Environmental Best Practice Guidelines for the Offshore Petroleum Industry

March 2006
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1. Context

1) The Government’s key Policy Objective for petroleum is to promote the responsible discovery and development of New Zealand’s petroleum resources that contribute substantially to the New Zealand economy.

2) Petroleum exploration, development and production activities are predominantly onshore based. However, recently there has been substantial offshore exploration activity, both within and beyond the Territorial Sea, some of which has resulted, and/or which may result in, commercial development.

3) New Zealand’s marine environment is comprised of diverse ecosystems and species. Many of these are endemic and some are endangered. The marine environment could be impacted by offshore exploration, development and production activities. The protection of these marine systems and species is important, both in a domestic and an international context, because they may have biological, commercial or amenity value.

4) Activities within New Zealand’s Territorial Sea are subject to the environmental management provisions of the Resource Management Act 1991.

5) A number of Government agencies have statutory responsibilities for granting permission for particular activities that may occur in New Zealand’s Exclusive Economic Zone and Continental Shelf beyond the Territorial Sea. It is acknowledged that the regulatory and policy frameworks dealing with the environmental impacts of activities in the Exclusive Economic Zone and Continental Shelf beyond the Territorial Sea, are neither comprehensive nor coherent.

6) The resultant uncertainty may introduce inefficiency and confusion for both companies who undertake petroleum exploration and production activities (the ‘Industry’) and Government, thus undermining aspects of the Policy Objective noted in 1) above.

7) Until there is an Oceans Policy, Industry and Government agree to voluntary principles to manage environmental impacts beyond New Zealand’s Territorial Sea. This set of voluntary principles is known as the ‘Guidelines’.

8) Both Industry and Government stakeholders have contributed significantly to the development of the Guidelines.

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2. Purpose, Scope and Boundaries

2.1 Purpose

The Guidelines are voluntary principles to assist Industry to identify, assess and manage environmental impacts associated with petroleum exploration, development and production activities in New Zealand’s Exclusive Economic Zone and Continental Shelf beyond the Territorial Sea.

In particular, the Guidelines seek to:

• establish a voluntary approach to identifying and managing environmental impacts

• provide Industry and Government with clarity on the current regulatory and voluntary requirements

• provide for dialogue between Industry and Government to address opportunities and issues.

2.2 Scope and Boundaries

The Guidelines encompass petroleum exploration, development and production activities undertaken in New Zealand’s Exclusive Economic Zone and Continental Shelf beyond the Territorial Sea.

The Guidelines provide assistance on environmental assessment and management relating to these petroleum-related activities where the environmental requirements in the Exclusive Economic Zone and Continental Shelf beyond the Territorial Sea are not adequately covered by other legislation, policies or guidelines.

The Guidelines do not address such activities or issues:

• being undertaken within the current jurisdiction of the Territorial Sea (12 mile limit), and which are generally addressed via the Resource Management Act 1991

• related to the allocation of resources and the occupation of space.

The Guidelines are not intended to be legally enforceable. They do not restrict any power or discretion under any statute. Furthermore, nothing in the Guidelines removes the need to comply with other laws, regulations, rules, standards, guidelines or other such articles that are relevant to any activities that are undertaken by the Industry in the Exclusive Economic Zone and Continental Shelf beyond the Territorial Sea.
3. Principles

1) While promoting the economic development of offshore oil and gas reserves, all activities undertaken by Industry in the Exclusive Economic Zone and Continental Shelf beyond the Territorial Sea, will be carried out in an environmentally responsible, open and transparent manner.

2) Operators undertake to conduct all activities to the standard of a Reasonable and Prudent Operator, and undertake to ensure such standards extend to all aspects of their operations including environmental management principles and practices pertaining to the Exclusive Economic Zone and Continental Shelf beyond the Territorial Sea.

3) Absence of full scientific certainty should not be used as a reason to postpone cost-effective measures to prevent environmental degradation.

4) While undertaking petroleum exploration, development and production activities in the Exclusive Economic Zone and Continental Shelf beyond the Territorial Sea, Industry shall adopt and apply the best practicable options to minimise or prevent adverse effects on:
   - the marine environment, including marine habitats and communities
   - the distribution, abundance and productivity of species, in particular endangered or threatened species or populations of such species
   - air and water quality.

