/cmop

.11 Total coal methane includes coal bed methane, coal mine methane and abandoned mine methane. Methane content shall be determined by the direct measurement, such as ISO 18871:2015, where sufficient data exist, or by use of an appropriate model, e.g., or other procedures consistent with USEPA, U.S. Surface Mines Emissions Assessment, U.S. EPA Coalbed Methane Outreach Program, October, 2005. Note that methane includes economically recoverable and unrecoverable methane.

.12 This accounting metric corresponds to section CC8.2 of the Carbon Disclosure Project (CDP) Questionnaire and section 4.25 of the Climate Disclosure Standards Board (CDSB) Climate Change Reporting Framework (CCRF).

Commented [BB14]: This provision was misplaced in the draft. Moved up from the next section to correspond to location in Interim Standard.

NR0204EM0201-02. Description of long-term and short-term strategy or plan to manage Scope 4GHG emissions, emissions reduction targets, and an analysis of performance against those targets

~~8.13~~ The registrant shall disclose and discuss the following ~~where relevant~~:

Commented [BB15]: The SASB should assert that this is relevant.

- ☐ The scope of strategies, plans and targets to manage GHG emissions, including if strategies, plans, and/or reduction targets pertain differently to different business units, geographies, or emissions sources.

²² "An organization has financial control over an operation if it has the ability to direct the financial and operating policies of the operation with a view to gaining economic benefits from its activities. Generally an organization has financial control over an operation for GHG accounting purposes if the operation is treated as a group company or subsidiary for the purposes of financial consolidation." Guidance for companies reporting on climate change on behalf of investors & supply chain members 2014 (p. 94).

²³ This approach is based on the requirements of the International Accounting Standards/International Financial Reporting Standards (IAS/IFRS) on consolidation and equity accounting. It is consistent with the way in which information relating to entities within a group, or interest in joint ventures/associates, would be included in consolidated financial statements. Climate Change Reporting Framework, CDSB

~~9.1~~ This accounting metric corresponds to section CC3.2 of the Carbon Disclosure Project (CDP) Questionnaire and section 4.25 of the Climate Disclosure Standards Board (CDSB) Climate Change Reporting Framework (CCRF).

- If strategies, plans, and/or reduction targets are related to or associated with an emissions disclosure (reporting) or reduction program (e.g., EU ETS, Regional Greenhouse Gas Initiative (RGGI), WCI, etc.), including regional, national, international or sectoral programs.

~~14~~ The activities and investments required to achieve the plans and any risks or limiting factors that might affect achievement of the plans and/or targets.

~~15~~ Registrant shall disclose the coal mine methane emission mitigation actions underway at each of its coal mine, transportation and treatment operations and the amount of methane emission reductions achieved, see www.epa.gov/cmop/mitigating-cmm-emissions.

~~10.16~~ Registrant shall disclose any GHG reduction programs, including methane emission mitigation actions, it intends to undertake over the next 5 years at any of its coal mining, transportation and treatment operations and the amount of methane mission reductions anticipated

~~14.17~~ For emission reduction targets, the registrant shall disclose:

- The amount and percentage of emissions within the scope of the reduction plan.
- The amount and percentage reduction from the base year.
- The base year is the first year against which emissions are evaluated towards the achievement of the target.
- Whether the target is absolute or intensity-based, and the metric denominator, if it is an intensity-based target.
- The timelines for the reduction activity, including the start year, the target year, and the base year. Disclosure shall be limited to activities that were ongoing (active) or that reached completion during the last 5 fiscal years.
- The mechanism(s) for achieving the target, such as energy efficiency efforts, energy source diversification, carbon capture and storage, etc.

~~14.18~~ Where necessary, the registrant shall discuss any circumstances in which the target base year emissions have been or may be re-calculated retrospectively, or in which the target base year has been reset.

~~13.19~~ This accounting metric corresponds with:

- CDSB Section 4, "Management Actions"²⁴
- CDP questionnaire "CC3. Targets and Initiatives"

²⁴ 4.12, "Disclosure shall include a description of the organization's long-term and short-term strategy or plan to address climate change-related risks, opportunities and impacts, including targets to reduce GHG emissions and an analysis of performance against those targets." Climate Change Reporting Framework – Edition 1.1, October 2012, CDSB.

Water Management

Description

Coal operations have an impact on both the quality and quantity of local water resources. Coal operations are water-intensive. The use of water in coal washing to remove sulfur, in cooling drilling equipment, and in transporting coal in slurry pipelines can strain resources in water-stressed regions. Companies that increase efficiencies in water use could mitigate the risk of reduced water availability, regulations limiting water use, community protests that disrupt production, or related cost increases. Federal and state laws mandate treatment of wastewater prior to discharge into water bodies. Violating limits on selenium, sulfate, and dissolved solids could affect coal operations companies through significant penalties, compliance costs, delays in production, or higher costs related to mine closure.

Accounting Metrics

NR0201EM0201-03. Total fresh water withdrawn, percentage recycled, percentage in regions with High or Extremely High Baseline Water Stress

~~14.20~~ The registrant shall disclose the amount of water (in cubic meters) that was withdrawn from freshwater sources for use in operations at each facility over each of the past 5 years.

- Water sources include surface water (including water from wetlands, rivers, lakes, and oceans), groundwater, rainwater collected directly and stored by the registrant, wastewater obtained from other entities, municipal water supplies, or supply from other water utilities.
- Fresh water may be defined according to the local statutes and regulations where the registrant operates.
- Where there is no regulatory definition, fresh water shall be considered to be water that has a total dissolved solids (TDS) concentration of less than 1000 mg/l per the Water Quality Association definition.

Commented [BB16]: From the utilities std

~~15.21~~ Water obtained from a water utility can be assumed to meet the definition of freshwater.²⁵

~~16.22~~ The registrant shall disclose the ~~percentage amount~~ of water ~~withdrawn that is subsequently~~ recycled ~~as by the~~ volume (in cubic meters) recycled ~~divided by the volume of water withdrawn.~~

- Any volume of water reused multiple times shall be counted as recycled each time it is recycled and reused.

~~17.23~~ Using the World Resources Institute's (WRI) Water Risk Atlas tool, Aqueduct (publicly available online [here](#)), the registrant shall analyze all of its operations for water risks and identify facilities that are in a location with High (40–80%) or Extremely High (>80%) Baseline Water Stress. Water withdrawn in locations with High or Extremely High Baseline Water Stress shall be indicated as a percentage of the total water withdrawn.

~~24~~ This accounting metric corresponds to section W5. Water Accounting of the CDP's 2014 [Water Information Request](#).

~~44~~ The registrant shall disclose the number and extent of any operation or generation curtailments over the past 5 years that were occasioned by a shortage of available water.

~~45~~ The registrant shall disclose competing users of potentially available cooling water, including, but not limited to

competing agricultural, industrial, commercial and residential needs in the watershed.

.46 The registrant shall disclose the capital cost and any operational constraints associated with complying with EPA's cooling water intake rule at each mine mouth EGU it owns or operates

NR0201-04,TA04-26-01. Number of incidents of non-compliance with water quality permits, standards, and regulations
Water Quality

.47 The registrant shall disclose a representative mean value and upper/lower values for the amount and temperature of cooling water discharged from each mine mouth EGU it owns or operates and associated impacts on the receiving body of water.

