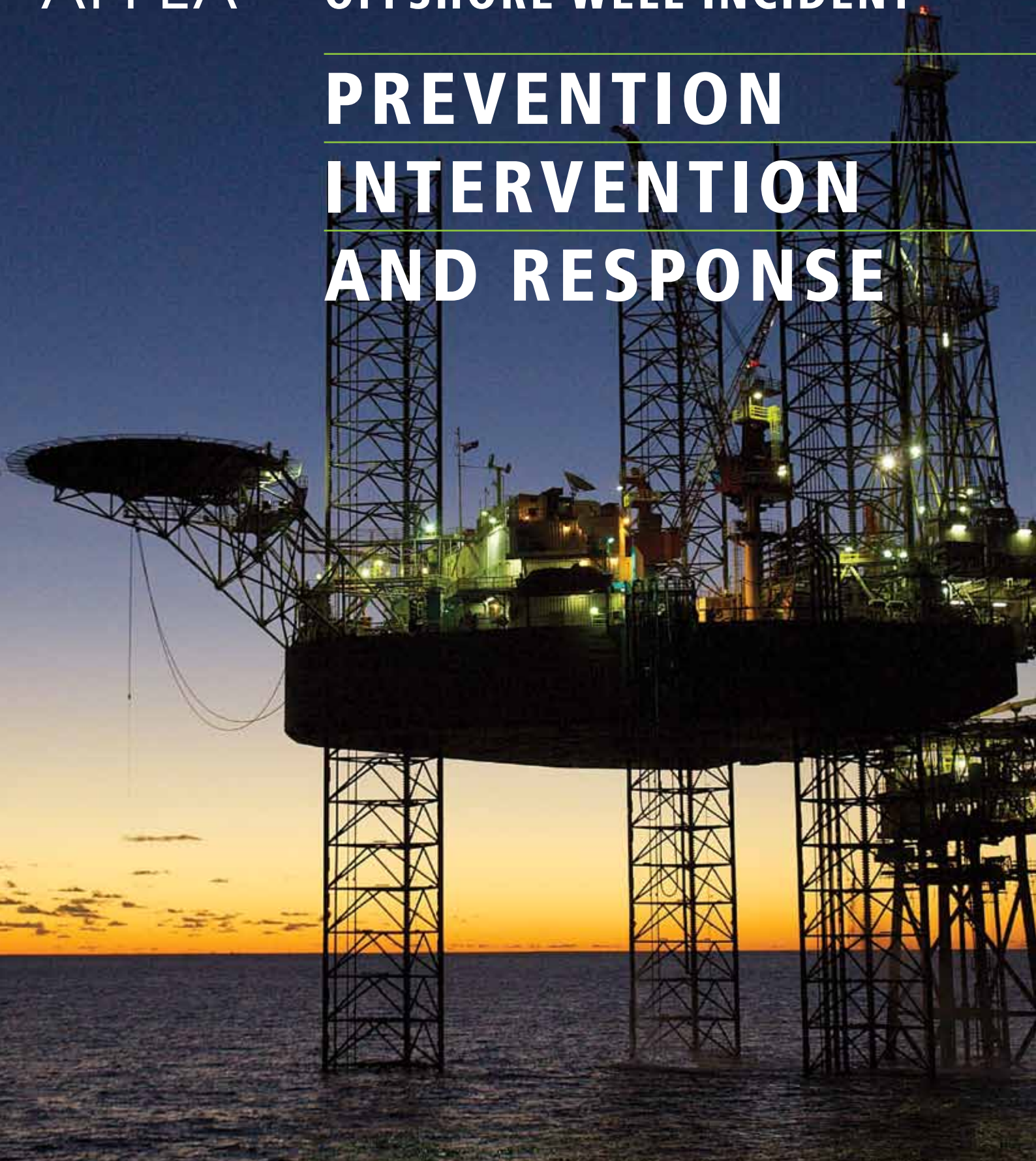




AUSTRALIAN INDUSTRY ACTIONS TO IMPROVE
OFFSHORE WELL INCIDENT

**PREVENTION
INTERVENTION
AND RESPONSE**



About APPEA

The Australian Petroleum Production & Exploration Association (APPEA) is the peak national body representing Australia's upstream oil and gas industry. The association has more than 80 full member companies that explore for and/or produce oil and gas in Australia and more than 220 associate member companies that provide goods and services to the upstream oil and gas industry.

