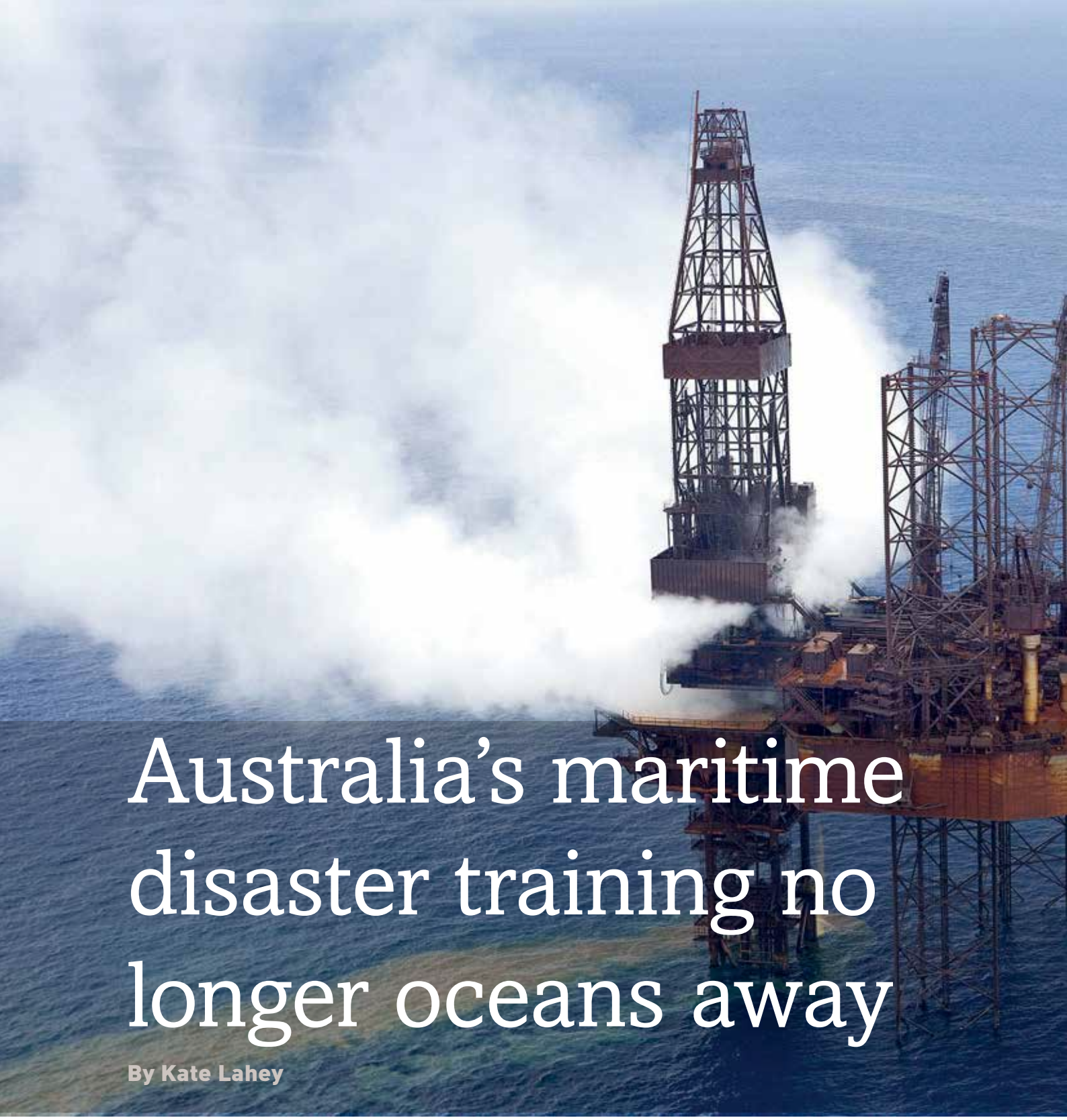

Australia's maritime disaster training no longer oceans away

By Kate Lahey

In his 20 years at sea, Captain Graham Edgley picked up a treasure trove of skills. Long before Global Positioning Systems, he learnt to find his way on the open water, he learnt the pressure a captain feels when something goes wrong, and as a former master of merchant ships, he reflects, "there was a certain element of emergency management in that occupation".

For the last 18 years, he has worked on shore, but his emergency management skills are now in as high demand as ever, if not more.

