

# **CSCAP MEMORANDUM NO. 16**

## **Safety and Security of Offshore Oil and Gas Installations**



**A Memorandum from the  
Council for Security Cooperation in the Asia Pacific (CSCAP)**

**January 2011**

## **CSCAP Memorandum No. 16**

### **SAFETY AND SECURITY OF OFFSHORE OIL AND GAS INSTALLATIONS**

#### **Introduction**

The number of offshore oil and gas installations in the waters of the Asia-Pacific region continues to grow rapidly, driven by the increasing demand for energy. Significant activities, including surveying and thousands of exploratory drillings, are underway or planned. This is expected to result in hundreds of new operational offshore oil and gas facilities.

Major safety incidents or attacks on the security of offshore facilities would have wider security, economic and environmental implications for the Asia-Pacific region. There have been many incidents involving offshore installations elsewhere in the world. Response and recovery efforts have required considerable application of resources and a high level of cooperation between neighboring countries. The increasing risks of similar incidents occurring in the Asia-Pacific region must be recognized. Cooperative arrangements for the prevention, response and recovery from offshore oil and gas safety and security incidents in the Asia-pacific region need to be reviewed and further developed.

This Memorandum identifies emerging safety and security issues and potential consequences due to Asia-Pacific offshore oil and gas proliferation. Risk mitigation and treatment options to be further explored and developed, as a matter of priority, are recommended. Regional governments need to give close attention to ensuring that industry, state and region-wide cooperative measures for the safety and security of offshore oil and gas installations are adequate. Regional disaster and emergency prevention, response and recovery measures also require urgent attention.

#### **Emerging Issues and Potential Consequences**

Emerging issues with potential safety and security consequences that arise from offshore oil and gas activity in the Asia-Pacific region include:

1. The proliferation of offshore oil and gas exploration and exploitation activities coupled with increasing maritime traffic in the region is resulting in increased maritime user intensity in some areas. Potential consequences include:
  - a. The likelihood of safety incidents is increased (e.g. collisions, oil spills, human errors, technological malfunctions, natural hazards);
  - b. The likelihood of terrorist attacks on the global energy sector, although low, remains. The increased risk to regional facilities must be considered, including non-conventional attacks intended to disrupt (e.g. cyber-attacks);
  - c. The likelihood of law and order at sea issues is increased (e.g. piracy/armed robbery); and

- d. The likelihood of unauthorized activities in close proximity to installations (e.g. fishing within safety zones) is increasing, presenting safety and security risks.
2. There is uneven adoption, compliance and interpretation of international regimes across the region. Annex A lists relevant international conventions, regional instruments and other documents. Annex B presents a summary of ratification or accession of key treaties by ARF/CSCAP Member States. Potential consequences include:
  - a. The possibility for misunderstandings between states in the region is increased;
  - b. Cooperative regional, national and industry prevention, response and recovery arrangements and measures are unnecessarily complicated and inefficient due to inconsistent approaches; and
  - c. Some regional states reputations as good citizens of the world are diminished by low levels of adoption and compliance.
3. The risk of catastrophic incidents resulting from natural hazards (e.g. typhoons/cyclones) and man-made accidents that may have regional as well as national implications is increasing. Potential consequences include:
  - a. The likelihood of massive environmental disasters that transcend national boundaries is increased;
  - b. Food security may be impacted by massive marine pollution;
  - c. Significant financial consequences may be incurred (e.g. increasing insurance premiums, clean-up costs, compensation, impact on world oil and gas prices); and
  - d. Damage to the reputation of regional states and industry, particularly if prevention, response and recovery arrangements are found to be wanting.
4. Industry, national and regional cooperative measures to deal with large scale offshore oil and gas safety and security incidents are generally not well developed. Potential consequences include:
  - a. The lack of capacity to prevent, respond and recover from security attacks presents significant vulnerabilities;
  - b. Cooperative arrangements for maritime safety and security, including maritime traffic, are impacted;
  - c. Search and rescue, disaster management and emergency response arrangements and measures are impacted; and
  - d. Regional capacities to deal with catastrophic accidents, including emergency preparedness, response and recovery arrangements are unlikely to be adequate.

5. The prospect of decommissioned offshore oil and gas platforms is increasing as older platforms near end of life. This will significantly increase in the future with the proliferation of new installations. Potential consequences include:
  - a. Hazards to navigation and other uses of the area will increase; and
  - b. Environmental hazards will increase.