.48 The registrant shall disclose the amount (in gallons per year and gallons per MWh) and specific makeup of any materials added to cooling or makeup water at each mine mouth EGU it owns or operates and the environmental fate of each additive.

.49 The registrant shall disclose the amount and composition of FGD wastewater. FGD wastewater composition disclosure shall include a description of any treatment system employed and representative mean and upper/lower values of:

- Flow rate
- Temperature
- pH
- Total suspended solids
- Sulfate
- Chloride
- Calcium
- Magnesium
- Sodium
- Total Kjeldahl Nitrogen
- Selenium
- mercury

²⁵ <http://water.epa.gov/drink/contaminants/secondarystandards.cfm>

- .50 The registrant shall disclose ~~the total number of each~~ instances of non-compliance, including exceedances and/or violations of a technology-based standard and exceedances of a quality-based standard.
- .51 The scope of disclosure includes incidents ~~related to~~ governed by federal, state, and local statutory statutes, permits and regulations or voluntary agreements, standards, or guidelines, such as, including, but not limited to, the discharge of a hazardous substance, violation of pretreatment requirements, or total maximum daily load (TMDL) exceedances, maximum temperature-limit exceedance, exceedance of a groundwater standard, effluent limit exceedances (such as Water Quality Based Effluent Limit), and/or water withdrawal exceedances.
- .52 Voluntary standards include the registrant’s own water quality standards (parameters) or “effluent guidelines” ~~from the International Finance Corporation’s (IFC) “Environmental, Health, and Safety Guidelines for Mining.”~~
- α. Typical parameters of concern include selenium, total dissolved solids (TDS), sulfate, total suspended solids (TSS), and pH.
- .53 ~~An incident~~ The scope of disclosure shall only include incidents of non-compliance shall be disclosed regardless of whether it that resulted in a formal enforcement action (e.g., fine, warning letter, etc.) (s).
- α. Formal enforcement actions are defined as statutorily recognized actions that address a violation or threatened violation of water quality laws, regulations, policy or orders, and include administrative penalty orders, administrative orders, and judicial actions, among others. For example, the U.S. EPA provides guidance on the scope of formal enforcement actions in, [Informal and Formal Actions, Summary Guidance and Portrayal on EPA Websites](#).
- .54 Violations, regardless of their measurement methodology or frequency, shall be disclosed. These include:
- α. For continuous discharges, limitations, standards, and prohibitions that are generally expressed as maximum daily, weekly average, and monthly averages.
- β. For non-continuous discharges, limitations that are generally expressed in terms of frequency, total mass, maximum rate of discharge, and mass or concentration of specified pollutants.

Commented [BB17]: Draft changes “related to” to “governed by” and deletes reference to “voluntary agreements.” I’m ok with the former, but am troubled by the latter - if a source “voluntarily” agrees with a town to limit discharges of selenium to get a permit to operate a coal washing stations, should it not report a violation. I’m not sure what sort of voluntary agreement the drafter is thinking about.

Commented [BB18]: Here’s a perfect example. If, during development of an ESIA, an operator says it will meet IFC’s guidelines, it should thereafter report any exceedances. Therefore, the Board should reject the proposed deletion of the reference to voluntary agreements.

Commented [BB19]: This change from the Interim Standard should be rejected and returned to the original language

.44 An incident of non-compliance or exceedance shall be disclosed regardless of whether it resulted in an enforcement action (e.g., fine, warning letter, etc.).

IF0101-07. Discussion of water management risks and description of strategies and practices to mitigate those risks

Commented [BB20]: From Utilites std

- .55 The registrant shall disclose and discuss its risks associated with water withdrawals, water consumption, and discharge of water to the environment and describe how it manages these risks.
- .56 The registrant shall discuss, where applicable, risks to the availability of adequate, clean water resources.
- .50 Relevant information to provide includes, but is not limited to:
- Environmental constraints, such as operating in water-stressed regions, drought, concerns of aquatic impingement or entrainment, interannual or seasonal variability, and risks due to the impact of climate change.
 - The registrant shall disclose the relevant facts and likely and potential actions associated with compliance with USEPA’s cooling water intake rules, including current impingement and entrainment data, the results of its BAT

studies at each covered facility, permitting and compliance schedule, potential capital costs for compliance and whether any challenge to its recommended BAT determinations is anticipated.

- External constraints, such as volatility in water costs, stakeholder perceptions and concerns related to water withdrawals (e.g., those from local communities, non-governmental organizations, and regulatory agencies), direct competition with and impact from the actions of other users (commercial and municipal), restrictions to withdrawals due to regulations, and constraints on the registrant's ability to obtain and retain water rights or permits.
- How risks may vary by withdrawal source, including wetlands, rivers, lakes, oceans, groundwater, rainwater, municipal water supplies, or supply from other water utilities.

.57 The registrant shall discuss any risks associated with its discharge of wastewater.

.51 Relevant information to provide includes, but is not limited to:

- Environmental constraints, such as the ability to maintain compliance with regulations focused on the quality of effluent discharged to the environment, and the ability to maintain control over the temperature of water discharges.
- External constraints, such as increased liability and/or reputational risks, restrictions to discharges and/or increased operating costs due to regulation, stakeholder perceptions and concerns related to water discharges (e.g., those from local communities, non-governmental organizations, and regulatory agencies), and the ability to obtain discharge rights or permits.
- The registrant shall disclose the relevant facts and likely and potential actions associated with compliance with USEPA's Steam Electric Effluent Limitations at each facility subject to those limitations, including current representative water quality data for each covered waste stream, the permitting and compliance schedule, and potential capital costs for compliance if (a) the current rules and schedules are upheld and enforced and (b) if those rules are modified as proposed by the current management at USEPA¹⁶. The registrant shall also disclose the amount of additional toxic metals that would be discharged by each of its facilities if EPA relaxes the effluent limitations as proposed.
- How risks may vary by discharges to different sources, including wetlands, rivers, lakes, oceans, groundwater, rainwater, municipal water supplies, or other water utilities.

.58 The registrant shall disclose any evidence of environmental degradation potentially associated with its discharges of water at each facility, including mines, EGUs and coal washing operations. Such evidence of environmental degradation may include fish kills, dead zones with depleted oxygen levels and aquatic vegetation stress.

.59 The registrant shall include disclosure and a discussion of the potential impacts that water related risks may have on its operations and the timeline over which such risks are expected to manifest.

.52 Impacts may include, but are not limited to, those associated with costs, revenues, liabilities, continuity of operations, and reputation.

.60 The registrant shall provide a description of its short-term and long-term strategy or plan to manage these risks, including the following, where relevant:

¹⁶ This assumes that USEPA issues a proposed rule prior to the close of registrant's reporting period.

.53 Any water management targets it has set, and an analysis of performance against those targets.

- Water management targets can include water management goals that the registrant prioritizes to manage its risks and opportunities associated with water withdrawal, consumption, or discharge.
- Targets can include, but are not limited to, those associated with reducing aquatic impingements, reducing water withdrawals, reducing water consumption, reducing water discharges, and improving the quality of water discharges.

.54 The scope of its strategy, plans, or targets, such as whether they pertain differently to different business units, geographies, or water-consuming operational processes.

.55 The activities and investments required to achieve the plans and targets, and any risks or limiting factors that might affect achievement of the plans and/or targets.

.61 For water management targets, the registrant shall additionally disclose:

.56 The percentage reduction or improvement from the base year, where:

- The base year is the first year against which water management targets are evaluated toward the achievement of the target.