Like so many of Australia's maritime responders, Captain Edgley is not a full-time, professional emergency service worker. He is the Senior Manager for Marine Operations for Sydney Ports Corporation.

His main job, aside from managing a team of about 100 people, is to provide services to shipping berths, conduct audits and checks on dangerous goods and tankers, and provide pilot vessel and emergency tug services for ships.

"I probably spend maybe 20 per cent of my time on oil spill response or emergency management, and that's about all," he says.

He represents the bulk of responders who are called on nationally in maritime emergencies. Unlike, for example, teams of professional firefighters, the emergency response component of their work is almost an afterthought.

Photo courtesy of Mark Hamilton

For this reason, the Australian Maritime Safety Authority (AMSA) and the Australian Emergency Management Institute (AEMI) have embarked on a new training regime to help boost the skills and knowledge of the people the nation relies on in a maritime crisis and foster greater national consistency.

Since 1973, Australia's responses to spills in the ocean have been managed under what is known as the National Plan. Originally designed to respond only to maritime oil spills, it has since been extended and is now formally referred to as the National Plan to Combat Pollution of the Sea by Oil and other Noxious and Hazardous Substances.

The plan is a framework that integrates federal, state and Northern Territory government personnel, as well as representatives from shipping, oil, exploration and chemical industries, and emergency services.

It is designed to maximise Australia's capacity to respond to marine pollution incidents and is managed by AMSA.

Captain Edgley says he believes the system as it stands works well, but needs greater consistency among states and territories, more training and on-going investment in renewing equipment.

In October last year, Australia sent approximately 70 people to help New Zealand authorities cope with the grounding of the container ship *Rena*, on a reef in the Bay of Plenty, under the National Plan framework.

In announcing the deployment on October 12, a week after the grounding, AMSA said its immediate priority was to help Maritime New Zealand mitigate risk to the environment by providing personnel, advisers and equipment.

"AMSA coordinated the deployment of approximately 70 personnel from the Australian marine oil pollution National Response Team. The team consists of experienced marine oil spill managers and responders from AMSA, the states and Northern Territory, Great Barrier Reef Marine Park Authority, and industry through the Australian Marine Oil Spill Centre (AMOSC)." AMSA also sent a salvage expert.

Captain Edgley was not part of that deployment, leave intervened, but he has seen his share of oil spills closer to home.

In 1999, he responded to a spill from the tanker *Laura D'Amato*, in which 294,000 litres of crude oil poured into Sydney Harbour.

"It was a shocker. The oil was a light, Middle Eastern crude and it just spreads rapidly across the surface, almost like diesel, so it was really hard to locate at night and then capture," Captain Edgley says.

It was estimated that roughly half the oil was lost through evaporation, and of the remainder, 90 percent was recovered.

The NSW Land and Environment Court fined the shipping company $510,000 and the chief officer $110,000.

In his decision, Justice Angus Talbot praised the response to the spill. "The prompt reaction by all those agencies who responded to the report of the spill played a significant role in confining and reducing the environmental consequences," he said.

The master of the ship initially reported the spill as just 14 cubic metres in size (or 14,000 litres).

Captain Edgley says large discrepancies in such numbers are not uncommon, in fact they are among the well-established challenges responders have to negotiate.

"The biggest problem is always getting information. You get aboard a ship that's clearly leaking oil, you say 'how much is lost?' They say '30 tonnes'. We have a philosophy of putting a zero on the end, and it's nearly always correct," Captain Edgley says.

"They underestimate, sometimes because the Master is potentially facing jail or at best, losing his job. I think this is one of the advantages of having been a mariner myself, I've been on the other side of the fence."

"While ship owners might be large companies, or wealthy individuals, the shipping workforce today often comprises relatively low-paid staff from developing countries, adding to the fear and pressure those in charge of a ship at sea might be facing," Captain Edgley says.

Among the other major incidents he has been involved with are the grounding of the *Pasha Bulker* on a Newcastle beach in 2007, and that of the British destroyer, *HMS Nottingham*, which struck rocks off Lord Howe Island. The impact tore a hole in the ship's hull and flooded several compartments.

"I went over there as the incident controller, with no equipment, no trained people – and you've got to do it all in five minutes and be prepared," Captain Edgley says.

"That was pretty hard, we flew a lot of gear over on an RAAF Hercules and then took people across and trained up the locals."

More recently, in August 2009 and again under the National Plan framework, he was called to Canberra to help manage the response to an oil and gas spill from the Montara drill rig in Commonwealth waters, in the Timor Sea.