### **Risk Mitigation and Treatment Options**

Risk mitigation and treatment options recommended for further development to address emerging offshore oil and gas safety and security issues in the Asia-Pacific region are as follows:

1. A regular and comprehensive assessment of the offshore oil and gas safety and security risk profile in the region is required. *ISO 31000:2009 Risk management - Principles and guidelines* provides useful guidance and is widely used by industry. Adopting a consistent approach to risk management would help to ensure that risk treatment, prevention, response and recovery arrangements and capabilities are in place and practiced before major incidents occur.
2. Regional states and consultative entities, like the ARF, are strongly encouraged to develop enhanced regional cooperative arrangements to include the following:
  - a. Maritime safety and security cooperative activities, including dialogue and consultation;
  - b. Disaster response and emergency management;
  - c. Regional search and rescue, including training and exercises;
  - d. Establish regional standards on marine pollution including dumping and environment/seabed management (this could take the form of a treaty as is already the practice in many other maritime regions);
  - e. Establish a regional approach to decommissioned platforms;
  - f. Regional environmental disaster response measures; and
  - g. Reference global best practices to improve regional arrangements.
3. Regional governments are urged to ratify, observe and effectively implement international conventions, regional instruments and other documents as a matter of priority. Matters requiring attention include:
  - a. 1982 UNCLOS;
  - b. 1988 SUA Convention and Protocol, 2005 SUA Protocol;
  - c. 1972 London Convention and 1996 Protocol for Prevention of Marine Pollution by Dumping of Waste;
  - d. 1974 SOLAS, including the ISPS Code;
  - e. OPRC 1990;
  - f. IMO Resolution A.672 (16) Guidelines for the removal of offshore installations;
  - g. 1979 International Convention on Maritime Search and Rescue;
  - h. 2002 ASEAN-China Declaration on the Conduct of Parties in the South China Sea; and

- i. 2005 ASEAN Agreement on Disaster Management and Emergency Response.
4. Encourage government-industry cooperative partnerships with appropriate sharing of responsibilities for prevention, response and recovery with the following considerations:
    - a. The responsibilities of governments and industry need to be fully addressed so that individual and shared regional, national and industry obligations are recognized and evaluated to ensure that there are no gaps;
    - b. Effective cooperation and consistency is required regionally, nationally and with industry in dealing with decommissioned platforms;
    - c. Disaster and emergency response arrangements; and
    - d. Security cooperation (to deal with issues like fishing within platform safety zones).

### **Previous CSCAP Memorandums**

The previous relevant CSCAP Memorandums are:

- CSCAP Memorandum No. 4 – Guidelines for Regional Maritime Cooperation (December 1997)
- CSCAP Memorandum No.5 – Cooperation for Law and Order at Sea (February 2001)
- CSCAP Memorandum No. 6 – The Practice of the Law of the Sea in the Asia Pacific (December 2002)
- CSCAP Memorandum No.8 - The Weakest Link? Seaborne Trade and the Maritime Regime in the Asia Pacific (April 2004)
- CSCAP Memorandum No.13 - Guidelines for Maritime Cooperation in Enclosed and Semi-Enclosed Seas and Similar Sea Areas of the Asia Pacific (June 2008)

### **Recommendations**

It is recommended that this Memorandum be put forward as a CSCAP initiative for consideration by the ARF. Specifically, given the emerging priority of the issues addressed, it is recommended that ARF consideration of the issues raised in the Memorandum be included in the ARF work plan on maritime security, which will be prepared for endorsement by ARF ministers in July 2011. As a first step toward inclusion in the ARF work plan, the Memorandum could be presented for discussion at the next ARF Inter-Sessional Meeting (ISM) on Maritime Security in Japan on 14-15 February 2011. A dedicated ARF desk-top exercise or workshop, for fuller consideration of the issues and options, may also be worthy of consideration, upon inclusion in the ARF work plan.

