SECTION 4. MEDICAL RESPONSE TO THE INCIDENT

4.1 The fire in HMAS WESTRALIA resulted in 10 documented casualties- four deaths and six injuries. Three of the injured occurred within the first few minutes of the outbreak of the fire. Within about 20 minutes the four eventual fatalities were listed as missing. In this context, the ship's Medical Department, was faced with a task beyond their capability to deal with unassisted. On this basis, the incident can be regarded as a mass casualty incident.

4.2 The four personnel who died were all located within the MMS when the fire started. Five other personnel in the MMS at the outbreak of the fire successfully escaped. Three of these suffered from smoke inhalation, two also having minor burns. There were three subsequent casualties amongst those involved in fighting the fire, two with smoke inhalation, (one of whom also suffered an acute stress reaction), and one with an acute stress reaction.

4.3 An indeterminate number of personnel suffered the effects of stress associated with the incident and the loss of shipmates. These personnel were initially managed on board, and the Critical Incident Stress Management (CISM) process was employed to provide support. Details of CISM are included in Section 6.

SHIP'S EMERGENCY MEDICAL ORGANISATION

4.4 A ship's emergency medical organisation is designed to most effectively utilise the available medical resources during a mass casualty incident. It ensures that the limited resources available are managed in such a way that casualties are afforded the necessary treatment to save life during the early stages of any incident, and are subsequently managed and evacuated with the aim of minimising death and long term morbidity. Important principles involved in achieving this aim include the use of triage to prioritise casualties for care, and effective coordination of resources (importantly personnel and their skills).

4.5 On 5 May 98, HMAS WESTRALIA's emergency medical organisation consisted of eight personnel - PO Plant, three personnel in the Forward First Aid Post (FAP), and four in the After First Aid Post/Emergency Operating Space.[E347] Six of the seven personnel in the FAPs were Ship's Medical Emergency Team (SMET) members, the seventh being AB Moffatt, loaned from HMAS STIRLING the day prior to sailing. SMET personnel are non-medical members of the ship's company, usually drawn from the Supply Department, who are provided advanced first aid and casualty management training to allow them to assist medical staff in the provision of medical care to casualties, including monitoring their condition and identifying clinical deterioration. The ship did not carry a MO, and PO Plant was responsible for managing all aspects of the medical response.

4.6 In the course of the incident, the emergency medical organisation was supplemented with medical staff from STIRLING and ships in company. The expanded team consisted of two medical officers, seven medical sailors, and six SMET personnel. A number of other non-medical personnel also undertook medically related activities. Key personnel involved were:

POMED SJ Plant	Senior Medical Sailor, WESTRALIA;
LEUT AJ Eggerling, RAN	Medical Officer, SUCCESS;

LEUT MJ STONE, RAN	Medical Officer, STIRLING;
WOMED SA SMITH	Fleet Warrant Officer Medical; and
LSWTR AA Page	I/C Ship's Medical Emergency Teams, WESTRALIA.

INITIAL MEDICAL RESPONSE

4.7 Medical Department administration and management is governed by Ship's Standing Orders, Chapter 9.[E468] Detail on responses to ship board emergencies in SSOs is limited. Four Standard Operating Procedures (SOPs) were tendered in evidence governing the actions of the medical organisation in emergencies.[E313-5] These SOPs covered Toxic Hazard and Casualty Incidents as well as Action Stations and Emergency Stations. A Duty SMET of three personnel is maintained each day at sea to attend to such incidents.[T1206, T1211, E313, E418]

4.8 The SOP for Emergency Stations requires that SMET members close up at their designated FAPs – the Junior Sailors' Café and RASCO. The Casualty SOP requires the Duty SMET and medical sailor to attend the scene for initial evaluation. No SOP for SSFB incidents exists, and PO Plant gave evidence that normal practice is for there to be no medical response unless a casualty occurs. Both he and the SMET members are on standby, listening for further pipes.[T1212] PO Plant gave evidence that in the planning of medical responses to emergencies he was concerned to ensure medical personnel were not placed in danger.[T1216]

4.9 SSFB practice is for the I/C to be positioned so as to be able to coordinate the activities from a position of safety, and it seems reasonable for the Duty SMET to muster in the vicinity of the I/C SSFB. The Duty SMET should consist of two personnel, one from each FAP, and, should casualties occur, they will be in a position to render initial care, and arrange for evacuation further from the scene. Should the ship be sent to Emergency Stations as a consequence of the incident, the FAP that is closest to the scene and therefore likely to deal with casualties will be able to be supplemented by the Duty SMET.