Captain Edgley says he knew little about oil rigs, but he knew enough about spills and the seas influences, including the most basic information like the difference between describing wind direction (coming from) and the direction of a current (going to). Oil can follow both, he says.

"A simple little thing like that, to somebody who's not a mariner or a sailor, can totally throw a response, where the prediction of the movement of the oil would be 180 degrees removed from where it actually ends up, in a period of only six hours," Captain Edgley says.

In the Montara incident, it was at times difficult enough to find out where the oil was, he says.

No one could get back onto the rig as it was also pumping out highly flammable gas. "When you have a blowout from a well, if it's not captured straight away then you know there are going to be problems.

"My thoughts were 'where is the oilspill?' You plot a latitude and longitude of the rig on a chart and see where it is, then you go 'Oh, it's 400 miles from the nearest port.'

"Then you look at things like weather, the locational equipment and personnel and whether you can get out there and operate that gear on the surface, trying to collect this stuff."

Captain Edgley says AMSA's initial reaction was to spray dispersants, which was the appropriate first strike

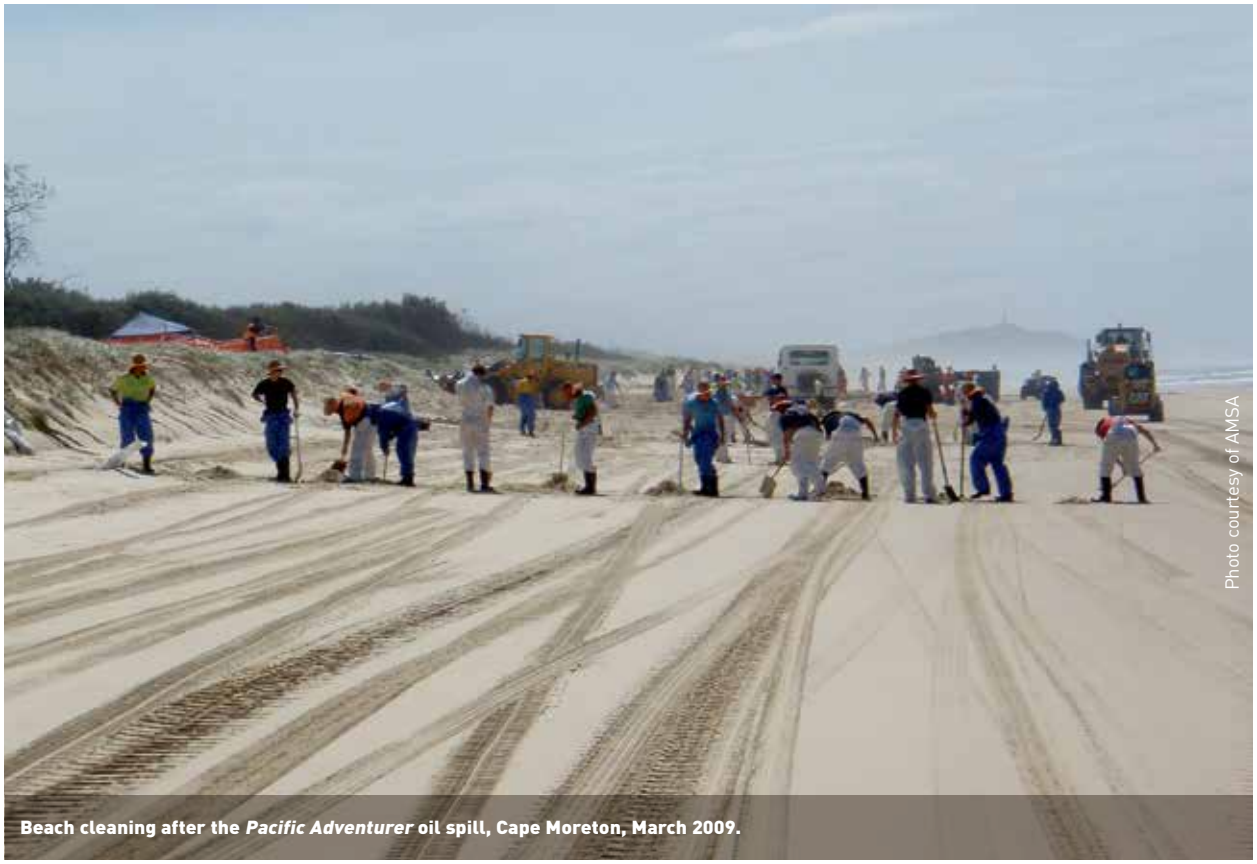

Photo courtesy of AMSA

Beach cleaning after the *Pacific Adventurer* oil spill, Cape Moreton, March 2009.

response. However, they found they could only spend an hour or so spraying over the site by the aircraft in daylight hours only, as they needed most of their fuel to get to the oil and back.