Annexes:

- A. List of Relevant International Conventions, Regional Instruments and Other Documents
- B. Table of Ratification or Accession of Treaties by ARF/CSCAP Member States

## Annex A

### List of Relevant International Conventions, Regional Instruments and Other Documents

1. *United Nations Convention on the Law of the Sea 1982 (UNCLOS)*, adopted 10 December 1982 (entered into force generally 16 November 1994). Relevant articles include: 56, 60, 74, 98, 100, 123, 138, 194, 197, 208 and 214.
2. *International Convention for the Safety of Life at Sea, 1974 (SOLAS)*, adopted 1 November 1974 (entered into force generally 25 May 1980)
3. *International Convention on Maritime Search and Rescue, 1979*, adopted 27 April 1979 (entered into force generally 22 June 1985)
4. *Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation (SUA 1988)*, adopted 10 March 1988 (entered into force generally 1 March 1992)
5. *Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms located on Continental Shelf 1988 (1988 SUA Protocol)*, adopted 10 March 1988 (entered into force generally 1 March 1992)
6. *2005 Protocol to the Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation (2005 SUA Protocol)* (entered into force generally on 28 July 2010)
7. *Amendments to the Annex to the International Convention for the Safety of Life at Sea (SOLAS), 1974 Contained in Resolutions 1, 2, 6 and 7 of The Conference of Contracting Governments and including The International Ship and Port Facility Security (ISPS) Code*, London, 12 December 2002 (entered into force 1 July 2004)
8. *Convention on the Prevention of Marine Pollution by Dumping Wastes and Other Matters 1972*, adopted 29 December 1972 (entered into force generally 30 August 1975)
9. *1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972*, adopted 7 November 1996 (entered into force generally 24 March 2006)
10. *International Convention for the Prevention of Marine Pollution from Ships 1973*, adopted 2 November 1973 (entered into force generally 2 October 1983), amended by *Protocol of 1978 Relating to the International Convention for the Prevention of Marine Pollution from Ships 1973 ('MARPOL 73/78')*, adopted 17 February 1978 (entered into force generally 2 October 1983)

11. *International Convention on Oil Pollution Preparedness, Response and Co-operation 1990 ('OPRC 1990')*, adopted 30 November 1990 (entered into force generally 13 May 1995)
12. *Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and in the Exclusive Economic Zone 1989*, (1989) IMO Resolution A.672(16)
13. *Convention on Civil Liability for Oil Pollution Damage resulting from Exploration for and Exploitation of Seabed Mineral Resources 1977 ('CLEE')*, adopted 1 May 1977 (not generally in force)
14. *ISO 31000:2009 Risk management – Principles and guidelines* published 13 November 2009
15. *ASEAN – China Declaration on the Code of Conduct of Parties in the South China Sea, 2002*
16. *ASEAN Agreement on Disaster Management and Emergency Response, 2005*



