

Comments on ISA Draft Regulatory Framework by Craig R. Smith, University of Hawaii at Manoa (craig.smith@hawaii.edu) – 12 May 2015

Page 5: This is not a glossary but simply an expansion of the acronyms. These terms need specific definitions as used by the ISA. Some of these terms, e.g., EIA, EIS, etc., have specific legal definitions which may vary between countries. It is imperative that these be rigorously defined to avoid confusion and legal obfuscation in the future.

Page 6: Part I will need a complete glossary of terms used, i.e., full definitions reflecting international norms, or use of a national norm as a model, if international norms do not exist.

Page 8: the development of the “Use of Terms and scope” section is a fundamental first step and key to effective management of exploitation and environmental protection.

Page 8: **Form of applications section:** It will be imperative to develop separate documents (Feasibility study, Environmental impact statement (EIS) and Environmental management plan (EMP)) for each exploitation area because material differences will be very subjective and susceptible to manipulation by the contractor (e.g., poor data collection techniques may yield not detectable differences due to poor data quality. This may encourage contractors to collect inadequate environmental data). In addition, an overview set of documents (EIS and EMP) will be necessary to address potential interactions (e.g., synergistic impacts) and broader scale effects of multiple exploitation areas.

Page 10-11: **Data and information to be submitted...** section: All these documents will need to be assessed by an independent panel of experts with broad areas of expertise (scientific, environmental, economic, legal, sociological, human health, etc.) that can objectively judge all aspects of the plan for exploitation. This body, perhaps call the Review Board, should be set up for substantial terms (e.g., 5 y), and be as independent as possible from the ISA. This is because ISA exists for, and stands to benefit from, mining activities (the ISA may eventually disappear if mining does not go forward) so it cannot be an impartial judge of flaws in the plans of work for exploitation.

Page 11: **Feasibility study section:** Any feasibility study must include the EMP and estimates of its associated costs because this will impact commercial viability. This study must also be reviewed by independent environmental experts (e.g., the Review Board) to determine that the EMP is appropriate (i.e., will adequately protect the environment and is realistic).

Page 12-13: Each EIS and EMP will need to be reviewed by an independent panel of experts (e.g., the Review Board). This is far preferable to review by an “independent environmental consulting firm.” How will the firm be judged to be independent? How will it be established that it has a sufficient level of expertise and impartiality? These issues are much more easily

addressed in setting up a review individual by individual. Drafting of EIS and EMP guidelines need to be approved, and probably drafted, by a panel or working group of experts.

Page 18: **Public Review of the EIS, EMP**, etc. A panel of experts needs to be convened ASAP to draft the procedures for vetting EIS, EMP and SMP. Ultimately, there will need to be a Review Board of independent experts that reviews initial EIS etc. submissions, distributes it the public for review and comment, returns it to the applicant of modification, and then reviews the revised submission.

Page 19: **Consideration by LTC**. The LTC is a largely political body and will need independent input from review panel of experts with scientific, environmental, economic and legal expertise. A technical paper on “serious environmental harm”, applying international norms, is urgently needed. It is inevitable that mining will yield dramatic environmental damage on local scales. Over what time and space scales this harm is to be considered significant is a major uncertainty at this point. The space and time scales of significant environmental harm will be habitat and resource dependent (i.e., vary whether the mining is for polymetallic nodules, massive sulfides, cobalt-rich crusts on seamounts, etc.). The concept of species extinction risks, and disruption of population connectivity must incorporated into the definition of serious environmental harm.

Page 19: **Consideration and approval of plans...** Additional steps and procedures are required, with independent review bodies or panels (i.e., a Review Board) reviewing EIS, EMP etc., incorporating public comment, and making recommendations to the more political LTC.

Page 19: **Independent technical expert working group/subcommittees**. This absolutely must be formalized under the regulatory framework to insure fair and similar treatment of all applications. Setting up a standing independent Review Board of experts for circa 5-yr terms is the first necessary step.

PGE 20: **Duration of contracts/renewal**: I working paper urgently needs to be drafted on this issue. Duration, review and renewal procedures will need to incorporate adaptive management of environmental damage as the scales and nature of impacts become clearer in association with a particular mining technology and level of intensity. Many impacts will not be assessable until the mining operation has been underway for a number of years (e.g., 5 y). A substantive environmental review after five years, paid for by the contractor, would be important to include in the regulations.

Page 24: **Waste management**, e.g., of tailings, ship-based waste, etc. will be critical. Discharges into the surface ocean, in particular or tailings, which do not fall under the LDC, I believe, are the biggest risk to the pelagic marine ecosystems.