5) Consideration should also be given to:
   - the efficient use of energy, water, materials and transport
   - appropriate waste management procedures for the prevention, minimisation, recycling, treatment and disposal of waste
   - life-cycle impacts of procurement decisions
   - appropriate procedures to avoid off-shore installations introducing exotic organisms by fouling and ballast water
   - appropriate procedures to avoid any exotic organisms being transferred around New Zealand’s coastal marine environment by hull fouling on service vessels.

6) The Government is responsible for policies and regulations that support sustainable development. Industry shall use these Guidelines in alignment with the applicable policies and regulations (refer to Annex 2).

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2 Annex 2 provides an overview of legislation, guidelines and policies that may apply to the Industry in the Exclusive Economic Zone and Continental Shelf beyond the Territorial Sea.
4. General Protocols

4.1 Consultation

In respect of the Guidelines, individual Operators should undertake consultation with:

- Biosecurity New Zealand
- Department of Conservation
- Maritime New Zealand
- Ministry of Economic Development
- Ministry for the Environment
- Ministry of Fisheries
- Ministry of Foreign Affairs and Trade
- Regional Councils that may potentially be affected
- Other parties as they see fit.

4.2 Data and Information

Environmental assessment requires environmental data and information. In some areas (e.g., offshore Taranaki), there is significant data and information, while other areas are not so well endowed.

Where environmental data and information is sparse, and base-line assessment is difficult, both Industry and Government agencies have a role to play in identifying, collating and making available existing environmental information relevant to the Exclusive Economic Zone and Continental Shelf beyond the Territorial Sea. The collection and reporting of such information will, over time, provide a more comprehensive baseline on which to base decisions.

Data and information is often proprietary. Where this is the case, Industry has established practices and mechanisms for trading and exchanging data and information. Operators are encouraged to make relevant environmental information and data available in accordance with those established practices.

The Guidelines differentiate between exploration and development/production activities. The Guidelines recognise that, with the possible exception of biosecurity issues, exploration activities are generally short-term events that result in minimal and transient environmental impact.

Therefore, the requirements set out below refer specifically to petroleum development and production activities.

5.1 Environmental Assessment

Operators shall undertake an environmental assessment to address significant potential impacts on the marine environment. The Operator will develop strategies, procedures and practices to manage and/or mitigate those specific impacts of their activities.

The environmental assessment should take account of:

• the scope of the activity including its area, duration and intensity
• the cumulative impacts of the activity, both by itself and in combination with other activities in the marine environment
• the availability of technology and procedures to provide for environmentally safe operations
• the practicality of, and capacity to, monitor key environmental parameters and ecosystem components to assure a pro-active environmental management approach that is responsive to the results of the monitoring
• the capacity to respond promptly and effectively to incidents, particularly those with potential significant and adverse environmental effects
• ensuring that the quality of information provided for decision-making purposes, matches the scale and significance of potential adverse effects.

Annex 1 is an activity matrix that describes the activities, potential effects, and an indication of the applicable regulatory framework.

5.2 Health, Safety and Environment Case

Operators shall prepare and maintain a ‘Health, Safety and Environment Case’ to support its development and production activities. This is an extension of the ‘Safety Case’ as described in Schedule 4 of the Health and Safety in Employment (Petroleum Exploration and Extraction) Regulations 1999. International Industry best practice is to extend the scope of the Safety Case to include potential risks to/from the environment, thus delivering what Industry refers to as the ‘Health, Safety and Environment Case’. Another commonly used term is ‘Environmental Management Plan’.
The Health, Safety and Environment Case should accurately record all necessary environmental management and operational procedures, methodologies and contingency plans. It should identify any potential or actual environmental issues and effects the Operator’s activities may have and provide the company’s commitments and procedures to manage, monitor and mitigate potential and actual effects. The Health, Safety and Environment Case should also endeavour to achieve best international practices at reasonable costs.

5.3 Monitoring and Reporting

Consistent with the outcomes of the Environmental Assessment and the Health, Safety and Environment Case, Operators will undertake regular and effective self-monitoring of development and production activities. This may include, but is not limited to:

- development and maintenance of management systems to identify, control and monitor environmental risks
- monitoring environmental effects and assessing environmental performance during development and production phases
- modifying petroleum exploration or production activities if monitoring shows that they are causing or will result in adverse impacts on the marine environment.

