Indo-Pacific Offshore Oil and Gas Safety and Security
Managing Regional Risks

Lee Cordner

Key Points:

- Indo-Pacific offshore oil and gas exploration and exploitation activity is expanding massively in economically and strategically important, environmentally sensitive areas. The risks of offshore oil and gas safety and security incidents that could have regional economic, environmental, human, food, and energy consequences are rising.

- In addition to man-induced incidents, the often crowded waters of the Indo-Pacific are particularly prone to natural hazards like extreme weather events and seismic activity. The possibility of armed conflict at sea, law and order issues, increasing maritime user intensity, decommissioned installations, and jurisdictional uncertainty add to concerns.

- Measures to deal with large scale offshore oil and gas safety and security events are often not well developed. Vulnerabilities arise from the lack of capacity and the lack of regional coordination regimes to prevent, respond to and recover from incidents.

- Some regional states are not parties to relevant international regimes; collective and cooperative maritime safety and security arrangements are lacking. Collaboration between states and other actors: regional entities and industry, is necessary and presents mutually beneficial opportunities; progress should be a high priority.

- Realistic and uncomfortable expectations must be faced. Sovereignty issues combined with greed for energy resources and commercial benefit may well continue to dominate. The likelihood of offshore oil and gas safety and security disasters in the Indo-Pacific, with major regional consequences, will continue to rise.

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Lee Cordner was co-chair of the Council for Security Cooperation in the Asia-Pacific (CSCAP) Study Group on offshore oil and gas safety and security. He presented the outcomes to an ASEAN Regional Forum (ARF) Inter-Sessional Meeting on Maritime Security at Seoul, South Korea in April 2013. Lee is a doctor of philosophy candidate at the Indo-Pacific Governance Research Centre, University of Adelaide. He was a Principal Research Fellow at the Australian National Centre for Ocean Resources and Security, University of Wollongong; and formerly CEO of Future Directions International Pty Ltd, a think-tank based in Perth. He served full-time in the Royal Australian Navy for 33 years and commanded several warships; he continues to serve as a Commodore in the naval Reserve. Email: lee.cordner@adelaide.edu.au.
Introduction

Massive increases in offshore oil and gas exploration and exploitation activity and investment in the Indo-Pacific region are driven by economic growth in Asia and the associated rising demand for energy. The competition for access to new offshore oil and gas fields is expected to intensify over the next two decades. How well the nations and companies involved are able to manage resultant safety and security risks will be critical to regional stability. Economic and energy security, and potentially, environmental, human and food security will be impacted. The pursuit of national and commercial objectives is generating the convergence of interests and uncertainties, and therefore significant and often shared risks. Risk mitigating options need to be urgently and collaboratively considered by multiple actors: nation-states, regional cooperative entities, and industry. The issues outlined in this policy brief were considered by a Council for Security Cooperation in the Asia Pacific (CSCAP) Study Group (CSCAP 2011) and were presented to an ASEAN Regional Forum (ARF) Inter-Sessional Meeting (ISM) on Maritime Security held in Seoul, South Korea in April 2013. A full analysis that supports the recommendations and conclusions outlined in this policy brief is available in an RSIS Monograph (Cordner 2013).

The geographic coverage of this policy brief extends from Russia’s Pacific coast south through the western Pacific Ocean to the northeast Indian Ocean including waters to the northwest of Australia, the Andaman Sea, Bay of Bengal, and India. A primary area of interest is the South China Sea and, to a lesser extent the East China Sea, due to the proliferation of offshore oil and gas activity in waters claimed by numerous littoral states. Capital expenditure on offshore oil and gas development in the region is expected to exceed $US 90 billion during 2011-2015, a 55 per cent increase from the previous five-year period (Kliwer 2012). According to industry sources, there are 441 projected oil and gas fields under consideration involving thousands of exploratory drillings. By far the greater proportion of the activity, 237 fields, is occurring in the South China Sea (Infield Systems Ltd 2012).

Offshore Oil and Gas Safety and Security Risks

There have been notably few major safety and security incidents around the world’s oceans over the past 50 years given the geographic extent, scale and expanding proliferation of offshore oil and gas activities and facilities. However, numerous well publicised major safety and security incidents have produced significant consequences, including loss of human life and environmental disasters. Incidents have generated significant economic impacts with national, regional and global consequences, at least in the short-term.

