



Australian Government
Australian Maritime Safety Authority

Exercise Constant Bearing

Evaluation Report

2017



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The problem



Steering committee commentary

Executive summary

The National Plan for Maritime Environmental Emergencies ('the National Plan') is exercised on an annual basis. The exercise represents a major contribution to strategic and operational preparedness for maritime emergency response throughout Australia. The exercise is hosted in turn by each jurisdiction. Exercise Constant Bearing ('the Exercise') was the National Plan exercise for 2017 and was held in Adelaide at Keswick Barracks between 5 and 7 December.

All maritime agencies operate in an environment of finite and occasionally diminishing or cyclic resourcing, based primarily on economic conditions. As a result no single organisation or level of government is able to constantly maintain a comprehensive standing capacity for dealing with a major maritime incident. It is a strength of the National Plan that the partnerships between the Australian and State and Northern Territory Governments are able to maintain a collective response capacity even when individual partners experience such cycles.

The Exercise Steering Committee acknowledges that South Australia has recently undergone such a period of change and reorganisation and is further strengthening the integration of maritime environmental emergencies into the state wide emergency management arrangements. It is to be commended that South Australia engaged enthusiastically with their National Plan partners by adopting a learning and development approach to the Exercise.

The steering committee has reviewed the insights of the evaluation team and has made recommendations regarding whole of Government response and recovery, National Plan guidance and assistance documentation e.g. Aides-memoire, future National Plan exercises and plan governance. These recommendations address those findings that the committee considers priority issues. Other insights, while not addressed with specific recommendations are symptomatic of the experience level of a capability progressing through from a period of change and remain relevant to all response organisations.

The recommendations of the steering committee and the insights from the evaluation team should be read in the spirit of continuous improvement.

Recommendations of the steering committee

The Exercise identified specific insights into the possible operation of an Incident Management Advisory Team (IMAT), validated the whole of government approach to emergency management adopted by the South Australian Government and identified areas of focus for future National Plan exercises.

The Exercise also identified opportunities to improve National Guidance on Situational Awareness displays and to again look at opportunities to enhance skills retention and basic preparedness activities of Maritime Emergency Incident Managers.

The Steering Committee notes these findings and makes the following recommendations to the National Plan Strategic Coordination Committee (NPSCC).

No.	Recommendations	Responsibility
National Plan Policies and Guidance		
1	NPSCC take account of the insights about the Technical Advisor role (ref. Insights: National Plan Policies and Guidance) when developing the Incident Management Advisory Team capability.	NPSCC
2	NPSCC produce a National Plan Guidance document on the development of Incident Control Centre situational awareness displays.	NPSCC
Considerations for Recovery		
3	NPSCC should ensure that jurisdictions and industry have effectively considered community, economic and environmental recovery issues within the National Plan and contingency plans.	NPSCC
4	South Australia to review SAMSCAP to further integrate the requirements of the strategic South Australian State Emergency Management Arrangements in regards to response and recovery.	DPTI
5	NPSCC comprehensively exercise the public affairs function of the incident management team.	NPSCC
Training and Skills Maintenance		
6	Control agencies to ensure that IMT members familiarise themselves with local response plans at the outset of a response and ensure the Aide-memoire for Oil Spill Response or other applicable tools are utilised.	Control agencies
7	NPSCC should develop a reporting process to provide members with assurance that adequate exercising is being conducted across jurisdictions and industry to maintain an effective national capability.	NPSCC
8	NPSCC establish a process to provide assurance that training and skills maintenance is being conducted in a manner that maintains an effective national capability.	NPSCC

Table 1 - Recommendations of the Steering Committee

Aim and objectives

The aim of the exercise was to evaluate the South Australian Department of Planning, Transport and Infrastructure (DPTI) response to a simulated oil spill in South Australian State Waters impacting the coastline.

The objectives of the Exercise were to:

1. Strengthen understanding among participants of the consequences of a Level 3 Maritime Environmental Emergency (Oil Spill).
2. Enable through facilitation, South Australian response agencies to respond to and recover from a significant Maritime Environmental Emergency.
3. Use National Plan Policies and Guidance Documents to guide interaction between national and regional participants in a South Australian based exercise.
4. Enable engagement between the South Australian Incident Management Team, industry representatives and state emergency management arrangements.

Exercise governance

The NPSCC is responsible for the commissioning and formal response to the Exercise. The Exercise was managed on behalf of NPSCC by the Exercise Steering Committee in accordance with the governance structure below.