5.4 Training and Education

Operators shall provide appropriate training and education to employees and contractors about environmental protection. This should include both how environmental protection is to be achieved and the environmental and other consequences of non-compliance with these procedures.
Glossary

Activities
Petroleum exploration and production activities undertaken in the Exclusive Economic Zone

BA
Biosecurity Act 1993

CM(P)R
Crown Minerals (Petroleum) Regulations 1999

Continental Shelf
As defined in s2(s) of the Continental Shelf Act 1964

CSA
Continental Shelf Act 1964

Exclusive Economic Zone
See s9 of the Territorial Sea, Contiguous Zone and Exclusive Economic Zone Act 1977

HASIE
Health and Safety in Employment (Petroleum and Extraction) Regulations 1999

HSNO
Hazardous Substances and New Organisms Act 1996

IHS
Import Health Standard under the Biosecurity Act 1993

IMO
International Maritime Organisation

Industry
The industry comprises companies who undertake petroleum exploration and production activities

Lessee
Licensee or person in charge of the installation

Marine environment
Within the geographic scope of the ‘Guidelines’, the “marine environment” means: the natural and biological resources comprising any marine ecosystem within the Exclusive Economic Zone’s waters, seabed and subsoil including both the living and nonliving components of marine ecosystems, and the ecological patterns and processes that occur within marine ecosystems.

Maritime NZ
Maritime New Zealand

MARPOL
International Convention for the Prevention of Pollution from Ships 1973/78

MED
Ministry of Economic Development

MFE
Ministry for the Environment

MMPA
Marine Mammals Protection Act 1978

MTA
Maritime Transport Act 1994

Operator
In relation to any offshore installation includes any manager, lessee, licensee or person in charge of the installation
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPRC</td>
<td>International Convention on Oil Pollution Preparedness, Response and Cooperation 1990</td>
</tr>
<tr>
<td>PEPANZ</td>
<td>Petroleum Exploration and Production Association of New Zealand</td>
</tr>
<tr>
<td>Reasonable and Prudent Operator</td>
<td>A person acting in good faith to perform contractual obligations while exercising that degree of skill, diligence, prudence and foresight which would ordinarily and reasonably be expected from an experienced operator complying with applicable laws and demonstrating sound environmental practices in similar circumstances.</td>
</tr>
<tr>
<td>RMA</td>
<td>Resource Management Act 1991</td>
</tr>
<tr>
<td>SCPPA</td>
<td>Submarine Cables and Pipeline Protection Act 1996</td>
</tr>
<tr>
<td>Territorial Sea</td>
<td>As defined in s3 of the Territorial Sea, Contiguous Zone and Exclusive Economic Zone Act 1977</td>
</tr>
<tr>
<td>TSCZEEZA</td>
<td>Territorial Sea, Contiguous Zone and Exclusive Economic Zone Act 1977</td>
</tr>
<tr>
<td>WA</td>
<td>Wildlife Act 1953</td>
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</tbody>
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## ANNEX 1: Activity Matrix

The activity matrix below describes offshore exploration, development and production activities and their potential effects. It also provides an indication of the policy or regulation applicable to the activity. Note that this activity matrix is intended as a guide only and is not exhaustive.