Many offshore oil and gas safety incidents around the world have been attributed to man-induced hazards resulting from human error, technology or equipment failures, regulatory failures, or a combination of these. Further, the Indo-Pacific region has the highest incidence of natural hazards in the world from extreme weather events and seismic activity, with the former projected to increase due to climate change. The possibility of armed conflict at sea; law and order issues; increasing maritime user intensity; decommissioned installations; and jurisdictional uncertainty add to security and safety concerns in economically and strategically important, environmentally sensitive areas. Should major incidents occur in waters with overlapping and adjacent sovereignty claims, like the South and East China Seas and the Bay of Bengal, significant questions of littoral state responsibility and accountability, and multi-jurisdictional response, recovery and compensation will arise.

In the Indo-Pacific region, measures to deal with large scale offshore oil and gas safety and security incidents are often not well developed. Despite recent initiatives to enhance disaster response mechanisms and cooperation across the Indo-Pacific through regional cooperative entities like ARF, East Asian Summit (EAS), and the South Asian Association for Regional Cooperation (SAARC), the focus has been
primarily onshore with little effort so far applied to address disasters at sea, and particularly arrangements to deal with large scale offshore oil and gas safety and security incidents. As evident elsewhere in the world, responses to catastrophic accidents with significant environmental, human and food security consequences are unlikely to be adequate. Vulnerabilities arise from the lack of capacity and lack of coordination regimes to prevent, respond to and recover from incidents; and the lack of regional cooperative arrangements for maritime safety and security.

The key message from both the West Atlas Commissioner’s Report (Borthwick 2010) and the Deepwater Horizon Commission of Inquiry (National Commission 2011) that should resonate across the region is lax regulation and industrial complacency combined with driving political and commercial expediency work together to build cumulative risks that ultimately create circumstances where systemic, organisationally induced accidents are certain to occur. Effective risk management requires partnerships between regulators and those being regulated, between governments and industry, where each partner performs its role diligently and with integrity. Governance arrangements and relationships are critical. The regional maritime geography and geopolitical context of the Indo-Pacific magnifies these imperatives.

Managing the Risks

Risk management is fundamentally about adopting a structured approach to dealing with uncertainty. ISO 31000:2009 Risk management - Principles and guidelines (Australian/New Zealand Standard 2009) presents internationally accepted best practice frameworks and guidelines for managing risk. ISO 31000 is widely used by industry around the world, is mandated for use in many jurisdictions and by international industry bodies, and is increasingly being adopted by governments.

The risks generated by major offshore oil and gas activity have regional, national and industry dimensions. Major offshore oil and gas safety and security incidents will have security, economic, environmental and human consequences that are likely to be felt beyond individual national jurisdictions and company operations (Cordner 2011). This circumstance is particularly likely in the interconnected littoral geography found in parts of the Indo-Pacific region.

The requirements of effective risk management at the national and regional level include:

- Defining the risk context;
- Identifying key risks and vulnerabilities that may impact safety and security;
- Rigorous and ongoing assessments by competent and experienced individuals, and responsible organisations, of the likelihood and consequences of risks arising;
- Formulating policy and actions to mitigate risks so that they are reduced to as low as reasonably practicable;
- The acceptance of residual risk (i.e. risk that is unable to be fully mitigated) by responsible authorities, where necessary;
- Formulating risk prevention, response and recovery options, arrangements, processes and mechanisms; and
- Developing regional collaborative arrangements and mechanisms to deal with cross-jurisdictional and multi-jurisdictional risks, and incident prevention, response and recovery.

Risk Responses

There is little evidence so far that all regional governments and industry are paying attention to the rising, cumulative risks to safety and security generated by increasing offshore oil and gas activity. Regional states appear to be consumed by the
rush to claim and exploit as much of the valuable resources as possible. While the regulatory context and effectiveness will vary across Indo-Pacific maritime domains experience elsewhere in the world has shown that arrangements are often found to be wanting. Collaboration between states and other actors, particularly regional cooperative entities and industry, is necessary, presents mutually beneficial opportunities, and is therefore logical. The strategic, economic and environmental interests of regional states and other actors will be enhanced by pursuing cooperative activity at sea; they will remain diminished until this occurs.

In the Indo-Pacific region, industry, national and regional cooperative measures to deal with large scale offshore oil and gas safety and security incidents are often not well developed. Resultant factors that present significant vulnerabilities include: the lack of capacity and coordination regimes to prevent, respond to and recover from security attacks; cooperative arrangements for maritime safety and security, including maritime traffic, are underdeveloped; search and rescue, disaster management and emergency response arrangements and measures at sea are not adequately developed; and regional capacities to deal with the environmental consequences of catastrophic accidents are unlikely to be adequate.