Figure 1 – Governance structure for Exercise Constant Bearing

The Exercise Steering Committee was responsible for:

- management of the Exercise
- setting exercise objectives
- oversight of the writing teams
- review of the Exercise
- production of the Exercise report and recommendations.

The Exercise writing teams conducted detailed exercise planning and development.

Membership of the Steering Committee and Exercise writing teams are specified at Table 2.

Steering Committee	Exercise Writing Team
Australian Maritime Safety Authority (AMSA)(Chair)	Australian Maritime Safety Authority (Chair)
Australian Marine Oil Spill Centre	Australian Marine Oil Spill Centre
South Australian Department of Planning, Transport and Infrastructure	South Australian Department of Planning, Transport and Infrastructure
	Risk and Emergency Management and Associates
	Tigertail Pty Ltd

Table 2 – Membership of Steering Committee and Exercise Writing Teams



Background

Exercise Constant Bearing was designed as three days of activities to enhance the skills and knowledge of South Australian Personnel, National Response Team (NRT) members and Industry attendees and encourage the strategic thinking of maritime emergency managers with regards to consequence and recovery management.

The first phase, held on 5 December, consisted of a series of information sessions designed to raise awareness of the consequences of a significant oil spill. Presentations targeted personnel who traditionally do not respond to maritime emergencies and were presented by AMSA science and technical personnel, Risk and Emergency Management Associates and the International Tanker Owners Pollution Fund (ITOPF). The presentations were followed by a panel discussion with representatives from the South Australian emergency and support agencies and AMSA considering the strategic implications of a significant maritime emergency impacting a major urban centre.

The second phase consisted of a two day 'functional' exercise where a South Australian led multi-jurisdictional Incident Management Team (IMT) managed a significant simulated oil spill in the Gulf of St Vincent adjacent to Adelaide.

There were no field deployments and no external engagement. All inputs and outputs were processed through exercise control.

The scenario

At 1720hrs on Tuesday 5 December, the tanker, MT Great Aisles, chartered by BP Shipping was on a voyage to Port Adelaide, SA from Kwinana, WA to discharge a cargo of diesel.

At 1800hrs, approx. 36km due W of Lonsdale, the MT Great Aisles collides with the Container Ship, Cap Pasado, due to a steering gear failure on the Cap Pasado. The collision occurs on the stern of the MT Great Aisles puncturing the starboard side fuel oil tank. This results in a loss of HFO to sea and resulting ingress into the engine room of the MT Great Aisles.

The spill scenario was based on a 200 tonne spill of HFO over 6 hours commencing 1800 on 5 December. The spill remained offshore throughout the remainder of the 5th and through the 6th.

The first shoreline impact occurred on 7 December at 0600, with oil reaching the shoreline in Largs bay, and moving northwards towards the Port entrance and break wall. Oil was predicted to continue northwards throughout the 7th, with shoreline stranding occurring at the port entrance, and along the southern and Northern break walls. Contact to the north of St Kilda was predicted to occur by 2000hrs and continue through the night and the day of the 8th, whilst moving northwards towards Port Gawler.

By the end of the 48 hour prediction, approximately 179 tonnes of oil had reached shorelines.

03:00 AM (GMT+10:30) 8 December 17

Scope

The following matters were **IN** scope for one or both phases of the Exercise:

- operation of the IMT
- connections between the IMT and State and Commonwealth arrangements

The following matters were **OUT** of scope:

- salvage and intervention related aspects
- a full simulated media response
- field deployments
- State and Commonwealth strategic management arrangements.

Conduct of the Exercise

Phase one

Phase One commenced with an information session for responders unfamiliar with the intricacies of maritime emergencies. Information sessions covered National and International arrangements providing attendees with insights to MARPOL, the National Plan for Maritime Environmental Emergencies and Industry capacity. These sessions were followed by presentation on response options and the science of oil spills.



The information sessions were followed by a panel discussion exercise exploring the impacts of a significant maritime emergency occurring in close proximity to a major population centre. The Panel consisted of senior managers from AMSA, the South Australian Departments of Premier and Cabinet and Planning, Transport and Infrastructure, Primary Industry and Regions SA, the State Recovery Office and South Australian Police. Other South Australian entities were represented in the audience.

Panel and audience members participated in a facilitated analysis considering political, economic, social, technological, legal, environmental and operational issues (PESTLEO). Specific items identified as requiring strategic management included the potential use of dispersants, the flow on effects of a port closure including fuel and power emergencies as second order effects.

Phase two

The functional exercise was conducted on 6 and 7 December with the damaged tanker notionally coming alongside in the port boundaries. The container ship was not adversely effected by the collision and with investigation of the accident out of scope for the exercise it remained out of play for the remainder of the exercise.

