The ISA Environmental Impact Assessment Template

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4th Regional Training Workshop, Environmental Perspectives of Deep Sea Mineral Activities, Nadi, Fiji. December 2013

Background

Workshop held in Nadi, November-December 2011

- hosted by the Fiji Government and co-organised by the International Seabed Authority and SPC/SOPAC Division.

Objectives

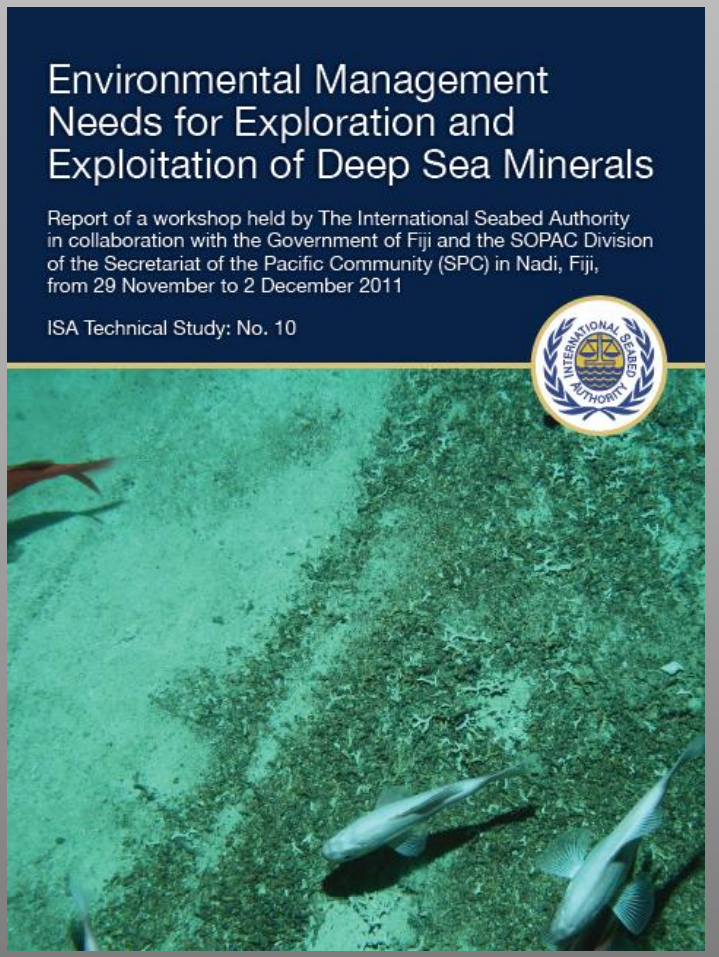
- To increase awareness of the nature of the mineral resources in marine areas beyond the limits of national jurisdiction (“the Area”), and on the outer continental shelf, and the measures taken by the International Seabed Authority with regard to the protection of the marine environment from the harmful effects of deep seabed mining and the applicability of such measures to the development of marine minerals within national jurisdiction.
- To formulate preliminary recommendations for environmental impact assessments (EIA) of seabed mining both within and beyond national jurisdiction.

Workshop structure

- Session 1: Marine Mineral Resources
- Session 2: The Legal Regime for the Development of Marine Mineral Resources
- Session 3: Environmental Regulation
- Session 4: Protection of the Marine Environment in the Area
- Session 5: ISA initiatives for environmental protection
- Session 6: Regional initiatives and case studies
- Session 7: National case studies
- **Session 7: Working Groups**
  - **Preparation of an EIA template**
  - Legislative and regulatory aspects of environmental management
  - Capacity building needs

Working Group 1

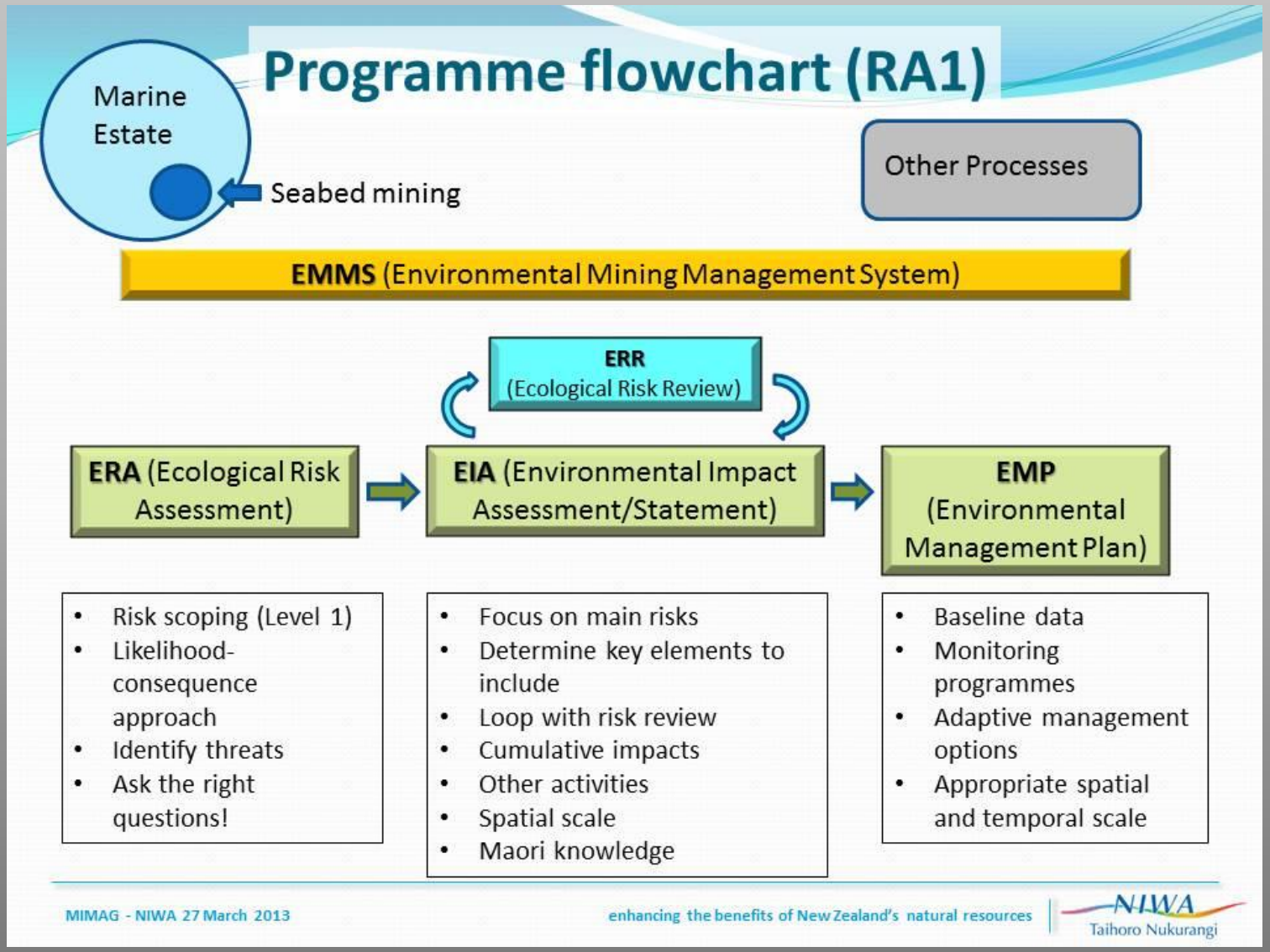
- 15-20 people
- Used Nautilus EIS for Solwara 1 as the starting point
- Incorporated other EIA aspects where appropriate
- Brief was to focus on the Area, but meant to be adaptable to national use
- Includes the full range of operations (c-t-g)
- EIA template produced, accepted, and published