**International Policy Recommendations**

Indo-Pacific states and regional cooperative bodies, in concert with industry partners, are urged to consider the following actions:

- Offshore oil and gas safety and security should feature as a major and discrete agenda item with regional safety, security, economic, environmental and disaster response cooperative bodies. Entities like ARF, EAS, SAARC, and the Indian Ocean Rim Association for Regional Cooperation (IORARC), and relevant subordinate agencies, should commission independent expert working groups directed to prepare proposals to develop and enhance regional measures.
- A significant and essential initial activity of such working groups should be to conduct strategic, all-factors offshore oil and gas benchmark risk assessments in order to establish objective foundations for individual, cooperative and collective risk management initiatives.
- States should, as a matter of priority, accede to international maritime and marine safety, security and environmental protection conventions and protocols (see Annex A). Associated national legislation, regulations and capabilities, and regional cooperative arrangements would follow. Specifically, regional states should establish and where they already exist, enhance regional cooperative regimes to deal with:
  - maritime search and rescue;
  - marine environmental protection including pollution, dumping and decommissioning of offshore installations;
  - maritime safety and security arrangements to include incidents at sea protocols;
  - establishing common, best practice approaches to offshore oil and gas safety and security regulation, to include industry engagement, this may include creating regional government-industry cooperative agencies to provide advice and coordination;
  - develop individual state and collective offshore arrangements and capabilities for disaster management to include offshore oil and gas incidents prevention, recovery and response; and
  - shared scientific information to include: marine science, oceanographic, hydrographic, seismic, coastal and meteorology data in order to better understand and deal with the environmental impacts of incidents.
• Encourage regional states to resolve or set aside maritime boundary delimitation disputes in the interests of mutually beneficial economic, security, safety and environmental outcomes.
• UNCLOS Articles 122 and 123 (United Nations 1982) provide the international legislative foundation for targeted regional cooperative initiatives that should be acted upon, particularly in the South China Sea. The majority of Indo-Pacific states have ratified UNCLOS (see Annex A) and the South China Sea is generally recognised by littoral states as a semi-enclosed sea.
• Encourage all parties involved in offshore oil and gas safety and security, including states and industry, to adopt internationally recognised and proven risk management approaches.

Conclusions

As the Commissioners’ charged with investigating the Deepwater Horizon and West Atlas disasters concluded, it is not a matter of if major disasters will occur in the offshore oil and gas sector but when. There is every reason to extend those judgments to the Indo-Pacific. Given rapidly increasing offshore oil and gas activity, the extent of safety and security uncertainties and the lack of cooperative arrangements to prevent, respond to and recover from incidents, an uncomfortable conclusion must be drawn: offshore oil and gas disasters in the Indo-Pacific are inevitable. The only questions that remain to be answered are where, when and what the scale of the disasters will be, and how effective response and recovery arrangements will prove to be.

The onus lies with regional governments, cooperative entities and industry, supported by extra-regional governments with interests at stake, to ensure the risks are understood and that mitigation arrangements are in place. Industry, national and regional cooperative mechanisms, arrangements, protocols, equipments and training to prevent, respond to and recovery from incidents need to be prepared and tested before major incidents occur. Unfortunately, realistic and uncomfortable expectations must be faced. Sovereignty concerns and distrust between governments combined with greed for access to resources and commercial benefit are likely to remain dominant; unmitigated risks will continue to mount and the likelihood of offshore oil and gas safety and security disasters in the Indo-Pacific, with major regional consequences, will continue to rise.
References


Annex A Ratification or Accession of Relevant Treaties by Indo-Pacific States 2012 (CSCAP 2011)

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² International Maritime Organization. Status of Multilateral Conventions and Instruments in respect of which the IMO or its Secretary-General Performs Depositary or other functions 31 August 2012.
³ ratification ⁴ accession ⁵ acceptance ⁶ formal confirmation ⁷ approval ⁸ signatory ⁹ accession date not known

IPGRC Research Mission

A primary focus of our research agenda is on political dynamics of governance and institutional innovations in the provision of public goods and regulation especially as it relates to economic and social development in the region.

This will address issues relating to the organisation of markets and politics, and their effectiveness and fairness in addressing complex economic and social problems. It will also include an examination of the transformations of political organisation and authority at various scales—global, national, and regional—which have a bearing on the complex multilevel governance of the delivery of public goods and regulations.

The centre has a particular focus on the global and regional challenges arising from the shifting tectonic plates of economic and political power to the Indo-Pacific region.