The IMT was stood up in advance of the oil impacting the shorelines and had two days to plan a response based on modelled impacts including pre-positioning of equipment and personnel.

Attendance at the exercise exceed a hundred personnel each day including exercise participants, observers and exercise control staff.

Exercise evaluation

Exercise evaluation was conducted independently of Exercise Control.

Evaluation of Phase One was completed through the use of feedback forms and primarily focused on the reporting of an increased appreciation of the impacts of a significant maritime emergency.

Evaluation for Phase Two was conducted using independent observers coordinated by AMSA and SADPTI. The exercise evaluation templates were developed based on the exercise objectives.

Members of the Exercise Evaluation Team were assigned to the following functional areas within the Exercise:

- leadership/Control
- operations
- planning
- logistics.

Data analysis

Data was collected from each functional area via the following methods:

- direct observation (through the completion of individual evaluator reports)
- outcomes of debriefs
- reviews of documentation.

Observations were collated and categorised utilising a capability model and a targeted methodology was applied. Insights related to the objectives of the exercise were formed when observations from a minimum of two different sources were identified.

Analysis

As noted previously the Exercise was primarily designed as a capability development/training exercise focused on the practical use and functional implementation of Commonwealth and State maritime incident and emergency management arrangements in response to a major incident. The two phases addressed multi-agency and multi-jurisdictional interoperability and the ability to manage complex incidents with multiple consequences and a focus on recovery.

In accordance with 'best-practice lessons management' the evaluation team has identified only those insights that appear systemic or identify areas of significant concern including some that have been raised in previous exercises or addressed by recommendations from previous Exercise Steering Committees such as those related to skills maintenance. In such cases an alternative recommendation has been provided.

Insights

General

All agencies involved in the exercise worked together to further develop the South Australian and National response capability. The insights listed below should be considered only with the view to further enhancing these capabilities.

National Plan policies and guidance

As part of the capability development component of the exercise an incident management technical advisor was assigned to the leadership, planning, operations and logistics sections. A mentor was also provided to the Environmental Science Coordinator for development purposes. The advisory team performed their function in accordance with the National Plan Policy NP-POL-001 (Role of Technical Advisors).

There were several observations from both the evaluation teams and from participants that the assistance provided by the advisory team was well received and effective in providing advice that was useful to the conduct of the response. It was observed that some advisors 'blurred' the line between mentoring, advising and leading. It was observed from more than one source that the advisory role might better be performed by personnel who had received training in mentoring and coaching as well as being a subject matter expert in a particular area of response.

“

The role of advisor is an important and useful innovation. People in this role need guidance and skills to act as mentor, trainer and coach at the appropriate time.

”

On day one of the functional exercise the common operating picture was not delivered effectively or widely understood. This changed significantly after an overnight evaluation process and several evaluators and participants noted the significant difference between the two days of the exercise. This was largely due to the process followed by the situational awareness officer on the second day. There is no guidance documentation or Aide-memoire to assist in the development of situational awareness displays. For a low frequency event to be managed by part-time responders an Aide-memoire or guidance document may provide a solution to this recurring issue.

“ Information displays were significantly improved on day two. ”

Considerations for recovery

Initial planning conducted by the IMT was largely short term and reactive. This is consistent with previous incidents and exercises. Recovery planning was not considered as part of the strategies that were initially developed. Despite the participation of recovery agencies in the proceeding discussion exercise and sessions on socio-economic impacts it may be that recovery aspects were determined as a lesser priority in the period of initial response. No matter the underlying factors the inclusion of recovery experts in the initial response may hasten the return to normality of affected communities.



Community information, media and public engagement are essential pre-requisites for a successful recovery operation. Whilst a comprehensive community engagement, public information and media response was out of scope for this exercise several observations were made in relation to this matter. Our analysis is unable to determine if these observations were the result of exercise artificialities or genuine identification of areas for improvement. We note that it is often difficult to effectively simulate media and community interest in an oil spill response and to spare media and engagement personnel on a scale that would be appropriate for a major response. Large scale media engagement is therefore either left out of scope for National Plan exercises or simulated unrealistically. We note that the public information function was either out of scope, or lightly engaged, for Exercises Northerly, Westwind, and Constant Bearing.

The Zone Emergency Support Team (ZEST) is a subset of the State Emergency management arrangements and activated on a geographic zone. The ZEST appeared to be under-utilised on day one of the functional exercise. This may be due to the fact that this was the first time the ZEST concept had been established and co-located with an IMT of this size and for this type of emergency. This improved on day two of the functional exercise as the ZEST's role was better understood and personnel engaged.

