PAJ Expert Training in Singapore (at Semco)

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The PAJ Equipment Stockpile Base in Singapore has, for a number of years now, been stored and maintained by Singapore Oil Spill Response Centre (SOSRC), part of Semco Salvage and Marine, and based in Jurong, Singapore.

Over the years we have hosted numerous visits by delegations from PAJ, including some which were part of oil spill training courses, and in August of 1999 a 5 day training course for fifteen PAJ delegates was held. The value of such oil spill training courses cannot be under-estimated and the course was designed to provide a good understanding of techniques as well realistic practical training in "at sea" and "onshore" response. Singapore Oil Spill Response Centre has responded to many oil spills, recently averaging nearly one a week, and the intention on the PAJ training course was to pass on to the delegates as much of that experience as possible. Some responses have also included the extensive use of PAJ's equipment, not only from the Singapore stockpile but also from Port Klang, Malaysia, most notably on the "Evoikos" tanker spill in October 1997, when nearly 29,000 Tonnes of fuel oil was spilt as a result of a collision with another tanker, the "Orapin Global".

The course opened with an initial visit and introduction to Singapore Oil Spill Response Centre, which included a tour of all the facilities with particular emphasis on the PAJ equipment. This was followed up with a visit to the Port Operations Control Centre of the Maritime and Port Authority of Singapore, which put into context the wider aspects of marine emergency response and how such incidents are controlled and dealt with in Singapore waters.

On day 2 of the course the training included a detailed look at what happens when oil is spilt, how it moves and how it effects the marine environment. A simple plotting exercise was also

carried out, which demonstrated that even with basic information it is still possible to usefully predict where spilled oil may move as a result of the effect of wind and current. Time was also spent on reviewing planning for an effective response as well as response strategies, and a case history was also covered to demonstrate how the theories were put into practice on a real incident. The third day of the course looked at response equipment in more detail, including Booms, Skimmers, Storage and Dispersant spray systems. Of course each type of system has different purposes, capabilities and limitations in its use, and all of the PAJ systems as well as those of Singapore Oil Spill Response Centre were studied in detail. The first of three practical exercises was also held on this day, with the exercise being carried as if it was a response to an incident, and the scenario being a spillage of fuel oil into a harbour during fuelling operations. As with the later exercises, a briefing was held beforehand with the delegates themselves deciding on how they would deal with the situation, and a de-briefing afterwards to review the operation.

Day 4 of the course was an entirely practical day, with a major exercise being carried out on the shoreline at one of the small islands nearby to Singapore's southern shore. This location, Lazarus Island, had been especially chosen because it combined the problems of actually using equipment on site with the logistical difficulties of responding to a location that does not have easy access. In addition, the location has a small fuelling jetty and is very close to the shipping lanes in Singapore's main strait, so the exercise had the added realism of being at a location that is very likely to suffer from the effects of an oil spill and therefore may someday require a real response operation to be mounted. Again a briefing was held beforehand with the delegates deciding on how they would respond to the simulated incident, and this time they formed themselves into two teams to carry out the various tasks involved. The fuelling jetty was boomed off and skimmers and storage tanks deployed, as well as mounting a beach clean-up operation using vacuum skimmers, hoppers and storage tanks. This beach clean-up work

required that the equipment had to be transported some distance to site and this was very effectively carried out by the delegates, despite having to move everything by hand along the jetty, down a steep incline, through a wooded area and eventually on to the beach! Once all the equipment had been deployed, the team roles were reversed so no one was spared the chance to struggle through the woods carrying awkward and heavy equipment on a hot and humid day!

On the 5th and final day, some of the broader issues of responding to a spill were addressed, such as practically managing the response operation and dealing with the media. In addition the problems of oily waste disposal and dealing with inland incidents were also discussed and the day culminated in yet another practical exercise, this time simulating a response operation at sea. The scenario this time was a collision between two vessels resulting in a spillage of oil, a not uncommon occurrence in Singapore's crowded shipping lanes. The equipment used in the simulated response was transported by barge all the way from Semco's base and the delegates, again acting as the clean-up team, also travelled to site on the same vessel. A 250 metre boom was deployed around the stern of the "spilling" vessel to simulate containing the oil and large skimmers and storage tanks were used to simulate oil recovery, again all very effectively carried out by the delegates themselves. The main conclusion drawn by everyone involved in this exercise was that although deploying equipment may not be technically very difficult, it is certainly very hard work and at the end of the day everyone was totally exhausted!

By the end of the course, everyone felt they had gained considerable benefit from the training that had been carried out, not least by myself and the rest of the Singapore Oil Spill Response Centre staff. All involved should now have a better perspective of the theoretical and practical issues involved in responding to an oil spill and will be well able to make a valuable contribution to any response operation.