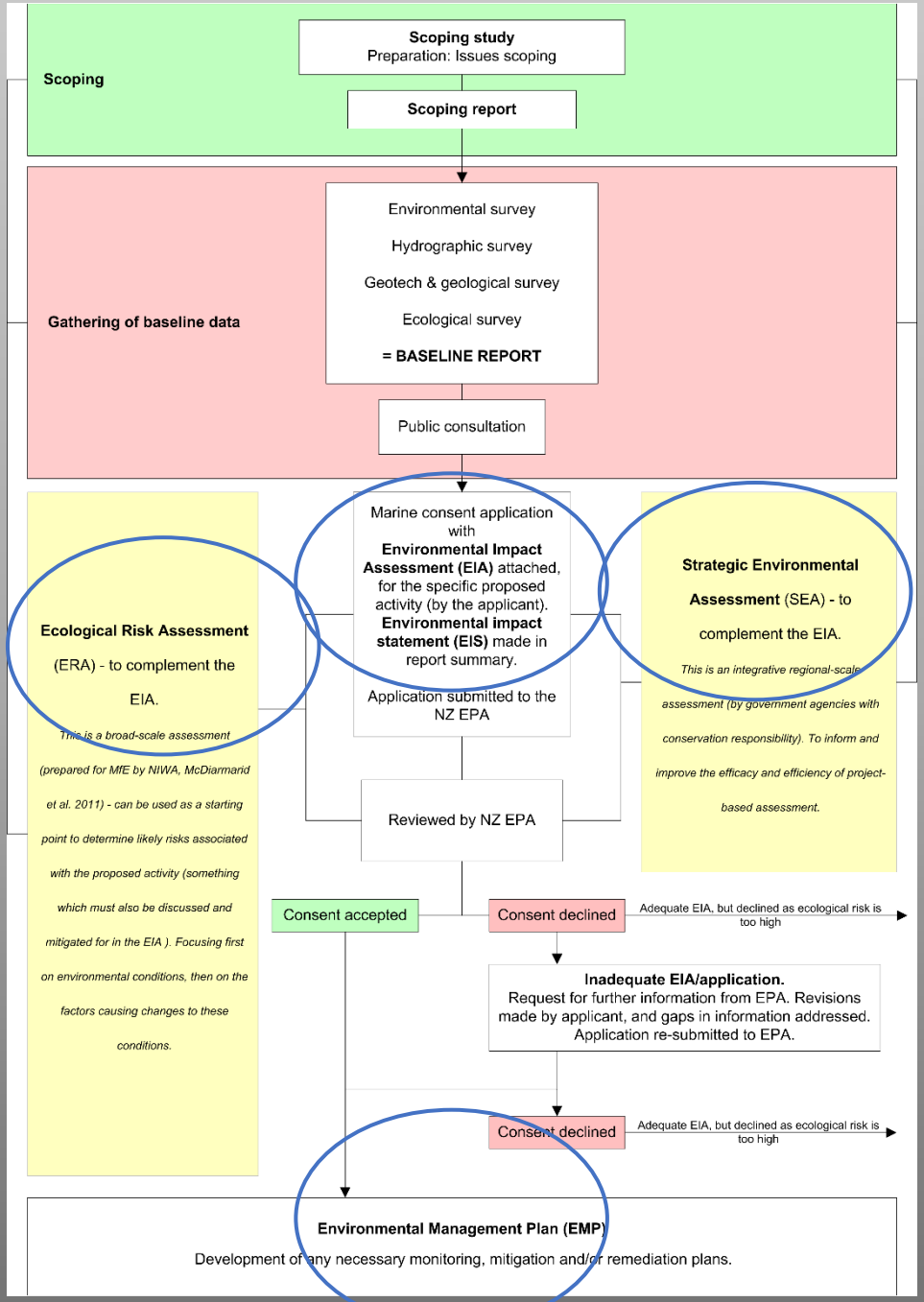
Terminology

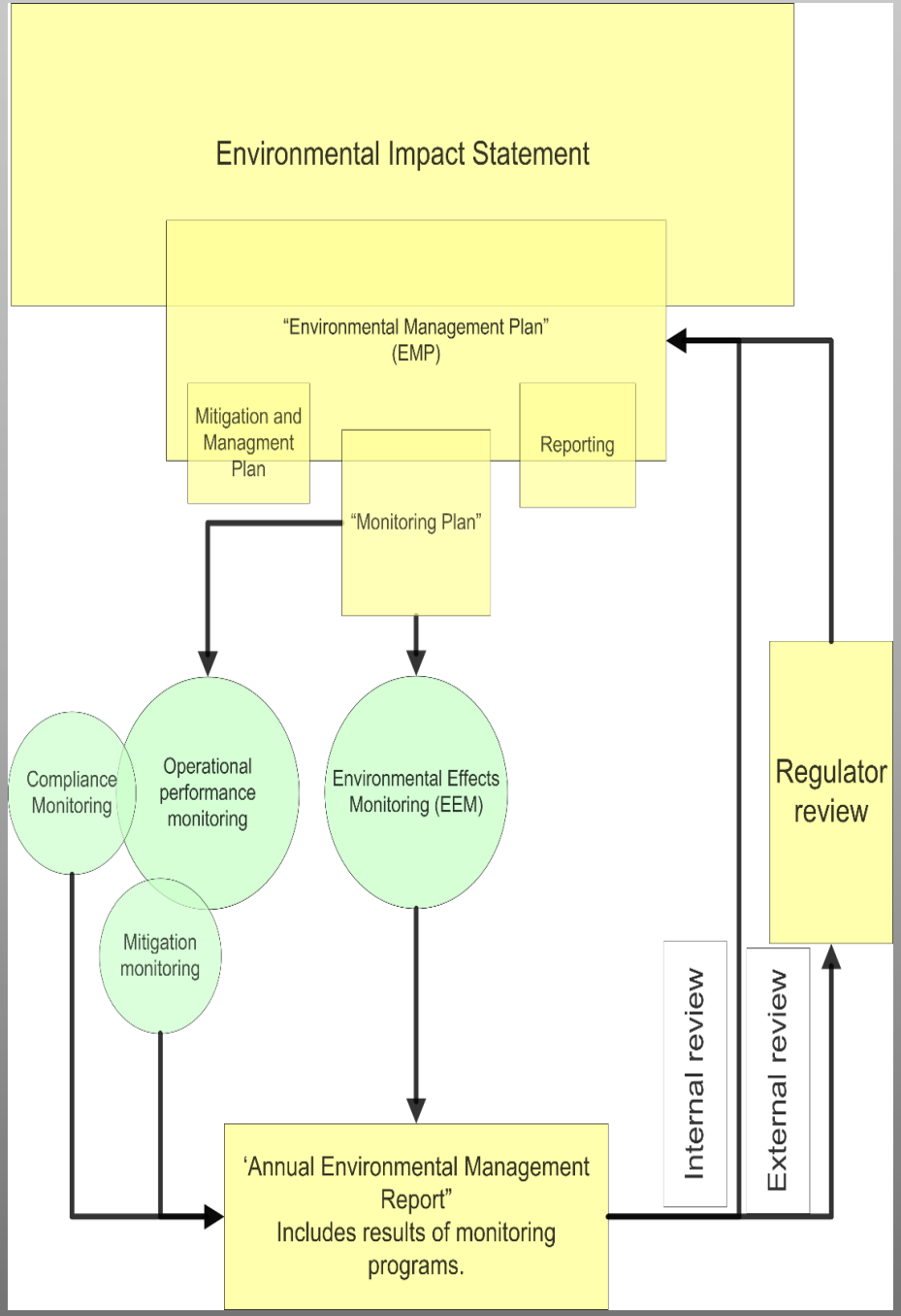
- Can be very confusing
- As Sefa indicated, EIA is a PROCESS, and what it is called varies…
- Distinction between EIA (Assessment) and EIS (Statement)
  - EIA involves evaluating the probable **environmental** impacts of a proposed project or development. This usually incorporates an assessment of the risk of impacts, and possible mitigation measures.
  - The results of the EIA are summarised in an EIS. The EIS typically incorporates an **overall assessment** of the mining project (not just the environmental impacts) and proposes measures to minimise impact.