Training and skills maintenance

Approximately one hundred participants took part in the training and familiarisation sessions held on the morning of 5 December. Participants received information and insights on Australian and International oil spill arrangements, Spill prevention, spill causes, oil behaviour and fate. Other sessions included environmental and socio economic issues and concluded with an introduction to spill response strategies. Many respondents in their feedback commented on the fact that they had not trained specifically in oil spill response. It is noted however that during 2017, South Australia had further undertaken incident management training capability development for both DPTI and the wider State emergency sector and that this exercise included IMT personnel and skills from the wider emergency sector.

“ Have everyone who will be involved receive incident management training. I have never received any training in this so was a bit lost in the environment and didn't always understand what was going on. ”

Feedback from participants and observers indicated that the training and familiarisation session was very valuable in setting the context of the consequences of a large scale maritime emergency with most responders indicating they had increased their knowledge of oil spill consequences and response techniques.

“ I enjoyed the exercise. I learned a lot and will be more confident/competent next time. ”
Some currency training at a state or national level for each function would be helpful.

Several evaluators observed that assistance tools, such as the AMSA Oil Pollution Aide-Memoire and National Plan Guidance Documents were not utilized by the IMT. Whilst training was seen as an important issue for many first time oil spill responders from South Australia it was noted that there were several responders from other jurisdictions including National Response Team and Core Group members. The observations and findings regarding the use of available assistance tools applies equally to those personnel. Previous exercises have made recommendations regarding skills maintenance and the NPSCC has been provided with information on the limits of skills retention. Primarily, the research indicates that training not reinforced with 12 months is mostly forgotten.

Achieving objectives

Objective 1 - Strengthen understanding among participants of the consequences of a Level 3 Maritime Environmental Emergency (Oil Spill)

General Comments

It is concluded that this objective was met for the type and complexity of the incident described in the exercise scenario. Several participants commented that they obtained a strengthened understanding of the potential impacts of maritime environmental emergencies. Evaluators further confirmed these statements through direct observation.

Key Performance Indicators	Y/N	Observations
National, regional and local participants from both government and industry are involved in a National Plan activation to a Level 3 marine oil spill incident occurring in/ around State waters.	Yes	Participants from all levels of government were engaged in the exercise however participants did not appear to engage consistently and regularly with industry.
Participants are engaged by the State and act as members of a State controlled IMT.	Yes	State agencies engaged participants and participants took time to understand their role in the team.
Participants demonstrate a broad understanding of consequences resulting from a Level 3 marine oil spill including those outside their area of organisational responsibility.	Yes	There was a lack of breadth in initial considerations, which were reactive and tactical. Participants took some time to become effective however delegation of responsibility to team members assisted in a broader understanding of consequences. The PESTLE analysis undertaken was incomplete, focussing on identifying issues but not exploring 'so what' or 'now what'.
Participants interpret the consequences of future impacts and plan accordingly.	Partial	The planning cell's role is to interpret the consequences of impacts and plan ahead. There was a lot of work to get operations to work with planning. Once a planning liaison was inserted into operations future consequences were anticipated.
Participants are cognisant of the possible impacts important to other participating entities.	Yes	The designated work groups came together, were focused on the task and seemed to work well together. The thinking of the group could have been a bit more strategic, This is likely a reflection of the level of experience. Guidance is important, the IC in the initial stages could have been more directive or clearer in what was required and when. There was limited discussion about impact on other participating entities until day two, when the ZEST became proactive.
SAMSCAP is used by IMT for initial reaction to response in State Waters.	Yes	SAMSCAP was referred to and did form part of the groups initial thinking. Observers considered it could have been referred to further during the exercise to help better guide the team. Controller's intent should have been referenced more.

Objective 2 – Enable, through facilitation, South Australian response agencies to respond to and recover from a significant Maritime Environmental Emergency

General Comments

The IMT responded effectively given the levels of training and experience. The addition of the technical advisors assisted this process however effectiveness was limited due to the lack of reference to available plans and assistance tools.