.57 Whether the target is absolute or intensity based, and the metric denominator if it is an intensity-based target.

.58 The timelines for the water management plans, including the start year, the target year, and the base year.

.59 The mechanism(s) for achieving the target, including:

- Efficiency efforts, such as the use of water recycling and/or closed-loop systems;
- Product innovations such as redesigning products or services to require less water;
- Process and equipment innovations, such as those that enable the reduction of aquatic impingements or entrainments;
- Use of tools and technologies (e.g., the World Wildlife Fund Water Risk Filter, WRI/WBCSD Global Water Tool, and Water Footprint Network Footprint Assessment Tool) to analyze water use, risk, and opportunities; and
- Collaborations or programs in place with the community or other organizations.

.62 Disclosure of strategies, plans, and targets shall be limited to activities that were ongoing (active) or reached completion during the fiscal year.

.63 The registrant shall discuss whether its water management practices result in any additional lifecycle impacts or tradeoffs in its organization, including tradeoffs in land use, energy production, and greenhouse gas (GHG) emissions, and why the registrant chose these practices despite lifecycle tradeoffs.

Waste Management

Description

Handling of solid rock and clay waste (including overburden), process refuse, solid coal refuse (including culm and garbage of bitumen (GOB), coal ash from on-site EGU operations and slurry and liquid coal wastes containing toxins like mercury, arsenic, and cadmium) poses operational and regulatory challenges for coal operations companies. Each of these materials may contain toxins like mercury, arsenic, and selenium and cadmium. Coal slurry conveyances or wet tailings ponds can present a significant threat if the conveyances or impoundments burst, collapse, or leak, leading to destruction of lives, property, and ecosystems. Materials initially stored in dry form can pose risks if rainwater, surface water or groundwater is later permitted to contact those wastes. Failure to properly manage overburden can permanently damage the ecosystem of an area and exacerbate risks from storage of coal refuse or ash. Any of these risks may ultimately lead to costs for companies in the form of regulatory penalties, compensation payments, and remediation or compliance obligations as well as significant damage to corporate reputation. Permitting of mining operations may be affected, lowering a company's revenue-earning potential, or requiring additional expenditures prior to approval. Companies' ability to lower the number and size of tailings ponds and ensure the structural integrity of impoundments can help minimize such impacts. These wastes also pose substantial closure and post-closure costs that can affect shareholder value. In the past, coal mining operations have simply abandoned substantial amounts of coal wastes and gone bankrupt, destroying shareholder value and imposing significant costs on the public and other operators. Accordingly, sustainability disclosures must be sufficient for investors to determine whether the registrant is currently managing waste materials in a prudent manner and whether the registrant is setting aside sufficient reserves to cover closure and post closure obligations for each of its operations.

Accounting Metrics

IF0101-08. Amount of coal waste products and disturbed overburden, amount of coal waste products recycled

- .50 The registrant shall disclose the amount of net disturbed overburden at each mine site in terms of cubic meters, where net disturbed overburden is calculated as the net of overburden that was removed to access the product, but has not yet been replaced in a manner that restores the property as required by the Surface Mining Control and Reclamation Act (SMCRA) – i.e., to
- the highest previous use of the affected lands
 - a state similar to surrounding terrain and natural vegetation; and which
 - reestablish wildlife and aquatic habitat and resources properly.
- .51 The registrant shall disclose where the overburden from each mining operation is currently stored and any adverse impacts, including, but not limited to, habitat and stream impairment associated with or resulting from such storage.
- .52 The registrant shall disclose the amount of coal wastes (CW), (including coal combustion residue (CCR) from mine mouth EGU operations, coal refuse from mining operations and from treatment operations) generated in each of the last 5 years at each coal fired plant, mine or other facility owned or operated by registrant. These amounts shall be reported in metric tons (1) generated, (2) recycled, (3) stored onsite or (4) stored at offsite locations that registrant is

responsible, where

- coal refuse includes waste products of coal mining, physical coal cleaning and coal preparation operations containing coal, matrix material clay and other organic and inorganic material.
- CCR includes fly ash, bottom ash, boiler slag, and flue gas desulfurization materials.

.53 The amount recycled shall be calculated as the weight (in metric tons) of CCR that was reused or reclaimed, plus the weight recycled (through treatment or processing) by the registrant, plus the amount sent externally for further recycling, divided by the total weight of CCR generated from operations, where:

2. CCR material is recycled if it meets the definition of beneficial use set forth in the EPA's Disposal of Coal Combustion Residuals from Electric Utilities Final Rule, where beneficial use includes:

- The CCR material used must provide a functional benefit (e.g., CCR in concrete increases the durability of concrete and CCR as a soil amendment adjusts the pH of soil to promote plant growth).
- The CCR substitutes for the use of a virgin material, conserving natural resources that would otherwise need to be obtained through practices, such as extraction (e.g., CCR used in road bed replaces quarried aggregate or other industrial materials). The registrant shall whether it intends to voluntarily comply with the terms of the Stream Protection Act, adopted Dec. 20, 2016, 81 FR 93066, but subsequently revoked on February 16, 2017, and, if so, any deviations from the terms of the Stream Protection Act.

NR0204EM0201-05: ~~Number Disclosure~~ of tailings impoundments by MSHA hazard potential

- .55 The registrant shall disclose the amount of material stored in ~~number of each~~ tailings impoundments at each mining operation according to the following U.S. Mine Safety and Health Administration (MSHA) hazard potential classification:
- α. High hazard potential
 - β. Significant hazard potential
 - γ. Low hazard potential
- .56 For locations under the auspices of the MSHA, the hazard potential shall be determined by Mine Safety and Health enforcement personnel (Metal and Nonmetal) during regular (E01) inspections through verification that the mine operator has appropriately classified the dam or by assigning a hazard classification if the existing one does not appear reasonable or if no classification has been assigned.
- .57 For locations not under the auspices of the MSHA, hazard potential shall be determined by a third party following [MSHA Procedure Instruction Letter No. I13-IV-01 guidance](#).
- .58 High hazard potential impoundments are dams, regardless of their condition or size, whose failure will probably cause loss of life.
- α. These facilities are generally located in populated areas or where dwellings are found in the flood plain, and failure can reasonably be expected to cause loss of life, serious damage to homes, industrial and commercial buildings, and damage to important utilities, highways, or railroads.

.59 Significant hazard potential impoundments are dams, regardless of their condition or size, whose failure would result in no probable loss of life but would disrupt important utilities or cause significant economic loss or significant environmental damage.

- These facilities are generally located in predominantly rural areas, but could be in populated areas with significant infrastructure, where failure could damage isolated homes, main highways, and minor railroads, or disrupt the use of service of public utilities.

.60 Low hazard potential impoundments are dams whose failure would not be expected to cause loss of life, disrupt important utilities, or cause significant economic loss or significant environmental damage.

- These facilities are usually located in rural or agricultural areas where losses are limited principally to the owner's property or where failure would cause only slight damage to farm buildings, forest and agricultural land, and minor roads.
- The scope includes only dams that either: (1) Equal or exceed 25 feet in height and can or do store a volume of more than 15 acre-feet, or (2) Exceed 6 feet in height and can or do store 50 or more acre-feet.

.61 Hazard potential classification depends solely on the consequences of failure of the dam and not on the condition of the dam.

.62 Hazard potential classification can change over time.