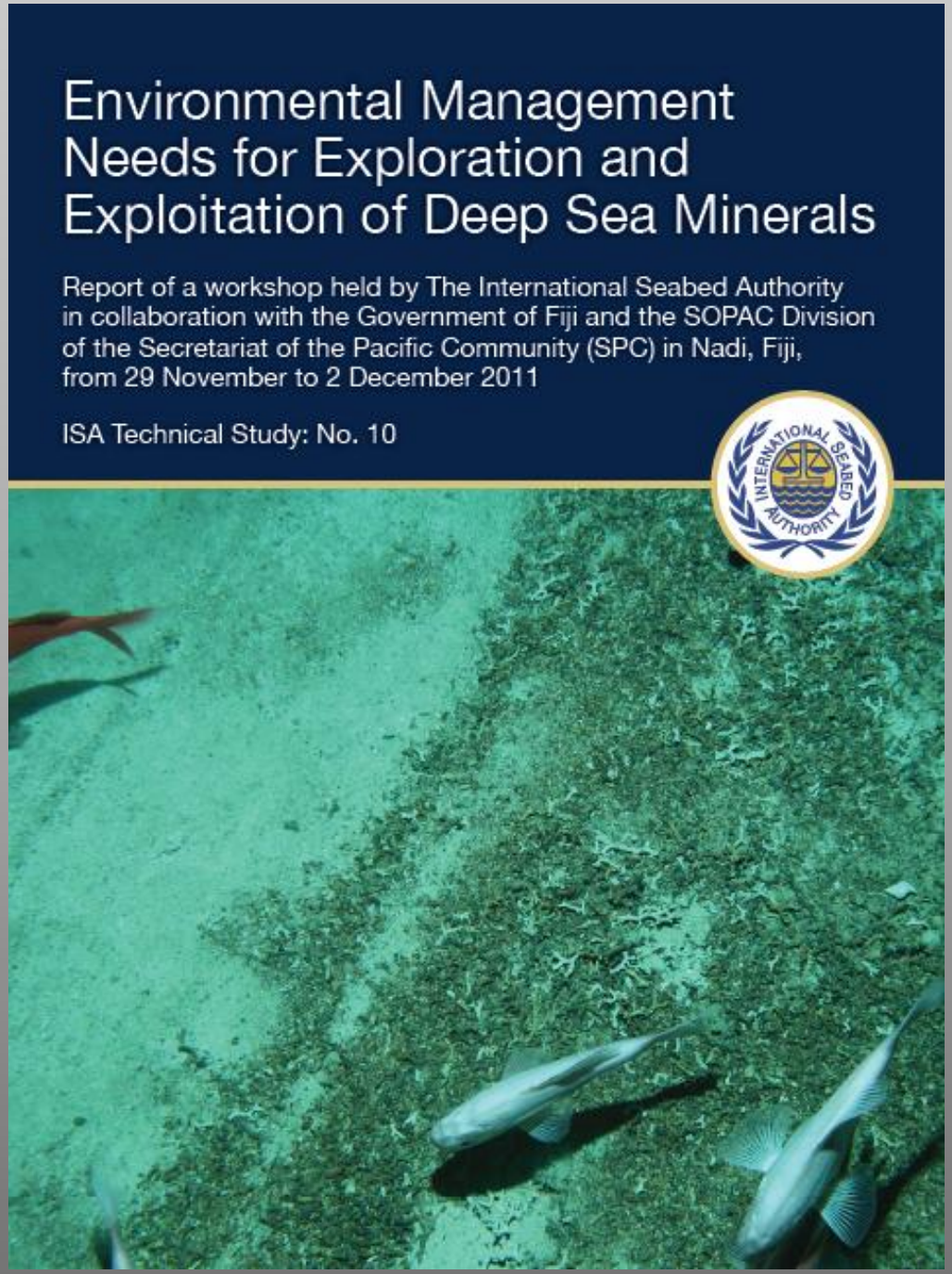
A confusing landscape…



Ideally nested under a regional SEA (policy/management OBJECTIVES)


Scoping
Scoping study
Preparation: Issues scoping
Scoping report
Gathering of baseline data
Environmental survey
Hydrographic survey
Geotech & geological survey
Ecological survey
= BASELINE REPORT
Public consultation
Ecological Risk Assessment (ERA) - to complement the EIA.
This is a broad-scale assessment (prepared for MfE by NIWA, McDiarmaid et al. 2011) - can be used as a starting point to determine likely risks associated with the proposed activity (something which must also be discussed and mitigated for in the EIA). Focusing first on environmental conditions, then on the factors causing changes to these conditions.
Marine consent application with Environmental Impact Assessment (EIA) attached, for the specific proposed activity (by the applicant). Environmental impact statement (EIS) made in report summary.
Application submitted to the NZ EPA
Strategic Environmental Assessment (SEA) - to complement the EIA.
This is an integrative regional-scale assessment (by government agencies with conservation responsibility). To inform and improve the efficacy and efficiency of project-based assessment.
Reviewed by NZ EPA
Consent accepted
Consent declined
Adequate EIA, but declined as ecological risk is too high
Inadequate EIA/application.
Request for further information from EPA. Revisions made by applicant, and gaps in information addressed. Application re-submitted to EPA.
Consent declined
Adequate EIA, but declined as ecological risk is too high
Environmental Management Plan (EMP)
Development of any necessary monitoring, mitigation and/or remediation plans.


Environmental Impact Statement
"Environmental Management Plan" (EMP)
Mitigation and Managment Plan
"Monitoring Plan"
Reporting
Compliance Monitoring
Operational performance monitoring
Mitigation monitoring
Environmental Effects Monitoring (EEM)
'Annual Environmental Management Report"
Includes results of monitoring programs.
Internal review
External review
Regulator review



Important not to get tangled up in terms, as long as the scope of the EIA is clearly defined

The ISA template is more an EIS, as includes socio-economic aspects, as well as management policy and starts looking at mitigation measures

But it covers the main aspects of relevance to any country, so it can be used as an EIA template as part of the EIA process

ISA Technical Study No. 10
Full template

Background sections

Executive summary

One of the main objectives of this section is to provide an explanation of the project for non-technical readers. Information provided in the executive summary should briefly describe:

- *A. the proposed development activity and its objectives;*
- *B. anticipated bio-physical and socio-economic impacts (direct/indirect, reversible/ irreversible) of the activity;*
- *C. details of remedial actions that are proposed;*
- *D. the benefits to be derived from the project;*
- *E. details of the consultation programme undertaken by the applicant, including degree of public interest; and*
- *F. end-use plans for the development activity.*

The summary should not be more than 15 pages in length and in English. Appendices should be attached, as appropriate, to the EIS in order to provide complete information on the development proposal.

Introduction

Background

This section should briefly summarize the project being proposed.

Project history

This section should briefly summarize the work undertaken up to the date to the EIS was finalized and ready to be submitted. This should include a brief description of the deposit discovery and the exploration and test mining activities conducted to date.

Project proponent

This section should summarize the credentials of the Contractor proposing the development, including major shareholders, other tenements owned or applied for, and their jurisdictions, etc.

Purpose of and justification for the development

The purpose of this section is to ensure that only development activities that are in line with the Authority's goals and objectives are considered for approval. This section should provide information on the viability of the proposed development activity. These details should include, but not limited to, the following:

- A. the capital cost associated with the development;
- B. the proponent's technological expertise and resources;
- C. results of any feasibility investigations that have been carried out;
- D. the extent of landowner and/or resource owner support, including a copy of the formal written approval of their consent;
- E. the anticipated lifespan and development phases of the project.