Key Performance Indicators	Y/N	Observations
The IMT (led by Planning) establish and maintain situational awareness of the incident.	Yes	Mentoring and guidance to the functional leads assisted in focusing the leadership role and the need to delegate roles assisted with the maintenance of situation awareness. Information displays were significantly improved on day two.
IMT establish interfaces and linkages with State emergency management and National Plan arrangements	Yes	The planning Officer tasked team members to refer to the state and national plans however evaluators considered that the monitoring of this task could have been a higher priority.
Operations determine initial operational actions independent of the IAP process.	Yes	Operations initially were attempting to gain information in isolation which was expected in the initial stages of an exercise. There was limited contact between the operations and planning cells however this improved as the exercise went on. The insertion of a planning liaison into the operations cell assisted with this. Initial operational actions were undertaken but limited. Observers suggest the limited nature may be the result of exercise artificiality.
Planning request Oil Spill Trajectory Modelling and undertake an impact analyses.	Yes	The planning officer managed this task well with a designated team working consistently.
Planning undertake an environmental analysis.	Yes	This was actioned however more detail would be required in a live incident.
Public Information develop a community engagement plan.	Yes	Planning worked with public information and media. This would have been a stronger connection for a live incident
Operations and Planning determine suitable response options.	Yes	This took some time to work with operations and improved once the planning liaison was instigated.
Planning develops Incident Action Plan for approval (including Operations, Logistics and Safety Sub-Plans).	Yes	IAP completed on time, sub plans were requested but not fully completed.
All IMT members utilise the Aide-Memoire for Marine Pollution Response and relevant State emergency management plans and arrangements.	No	Limited use of the Aide-Memoire witnessed, team members work more with their own knowledge and experiences. Cell leaders could have used the Aide-Memoire to assist keeping the team tasked and on focus.
Identify ongoing recovery requirements.	Partial	The planning team evaluator observed that the team worked with other functional sections to identify the recovery requirement however other evaluators did not observe this. Several comments about the State Recovery engagement indicate this was partially met.
Use National Plan and relevant State Emergency arrangements for activations, mobilisations, cost recoveries, health and safety, fatigue management, scientific monitoring.	Partial	There was limited observations of arrangements being referred to for this purpose.

Objective 3 - Use National Plan Policies and Guidance Documents to guide interaction between national and regional participants in a South Australian based exercise

General Comments

As noted the use of technical adviser was broadly viewed as a success however several evaluators and participants observed that skills in mentoring and coaching could well assist in the delivery of this capability.

Key Performance Indicators	Y/N	Observations
Technical advisors are integrated into the IMT in accordance with the National Plan Policy including.	Yes	The use of technical advisors worked well, however, there was a blurring of the lines between who was providing the technical advice. The mentor/advisor became the technical advisor which confused the role.
Technical advisors work as a team to ensure advice is coordinated to improve coordination between IMT functional areas.	Yes	Whilst the technical advice was present the lack of synergy between functional cells could have been better coordinated.
Technical advisors do not make decisions or take on management responsibilities and act in an advisory role only.	Yes	The role of advisor is an important and useful innovation. People in this role need guidance and skills to act as mentor, trainer and coach at the appropriate time.

Objective 4 - Enable engagement between the South Australian Incident Management Team, industry representatives and state emergency management arrangements

General Comments

Engagement with state emergency management arrangements was evident in the make-up of the multi-agency IMT and, on day 2, the engagement of the ZEST. Engagement with industry was limited due to a lack of a stakeholder engagement plan and the scope of the exercise.

Actions to meet objective	Y/N	Observations
The IMT develops effective communication and coordination between the IMT and industry representatives including BP, P&I Clubs, ITOPF.	Partial	There did not appear to be any structured engagement with industry reps, however evaluators did observe ad-hoc engagement by individual functional units. There did not appear to be a clear stakeholder identification and engagement plan.
The IMT develops effective interaction between the IMT and State Emergency Management response and recovery arrangements.	Partial	There was evidence of interaction however there seemed to be a bit more hit and miss rather than a coordinated approach. The ZEST on day one appeared to sit outside the operation as observers. It was more proactive on day two. Neither the ZEST or the IMT appeared to engage the State Recovery Office.
Integration of AMOSC staff and/or core group members into the IMT.	Yes	Different evaluators observed different level of integration with the Operations evaluator stating "I observed this on several occasions and it worked well". Others commented on a lack of structure to the engagement.
Vessel owners are effectively coordinated by AMSA and SMPC.	N/A	This KPI is inappropriate given that the ongoing management of both vessels was out of scope for this exercise. No evaluators observed this coordination.

Conclusion

The exercise evaluation team notes that the issues identified in this report are consistent with a response structure evolving through a period of change and similar observations have been made in other exercises of this nature. Nevertheless the insights gained from Exercise Constant Bearing will contribute to the overall general improvement of incident managers during an actual response. Exercise Constant Bearing should be considered a success, from both an exercise management, and a learning and development perspectives.



“ I think as a training exercise this hit the mark. Thanks to all. A great learning opportunity. ”

