Australian Government

Department of Education, Employment and Workplace Relations

PUAOIL401 Apply decision making strategies in an oil spill response

Release: 1

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Modification History

PUAOIL401 Release 1: Primary release.

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to make strategic, planning and operational decisions in an oil spill.

Application of the Unit

This unit applies to individuals working in functional management roles within the incident management team who have the responsibility for ensuring the viability and success of a marine pollution response.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a Unit of Competency.	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed the Range Statement. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Establish context of spill	1.1 Gather ***intelligence*** to determine the size and impact of the situation. 1.2 Identify the ***character*** and ***behaviour*** of the oil spill. 1.3 Consult and involve appropriate ***advisors*** in establishing the ***context of the spill***. 1.4 Identify and confirm response ***objectives***. 1.5 Provide accurate, timely and relevant communication about the spill to ***stakeholders***.
2. Consider response options to make a decision	2.1 Identify and review available ***response options*** to the spill. 2.2 Review strengths and weaknesses of options with appropriate advisors if necessary. 2.3 Determine ***risk*** areas and ***levels of risk***. 2.4 Determine and select best response option/s based on ***critical factors***. 2.5 Determine the ***scale of response*** to the spill. 2.6 Document decision making processes.
3. Implement response	3.1 Develop response plans for selected options. 3.2 Develop an incident action plan. 3.3 Communicate proposed response actions to relevant people/stakeholders. 3.4 Monitor and review response actions and modify as appropriate in response to changing circumstances.

Required Skills and Knowledge

This describes the essential skills and knowledge and their level, required for this unit.

Required Skills

- critical analysis
- evaluation and decision making
- assertiveness
- ability to work within and/or lead a team
- flexibility
- advanced verbal and written communication skills, including proficiency in mathematical concepts and calculations
- ability to undertake a value chain analysis to review, strengths and weaknesses
- ability to develop risk management plans and implement with due diligence
- ability to implement a plan that has public and political impact
- problem solving appropriate to identified risks

Required Knowledge

- relevant organisational legal requirements
- relevant legislation impacting on spill response operations, particularly in regard to health and safety, environmental issues, industrial relations etc.
- strategic planning methodologies including political, economic, social and technological (PEST) analysis and strengths, weaknesses, opportunities and threats analysis (SWOT)
- oil spill response equipment (limitations and benefits)
- oil types, spill behaviours and effects within the marine environment
- policies and procedures for liaising with media and politicians according to organisational policies and procedures
- health and safety issues / management
- international conventions and compensation regimes
- protection and indemnity clubs (P&I), the international tanker owners pollution federation limited (ITOPF) and similar organisations and the role of them and their representatives in oil spill response
- indigenous and cultural issues
- the role of salvors

Evidence Guide

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- details of a management plan which includes stakeholder analysis, explanation of the risk context, critical success factors, identified and analysed risks, treatments for prioritised risks
- knowledge of relevant legislation, codes of practice and national standards
- details of monitoring arrangements for risk management plan and an evaluation of the efficiency of the risk management in treating risk
- communication to stakeholders through Incident Action Plans

Context of and specific resources for assessment

Assessment must be based on a real or simulated oil response situation where multiple decisions may be made but where critical analysis of information allows for considered and justifiable actions.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- review of documentation
- simulation
- direct observation
- third party reports
- case studies
- scenarios
- action plans
- reports
- written or oral questions

Guidance information for assessment

It is important that assessment with other units relevant to oil spill management or incident management systems is taken into account.

Range Statement

The Range Statement relates to the Unit of Competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording in the Performance Criteria is detailed below.

Sources of intelligence may include:

- initial visual reports (location)
- oil samples
- MSDS
- Australian dangerous goods code
- oil spill response atlas
- oil spill response trajectory modelling
- reports from ship's master indicating type and quantity
- aerial observations
- tides
- current
- weather forecast
- reports from operational, technical and environmental advisors
- net environmental benefit analysis

Character of oil could be defined by:

- chemical characteristics:
  - aromatic content
  - aliphatic content
  - asphaltene content
  - wax content
- physical characteristics:
  - flash point
  - pour point
  - in relation to surface water temperature
  - solubility
  - density (API gravity or specific gravity)
  - in relation to density of sea water
  - viscosity
  - viscous/non-viscous
  - thickness
  - stickiness
  - in relation to adherence to physical structures or habitats
  - persistence
- oil character influence on response options:
  - selection of response equipment

- amenability to chemical dispersion

Behaviour of oil could be defined by:	• movement of oil:
	  • volume
	  • spread
	  • drift
	  • area of coverage
	  • percentage coverage
	  • rate of flow
	  • flow continuing
	  • flow stopped
	• weathering and influence on oil character:
	  • spreading
	  • evaporation
	  • emulsification (mousse formation)
	  • dispersion
	  • dissolution
	  • sinking/sedimentation
	  • biodegradation
	  • photo-oxidation

Advisors may include	• operational, technical and environmental experts including:
	  • environmental scientists
	  • marine pollution experts
	  • AMSA
	  • oil importers/exporters
	  • ships master
	  • salvage advisors
	  • government agencies

Context of the spill may include:	• location • environmental sensitivity • estuaries • wildlife habitats • tourism • indigenous culture • business/industry
Objective is:	• Consultative management to determine the desired outcomes of the incident which are then communicated through the response team

Stakeholders may include:	• government agencies and representatives:
	  • federal
	  • state

- local
- businesses
- community
- protection and indemnity (P &I club)
- indigenous communities
- national response team
- media
- salvors
- ship owner, charterer or manager

Response options may include:	• mechanical • chemical • manual • observation and monitoring • manual clean up

Risk may include:	• properties of oil
	• health and safety:
	  • fire and explosion
	  • ingestion
	  • skin damage
	  • restricted breathing
	  • physical injury
	• contamination
	• proximity to land
	• community impact
	• wildlife habitats
	• environmental conditions:
	  • weather
	  • tides
	  • currents
	  • location
	• wildlife
	• inappropriate use of dispersant (not using the correct window of opportunity)
	• fatigue
	• hypothermia
	• hyperthermia
	• health impact of oil
	• flammability and volatility of oil
	• political
	• media

Levels of risk may include:	• assessed through risk analysis and minimised through hierarchy of controls
Critical factors may include:	• health and safety of responders and community • minimisation of impact • environment • appropriate approvals
Scale of response could take into account:	• human resources • physical resources • access

Unit Sector(s)

Marine pollution response.