<table>
<thead>
<tr>
<th>CATEGORY / OPERATION</th>
<th>ACTIVITY</th>
<th>POTENTIAL ADVERSE EFFECTS</th>
<th>POLICY / REGULATED</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Seismic Operations</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Seismic Operations</td>
<td>• Temporary navigation restriction</td>
<td>• MTA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Physical impact on marine life, wildlife and marine mammals</td>
<td>• Voluntary agreement</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Temporary displacement of marine life, wildlife and marine mammals, or impact on communication and behaviours</td>
<td>• MMPA / WA</td>
</tr>
<tr>
<td><strong>Platform Installation (Temporary)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Temporary deployment of Anchors /Jack-up Rig</td>
<td>• Physical disturbance on seabed</td>
<td>• IHS for ballast water</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Introduction of exotic invasive marine species</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Displacement of marine life, wildlife and marine mammals</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Temporary Drill Rig</td>
<td>• Introduction of exotic organisms via hull fouling/ballast water</td>
<td>• IHS for ballast water; BA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Voluntary codes for hull fouling</td>
<td>• Voluntary codes for hull fouling</td>
</tr>
<tr>
<td><strong>Platform Installation (Permanent)</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fixed Permanent Installation eg Jacket, CGS</td>
<td>• Physical disturbance of seabed</td>
<td>• MED; Maritime NZ; MTA; SCPPA; MARPOL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Acoustic disturbance of marine life, wildlife and marine mammals</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>• Displacement of marine life, wildlife and marine mammals</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Floating Permanent Installation eg FPSO, FSO, TLP etc</td>
<td>• Introduction of exotic organisms via hull fouling / ballast water</td>
<td>• MED; Maritime NZ; MTA; SCPPA; MARPOL</td>
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<tr>
<td></td>
<td></td>
<td>• IHS for ballast water; BA</td>
<td>• IHS for ballast water</td>
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<td></td>
<td></td>
<td>• Voluntary codes for hull fouling</td>
<td>• Voluntary codes for hull fouling</td>
</tr>
<tr>
<td><strong>Drilling</strong></td>
<td>Physical Impact</td>
<td>• Underwater noise</td>
<td>• MMPA</td>
</tr>
<tr>
<td></td>
<td>Discharge of Drilling Cuttings</td>
<td>• Accumulation of contaminated material</td>
<td>• Maritime NZ</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Smothering of Benthos</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>• Physical obstruction</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Turbidity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Discharge of drilling fluids</td>
<td>• Toxicity</td>
<td>• MTA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Turbidity</td>
<td></td>
</tr>
<tr>
<td>CATEGORY / OPERATION</td>
<td>ACTIVITY</td>
<td>POTENTIAL ADVERSE EFFECTS</td>
<td>POLICY / REGULATED</td>
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</tr>
</tbody>
</table>
| Discharge to water (Operational) | Produced water | • Toxicity  
• Floating oil | • MTA |
| Cooling Water | • Thermal  
• Toxicity | | |
| Organic waste | • Pathogens  
• Turbidity | | |
| Discharge to water (Accidental) | Oil Spills | • Marine life, wild life and marine mammals  
• Physical/shoreline/amenity  
• Economic  
• Toxicity | • MTA; RMA |
| Chemical Spills | • Marine life, wild life and marine mammals  
• Toxicity | | • MTA |
| Discharge to Air | Flaring | • Climate change  
• Possible attractant to sea birds | • MFE  
• CM(P)R; WA |
| GHG Emission (non flaring) | • Climate Change | | • MFE |
| Plant & Machinery emissions | • Access restrictions | | • None |
| Tank Venting | • Climate Change | | • MFE |
| Presence of Structure | Exclusive occupation of platform footprint | • Access restrictions | • None |
| Exclusion zones | | | • CSA; MTA; TS.EEZA |
| Restricted Areas; Protection Zones | | | • SCPPA; MTA |
| Security | | | • Police; Military |
| Operation and Maintenance | | • Noise  
• Light  
• Handling of hazardous materials | • MMPA; WA; MTA; HSNO; HASIE |
| Waste Management | Food waste | | • MTA |
| Garbage | | | |
| Commercial Waste | | | |
| Ancillary Operations | Helicopters | | • Civil Aviation |
| Support Vessels | • Introduction of exotic organisms via hull fouling/ballast water | | • MARPOL; IMO; OPRC; MTA; BA  
• IHS for ballast water  
• Voluntary codes for hull fouling |
| At Sea Disposal | Ancillary structures and Platform Abandonment | | • MTA |
ANNEX 2:
Applicable Legislation, Guidelines and Policy

Legislation and Guidelines


3. The New Zealand Import Health Standard for Ballast Water from all Countries under the Biosecurity Act 1993.


Policies


4. Climate change policy (see www.climatechange.govt.nz).

Specifically Marine Protection Rules Parts 124 (Offshore Installations) and 170 (Prevention of Pollution by Garbage from Ships & Offshore Installations), both to be subsumed by 200 (Offshore Installation Discharges), plus 102 (Certificates of Insurance & Amendment), 132 (Dispersants & Demulsifiers) and 180 (Dumping of Waste or Other Matter). Various other rules apply to normal operations of ancillary vessels.