.63 The scope of disclosure includes those impoundments that the registrant currently owns and/or operates and those impoundments that are inactive and/or closed, but for which the registrant retains oversight and/or financial responsibility.

.64 The disclosure shall identify any impoundments (and associated conveyances) that may pose a risk of discharge to a water body if there is a failure of the impoundment or conveyance.

.65 This disclosure includes the nature (including chemical composition) and volume of materials in the impoundment, the length and type of conveyance distance from the water body, whether the impoundment is lined, and secondary containment measures.

.66 This disclosure includes reporting of each accidental discharge and of permitted discharges from the impoundment over the past 5 years.

.67 This disclosure shall also include reporting of anticipated impoundment closure and post-closure management costs for all impoundments under state and Federal requirements and how registrant intends to manage and fund such closure requirements, including the extent that such obligations are self-bonded.

.68 This disclosure shall also include reporting of current and anticipated cost for restoring the site as required by SMCRA.

Biodiversity Impacts

Description

Coal operations can have a range of impacts on biodiversity. Surface mining and mountaintop removal can alter the landscape, removing vegetation and wildlife habitats. Acid mine drainage is particularly significant: It is highly acidic water, rich in heavy metals, that is formed when surface and shallow subsurface water comes into contact with coal mining overburden, and can have harmful effects on humans, animals, and plants. Biodiversity impacts of coal operations can affect the valuation of reserves and create operational risks. The environmental characteristics of the land where reserves are located could increase extraction costs as a result of increasing awareness and protection of ecosystems. Companies could also face regulatory or reputational barriers to accessing reserves in ecologically sensitive areas. This may include new protection status afforded to areas where reserves are located. Coal operations companies face regulatory risks related to reclamation after a mine is decommissioned, as they need to follow specific standards for restoring mined property according to a prior, approved reclamation plan. Material costs arise from removing or covering refuse piles, fulfilling water treatment obligations, and dismantling infrastructure at the end of life. Furthermore, ongoing coal operations might result in the violation of laws protecting endangered species. Companies that have an effective environmental management plan for different stages of the project lifecycle could minimize their compliance costs and legal liabilities, face less resistance in developing new mines, avert delays in project completion, and avoid difficulties in obtaining permits and accessing reserves.

Accounting Metrics

NR0204EM0201-06. Description of environmental management policies and practices for active sites

~~18.25~~ The registrant shall provide a brief description of its environmental management plan(s) implemented at active and closed sites for which it has responsibility, including where relevant:

- Lifecycle stages to which the plan(s) apply, such as: pre-bid (when the registrant is considering acquisition of a site), exploration and appraisal, site development, production, and during closure, decommissioning, and restoration.
- The topics addressed by the plan(s), such as: ecological and biodiversity impacts, waste generation, noise impacts, emissions to air, discharges to water, natural resource consumption, and hazardous chemical usage.
- The underlying references for its plan(s), including whether they are codes, guidelines, standards, or regulations; whether they were developed by the registrant, an industry organization, a third-party organization (e.g., a non-governmental organization), a governmental agency, or some combination of these groups.

~~19.26~~ Where applicable and relevant, the registrant shall describe specific policies and practices that apply to areas with protected conservation status and/or areas of critical habitat, which are defined by the International Finance Corporation (IFC) as:

- Areas with high biodiversity value, including (i) habitat of significant importance to Critically Endangered and/or Endangered species; (ii) habitat of significant importance to endemic and/or restricted-range species; (iii) habitat supporting globally significant concentrations of migratory species and/or congregatory species; (iv) highly threatened and/or unique ecosystems; and/or (v) areas associated with key evolutionary processes.²⁶

~~20.27~~ If the management policies and practices do not apply to all of the registrant's sites or operations, it shall indicate the percentage of sites to which they were applied.

~~24.28~~ The registrant shall disclose the degree to which its policies and practices are aligned with the International Finance Corporation's (IFC) [Performance Standards on Environmental and Social Sustainability](#), January 1, 2012, including specifically:

- Performance Standard 1 – Assessment and Management of Environmental and Social Risks and Impacts.
- Performance Standard 3 – Resource Efficiency and Pollution Prevention.
- Performance Standard 4 – Community Health, Safety, and Security.
- Performance Standard 6 – Biodiversity Conservation and Sustainable Management of Living Natural Resources.

~~22.29~~ Additional relevant references may include:

- [“Environmental management in oil and gas exploration and production – An overview of issue and management approaches,”](#) Joint E&P Forum/UNEP Technical Publication 1997.
- [“Towards Sustainable Decommissioning and Closure of Oil Fields and Mines: A Toolkit to Assist Government Agencies,”](#) DRAFT Version 2.0, November 2009, World Bank Multistakeholder Initiative.

NR0201EM0201-07. Percentage of mine Disclosure of sites where acid rock drainage is: (1) predicted to occur, (2) actively mitigated, and (3) under treatment or remediation

~~23.30~~ The registrant shall disclose the ~~percentage of each its site, and its (by~~ annual production output from ~~mines~~ in metric tons) where acid-generating seepage into surrounding surface water and/or groundwater is: (1) predicted to occur, (2) actively mitigated, and (3) under treatment or remediation.

~~24.31~~ Acid Rock Drainage (ARD) is predicted to occur if, based on computer simulations, chemical evaluations, and/or acid-base accounting, it is biochemically likely that ARD could form at the mine site.

²⁶ International Finance Corporation (IFC), Performance Standard 6, Biodiversity Conservation and Sustainable Management of Living Natural Resources, January 1, 2012.

~~25.32~~ ARD is considered to be actively mitigated if the registrant ~~is~~ has permanently preventing prevented the formation of ARD through methods that may include, but are not limited to: storing or covering sulfite-bearing minerals to prevent oxidation, flood prevention and mine sealing, mixing of acid buffering materials with acid-producing materials, or chemical treatment of sulfide wastes (e.g., organic chemicals designed to kill sulfide-oxidizing bacteria).

~~26.33~~ ARD is considered under- treatment or remediation, if the acidic water discharged from the mine area is captured and undergoes a wastewater treatment process (active or passive).

~~27.34~~ ARD may also be referred to as acid-generating seepage or acid mine drainage.

~~NR0201EM0201-08. (1) Proven and (2) probable reserves in or near sites with (1) protected conservation status or (2) endangered species habitat, and reserves on Federal Lands~~

~~28.35~~ The registrant shall disclose the amount of probable reserves (in metric tons) ~~in at each sites~~ with Federal, State or local protected conservation status, ~~plus~~ the amount of proven reserves at each site in areas of endangered species habitat and the at sites on Federal or State lands.

~~36~~ Reserves are considered to be in areas of protected conservation status include, but are not limited to, National Preserves, National Recreational Areas, National Forests, National Monuments, National Wilderness Areas, National Lakes, National Seashores, Wilderness Areas, Wilderness Study Areas, National Marine Sanctuaries, National Wild and Scenic Rivers System, State Level Parks, tribal wilderness areas and local level protected areas.

~~29.37~~ Protected conservation status also includes areas ~~if they are~~ located within:

- International Union for Conservation of Nature (IUCN) Protected Areas (categories I-VI).
- Ramsar Wetlands of International Importance.
- UNESCO World Heritage Sites.
- Biosphere Reserves recognized within the framework of UNESCO's Man and the Biosphere (MAB) Programme.
- Natura 2000 sites.
- Sites that meet the IUCN's definition of a protected area: "A protected area is a clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long term conservation of nature with associated ecosystem services and cultural values."²⁷

- i. These sites may be listed in the World Database of Protected Areas (WDPA) and mapped on ProtectedPlanet.net.