The next challenge was who to send in boats to chase the oil, capture it and collect it.

"Most of the people there were not mariners – we needed to make sure that the responders we sent out there were not going to be sea-sick the first day."

Among various workforce issues was the need to perform crew changes via helicopter. "You can't fly in the chopper without having done a helicopter underwater escape training course, so we had to organise those things, which most people didn't have. Then we had to ask, did they have the ability to climb a ladder and climb down onto a rig boat off a crane and onto a rig boat and be able to transfer from one to the other? All those sorts of things."

Finding the oil by plane was proving difficult, until long-range AMSA surveillance aircraft arrived – and even then, Captain Edgley says, "trying to find the stuff is like trying to find a needle in a haystack".

"Early on, we dropped some personal, DART buoys over the side, the kind used for people who are lost at sea, because they have roughly the same profile laying in the water as oil would. It worked well, they resembled the flow of oil – so with satellite imagery, we could have an educated guess at where the oil was heading.

"Satellite imagery is ok sometimes, but it also picks up cloud and algal blooms and things like that, but put together with infrared, ultra-violet and predictive models and we got a reasonable feel for where the oil was."

"The weather had changed up there and there was absolutely no wind. It was flat calm, so the oil was entirely affected by the current and the current maps were showing no really strong current.

"I could remember when I was at sea and going across the Pacific to the States, they have a lot of these seamounts, off the ocean floor, just like peaks.

Photo courtesy of AMSA

The *Pacific Adventurer* after the disaster.

"This was pre-GPS days, and your only navigational tool was the sextant, and if you'd get a few cloudy days and couldn't take a sight, you might not know exactly where you were. What we could tell, we had charts of the ocean, and these showed the positions of submerged seamounts which became gatherers of junk. These were acres wide, paddocks of rubbish, as the eddy currents around these sea mounts just kept all the rubbish around the top of it, when there was no wind. From this information we were able to predict our position more accurately."

Captain Edgley says he decided to use the same example and examine the sea mounts near the Montara spill by aerial observation, and found "great big patches" of oil that could then be recovered.

Until now, training in the National Plan has been technically-based. The new training program represents a shift to more competency-based training, with formal assessment. It has come as a result of a number of recent experiences that have highlighted the need for better, more consistent competency across the board.

Among those is the Moreton Island spill in 2009. AMSA and Maritime Safety Queensland launched a review into the response to that incident to be conducted by an independent analysis team. The team issued its findings in 2010 and amongst other recommendations, called for better integration between the National Plan and state and Northern Territory disaster management plans, while allowing for command and control to remain under established National Plan procedures, even in the event of disaster management legislation being triggered.

As well, it urged AMSA, the states and NT to raise greater awareness of the national, state and NT plans amongst disaster and emergency management agencies, local government authorities and environment management agencies, "key players who play vital roles in support of the plans, but which in many cases may not be fully aware of the national/state/NT plans, relevant policies and procedures, nor their roles and responsibilities under the plans."

Jamie Storrie, AMSA's Manager, Marine Environment Pollution Response says

Photo courtesy of AMSA

The bulk carrier *Pasha Bulker* grounded at Nobby's Beach, Newcastle, NSW, June 2007.

other drivers of the new training system included the desire to learn from other emergency services, and 2009 Victorian Bushfires Royal Commission findings around training standards.

There was also now some acknowledgement that while oil and chemical spill response planning has been seen as sitting to the side of emergency services, authorities could no longer afford to treat it this way.

"The Moreton Island oil spill in particular really highlighted the need to be part of the broader disaster management or emergency management within the state," Mr Storrie says.

"There were difficulties of integration, so there was an acknowledgement that we needed to work much closer. The training is part of that."

AMSA has contracted AEMI to develop three courses, one for incident controllers, an operations management course and a logistics course.

"AEMI's able to do this because of their broader background in emergency management," Mr Storrie says.

"We have a different provider running a base level, incident management team course, and we're trying to set up a pathway where people who work in incident control centres would do an incident management team course, then specialise."

The National Plan funds the training, which is made available to states and the Northern Territory, as well as oil industry personnel.