APPEA's members produce about 98 per cent of the nation's oil and gas. APPEA works with governments and other stakeholders to secure a policy, regulatory and fiscal framework that promotes investment and the safe and sustainable development of Australia's oil and gas resources.



Introduction

Protecting our people and the environment is the oil and gas industry's highest priority. The production of oil and gas must be safe and environmentally sustainable.

The Australian industry constantly evaluates procedures and practices aimed at safeguarding its workforce and the environment. The industry has been working with governments and international experts to ensure Australian practices reflect the lessons learnt from the Montara and Macondo incidents.

In Australia, the industry had not had an incident like Montara in more than 25 years—a period in which about 1500 wells were drilled. In US Gulf of Mexico waters, 42,000 wells—including more than 2000 in deep and ultra-deep water—had been drilled before the Macondo incident occurred. The industry has strongly supported and fully cooperated with the investigations of both incidents.

The industry has focused strongly on understanding the causes of the Montara and Macondo incidents and applying the lessons from both incidents in well design, operational procedures, reporting, competency and regulation of offshore wells. The industry is also working to improve oil spill response preparedness and strategies for cleaning up oil in the marine environment.

A local, global and collaborative response

The Australian industry has been working at three levels – within individual companies, nationally through the APPEA Montara Taskforce and the Australian Marine Oil Spill Centre, and internationally through the International Association of Oil and Gas Producers' (OGP) Global Industry Response Group (GIRG). At all three levels the industry has focused on:

- prevention
- intervention
- response capability.

COVER PHOTO COURTESY SANTOS

Company actions

In Australia, companies have:

- thoroughly reviewed all procedures, and modified where necessary
- reviewed critical safety, environmental management and operational areas, including:
 - well design
 - integrity and operations
 - barrier principles
 - verification systems
 - contingency plans and preparedness.

Australian industry actions

The APPEA Montara Taskforce

Working through the APPEA Montara Taskforce, the industry has developed a program of collaborative activities aimed at improving Australia's well incident prevention, intervention and response capability. This work has delivered:

- 1 A new self-audit tool to provide guidance for integrating permit holders' and contractors' well operations safety management systems
- 2 A memorandum of understanding on mutual aid for companies to assist each other and share equipment when responding to offshore well incidents
- 3 A commitment to designing and constructing a well capping solution for Australian conditions
- 4 Increasing collaboration within the Australian offshore drilling industry, including the establishment of a new APPEA Well Integrity and Safety Committee
- 5 Expanding the Australian petroleum industry spill response capability including through AMOSC.

This work will continue to be pursued through the APPEA Well Integrity and Safety Committee, and will involve continuing to work closely with OGP's Well Expert Committee to implement relevant international recommendations adapted to Australian circumstances.

Mutual aid memorandum of understanding

The Australian oil and gas industry's recently developed mutual aid memorandum of understanding sets up a framework for 'best endeavours' mutual assistance arrangements in drilling relief wells. The parties to the memorandum acknowledge that, from time to time, emergency conditions arise that require drilling one or more relief wells. This would necessitate an urgent response and assistance by industry to minimise adverse impacts.

Australian well capping solution

The Australian industry has been working closely with OGP and the international industry on the development of an international capping strategy that will incorporate a regional and local capability. In conjunction with the global initiatives, Australia has been leveraging this work to identify the optimum option for Australia.