~~38~~ Reserves are considered to be in endangered species habitat if they are in or near areas ~~where IUCN Red List of Threatened Species that are classified as Critically Endangered (CR) or Endangered (EN) are extant that have~~ been listed, or proposed for listing, under the Endangered Species Act.

~~30.39~~ Registrant shall disclose the amount of probable reserves (in metric tons) at each site that is on Federal or State land.

- ~~A species is considered extant in an area if it is a resident, present during breeding or non-breeding.~~

~~season, or if it makes use of the area for passage.~~

²⁷ Dudley, N. (ed.) (2008) Guidelines for Applying Protected Areas Management Categories. IUCN: Gland, Switzerland. p. 8-9.

~~31.40~~ For the purposes of this disclosure, “near” is defined as within 5 kilometer (km) of the boundary of an area of protected conservation status or an endangered species habitat.

~~32.41~~ Reserves are defined by the U.S. Securities and Exchange Commission (SEC) [Industry Guide 7, Description of Property by Issuers Engaged or to Be Engaged in Significant Mining Operations](#):

- Reserves, as that part of a mineral deposit which could be economically and legally extracted or produced at the time of the reserve determination.
- Proven (or measured) reserves, as reserves for which (a) quantity is computed from dimensions revealed in outcrops, trenches, workings, or drill holes; grade and/or quality are computed from the results of detailed sampling, and (b) the sites for inspection, sampling, and measurement are spaced so closely and the geographic character is so well-defined that size, shape, depth, and mineral content of reserves are well-established.
- Probable (or indicated) reserves are reserves for which quantity and grade and/or quality are computed from information similar to that used for proven (measured) reserves, but the sites for inspection, sampling, and measurement are farther apart or are otherwise less adequately spaced. The degree of assurance, although lower than that for proven (measured) reserves, is high enough to assume continuity between points of observation.

~~33.42~~ The registrant may choose to separately identify reserves in areas with additional ecological, biodiversity, or conservation designations such as those listed by the [A-Z Guide of Areas of Biodiversity Importance](#) prepared by the United Nations Environment Programme’s World Conservation Monitoring Centre (UNEP-WCMC).

~~43~~ The registrant may choose to provide discussion around reserves that are located in protected areas or endangered species habitat but present low risk to biodiversity or ecosystem services; the registrant ~~may choose to provide similar discussion~~ shall disclose for sites with reserves located in areas with no official designation of high biodiversity value but that present high biodiversity or ecosystem services risks.

~~34.44~~ The registrant shall disclose any material risk to the economic development of proven reserves at each site based on conservation or endangered species habitat issues, or a policy change by a state or Federal land owner.

Additional References

The International Network for Acid Prevention (INAP) [Global Acid Rock Drainage \(GARD\) Guide](#)

Community Relations & Rights of Indigenous Peoples

Description

Coal operations take place over a number of years and can have a wide range of community impacts. Community rights and interests may be affected by the environmental and social impacts of operations, such as air and water emissions, waste from operations, and decommissioning activities. Coal operations companies need support from local communities to be able to obtain permits and leases and conduct their activities without disruptions. The expected value of reserves could be affected if the community perceives that the operator is not responsive to the public interest and limits ~~interferes~~, or lobbies ~~its~~ the government to ~~interfere with~~ limit the rights of a coal company in relation to those reserves. In addition to community concerns about the direct impacts of projects, the presence of coal mining activities may give rise to associated socioeconomic concerns related to education, health, and livelihoods. Coal companies that are perceived as engaging in rent-seeking and exploiting a community's resources without providing any socioeconomic benefits in return may be exposed to the risk of resource nationalism actions by host governments and communities that restrict their activities or impose additional costs.

Furthermore, indigenous peoples are often the most vulnerable sections of the population, with limited capacity to defend their unique rights and interests. Accounting for indigenous peoples' rights could protect companies from protests, impacts of laws and international instruments governing such rights, and write-down of reserves located on indigenous peoples' lands. Companies in the extractives industries can adopt various community engagement strategies in their global operations to manage risks and opportunities associated with community rights and interests, such as integrating community engagement into each phase of the project cycle. Companies are beginning to adopt a "shared value" approach to provide a key socioeconomic benefit to the community that also creates value for the company itself.

Commented [BB21]: The company does not have unrestricted "rights" to its reserves.

Accounting Metrics

~~NR0201~~EM0201-09. Discussion of process to manage risks and opportunities associated with community rights and interests

~~35.45~~ The registrant shall describe its processes, procedures, and practices to manage risks and opportunities associated with the rights and interests of communities in areas where it conducts business, where community rights and interests include:

- Economic rights and interests, including the right to employment, fair wages, payment transparency, and respect of infrastructure and agricultural land.
- Environmental rights and interests, including the right to clean local air and water, as well as safe discharge and disposal of waste, closure and post-closure management of the site.
- Social rights and interests, including the rights to adequate health care, education, and housing.
- Cultural rights and interests, including the right to protection of places of cultural significance (e.g., sacred sites or burial sites).

~~36.46~~ The registrant shall disclose the following, ~~as relevant~~:

- Lifecycle stages to which its practices apply, such as: pre-bid (when the registrant is considering acquisition of a site), exploration and appraisal, site development, coal production, and during closure, decommissioning, and restoration.
- The community rights and interests (enumerated above) specifically addressed by the practices.
- The underlying references for its procedures, including whether they are codes, guidelines, standards, or regulations and whether they were developed by the registrant, an industry organization, a third-party organization (e.g., a non-governmental organization), a governmental agency, or some combination of these groups.

~~37.47~~ Risks and opportunities include, but are not limited to: non-technical delays, availability and development of local content, availability and access to adequate infrastructure, community actions related to resource nationalism, and challenges associated with resettlement and access to land.

~~38.48~~ The registrant shall disclose the degree to which its policies and practices are aligned with the International Finance Corporation's (IFC) [Performance Standards on Environmental and Social Sustainability](#), January 1, 2012, including specifically:

- Performance Standard 4 – Community Health, Safety, and Security
- Performance Standard 5 – Land Acquisition and Involuntary Resettlement
- Performance Standard 8 – Cultural Heritage

.70 The discussion shall include how such practices apply to business partners such as contractors, sub-contractors, suppliers, and joint venture partners, including the extent of local (e.g., tribal) hiring at entry, mid-management, technical and management levels.

.71 The registrant ~~should shall~~ describe its efforts to eliminate or mitigate community risks and/or address community concerns, including, but not limited to:

- The use of social impact assessment (SIA) that evaluates, manages, and mitigates risks.
- Efforts to engage with stakeholders, build consensus, and collaborate with communities.
- “Shared” or “blended” value projects that provide quantifiable benefits to the community and the registrant.
- Training and hiring practices to maximize the benefit of the project to the local community.
- Criteria for accommodating community concerns

.72 The registrant shall disclose each project that was substantially modified because of environmental or social impacts (hereafter “modifications”) before commencement of formal administrative, regulatory or adjudicatory process, where:

- Projects are defined as the siting, development, and/or expansion of new or existing mining, processing, transportation or mine mouth generation assets

.73 The registrant shall each project that was substantially modified because of environmental or social impacts (hereafter "modifications") after commencement of formal administrative, regulatory or adjudicatory process, where:

- Projects are defined as the siting, development, and/or expansion of new and/or existing transmission, distribution, and generation assets

.74 A permit and/or license shall be considered modified when the issuing agency requires modification to or mitigation of the proposed project in order to grant approval of the permit or license. Projects shall be considered "modified after commencement of formal process" where an administrative body requires, or registrant consents to a modification sought by a regulatory agency or third party participating in the proceeding. Examples of modifications associated with environmental or social impacts include, but are not limited to:

- Mitigated Action Plans (MAP) prepared by the U.S. Department of Energy (DOE) and modifications required by environmental impact statements or environmental impact assessments in accordance with the National Environmental Policy Act (NEPA);
- Modifications required by state or local regulations and
- Mitigation required by an environmental impact report as established through the relevant state regulations.