This Report

- **Statutory context**
- **EIS scope**
- **Report structure**

Policy, legal and administrative framework

This section should provide information on relevant legislation, agreements or policies that are applicable to the proposed mining operation. It is separated into four sections, each covering a different aspect of the legal framework.

Applicable mining and environmental legislation, policy and agreements

The applicant should note any legislation, regulation or guidelines that apply to the management, or regulation of mining, or the environment in the Area, or any other relevant (existing or proposed) jurisdiction. This should include a note on how the proposed operation will comply with these requirements.

Other legislation, policy and regulations

Description of any other legislation, policy or regulations that do not apply specifically to mining or environment, but may be relevant to the proposal (e.g. shipping regulations, offshore mining certificates, and potentially many more inside jurisdictional boundaries).

Relevant international agreements

This subsection describes other more general international agreements that could be applicable to the operation, such as UNCLOS, CBD regulations and UNGA resolutions.

- **Environmental**
- **Other**

International standards, principles and guidelines

Any other non-legal standards or guidelines that may apply to best practice in the operation, e.g. Equator Principles.

Stakeholder consultation

This section describes any consultation(s) that may have taken place with interested parties and stakeholders with an interest in the DSM application in the period leading up to the application.

Relevant jurisdiction consultation requirements

This outlines any international or jurisdictional consultation obligations.

Stakeholders

List any relevant stakeholders or other interested parties that have been consulted.

Public consultation and disclosure programme

Description of the goals and consultation workshops/meetings that have occurred prior to the preparation of the report.

- **Goals**
- **Consultation methods**
- **Scientific workshops**
- **Cultural heritage**

Consultation outcomes

Continuing consultation

What further consultation with stakeholders is needed?

Project description: what is planned

Description of the proposed development

All relevant details on the proposed development activity required under this section should be provided where applicable to the proposal. Details to be provided under this section may include the headings listed below.

Project area definition

Location

This section should include detailed location maps (drawn to scale), site layout, etc.

Associated activities

This section should include a description of any supporting activities and infrastructure required (e.g. ports, barges, transportation corridors, crew transfers, etc.)

Project components

This section should provide background information to the proposal, technologies to be employed, etc. For polymetallic nodule exploitation, Contractors should refer to Section IV C of the Recommendations for the guidance of contractors for the assessment of the possible environmental impacts arising from exploration for polymetallic nodules in the Area (ISBA/16/LTC/7). This section should include information on methods of exploitation site selection including alternatives investigated, relevant diagrams and drawings.

Mining

Transport/materials handling

On-site processing

Alternatives considered and rejected from analysis

Mining

Transport/materials handling

On-site processing

Mineral resource

This section should include the type of resource proposed for extraction (e.g. nodules, polymetallic sulphides, cobalt-rich crusts or other mineral), the type of commodity, the grade and volume. Estimates of inferred and indicated resource should be provided.

Offshore mining and support equipment

This section should include descriptions of the offshore mining and support equipment (including vessels) required to carry out the activity.

Mining

Mine plan

General mining sequence

Hazardous materials management

Description of hazardous materials

Transportation

Storage, handling and disposal

Workforce

Workforce description

Employment policy

Capacity-building objectives and commitments

Construction and operating standards

This section should outline the design codes to which the equipment will be built, as well as the health and safety standards that will be applied.

Design codes

Health and safety

Commissioning

Decommissioning and closure

Offshore infrastructure

Onshore facilities

Development timetable (Detailed schedule)

Description of the overall timetable, from implementation of the mining programme through to decommissioning and closure of operations. This should include the major phases of the operation, as well as the milestone dates on which relevant tasks are expected to be completed. Information on the development timetable provided under this section should clearly communicate the different phases in the development proposal. For reasons of clarity, a Flow chart, Gantt or PERT chart should be used where appropriate. Information provided in this section should include, but not be limited to, the following:

A. *The funding arrangement for proposed activity or if availability of funds is subject to this or other approvals being granted;*
B. *Pre-construction activities;*
C. *Construction schedule, staging, etc.;*
D. *Commissioning and operational schedules;*
E. *Infrastructure development schedule; and*
F. *Closure schedule.*

Description of the existing offshore environment

In this section, the applicant is to give a detailed account of knowledge of the environmental conditions at the site. It provides the baseline description of geological, oceanographic and biological conditions against which impacts will be measured and assessed.

Regional overview

Provide a general description of the environmental conditions in the broad region of the site, including major oceanographic, geological and biological setting.

Studies completed

Description of any prior research/exploration activities which could provide relevant information for this EIA and future activities. These should be detailed in the appendices, and submission of the environmental reference baseline data collected for the Authority, as outlined in exploration licence conditions; Section III of the "Recommendations for the guidance of contractors for the assessment of the possible environmental impacts arising from exploration for polymetallic nodules in the Area" (ISBA/16/LTC/7) should accompany this EIS.

Description of existing environment (geo/bio)

Construction and operating standards

This section should outline the design codes to which the equipment will be built, as well as the health and safety standards that will be applied.

- **Design codes**
- **Health and safety**

Commissioning

Decommissioning and closure

- **Offshore infrastructure**
- **Onshore facilities**

Development timetable (Detailed schedule)

Description of the overall timetable, from implementation of the mining programme through to decommissioning and closure of operations. This should include the major phases of the operation, as well as the milestone dates on which relevant tasks are expected to be completed. Information on the development timetable provided under this section should clearly communicate the different phases in the development proposal. For reasons of clarity, a Flow chart, Gantt or PERT chart should be used where appropriate. Information provided in this section should include, but not be limited to, the following:

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Special considerations for site

Description of any notable characteristics of the site, whether geological, oceanographic or biological, such as hydrothermal venting, seamounts, high-surface productivity, eddies and endemic fauna.