Given the complexity and timeframe required to achieve international agreement, the Australian industry has also commenced scoping and designing a local well capping solution suited for Australian conditions. Construction work on an Australian capping system is expected to commence in early 2012.

This technology will form part of an integrated global, regional, and local approach to offshore incident response. In the interim, APPEA's members are evaluating commercial systems being developed globally, and are working on identifying equipment available in Australia that may be used to enhance the delivery time of a regional solution.

Self audit tool

The Montara Inquiry Report identified the importance of effective and verified communication between the title holder and their contractors in relation to planning, preparing and executing well activities, and emphasising that the title holder has the primary responsibility for well operations.

To assist companies, the industry has developed a self-audit tool to be used to assess/audit a title holder's management system and clarify responsibilities between the title holder and the facility operator.

The self-audit tool covers critical area in well planning, preparation, execution and operations.

Australian Marine Oil Spill Centre

An efficient, capable and well managed preparedness regime is the key to a successful and rapid incident response. Since the Montara and Macondo incidents, the industry funded Australian Marine Oil Spill Centre (AMOSC) has reviewed its preparedness and response equipment and strategies. Australian and international experts have examined all stages of Australia's oil spill preparedness and response, including planning, training, location and levels of spill response equipment, international engagement, monitoring and response strategies.

Through AMOSC, the industry has further improved response effectiveness and timeliness. It has already:

- reviewed oil spill response equipment requirements and pre-positioned equipment to critical, active or sensitive locations around Australia
- doubled the AMOSC core group of trained oil spill responders from 42 to 84 people directly employed in the oil and gas industry, accredited to be the industry's oil spill response team, and available to work with AMOSC in the event of an offshore Tier 2 or Tier 3 incident
- developed a new accredited oil spill management and spill-response training program
- facilitated better access to international expertise and provided ongoing representation at international fora
- improved fatigue-management programs.

Furthermore, the industry is also continuing ongoing work on:

- investigating the potential benefits and limitations of dispersant use in spill response, including the use of airborne dispersant delivery systems, dispersant approval and dispersant supply chains
- investing in a major program of oil spill trajectory monitoring and modelling, providing real-time tracking of oil spills and more accurately predicting a spill's path, ensuring that response, protection and recovery strategies are directed effectively
- developing information-sharing systems.

AMOSC has developed targeted oil spill management training programs for personnel involved in managing oil spill responses. To support the needs of exploration and development activities, AMOSC has also established drilling support packages that will, when coupled with training programs, help companies establish a highly effective Tier 1 response capacity. AMOSC is also working with companies to identify the need for and establish Tier 2 capability on a regional level.

AMOSC's activities are fully integrated into The National Plan to Combat Pollution of the Sea by Oil and other Hazardous and Noxious Substances, managed by the Australian Maritime Safety Authority.





The national plan

The Australian oil and gas industry established the Australian Marine Oil Spill Centre (AMOSC) in 1991 as part of industry's commitment to safeguarding the Australian marine environment in the event of an offshore incident. AMOSC is a subsidiary of the Australian Institute of Petroleum.

Based in Geelong, Victoria, AMOSC provides the knowledge and resources necessary to prepare for and address major marine oil pollution incidents in Australian waters.

AMOSC is home to the Australian oil and gas industry's major oil spill response equipment stockpile and delivers world-class training for industry, government, and other personnel in oil spill response management theory, planning and practice.

In Australia, high-level oil spill preparedness and response strategies are managed by the Australian Maritime Safety Authority (AMSA) under the National Plan to Combat Pollution of the Sea by Oil and Other Noxious Hazardous Substances). The National Plan is an integrated government and industry framework that provides for effective and efficient responses to marine pollution incidents.

The national plan is currently under review to examine the effectiveness of Australia's preparedness arrangements and response requirements. Industry is actively participating in this process to ensure a coordinated Australia-wide investigation of:

- response capability and future preparedness
- the adequacy of existing accountabilities, roles and resources
- the extent to which current responses meet government and industry expectations
- obligations under the International Maritime Organization Convention on Oil Pollution, Preparedness, Response & Cooperation.