.75 The scope of disclosure includes projects where the registrant has commenced a public engagement process or has submitted an application for a required permit.

.76 The registrant shall disclose and discuss modifications that relate to significant projects such as those with substantial capital investment and those that generated substantial public opposition.

.77 For such projects, the registrant shall provide:

- A description of the project and the related modifications required.
- The total production capacity affected by modifications, including whether the initial capacity was reduced, the location and siting altered, and any other mitigation techniques and technologies required.
- The cost to remedy modifications and/or public interventions and the benefits associated with those modifications.

~~.72.~~ .78 The registrant may choose to quantify its community risks by calculating the aggregate estimated value at risk (in U.S. dollars) to its capital expenditure projects as the difference in value (in U.S. dollars) between a project free from country, regional, and/or community risks (hereafter, country risk) and the value of a project adjusted for these risks.

- This calculation should be conducted using an appropriate valuation model; variations of the Capital Asset Pricing Model (CAPM) are commonly used to assess country risk.

Commented [BB22]: Intended to capture settlements.

- Value at risk can be calculated by applying an additional discount rate premium when calculating the net present value of a project using discounted cash flow (DCF) analysis.
- Value at risk can be expressed as a reduction in the expected cash flows of a project due to country risk when calculating the net present value of a project using discounted cash flow (DCF) analysis.
- If a project is insured for country risks, the value at risk can be expressed as a reduction in the cash flows of a project due to the cost of insurance when calculating the net present value of a project using discounted cash flow (DCF) analysis.
- Country, regional, and/or community risks include, but are not limited to: corruption, business legal structure, political stability, regulation, resource nationalism, ethnic conflict, stability of the local market, labor force (skills) availability, resettlement and access to land, quality of access to infrastructure (e.g., ports, roads, shipping channels), and/or general license to operate.
 - These risks are likely to manifest differently at the country (national), regional (state), community (local) levels, and project levels.
 - This risk differs from sovereign risk, which is defined as the potential for a central bank or government-backed entity to willingly or unwillingly default on debt obligations, or significantly alter key economic variables such as foreign exchange rates, import ratios, and money supply.
- The registrant should identify and describe country risks specific to its projects and unique operating context.
 - This may include the identification of country, regional, and community risks and/or the discussion of specific projects.
 - This may include discussion of how the registrant has mitigated these risks through community engagement partnerships, blended value projects, etc.; the registrant shall quantify this reduction in risk according to the methods described above.
 - Discussion should be in addition to broad country risk classification (e.g., OECD Prevailing Country Risk classification, Standard & Poor's Country Risk ratings, World Economic Forum Global Competitiveness Index, etc.).
- The registrant should describe the model or approach used to value capital expenditure projects such as adjusted discount rate, expected cash flow, or other methods.

NR0204EM0201-10: Number and duration of non-technical delays

~~73.79~~ The registrant shall disclose the total number and aggregate length (in days) of site shutdowns or project delays due to non-technical factors.

~~74.80~~ The scope includes shutdowns and project delays including, but not limited to, those resulting from pending regulatory permits or other political delays, community or stakeholder resistance or protest, and armed conflict.

~~75.81~~ The scope of disclosure excludes delays due to strikes and lockouts that are disclosed according to ~~NR0201~~EM0201-15.

~~82~~ The registrant ~~may choose to discuss~~shall disclose each specific delays at a project that led to a material increase in project costs or - including associated costs, and, where relevant, the concern raised by the community, the registrants' view of the matter and the responsive -root cause and corrective actions, if any, that -for resolved the community's concerns.

~~76~~ ~~The registrant shall similarly disclose the relevant facts associated with any ongoing project delay, -delay, and status- of ongoing delays-~~

~~77.83~~ ~~NR0201~~EM0201-11. (1) Proven and (2) probable reserves in or near indigenous land

~~78.84~~ The registrant shall disclose the amount of net proven reserves that are located in or near areas that are considered to be indigenous peoples' land.

~~79.85~~ The registrant shall disclose the amount of net probable reserves that are located in or near areas that are considered to be indigenous peoples' land.

~~80.86~~ Indigenous lands are those occupied by those who self-identify as indigenous, and likely have one or more of the following characteristics based the working definition of "Indigenous Peoples" adopted by the United Nations:

- Historical continuity with pre-colonial and/or pre-settlers societies
- Strong link to territories and surrounding natural resources
- Distinct social, economic, or political systems
- Distinct language, culture, and beliefs
- Form non-dominant groups of society
- Resolve to maintain and reproduce ancestral environments and systems as distinctive peoples and communities

~~81.87~~ For the purposes of this disclosure, "near" is defined as within 5 km of the recognized boundary of an area considered to be indigenous land.

~~82.88~~ Reserves shall be calculated in metric tons and are defined by the U.S. Securities and Exchange Commission (SEC) [Industry Guide 7, Description of Property by Issuers Engaged or to Be Engaged in Significant Mining Operations](#):

- Reserves, as that part of a mineral deposit that could be economically and legally extracted or produced at the time of the reserve determination.
- Proven (or measured) reserves, as reserves for which (a) quantity is computed from dimensions revealed in outcrops, trenches, workings, or drill holes; grade and/or quality are computed from the results of detailed sampling and (b) the sites for inspection, sampling, and measurement are spaced so closely and the geographic character is so well-defined that size, shape, depth, and mineral content of reserves are

well-established.

Employee Health, and Safety, and Well-Being

Description

Although coal-mining processes have become increasingly automated, companies continue to rely on miners to operate critical machinery. Accidents at coal mines, including cave-ins, explosions, and flooding, often have the greatest impact on workers, with the industry having relatively high fatality and injury rates compared to other industries. Serious injuries and illnesses result in a higher-than-average number of days away from work for coal miners compared to workers in other industries. Coal miners are also susceptible to long-term health risks such as chronic lung disease, commonly known as “black lung” disease, as well as mental health problems. Specific federal health and safety laws protect coal mining workers and make provisions for compensation for black lung disease. These can impose additional costs on companies or lead to regulatory penalties. Changes in legislation can result in additional liabilities. A company’s ability to protect employee health and safety, and to create a culture of safety and well-being among employees at all levels, can help prevent accidents, mitigate costs and operational downtime, and enhance workforce productivity.