## Annex B

Table of Ratification or Accession of Treaties by ARF/CSCAP Member States

Treaties States <sup>1</sup>		1982	1974	1988	1988	1990	1972	1996	1979
		UNCLOS <sup>2</sup>	SOLAS <sup>3</sup>	SUA <sup>3</sup>	SUA Protocol <sup>3</sup>	OPRC <sup>3</sup>	London Convention <sup>3</sup>	London Protocol <sup>3</sup>	Search and Rescue <sup>3</sup>
ASEAN Member States	Brunei	1996 <sup>f</sup>	1986 <sup>a</sup>	2003 <sup>r</sup>	2003 <sup>r</sup>				
	Cambodia	s	1994 <sup>a</sup>	2006 <sup>a</sup>	2006 <sup>a</sup>				
	Indonesia	1986 <sup>f</sup>	1981 <sup>a</sup>						
	Laos*	1998 <sup>f</sup>							
	Malaysia	1996 <sup>f</sup>	1983 <sup>a</sup>			1997 <sup>a</sup>			
	Myanmar*	1996 <sup>f</sup>	1987 <sup>a</sup>	2003 <sup>a</sup>	2003 <sup>a</sup>				
	Philippines	1984 <sup>f</sup>	1981 <sup>a</sup>	2004 <sup>f</sup>	2004 <sup>f</sup>	s	1973 <sup>r</sup>		
	Singapore	1994 <sup>f</sup>	1981 <sup>a</sup>	2004 <sup>a</sup>		1999 <sup>a</sup>			1997 <sup>a</sup>
	Thailand	s	1984 <sup>a</sup>			2000 <sup>a</sup>			
	Vietnam	1994 <sup>f</sup>	1990 <sup>a</sup>	2000 <sup>a</sup>	2002 <sup>a</sup>				2007 <sup>a</sup>
ASEAN Dialogue Partners	Australia	1994 <sup>f</sup>	1983 <sup>a</sup>	1993 <sup>a</sup>	1993 <sup>a</sup>	1992 <sup>a</sup>	1985 <sup>r</sup>	2000 <sup>r</sup>	1983 <sup>a</sup>
	Canada	2003 <sup>r</sup>	1978 <sup>a</sup>	1993 <sup>r</sup>	1993 <sup>r</sup>	1994 <sup>a</sup>	1975 <sup>r</sup>	2000 <sup>a</sup>	1982 <sup>a</sup>
	China	1996 <sup>f</sup>	1980 <sup>r</sup>	1991 <sup>r</sup>	1991 <sup>r</sup>	1998 <sup>a</sup>	1985 <sup>a</sup>	2006 <sup>r</sup>	1985 <sup>ar</sup>
	European Union	1998 <sup>fc</sup>							
	India	1995 <sup>f</sup>	1976 <sup>a</sup>	1999 <sup>a</sup>	1999 <sup>a</sup>	1997 <sup>a</sup>			2001 <sup>a</sup>
	Japan	1996 <sup>f</sup>	1980 <sup>a</sup>	1998 <sup>a</sup>	1998 <sup>a</sup>	1995 <sup>a</sup>	1980 <sup>r</sup>	2007 <sup>a</sup>	1985 <sup>a</sup>
	New Zealand	1996 <sup>f</sup>	1990 <sup>a</sup>	1999 <sup>f</sup>	1999 <sup>f</sup>	1999 <sup>a</sup>	1975 <sup>r</sup>	2001 <sup>r</sup>	1985 <sup>a</sup>
	Republic of Korea	1996 <sup>f</sup>	1980 <sup>r</sup>	2003 <sup>a</sup>	2003 <sup>a</sup>	1999 <sup>a</sup>	1993 <sup>a</sup>	2009 <sup>a</sup>	1995 <sup>a</sup>
	Russia	1997 <sup>r</sup>	1980 <sup>ap</sup>	2001 <sup>r</sup>	2001 <sup>r</sup>	2009 <sup>a</sup>	1975 <sup>r</sup>		1988 <sup>r</sup>
	United States		1978 <sup>f</sup>	1994 <sup>f</sup>	1994 <sup>f</sup>	1992 <sup>f</sup>	1974 <sup>r</sup>	s	1980 <sup>r</sup>
ASEAN Observer	Papua New Guinea								
	Bangladesh*	2001 <sup>r</sup>	1981 <sup>a</sup>	2005 <sup>a</sup>	2005 <sup>a</sup>	2004 <sup>a</sup>			
	Democratic People's Republic of Korea	s	1985 <sup>a</sup>		2005 <sup>a</sup>				
	East Timor*								
	Mongolia	1996 <sup>f</sup>	2002 <sup>a</sup>						
	Pakistan*	1997 <sup>f</sup>	1985 <sup>a</sup>	2000 <sup>a</sup>	2000 <sup>a</sup>	1993 <sup>a</sup>	1995		1985 <sup>a</sup>
	Sri Lanka*	1994 <sup>f</sup>	1983 <sup>a</sup>	2000 <sup>a</sup>					

<sup>1</sup> All States are Members of both ARF and CSCAP except States with an asterisk are not CSCAP members. The list is limited to States and does not include institutes or consortium of institutes which are also CSCAP members.

<sup>2</sup> United Nations Division for Ocean Affairs and the Law of the Sea. Chronological lists of ratifications of, accessions and successions to the Convention and the related Agreements as at 05 October 2010.

<sup>3</sup> International Maritime Organization. Status of Multilateral Conventions and Instruments in respect of which the IMO or its Secretary-General Performs Depositary or other functions as of 5 October 2010.

<sup>r</sup> ratification

<sup>a</sup> accession

<sup>ap</sup> acceptance

<sup>fc</sup> formal confirmation

<sup>ar</sup> approval

<sup>s</sup> signatory

## ABOUT CSCAP

CSCAP is a non-governmental (second track) process for dialogue on security issues in the Asia Pacific. Membership in CSCAP is on an institutional basis and consists of Member Committees. Current membership comprises Australia, Brunei Darussalam, Cambodia, Canada, China, India, Indonesia, Japan, the Democratic People's Republic of Korea, the Republic of Korea, Malaysia, Mongolia, New Zealand, the Philippines, Russia, Singapore, Thailand, Vietnam and the USA.

