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Thank you for giving me the opportunity to comment on the draft methodology. It seems a very well structured product has been generated and the explanations given throughout the document are to my mind well thought out and clear. I realise that you did not set out with a blank sheet as there are numerous project guidelines already available from international institutions. In that respect both the list of references at the back and also the shorthand notes at each stage describing where a similar requirement could be found provides a great degree of confidence about the consistency of the effort in seeking out responsible implementation and practice.

The views expressed here draw on experience acquired during a career spent in natural resource based industries and latterly in a senior environmental management role in the international mining industry.

Firstly some general comments prompted by a reading of the draft document

- The analytical framework summarised on page 16 is clear and comprehensive and focuses on company performance in each issue area. My only hesitation here is that there is an implied objective in terms of a successful outcome. Practical experience suggests that no matter how committed the company and how well planned financially and technically certain initiatives can ultimately fail to deliver as a consequence of circumstances outside any company or even local / regional influence. I am referring here for example to major financial or political disruption or even natural disaster.
- In my reading I failed to identify any reference to company involvement and success in development of leading technologies and new processes that lead to advances in certain of the issue areas recognised in the methodology. Some companies are content to take up mining industry advances without contributing to the betterment of the industry while others are committed to investing in R and D and engineering developments such as the ‘Mine of the Future’ initiative. It would be worthwhile recognising this investment direction as a key factor in the issue area of Economic Development. This goes further than enhancing the skills base as described in A.4.1
- I could not identify any specific reference to the role of local and regional climatic or topographical factors in the ability to manage a mining operation in a responsible way. By way of example the mining of mineral sulphide ores such as copper that most frequently is accompanied by other sulphide minerals such as pyritic iron can yield acidic residues once exposed to atmospheric conditions. The presence of moisture promotes the oxidation reaction and can mobilise contaminants and transport them into the environment. Such mining operations in tropical regions characterised by high rainfall are presented with huge containment challenges not experienced by similar operations located in cold arid areas such as the Chilean Altiplano where the same chemical reactions are observed but contaminants stay put because no transport pathway exists. In another example taken from Indonesia a choice

was made to adopt riverine tailings disposal as a combination of severe topography and exceptionally high rainfall precluded storage at the minesite. In this latter example it is appropriate to examine the ethics of even approving such a project.

- I remain sceptical about the quality and accuracy of some of the returns that the Responsible Mining Foundation will receive in response to written request without some form of auditing and inspection at sites known or suspected to be challenging in respect of some of the six issue areas. There is justification for taking a more flexible approach to both the adoption of indicators and the choice of minesites for either desk evaluation or scheduled visit to site. Some form of verification other than literature reference would be worthwhile developing.
- The draft methodology as it stands does not seek to distinguish between companies that tend to focus their business in countries with advanced economies with all that this implies in terms of legal and political governance and civil society structures and institutions, as compared with the developing world and so-called frontier opportunities. In the first case it is inevitable that mining companies will seek to demonstrate their compliance with societal expectations that tend to be coded in some detail within legal and regulatory requirements. In many ways the developing countries offer much greater challenge where in the absence of national governance multinational companies set out to promote core corporate values throughout their various operations. Smaller so-called junior mining companies tied to one country or region are presented with more internal conflict in the competition between simply maximising return and doing what is best for the communities in which they operate. At present the draft methodology does not provide any guidance on how to make a comparison of performance across these models of business and operating environments.
- In the world of competitive economy involving risk and reward there are always pressures to maximise financial return on investment which in the absence of wider more strategic objectives can lead to compromise. It has been known for example for a company to decide to extract the richest or most high grade component of the newly discovered orebody in order to pay down project debt at an early stage thereby maximising the financial return. In the worst cases this can result in the sterilisation or condemnation of less attractive, lower grade, but still potentially valuable resource in the context of the region or country of operation. It is my contention that such an approach would not be considered responsible from a wider standpoint even although this might have been the only way at the time to obtain a commercial financial commitment.