Accounting Metrics

NR0204EM0201-12. (1) MSHA All-Incidence Rate, (2) Fatality Rate, and (3) Near-Miss Frequency Rate

~~83.89~~ For registrants whose workforce is entirely U.S.-based, the registrant shall disclose its All Incidence Rate (AIR) and fatality rate for its U.S. based workforce, as calculated and reported through the Mine Safety and Health Administration’s (MSHA) Form 7000-1 (as required under 30 CFR, Part 50), where incidents include:

- Fatalities, or work-related injuries resulting in death to employees on active mine property.
- Nonfatal, Days Lost (NFDL) cases, or occupational injuries that result in loss of one or more days from the registrant’s scheduled work, or days of limited or restricted activity while at work.
- No Days Lost (NDL) cases, or occurrences requiring only medical treatment (beyond first aid); that is, nonfatal- injury occurrences resulting only in loss of consciousness or medical treatment other than first aid exempt from reporting under 29 CFR 1910.

~~84.90~~ For registrants whose workforce includes non-U.S.-based employees, the registrant shall calculate its AIR and fatality rate for its non-U.S. based workforce according to the MSHA instructions and definitions.

~~85.91~~ The registrant shall disclose its Near Miss Frequency Rate (NMFR), where a near miss is defined as an incident in which no property or environmental damage or personal injury occurred, but where damage or personal injury easily could have occurred but for a slight circumstantial shift.

- The registrant should refer to organizations such as the National Safety Council (NSC) for guidance on implementing near miss reporting.
- The registrant should disclose its process for classifying, identifying, and reporting near miss incidents.

Commented [BB23]: OSHA Regulations defining first aid that need not be reported.

~~86.92~~ The registrant shall disclose its AIR, fatality rate, and NMFR for its employees.

- The scope includes full time and contract employees.
- The scope includes all employees, domestic and foreign.

~~93~~ Rates shall be calculated as: (statistic count / total hours worked)*200,000.

~~94~~ Registrants shall disclose the number of present and former workers (still living) that have been diagnosed with coal mining-related disease, including, but not limited to, coal workers pneumoconiosis, and the number of present and former workers (still living) with job-limiting disabilities associated with their employment.

NR0204EM0201-13. Discussion of management of accident and safety risks and long-term health and safety risks

~~87.95~~ The registrant shall discuss how it manages safety and emergency preparedness throughout its value chain, such as through training, joint management by the workforce and leadership, rules and guidelines (and their enforcement), and use of technology.

- The registrant shall include a description of how emergency preparedness is coordinated amongst business partners (e.g., contractors and sub-contractors).
- Disclosure may focus broadly on safety and emergency management systems, but shall specifically address the systems to avoid and manage emergencies, accidents, and incidents that could have catastrophic human health, local community, and environmental impacts.

~~88.96~~ The registrant shall discuss how it manages long-term health and safety risks associated with coal mining (e.g., coal worker's pneumoconiosis) such as through medical monitoring, management and worker training, rules and guidelines (and their enforcement), use of personal protective equipment, and use of technology.

~~89.97~~ The registrant may choose to discuss implementation of relevant management systems such as CORESafety (developed by the National Mining Association), including progress towards tracking safety and health (S&H) metrics, management system (MS) metrics, and obtaining third-party verification.

Labor Relations

Description

Coal mining companies face inherent conflict between the need to lower the cost of labor to remain price-competitive and the need to manage human resources to ensure long-term performance. Working conditions related to coal operations are usually physically demanding and hazardous. Labor unions play a key role in representing workers' interests and managing collective bargaining for better wages and working conditions. This makes the management of labor relations critical, as conflict with workers can result in labor strikes and other disruptions that can delay or stop production, leading to significant lost revenue and reputational damage. Continued labor stresses can impact the long-term profitability of the business.

Accounting Metrics

NR0201EM0201-14. Percentage of active workforce covered under collective-bargaining agreements, broken down by U.S. and foreign employees

~~90.98~~ The registrant shall indicate the ~~percentage-number~~ of U.S. employees and ~~the percentage~~ of foreign employees in the active workforce who are covered under collective-bargaining agreements during any part of the fiscal year over each of the past 5 years, where:

- Active workforce is defined as the maximum number of unique employees employed at any time during the fiscal year.
- U.S. employees are defined as employees that do not need a visa to work in the U.S.
- Foreign employees are defined as employees that do need a visa to work in the U.S.

NR0201EM0201-15. Number and duration of strikes and lockouts

~~91.99~~ The registrant shall disclose the number of work stoppages or slowdowns and total duration, in worker days idle, of work stoppages or slowdowns involving ~~1,000~~50 or more workers lasting one full shift or longer.

- Worker days idle is calculated as the product of days idle and number of workers involved.

~~92.100~~ The scope of disclosure includes work stoppage due to disputes between labor and management, including strikes and lockouts.

~~93.101~~ The scope of disclosure excludes work stoppages due to other non-technical reasons that are disclosed according to ~~NR0201EM0201-10~~.

Note to ~~NR0201EM0201-15~~

~~94.102~~ The registrant shall ~~describe~~disclose the reason for each work stoppage (as stated by labor), the impact on production, and any corrective actions taken as a result.

Commented [BB24]: With today's level of automation, production can be substantially impaired by strikes/slowdowns of far fewer than 1000 workers.

Reserves Valuation & Capital Expenditures

Description

Estimates suggest that coal companies are unlikely to be able to extract a significant proportion of their coal reserves if GHG emissions are to be controlled to limit global temperature increases to two degrees Celsius. Stewardship of capital resources while taking into account medium- to long-term trends, particularly related to climate change mitigation actions, is critical in order to prevent asset impairment and maintain profitability and creditworthiness. In the U.S. and international markets, regulations and policies are already being put into place to limit GHG emissions from coal-fired power plants—the customers of coal companies—thus lowering the demand for, and subsequently the prices of, coal. Coal demand is also being affected by regulations governing other harmful air emissions that apply to coal-fired power plants. GHG-mitigation regulations are likely to expand in scope and magnitude of impacts in the medium- to long-term. Along with improved competitiveness of alternative energy technologies, this poses a long-term risk for the reserves and capital expenditures of coal operations companies.

Accounting Metrics

NR0204EM0201-16. Sensitivity of coal reserve levels to future price projection scenarios that account for a price on carbon emissions

~~.95.103~~ The registrant shall conduct ~~an analysis~~ analyses of its reserves to determine how several future scenarios may affect its determination of whether the reserves are proven or probable.

~~.96.104~~ The registrant shall base its sensitivity ~~analysis~~ analyses on potential price changes derived from the following scenarios conducted by the International Energy Agency (IEA) in its annual World Energy Outlook (WEO) publication:

- i. New Policies Scenario, which assumes that broad policy commitments and plans that have been announced by countries including national pledges to reduce greenhouse-gas emissions and plans to phase out fossil- energy subsidies occur, even if the measures to implement these commitments have yet to be identified or announced. This broadly serves as the IEA baseline scenario.
- ii. 450 Scenario, which assumes that an energy pathway occurs that is consistent with the goal of limiting the global increase in temperature to 2°C by limiting concentration of greenhouse gases in the atmosphere to around 450 parts per million of CO₂.

.105 Current Policies Scenario, which assumes no changes in policies from the mid-point of the year of publication of the WEO.

~~.97~~ *Nota bene* – Scenarios above are illustrative based on price differences projected in 2025 and published in the World Energy Outlook 2013; the registrant shall use IEA’s most current 2025 price projections in each scenario. As appropriate, and based on updates to IEA scenarios, SASB will provide updates to the future scenario year to be used in projections.