The functions of CSCAP are as follows:

- a. to provide an informal mechanism by which political and security issues can be discussed by scholars, officials, and others in their private capacities;
- b. to encourage the participants of such individuals from countries and territories in the Asia Pacific on the basis of the principle of inclusiveness;
- c. to organise various working groups to address security issues and challenges facing the region;
- d. to provide policy recommendations to various intergovernmental bodies on political-security issues;
- e. to convene regional and international meetings and other cooperative activities for the purpose of discussing political-security issues;
- f. to establish linkages with institutions and organisations in other parts of the world to exchange information, insights and experiences in the area of regional political-security cooperation; and
- g. to produce and disseminate publications relevant to the other purposes of the organisation.

Study groups are the primary mechanism for CSCAP activity. As of January 2011, there were eight CSCAP Study Groups. These are concerned with: (i) Countering the Proliferation of Weapons of Mass Destruction in the Asia Pacific; (ii) Export Controls; (iii) Significance of the Existence of Regional Transnational Crime Hubs to the Governments of the Asia Pacific Region; (iv) Multilateral Security Governance in Northeast Asia/North Pacific; (v) Naval Enhancement in the Asia Pacific; (vi) Responsibility to Protect; (vii) Water Resources Security; and (viii) Cyber Security.

This memorandum was produced by the CSCAP Study Group on the Safety and Security of Offshore Oil and Gas Installations and was approved by the 34<sup>th</sup> CSCAP Steering Committee Meeting in Manila, the Philippines, on 22 November 2010.

Further information on CSCAP can be obtained from the CSCAP website at [www.cscap.org](http://www.cscap.org) or by contacting the CSCAP Secretariat:

CSCAP Secretariat  
c/o ISIS Malaysia  
1 Persiaran Sultan Salahuddin  
PO Box 12424  
50778 Kuala Lumpur  
Malaysia  
T: +603-2693 9366 Ext 125  
F: +603-2693 9375  
E: [cscap@isis.org.my](mailto:cscap@isis.org.my)

## **CSCAP Memoranda**

CSCAP memoranda are the outcome of the work of study groups approved by the steering committee and submitted for consideration at Track One levels.

- Memorandum No.15 - The Security Implications of Climate Change  
Author: Study Group on the Implications of Climate Change  
Date published: July 2010
- Memorandum No.14 - Guidelines for Managing Trade of Strategic Goods  
Author: Export Controls Experts Group (XCXG)  
Date published: March 2009
- Memorandum No.13 - Guidelines for Maritime Cooperation in Enclosed and Semi-Enclosed Seas and Similar Sea Areas of the Asia Pacific  
Author: Study Group on Facilitating Maritime Security Cooperation in the Asia Pacific  
Date published: June 2008
- Memorandum No.12 - Maritime Knowledge and Awareness: Basic Foundations of Maritime Security  
Author: Study Group on Facilitating Maritime Security Cooperation in the Asia Pacific  
Date published: December 2007
- Memorandum No.11 - Human Trafficking  
Author: Study Group on Human Trafficking  
Date published: June 2007
- Memorandum No.10 - Enhancing Efforts to Address the Factors Driving International Terrorism  
Author: Study Group on Enhancing the Effectiveness of the Campaign Against International Terrorism with Specific Reference to the Asia Pacific Region  
Date published: December 2005
- Memorandum No.9 - Trafficking of Firearms in the Asia Pacific Region  
Author: Working Group on Transnational Crime  
Date published: May 2004
- Memorandum No.8 - The Weakest Link? Seaborne Trade and the Maritime Regime in the Asia Pacific  
Author: Working Group on Maritime Cooperation  
Date published: April 2004
- Memorandum No.7 - The Relationship Between Terrorism and Transnational Crime  
Author: Working Group on Transnational Crime  
Date published: July 2003

- Memorandum No.6 - The Practice of the Law of the Sea in the Asia Pacific  
Author: Working Group on Maritime Cooperation  
Date published: December 2002
  
- Memorandum No.5 - Cooperation for Law and Order at Sea  
Author: Working Group on Maritime Cooperation  
Date published: February 2001
  
- Memorandum No.4 - Guidelines for Regional Maritime Cooperation  
Author: Working Group on Maritime Cooperation  
Date published: December 1997
  
- Memorandum No.3 - The Concepts of Comprehensive Security and Cooperative Security  
Author: Working Group on Comprehensive and Cooperative Security  
Date published: December 1995
  
- Memorandum No.2 - Asia Pacific Confidence and Security Building Measures  
Author: Working Group on Confidence and Security Building Measures  
Date published: June 1995
  
- Memorandum No.1 - The Security of the Asia Pacific Region  
Author: CSCAP  
Date published: April 1994