September 2025

THE PEW CHARITABLE TRUST'S COMMENTARY

ON THE REVISED CONSOLIDATED TEXT: DRAFT REGULATIONS ON EXPLOITATION OF MINERAL RESOURCES IN THE AREA, DATED 29 NOVEMBER 2024 (ISBA/30/C/CRP.1)

Key

Black font, red font, and grey text-boxes are replicated from the Draft Regulations text.

Blue font represents commentary or edits proposed by The Pew Charitable Trusts.

Annex X bis ~~ter [Alt.]~~

Design Criteria for Impact Reference Zones (IRZs) and Preservation Reference Zones (PRZs)

Applicants must establish suitable and effective Impact Reference Zones (IRZs) and Preservation Reference Zones (PRZs) in order to monitor the Environmental Impacts of their activities. The following parameters shall apply in the designation of IRZs and PRZs.

1. IRZs and PRZs must be situated within the Contract Area (and the Contract Area may need to be selected around the need for appropriate IRZ/PRZs, especially where multiple or large reference zones are required)
2. The applicant needs to demonstrate that the IRZ/PRZs are [~~environmentally~~] similar before the commencement of mining. [Additional PRZs and IRZs have to be introduced subsequently, once areas ecologically dissimilar from the primary PRZ are impacted, to warrant future comparability.]
3. ~~To designate representative IRZs/PRZs requires characterisation of the pelagic and benthic environment including all sub-habitats that may be impacted by Exploitation activities~~mining operations, and determination of regional distributions and patterns of connectivity of communities. Temporal variation must also be evaluated over multiple years.

~~4.~~3. IRZs must be zones where direct impacts from mining are predicted to occur once mining commences.

~~5. All types of impact [from mining related activities in any Contract Area identified in the Environmental Impact Statement], must correspond with [at least 1] IRZ[/IRZs] which will enable the Contractor to monitor these impacts. Designation of multiple IRZs [(or a very large IRZ) may be necessary is possible] for this purpose.~~

~~6.~~4. The area(s) of the IRZ(s) needs to be sufficiently large and representative to allow adequate assessment of recovery of populations and environmental conditions after the Exploitation activities, in accordance with the applicable~~relevant~~ Standards~~,~~ and taking into consideration~~account relevant~~ Guidelines.

~~7.~~5. PRZs will be important in identifying natural variations in environmental conditions against which impacts shall be assessed and must be comparable to that of the impacted areas, in accordance with the applicable~~relevant~~ Standards and, taking into consideration~~account the relevant~~ Guidelines. [~~The abiotic and biotic baseline data include but are not limited to the quantity and quality of mineral resources, species composition and habitat types.~~]

~~8.~~6. PRZs must be areas that will not be impacted by Exploitation activities from any C~~e~~ontractor, including impacts from operational and discharge plumes and

including during the post-closure period. PRZs should~~must~~ also be free from impacts of other industrial activities. PRZs should~~must~~ have to remain unimpacted throughout the post-mining monitoring period.

~~9.~~7. Where a Contract Area consists of several disjunct sub-areas that are isolated from each other, then each of those areas would require a corresponding PRZ and IRZ.

~~10.~~8. Use of multiple PRZs and IRZs should be considered for increase in statistical rigour, and chance of detecting effects and adding redundancy in case of unexpected variation/plan changes.

~~11.~~9. The area of the PRZ needs to be sufficiently large to contain sufficiently large populations to guarantee long-term survival. The PRZ will also require a buffer zone around it to protect the populations and ensure maintenance of natural environmental conditions in the PRZ.

~~12. Abiotic and biotic parameters, within the IRZ and PRZ will need to be monitored to quantify impacts. This includes but is not limited to monitoring species diversity and function. To establish an adequate baseline and to find suitable indicator species (e.g., the sensitive species that will suffer most from an impact, key stone species that are crucial for ecosystem processes, or species which abundance indicates a disrupted ecosystem functioning), it will be necessary to catalogue most species in the IRZ and PRZ in question and unravel their functions. This will require sufficient sampling effort to collect sample sizes that allow for a meaningful comparison (i.e., with high statistical power).~~

~~13. The longevity of PRZs and duration of post monitoring are important. The duration of post-mining monitoring should last until [monitoring results show a trajectory towards recovery. Post mining monitoring should be described in the final EMMP and/or Closure Plan] no measurable difference between IRZ and PRZ can be detected anymore.~~

~~[13 Alt. Post mining monitoring shall continue until [monitoring show a trajectory towards recovery of] ecosystem function [returns to the level of the pre mining condition] agreed within the EMMP/Closure Plan and taking into account the time taken to reach a new equilibrium state.]~~

~~14.~~ Isolation of PRZs is important. Any PRZ will by definition have to remain unimpacted throughout the post-mining monitoring period.

~~15. To designate representative IRZs/PRZs requires characterisation of the pelagic and benthic environment including all sub habitats that may be impacted by Exploitation activitiesmining operations, and determination of regional distributions and patterns of connectivity of communities. Temporal variation must also be evaluated over multiple years.~~

~~16. An applicant will need to be able to demonstrate knowledge of species' ecological requirements (e.g. for successful reproduction); an average population density alone will not suffice.~~

Comment
Since this annex specifies the design criteria for IRZs and PRZs, the main text should include provisions regarding their installation. Furthermore, it has been suggested that significant parts of this annex are moved to Guidelines. The deleted elements have been placed in the revised suspense document.

Pew has long advocated for the ISA to prioritise rules for IRZ/PRZs. IRZ/PRZs are utterly critical for all steps of deep seabed mining operations, from exploration through exploitation all the way to long-term monitoring beyond the termination of commercial production.

In fact, a plan of work for **exploration** should also require IRZ/PRZ designation, and IRZ/PRZs should be designated also for any test-mining operations. Some of this is covered in LTC Recommendations, but not comprehensively (and LTC recommendations do not have legally binding force).

As noted in the President's comment box, IRZ/PRZs are also not well referenced in the body of the draft Exploitation Regulations, nor to our knowledge have they been included in the previously prepared draft Standards and Guidelines. This threatens to leave serious gap in the ISA's regulatory and environmental management regime, and we consider it needs to be a prioritised by the ISA to address, whether via this Annex or elsewhere.

We agree with the content in this Annex (as originally proposed) but are open to discussions about placement. Particularly given the impact these rules will have on exploration operations. Indeed, the complexities, spatial management challenges, and size and effort implications of science-based IRZ/PRZ design may be quite significant on project planning and on ISA's permitting decisions.

For example, with different exploration contracts we see different fragmentation of contract sites (e.g. split across a region, split within contract area, fragmented due to relinquishment, or the contract area itself fragmented due to small block size for SMS and crusts resources). Contractors are likely to prefer fragmented sites in order to target specific sites with the richest mineral deposits and the best topography for mining. PRZs must be both (a) large enough to be representative of local environmental conditions, and (b) beyond the range of environmental impacts from mining activities. A small and fragmented exploration contract area may be unable to accommodate both a mining site and a Preservation Reference Zone (i.e. a collection of statistically robust replicate sampling sites) of sufficient size and located at sufficient distance to avoid the mining impacts. Whereas locating a PRZ or requiring a contractor to carry out monitoring duties outside of their contract area would be problematic for other reasons, both practical and legal.

As such this issue would benefit not necessarily from drafting negotiations at this stage, but more from informed policy discussions and decisions by the Council – informed by independent expert and stakeholder consultations. We would recommend the Council also considers carefully developing new rules about exploration contract site allocation and relinquishment with the aim avoid contract areas that cannot accommodate compliant PRZs.