Meteorology and air quality

Geological setting

Description of the general geological landscape and topographic features of the site.

Physical oceanographic setting

Description of oceanographic aspects such as currents, sedimentation rates.

Water quality

Description of water mass characteristics at the site at various depths, including nutrients, particle loads, temperature and dissolved gas profiles, etc.

Sediment characteristics

Description of substrate composition with special reference to sediment composition, pore water profiles, and grain size.

Biological environment

This section is divided by depth regime into a description of the various biological components and communities that are present in or utilize the water column and seabed in the region of the site.

Pelagic

From the surface down to 200m. This includes plankton, surface/near surface fish, such as tunas, but also utilization by seabirds and marine mammals.

Midwater

Open water from a depth of 200m down to the seafloor. This includes zooplankton, mesopelagic and bathypelagic fishes and deep-diving mammals.

Benthic

Benthic invertebrate communities, including infauna and demersal fish. This should include considerations of species richness, biodiversity, faunal densities and community structures.

Natural hazards

Description of volcanism, seismic activity, etc.

Noise

Description of ambient noise if any, influence of ongoing exploration and maritime activity.

Description of the existing onshore environment

Description of the conditions of any onshore processing operation, as well as any relevant environmental information on transit lanes/areas.

Description of socio-economic environment

Socio-economic environment

If the project area occurs within an area used by fisheries, then this needs to be described here.

Existing resource utilization

Fisheries

Marine traffic

This section describes the non-project-related marine traffic occurring within the project area.

Other

This section will deal with other uses of the project area that are not related to fisheries or marine traffic (e.g. telecommunications cables, other mineral exploitation projects, etc.).

Cultural/historical resources

This section will deal with items of cultural/historical significance that occur within the project area (e.g. shipwrecks).

Socio-economic and socio-cultural issues

Issues that may arise within and outside of the project area should be identified, including whether this is a direct or indirect outcome of the physical, biological or socio-economic effects of the proposed development activity.

Onshore socio-economic environment

It is envisaged that this section will only be applicable to projects located within EEZs.

Environmental impacts, mitigation and management measures

In this section, the applicant is to provide a detailed description and evaluation of potential impacts of the mining operation to environmental components identified previously. The format should be consistent between and within sections, so for each component a description would be included of:

A. *the nature and extent of any impact;*

B. *measures that will be taken to avoid, mitigate or minimize such impact; and*

C. *what unavoidable impacts will remain.*

It is expected that some repetition will occur between sections, notably where an impact of the mining operation will affect several components of the environment at the site.

Description of potential impact categories

This section is an overview and description of general impact categories caused by the mining operation. This is not expected to be detailed, but introduce the major types of effect, such as habitat removal, crushing of animals, creation of sediment plumes, noise, light etc. A description should be included of any lessons learnt from activities during the exploratory phase of the programme (e.g. test mining trials).

Results of test mining operations

Description of the test mining activity

Location and scale of operation

Non-proprietary description of equipment used

Not much guidance given here, as it depends very much on the particular country and the particular site of interest

Environmental impacts: nature/mitigation/residual

Socio-economic environment

If the project area occurs within an area used by fisheries, then this needs to be described here.

Existing resource utilization

Fisheries

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This section describes the non-project-related marine traffic occurring within the project area.

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Results of test mining operations

Description of the test mining activity

Location and scale of operation

Non-proprietary description of equipment used

Non-proprietary description of ore recovered

Description of impact assessment activities

Sampling equipment, sample types, locations, replication, measurements, monitoring, etc.

Results of impact assessment activities

Reference paragraphs 17 and 18 of the "Recommendations for the guidance of contractors for the assessment of the possible environmental impacts arising from exploration for polymetallic nodules in the Area" (ISBA/16/LTC/7) and place full results in an appendix.

Air quality

Description of any effect on the air quality from the surface or subsurface operations.

Impacts and issues to be addressed

Environmental management measures

Residual impacts

Geological setting

Description of impacts the mining may have on the topography of the site or geological/geophysical composition.

Impacts and issues to be addressed

Environmental management measures

Residual impacts

Physical oceanographic setting

Description of effects on current speed/direction, sedimentation rates, etc.

Impacts and issues to be addressed

Environmental management measures

Residual impacts

Water quality

Description of effects such as sediment plume generation and clarity of water, particulate loading, water temperature, dissolved gas and nutrient levels etc., in all levels of the water column.

Impacts and issues to be addressed

Environmental management measures

Residual impacts

Sediment characteristics

e.g. changes in the sediment composition, grain size, density, pore water profiles.

Impacts and issues to be addressed

Environmental management measures

Residual impacts

Environmental impacts: nature/mitigation/residual

Biological communities

Description of the effects on individuals, communities, populations and meta-populations from the proposed activity.

Pelagic

Includes plankton, surface/near-surface fish, such as tunas, but also seabirds and marine mammals.

Impacts and issues to be addressed

Environmental management measures

Residual impacts

Midwater

Includes zooplankton, mesopelagic and bathypelagic fishes and deep-diving mammals.

Impacts and issues to be addressed

Environmental management measures

Residual impacts

Benthic

e.g. Benthic epifaunal and infaunal invertebrate communities and demersal fish.

Impacts and issues to be addressed

Environmental management measures

Residual impacts

Natural hazards

e.g. Volcanic eruptions, seismic activity, sea floor instability and tsunami.

Impacts and issues to be addressed

Environmental management measures

Residual impacts

Noise

Noise above existing levels

Impacts and issues to be addressed

Environmental management measures

Residual impacts

Greenhouse gas emissions and climate change

Effects of surface/subsurface activities on GHG emissions and any activity that may affect water acidity.

Estimated GHG emissions

GHG emissions assessment

Maritime safety and interactions with shipping

Issues to be addressed

Mitigation and management measures

Project safety

Interaction with other vessels

Residual impacts

Biosecurity

e.g. ballast water issues and ship movement into the area and out for servicing /processing.