.106 The registrant shall also analyze the sensitivity of its current proven and probable reserves using the following differences in price for ~~crude oil and natural gas~~ coal, natural gas and crude oil that the ~~IEA-EIA~~ projects in its most recent Annual Energy Outlook using

i. The reference case

ii. The high oil and gas resource and technology case

iii. The low oil and gas resource and technology case

~~.69 The No CPP Case *Nota bene* – Scenarios above are illustrative based on price differences projected in 2025 and published in the World Energy Outlook 2013; the registrant shall use IEA’s most current 2025 price projections in each scenario. As appropriate, and based on updates to IEA scenarios, SASB will provide updates to the future scenario year to be used in projections.~~

~~.69 between the IEA’s Current Policies Scenario and (1) the New Policies Scenario and (2) the 450 Scenario;~~

~~.70 –~~

- ~~• OECD steam coal import prices are 6.0% lower per barrel in the New Policies Scenario than in the Current Policies Scenario~~

- ~~OECD steam coal oil import prices are 18.1% lower per barrel in the 450 Scenario than in the Current Policies Scenario~~

~~71.70~~ Reserves are defined by U.S. Securities and Exchange Commission (SEC) [Industry Guide 7, Description of Property by Issuers Engaged or to Be Engaged in Significant Mining Operations](#):

- Reserves, as that part of a mineral deposit that could be economically and legally extracted or produced at the time of the reserve determination.
- Proven (or measured) reserves, as reserves for which (a) quantity is computed from dimensions revealed in outcrops, trenches, workings, or drill holes; grade and/or quality are computed from the results of detailed sampling and (b) the sites for inspection, sampling, and measurement are spaced so closely and the geographic character is so well defined that size, shape, depth, and mineral content of reserves are well established.
- Probable (or indicated) reserves, as reserves for which quantity and grade and/or quality are computed from information similar to that used for proven (measured) reserves, but the sites for inspection, sampling, and measurement are farther apart or are otherwise less adequately spaced. The degree of assurance, although lower than that for proven (measured) reserves, is high enough to assume continuity between points of observation.

~~72.71~~ The registrant shall follow guidance published by the Securities and Exchange Commission (SEC) in [its Oil and Gas Reporting Modernization](#) (Section §229.1202 (Item 1202) Disclosure of Reserves) for conducting a reserves sensitivity analysis.

~~73.72~~ The registrant shall summarize its findings in the following table format:

Table 1 . Sensitivity of Reserves to Prices By Principal Product Type and Price Scenario

PRICE CASE (Scenario)	PROVEN RESERVES		PROBABLE RESERVES	
	Coal tons	Product A measure	Coal tons	Product A measure
Current (base)				
New Policies Scenario*				
450 Scenario*				

*using the percentage difference in price in 2025 between the scenario and the Current Policies Scenario

~~74.73~~ The registrant may choose to discuss the sensitivity of its reserve levels in other price and demand scenarios in addition to those described above, particularly if these scenarios differ depending on the type of coal reserves, regulatory environment in the countries or regions where mining occurs, end-use of the registrant's products, or other factors.

NR0204EM0201-17. Estimated carbon dioxideGHG emissions embedded in proven coal reserves

~~75.74~~ The registrant shall calculate and disclose an estimate of the ~~carbon dioxideGHG~~ emissions, including but not limited to CO₂ and methane, embedded in its proven coal reserves.

~~• *Note bene*—this estimate applies a factor for potential CO₂ only and does not include an estimate for all potential greenhouse gas emissions, as these are dependent on downstream use (e.g., utility electricity generation, industrial heating and electricity generation, cement production, or use steel production, etc.).~~

~~76.75~~ Estimated potential carbon dioxide emissions from proven coal reserves shall be calculated according to the following formula, derived from [Meinshausen et al.](#):

- $E = R \times V \times C$, where
- E are the potential emissions in kilograms of carbon dioxide (kg CO₂);
- R are the proven reserves in gigagrams (Gg);
- V is the net calorific value in terajoules per gigagram (TJ/Gg); and
- C is the effective carbon dioxide emission factor in kilograms CO₂ per terajoule (kg/TJ).

~~77.76~~ In the absence of data specific to the registrant's coal reserves, carbon content shall be calculated using default data for each major type of coal resource published by the Intergovernmental Panel on Climate Change (IPCC) in its **2006** IPCC Guidelines for National Greenhouse Gas Inventories.

- The registrant shall use default carbon content values per unit of energy that is listed in IPCC Table 1.3 Default Values of Carbon Content, Volume 2: Energy, Chapter 1.
- The registrant shall use calorific values per weight of coal resource contained in IPCC Table 1.2 Default Net Calorific Values (NCVs) and Lower and Upper Limit of the 95% Confidence Intervals, Volume 2: Energy, Chapter 1.

~~78.77~~ The registrant shall use engineering estimates to determine the weight of its coal reserves in gigagrams.

~~78~~ For other assumptions required to estimate the ~~carbon-GHG~~ content of coal reserves, the registrant shall ~~rely on guidance from the IPCC, Greenhouse Gas Protocol, U.S. Energy Information Agency (EIA), or the International Energy Agency (IEA)~~ employ direct measurement of the coal reserves at each site it owns or operates. Where sufficient representative data are not available, registrant shall employ the most representative data published by the U.S. Energy Information Agency (EIA) or the USEPA, see, e.g. www.epa.gov/cmop

~~79~~ Total coal methane includes coal bed methane, coal mine methane and abandoned mine methane. Methane content shall be determined by the direct measurement, such as ISO 18871:2015, where sufficient data exist, or by

use of an appropriate model, e.g., or other procedures consistent with USEPA, *U.S. Surface Mines Emissions Assessment*, U.S. EPA Coalbed Methane Outreach Program, October, 2005. Note that methane includes economically recoverable and unrecoverable methane.

NR0201EM0201-18. Discussion-Disclosure of how price and demand for coal and/or climate regulation influence the capital expenditure strategy for exploration, acquisition, and development of assets

~~92.91~~ The registrant shall ~~discuss-disclose~~ how projections for price and demand for coal and the path of air quality and climate regulation (including findings from ~~NR0201EM0201-16~~ and ~~NR0201EM0201-17~~) influence the registrant's capital expenditure (CAPEX) strategy.

- This discussion ~~should-shall~~ include the registrant's projections and assumptions about future coal prices and the likelihood that certain price and demand scenarios occur.

~~93.92~~ The registrant shall discuss the implications of price and demand scenario planning (i.e., ~~NR0201EM0201-16~~) and how they may affect ~~its~~ decisions to explore, acquire, and develop new reserves.

~~94.93~~ ~~It may be relevant for~~ The registrant ~~to discuss~~ shall disclose the ~~which~~ factors ~~that~~ materially influence its CAPEX decision making, including, ~~but not limited to~~ for example:

- How ~~public opinion concerning air quality and climate change and~~ the scope of air quality and climate change regulation – such as which countries, regions, and/ or industries are likely to be impacted ~~–may~~ influences where the registrant focuses its exploration and development.
- Its view of the alignment between the time horizon during which price and demand for coal may be affected by climate regulation and time horizons for returns on capital expenditures on reserves.
- How the structure of climate regulation – i.e., a carbon tax versus cap-and-trade – may differently affect price and demand, and thus the registrant's capital expenditure decision making.

~~95.94~~ The registrant ~~should-shall discuss-disclose~~ how these trends affect decision-making in the context of different types of reserve expenditures, including development of assets, acquisition of properties with proven reserves, acquisition of properties with unproven resources, and exploration activities.

.1 partners, training, or technology.