More information on the national plan can be found at: www.amsa.gov.au/Marine_Environment_Protection/National_plan

International action

The Australian industry has been working closely with, and as part of, the international industry through the International Association of Oil and Gas Producers' (OGP) Global Industry Response Group (GIRG). GIRG announced a series of recommendations for improving well incident prevention, intervention and response capability.

APPEA and its members will be participating in the implementation of these recommendations both through our member's international offices who are directly represented on OGP, through APPEA's direct membership on OGP's newly established Well Expert Committee and Joint Industry Project on Oil Spill Response, and through AMOSC and IPIECA.

OGP Well Expert Committee

The international industry has formed three entities to implement the GIRG's recommendations. An OGP-governed Well Expert Committee (WEC), a well-capping consortium, and an oil spill response joint industry project.

The WEC, of which APPEA and a number of its members are active participants, is focused on incident prevention. It comprises contractors, service companies and operators, and is focussed on progressing recommendations in relation to the design and operation of subsea wells, with an emphasis on deep water wells.

Recommendations from GIRG for implementation by the WEC include:

- 1** Sharing and expediting lessons from well incidents.
- 2** Adopting a three-tier review process to ensure well design and operational decisions are overseen and reviewed by independent experts at three levels:
 - the well design team
 - an in-house or third-party engineer providing independent oversight of well design and well procedures before and during construction, as well as whenever material changes to design or procedures are made
 - the regulator.
- 3** Promotion of human competency management systems to ensure individual staff and management teams are appropriately trained and have the requisite skills.
- 4** The development and adoption by the industry of priority standards. OGP is involved in the International Organization for Standardization and will make recommendations to ISO. The ISO has developed an action plan for deepwater spills like Deepwater Horizon and Montara that it intends to implement worldwide.



Oil spill response joint industry project

- 5 Industry-wide adoption of a well management system that sets a standard for the 'management of change' process, using API RP75 as a minimum (covering full life cycle of the well). Management of change is a critical aspect of ensuring safety and integrity and establishes clear processes/procedures for managing changes to planned operations.
- 6 'Bridging' the systems of the title holder with the drilling contractor and/or service providers by describing responsibilities, chain of command and agreed procedures for well control operations and emergency response.
- 7 The adoption of a permanently applied two-barrier (independent and physical) policy for the life of a well.

The Joint Industry Project on Oil Spill Response (JIP) is undertaking a work program that includes the following:

- 1 Developing new recommended practices and improving knowledge of oil spill response tools and methodologies.
- 2 Improving modelling and monitoring programs.
- 3 Developing risk/hazard assessment models.
- 4 Establishing principles on dispersant use with key stakeholders including on:
 - the effectiveness and value of the use of surface, aerial and, in particular, subsea dispersants
 - how best to deploy dispersants
 - obtaining regulatory pre-approval for their use.

The JIP is also examining the role of in situ burning, which was used in the Macondo incident, as a response strategy.

Well capping consortium

Nine major oil and gas companies are working together to enhance a capping response and to study further potential containment solutions.



Glossary

AMOSC	Australian Marine Oil Spill Centre
AMSA	Australian Maritime Safety Authority
APPEA	Australian Petroleum Production & Exploration Association
AIP	Australian Institute of Petroleum
JIP	Joint Industry Project on Oil spill Response
GIRG	Global Industry Response Group
IPIECA	International Petroleum Industry Environmental Conservation Association
ITAC	Industry Technical Advisory Committee
NOPSA	National Offshore Petroleum Safety Authority (legislative amendments before the Federal Parliament, as of August 2011, would replace NOPSA with a new regulatory authority, NOPSEMA—the National Offshore Petroleum Safety and Environmental Management Authority).
OGP	International Association of Oil and Gas Producers
WEC	Well Expert Committee, an OGP committee

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