Issues to be addressed

Mitigation and management measures

Residual impacts

Waste management

Vessel waste management, with reference to compliance with relevant conventions, legislation or principles, methods of cleaner production and energy balance.

Impacts and issues to be addressed

Mitigation and management measures

Residual impacts

Cumulative impacts

Here the proposer should consider the nature and extent of any interactions between various impacts, where they may have cumulative effects.

Proposed operations impacts

Cumulative within the scope of the mining proposed herein.

Regional operation impacts

Cumulative between activities where known in the region.

On- and nearshore environment

Where appropriate this should contain a description of general issues related to transit from/to the site and port operation, etc. This subsection is to be developed in as much detail as appropriate, with emphasis on the particular circumstances of the mining operation and processing location.

Issues to be addressed

Mitigation and management measures

Residual impacts

Socio-economic impacts

In this section, the applicant is to provide a description and evaluation of potential impacts of the mining operation to previously identified socio-economic components. The format is consistent between sections.

Existing resource utilization

Fisheries

Issues

Mitigation and management

Residual impacts

Socio-economic impacts: nature/mitigation/residual

Project safety

Interaction with other vessels

Residual impacts

Biosecurity

e.g. ballast water issues and ship movement into the area and out for servicing /processing.

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Issues to be addressed

Mitigation and management measures

Residual impacts

Socio-economic impacts

In this section, the applicant is to provide a description and evaluation of potential impacts of the mining operation to previously identified socio-economic components. The format is consistent between sections.

Existing resource utilization

Fisheries

Issues

Mitigation and management

Residual impacts

Marine traffic

Issues

Mitigation and management

Residual impacts

Other (e.g. telecommunications)

Issues

Mitigation and management

Residual impacts

Cultural/Historical resources (e.g. shipwrecks, IUCN natural world heritage sites)

Issues

Mitigation and management

Residual impacts

Socio-economic and socio-cultural issues

This section will provide a description of elements of economic benefit or impact, community development, industry diversity and skills development, migration and community conflicts.

Issues to be addressed

These include aspects, such as supply chain, utilities, access to water, fuel, and impact to local communities in terms of access to supplies.

Mitigation and management measures

e.g. project benefits, consultation efforts, etc.

Residual impacts

Accidental Events and Natural Hazards

Environmentally hazardous discharges resulting from accidental and extreme natural events are fundamentally different from normal operational discharges of wastes and waste waters. This section should outline the possibility/probability of accidental events occurring, the impact they may have, the measures taken to prevent or respond to such an event, and the residual impact should an event occur.

Extreme weather

Issues to be addressed

Mitigation and management measures

Residual impacts

Natural hazards

e.g. volcanic eruption, seismic events, landslides and soil erosion.

Issues to be addressed

Mitigation and management measures

Residual impacts

Environmental management etc

Accidental events

e.g Hazardous material leakage or spillage, fire and explosion, collisions, including potential loss of equipment.

Issues to be addressed

Mitigation and management measures

Residual impacts

Environmental management, monitoring and reporting

Sufficient information should be provided to enable the Authority to anticipate possible environmental management, monitoring and reporting requirements for an environment permit. Information listed should reflect the proponent's environmental policy (Environment Management System) and the translation of that policy to meet the requirements under this section and previous sections during different stages in the project life, i.e. from operations to decommissioning and closure. Information detailed in this section should include, but not be limited to, the headings below.

Organizational structure and responsibilities

This section should show how the Contractor's environmental team fits into its overall organizational structure. Responsibilities of key personnel should be outlined.

Environmental Management System (EMS)

It is understood that a full EMS may or may not exist at the EIS submission stage. This section should outline the standards that will be considered and/or aligned with in developing the EMS for the project.

Environmental Management Plan (EMP)

An EMP will be submitted as a separate document for the Authority's approval prior to exploitation operations commencing. This section should provide an overview of what an EMP would entail. This section shall include, as a minimum, the following headings.

Mitigation and management

This section should summarize the actions and commitments that have arisen from the impact minimization and mitigation strategies.

Monitoring plan

This section should summarize the monitoring plan approach and programme. For development proposals associated with nodule exploitation, Contractors should take into account sections IV(D) and IV(E) of the "Recommendations for the guidance of contractors for the assessment of the possible environmental impacts arising from exploration for polymetallic nodules in the Area (ISBA/16/LTC/7).

Approach

Programme

This section should provide an overview of the envisaged monitoring programme (it is noted further detail will be provided in the EMP).

Closure plan

It is expected that a closure plan will be submitted as a separate document for the Authority's approval. However, this section should provide an overview of what the closure plan will entail, including decommissioning, continued monitoring and rehabilitation measures, if applicable.

Reporting

Monitoring

Results of monitoring studies should be reported to the Authority.

Incident reporting

Any incidents must be reported.

Study team

This section should outline the people involved in carrying out the Environmental Impact Assessment studies and in writing the environmental impact statement. If independent scientists or other experts were involved in any of the work, they should be listed under "EIS Specialist Sub consultants".

Proponent

Lead environmental consultant(s)

EIS specialist sub-consultants

References

This section should provide details of reference materials used in sourcing information and/or data used in the Environmental Impact Statement.

Glossary and abbreviations

Annex

All supporting studies should be attached in an annex.

Experience in NZ….