"There are very few full-time professionals, the rest are a mix of harbour masters, port authority managers, transport agency personnel from a range of backgrounds.

"In a lot of ways, to look at the workforce we have, while it's part of their job, they wouldn't be any different

to say a volunteer firefighter or SES in terms of the amount of time that they can focus on preparing and training – we effectively treat them as volunteers, even if it is a part of their job."

The new training is also timely. Shipping movement in Australia is expected to increase by 20 per cent in the next five years, potentially increasing the chances of oil spills and other incidents.

"That's 20 per cent of the country as a whole," Mr Storrie says.

"There are places in the north-west where you're looking at 200-300 per cent over the next 10 years with the minerals export growth and the pressure to keep the ships moving."

It's a sobering prospect, considering the damage a spill can cause, environmentally, economically and to public health and safety. Not to mention the years of recovery work it can require over hundreds, or thousands, of square kilometres.

Mr Storrie says the National Plan approach to responding to spills makes it different to other emergencies, and the response team generally adopts a long-haul response from the start.

"We're moving large equipment and slow moving vessels so we move into very much a campaign type response operation rather than an immediate fast moving response," he says.

"The equipment is big, we operate offshore, we have aircrafts. We look at mobilisation nationally of those things and internationally as well."

"The National Plan has a very strong focus on interstate assistance at an early stage, and states will ask for help from others extremely early in the process," he says. For example, Queensland would call AMSA, ask for 30 people, and AMSA would draw them from other states.

Mr Storrie's own background is as an environmental scientist. He initially worked at Great Barrier Reef Marine Park Authority. Early in his career, he advised on spill responses and later moved into emergency management.

"Oil spills require a very high level of science support. Environmental protection is a high priority and drives a lot of our decision making so that environmental background is an appreciated skill set in the response planning," he says.

"At this stage, AMSA plans to run four incident management team courses, to train up to 100 people in total in a year," Mr Storrie says.

In each of the specialist courses, AMSA is hoping to train between 12-25 people a year.

"What I'm hoping is it will provide us with a highly skilled workforce, a workforce that can integrate better with emergency services when required and that will have a better focus on the management skills that are required," Mr Storrie says.

"The previous training structure was very good on the technical approach to spill response. What we're hoping is to get a mix of how you do it, technically, and the emergency management processes. If we can get that meeting of the minds, so to speak, then we'll have met our objectives."

The launch of the new training also coincides with the National Strategy for Disaster Resilience, adopted by the Council of Australian Governments in February 2011.

The aim of the strategy is to increase Australia's capacity to deal with disasters.

"We must work with the people and organisations that can effect the necessary changes, and empower individuals and communities to exercise choice and take responsibility," the strategy says.

"Our planning approaches must include risk reduction strategies and our capacity to deal with disasters must be enhanced by greater flexibility and adaptability of our emergency services agencies and communities."

It also highlights the importance of drawing on the expertise and capacity of various agencies and organisations to achieve the best possible results. "Partnerships across and within governments, businesses, the not-for-profit sector and the community, will create a well-informed, integrated and coordinated approach to increasing disaster resilience. The result will be a more resilient nation," the strategy says.

Despite all of his experience with major incidents, Captain Edgley says the course he attended at AEMI, for incident controllers, was challenging enough to make him "sweat".

He is a strong believer in uniform national planning and national standards and hopes the new training will forge greater cohesion among all parties involved.

"You rock up to one of these incidents and find someone was trained a particular way, or their procedure for operating gear are different. We persevere and make it work, but it has probably made the task a little bit harder," he says.

"So aligning ourselves with these public safety training packages and the likes of the Australian Emergency Management Institute has given us a foundation where we can ensure that everyone's trained the same and will react the same," he says.

"Obviously AEMI don't have a great deal of experience with oil spill responses, but emergency management is emergency management, and that is their forte. Yes, there are peculiarities with oil spill response, because you don't necessarily know what you've got. You can turn up at an incident and you can't see anything – the oil may be sub-surface, it may be dark or it might still be contained in the ship – but in the end it's not that wildly different from managing any other emergency operation."

Captain Edgley says he welcomed the chance to learn from full-time professional emergency services personnel.

"Some people might wonder what someone from a fire service can teach about oil spill response. Well, I believe they can. They might not have the technical knowledge but they certainly know how to run an emergency."

About the author

Kate Lahey is a senior journalist, commissioned by the Attorney-General's Department. Kate has been tasked with interviewing key Australian Government representatives and community members to share their stories on recent natural and man-made hazard events.