Page 26: **Periodic review**: Must also include evaluation of environmental impacts, whether they are in line with the EIS, whether they are adequately addressed by the EMP, and whether

modifications to the EMP (or even cessation of mining) are called for. If “serious environmental harm” is occurring at much larger scales and/or intensities than initially predicted, this must be determined during this review, and appropriate adaptive management procedures implemented. Since the impacted ecosystems so poorly known, and the mining technology wholly new or unused in these environments, the 5-year reviews will be absolutely critical for evaluating and managing environmental impacts.

Page 26: **Termination of sponsorship:** A contractor must pay into monitoring fund up front to cover monitoring costs and obligations after contract termination (otherwise, bankruptcy can be used as an excess for cessation of post contract monitoring of environmental recovery.

Page 26: An independent working group to determine Responsibility and Liability, especially for environmental damage, is urgently needed.

Page 27: **Protection and preservation of the marine environment:** This topic needs urgent consideration by expert working groups, and must include consideration and implementation of spatially based management (i.e., erection of marine protected areas or APEIs) for all resources targeted in the Area before further exploration, and certainly exploitation, licenses are granted. In the CCZ, the ability to erect an effective network of MPAs (or APEIs) is already impacted by existing, legally binding exploration contract areas. This may also be true along certain sections of mid-ocean ridges.

Page 28: **Environmental management:** The guidelines urgently need to be developed by panels of experts to move forward towards exploitation. Guidelines must incorporate the uncertainty of deep-sea scientific knowledge. Adoption of OSPAR guidelines must be carefully considered since the scale of activities, and knowledge of impacted ecosystems, may be quite different. OSPAR may be a good starting point.

Page 29: SEMP: the development of SEMP is fundamental to environmental management in the deep sea, where mining impacts will persist far longer than the duration of any single mining operation. It is very likely that no mined area in the CCZ will recover before all mining claims are exploited simply because the recovering of the nodule habitat from removal and burial will require thousands of years. Thus, the entire CCZ must be strategically managed as a single area. This is likely also true for mid-ocean ridges and seamounts. The development of SEMP and networks of APEI is one of the most important first step before moving forward with granting of exploration and exploitation licenses.

Page 31: **Restoration and rehabilitation:** These obligations need to be carefully considered since they may offer contractors and excuse for lower levels of diligence to avoid environmental damage if they can say “we will clean up the mess later.” Restoration following polymetallic nodule mining is simply not feasibly due the massive spatial scales and technological challenges of meaningful restoration. Because of the slow rates of abyssal ecosystem recovery, even if restoration appeared to be technologically, logistically and financial feasible, it would require decades to evaluate its efficacy. Mitigation rather than restoration is a much more viable strategy for deep-sea mining. These considerations must considered and incorporated early in

the development of exploitation RRPs since they will have economic impacts on the mining entities, and will influence public sentiment on the acceptability of DSM.

Page 31: **Adaptive management approach.** This too is fundamental to any EMP and must be addressed early on my an panel of experts.

Page 32; **Environmental liability fund.** An *environmental liability trust fund* is essential to address post-contract environmental monitoring of exploited areas. This cannot be covered by insurance and is not the same as research. The obligations of contractors to contribute to this fund must be defined at the time of granting of exploitation licenses, possibly as an advance deposit.

Page 33: **Confidentiality of data.** Confidentiality of environmental data is a fundamental obstacle to the evaluation by independent parties of environmental harm and efficacy of the EMP. Only technological data should be confidential (not including rates of resource recovery, generation or wastes, etc.) because these have substantial implications for the scales of environmental impacts.

Page 34: **Inspection:** The inspection regime must include an independent Review Board of experts. Ad hoc panels will not insure even-handed treatment across contractors.

Page 38: **Insurance.** Can insurance policies cover environmental damage detected after the end of a contract and mining operations have ceased?

Page38: **Suspension and termination of contract and penalties:** This must also consider detection of unanticipated serious/significant environmental harm or damage.

Page 46: **Use of terms and scope:** Some terms (EIS, EMP, serious environmental harm) need to be defined urgently before development of RRPs can move forward.

Pages 46-46. **EIS and EMP:** Templates for both of these need to be drafted by a panel of experts, with scientific (including as oceanographic disciplines), conservation, economic and legal expertise.

Page 49: The development of the SEMP (and adoption of an adaptive management approach) must precede any further granting of exploration or exploitation licenses and MUST be top priority A. Granting of licenses spatially constraints a SEMP.

Page 52: **Effective protection for the marine environment from harmful effects.** This must have priority A because it is fundamental to moving forward, and is, in fact, a show stopper.