- EMOM143: A NIWA project for the NZ government looking at providing science-based guidance for supporting an Environmental Management System for offshore deep-sea mining
  - includes advice on standardising components of ERA, EIA, EMP
- Took the ISA template, evaluated others, including O&G, evaluated it against our team experience, then got input from Industry and the NZ EPA
- Also some personal experience with KIOST using the template…
- Slightly modified the structure and headings

Comparison of chapter headings

ISA template	"NIWA" template
Executive Summary	Executive Summary
	Non-technical Summary
Introduction	1. Introduction
Policy, legal, administrative framework	2. Policy, legal, administrative framework
Stakeholder consultation	(later)
Description of proposed development	3. Project description
Development timetable	(included in project description)
Description of existing offshore environment	4. Description of existing physical environment
	5. Description of existing biological environment
	6. Description of existing onshore environment

ISA template	"NIWA" template
Socio-economic environment	7. Existing socio-economic environment
	8. Consultation
Environmental impact, mitigation, management	9. Assessment of impacts on physical environment and mitigation
	10. Assessment ……biological environment
	11. Assessment ……onshore environment
Socio-economic impacts	12. Assessment …socio-economic
Accidental events, natural hazards	(under physical-hazards)
Environmental management, monitoring, reporting	13. Recommendations for monitoring
Study team, References, Glossary, Annex	Glossary, References, Appendices

Comments on changes…

- Most sections very similar
- Industry and EPA preferred separation of physical and biological components (really only a format difference)
- Most sub-headings are similar-however, NIWA has a “key messages” and “summary” section of each major chapter
- Consultation was shifted to later to link with socio-economic section
- Social-community aspects of that chapter may be more “values” based, less scientific (is under review as to how we guide this…Maori iwi)
- Some of the sub-section headings were shifted

Comments (2)

- Structure of Description and Impacts is currently **BY DEPTH**
- This description of the biological environment (and subsequent assessment of impacts in section 10) can also be structured by "**RECEPTOR**" rather than by the depth range. With this approach, the description is based on the main biological groups:
  - Plankton (phytoplankton and zooplankton)
  - Mesopelagic fauna (fish, squids, macrozooplankton)
  - Fish (assemblages, pelagic, demersal species)
  - Marine mammals (cetaceans, pinnipeds)
  - Seabirds
- The issue of an ERA
  - Best done separately, so clearly transparent

Final points

- The ISA template is more an EIS than an EIA, but covers what managers expect (and need) in an EIA process
- The structure is based on the Nautilus EIS, accepted in the PNG context
- For application to generic NZ resources (O&G, ironsands, SMS, nodules), and in consultation with Industry and Government agencies, a slightly different structure has been developed.
- There are numerous EIA formats, and experienced EIA people in this room to comment on how this template fits with PICT needs…

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A primer for the Environmental Impact Assessment of mining at seafloor massive sulfide deposits

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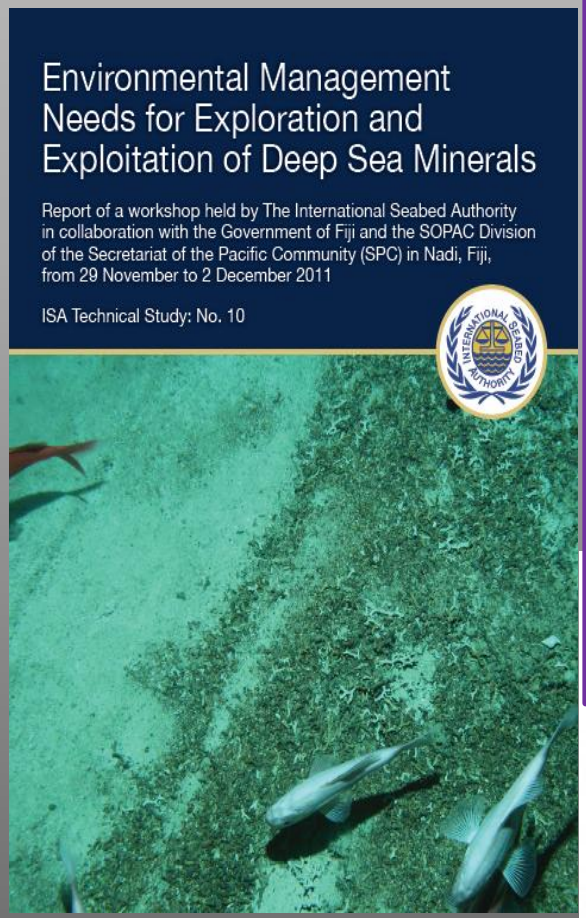

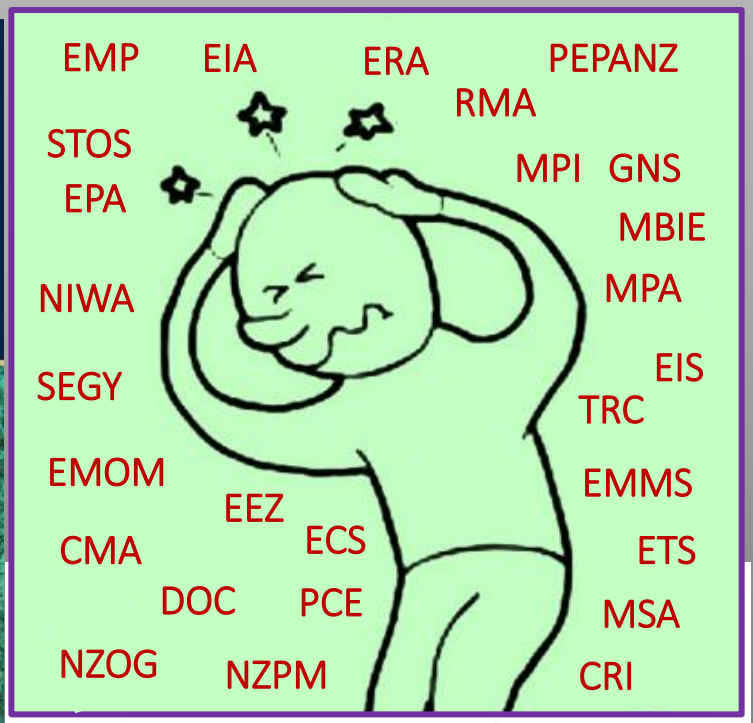

Code for Environmental Management of Marine Mining

Originally Adopted by the
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UNEP

Environmental Impact Assessment and Strategic Environmental Assessment: Towards an Integrated Approach