A further example again relates to the degree of investment, this time in measures that improve performance in a wider sense but do not necessarily maximise profitability. In this case with minerals processing or beneficiation of metal sulphide ores, pyritic minerals or iron sulphides are often released as a chemically reactive waste and a threat to the environment due to their propensity to generate acid. A choice exists to either release pyrite with tailings or possibly add a processing stage to separate in some way the residual sulphide as a waste concentrate. The latter action can reduce or eliminate the potential for tailings to become acidic, a huge advantage in long term tailings management. It is not

clear how these compromising investment strategies are going to be picked up in the application of the Responsible Mining Index.

- There is no mention in the draft methodology of any recognition or measurement of value of offsetting environmental impact through provision of suitable land, water body or environment feature to compensate for loss within the minesite development. This is becoming a prominent requirement gaining traction particularly in the developed world with varying degrees of success.

Observations specifically related to Issue Areas and Indicators

- Page 27 D.8.2 Assistance to artisanal mining

This is a very difficult subject for major mining companies as it can lead to the accusation of two standards of operation being endorsed by the company, in particular with regard to safety in underground access and unsupported excavation. Many companies are reluctant to engage other than to try and limit activity around their mining concession. Understandably most assistance is directed at recovery and extraction, particularly gold and avoiding health issues with use of mercury.

- Page 29 F.2.2 Design of tailings facilities

As stated earlier there are also questions to pose relating to minerals processing flowsheets, in particular ability to minimise the chemical reactivity of tailings and consequent environmental threat by removing deleterious elements prior to disposal of what would then be more benign material.

- Page 32 A.3.2 Capacity Building and Development

I speak from practical experience here that the best laid plans are only as successful as the ability to deliver and this ability is subject to the vagaries of outside interests. Parallel development can be a very powerful factor in employing expertise and knowledge made available through a mining project to initiate community based economic and social initiatives. The impetus generated by such initiatives is capable of being sustained beyond the life of the mining project but such interventions are subject to political commitment that can change overnight. Failure to implement is not necessarily a failure of company commitment in this area.

- Page 40 C Lifecycle Management

This section draws attention to the phrase 'economically retrievable' which merits an explanation along the lines of company / investor interests and the wider country interests in obtaining value in natural resource development as described above under general observations.

- Page 41 C.1.2 Financial Surety for Mine Closure.

The provision of financial surety can be met within a major mining company's set of accounts by accommodating an allowance for closure cost liability in the balance sheet on the understanding the company's spread of investments secure its long term business in the marketplace. Is this a sufficient mechanism to meet the objective described in the methodology or is some form of independent guarantee anticipated ?

- Page 45 MS2 In-migration.

Is there a case here to consider supporting existing communities in the region of a new mining development by directing parallel economic and social development outside the immediate economic influence of the project to these communities. There has been considerable success in this respect around Jamshedpur, India, with Tata Steel's rural development programme designed specifically to discourage in-migration.

- Page 51 D.8 Artisanal mining

I have discussed this earlier and applaud the need for mining companies to reach formal agreements with communities engaged in informal mining. However I believe there is considerable difficulty in major multinational companies actually engaging in alternative mining activities which by their very nature would continue to cut across any best practice judgement call and therefore open up company policy and commitment to critical review internationally. The remaining of waste rock and tailings by artisanal miners also presents major issues of personal safety and even integrity of properly designed waste impoundments and deposit areas.

- Page 61 F.2.2 Tailings Management

The text mentions that tailings contain elevated metals but this is not necessarily so. Tailings or chemical processing plant wastes deposited as slurry are encountered in industrial minerals operations including borax, phosphates, and carbonates.

- Page 62 F.4 Water.

In addition the mining company should ensure it has an understanding of the catchment areas in which its operations are located; how they are managed for surface water and groundwater resources. This is a necessary precursor to appreciating the degree to which both communities and the natural environment rely on maintaining these resource systems.

- Page 64 F.6.1 Mitigation Hierarchy.

I would not be alone in not appreciating what is meant by this term in a practical sense. It would be worthwhile adding a sentence or two to explain it further.

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