4.10 PO Plant stated that he was concerned by this pipe as SMET personnel should be directed by him.[T1216] In this incident, casualties occurred coincident with the decision to send the ship to emergency stations. The pipe 'SMET Team muster MCR' was interpreted as a direction for all SMET members to muster. PO Plant stated that he was concerned by this pipe as SMET activities should be managed by him.

4.11 There would have been an advantage in the Duty SMET mustering in a suitable location in conjunction with SSFB at the time of the initial fuel leak occurring. Two SMET members would have been available to provide necessary assistance and first aid to the casualties. Once the ship went to Emergency Stations, the PO would have been able to direct his SMET resources from HQ1. This might have proved important had casualties evacuated from other entries to the MMS resulting in them being grouped elsewhere.

Conclusion

4.12 The initial medical response proved to be appropriate. Improved flexibility would have been achieved had the Duty SMET been mustered in conjunction with the SSFB from the outset.

Recommendation

4.13 Medical SOPs should reflect a requirement for the Duty SMET to muster with SSFB on all occasions so as to be in a position to render initial first aid if casualties occur during an incident. If a ship then goes to Emergency Stations, non-Duty SMET members should muster at their designated First Aid Post.

REPORTING OF MISSING PERSONNEL

4.14 LCDR Crouch told the Board that he was not entirely clear how the numbers and names of the missing and injured were collated by HQ1, observing that information on the casualty status (missing and injured) came into HQ1 from a variety of sources.[T2963, T3179]

4.15 On his arrival in HQ1, LCDR Crouch believed that one person (PO Smith) had been trapped in the MMS. He began making pipes for him.[T2836, T2963] A provisional list of personnel missing was made and written on the perspex table top in HQ1.[E127B, E129] The information was compiled, firstly from personnel who had not mustered at their Emergency Stations, and secondly from the MCR Peg Board.[T2317, T2837] There is no evidence of any systematic checking off of names as they were accounted for. This is consistent with PO Edmonds evidence that HQ1 took a 'mental head count' of others as they were subsequently reported in from the Bridge and Repair Bases.[T2326]

4.16 LCDR Jones, the Executive Officer, went to find out from the injured whether they had any more information on those left in the MMS.[T1525, T1545, T1565] PO Francis wrote in his notebook the names of those personnel who he believed were in the MMS at the time the fire commenced.[E109, T1491-2] LCDR Jones took the notebook to HQ1 to assist in the confirmation of the names.[T1525, T1565]

4.17 The names and suspected last locations of MIDN Pelly, PO Smith, LS Meek and AB Carroll were entered in the HQ1 narrative prior to the CO_2 drench.[T1912, T1913, E18] A number of pipes were made for these personnel, both before and after the first CO_2 drench.[T497, T1938, T1939] As a final check, LCDR Crouch instructed WO Bottomley to return to the MCR to read the firemain pressure, but with the implicit direction, understood by both, to check that there were no casualties who had escaped into the MCR.[T2837, T57] He returned to advise he had found no one.[T2837]

4.18 The evidence is unclear as to exactly when and in what order the missing personnel were notified to command. CMDR Dietrich was informed of the first missing person (PO Smith) by LCDR Crouch through the internal telephone system, coincident with the latter's first recommendation that a CO_2 drench be activated.[T3150, T2836] This is consistent with the first message regarding the incident, sent at 1058, which advised of three injured and PO Smith missing.[E48, T3150, T3165]

4.19 There was conflict in the evidence as to when the fourth person was confirmed missing. LEUT Gishubl in HQ1 gave evidence that four personnel were known to be missing before the CO_2 drench,[T521] and CMDR Dietrich stated he was also aware sometime between the first SITREP signal being sent (at 1058 [E48]) and the CO_2 drench that four personnel were missing, and of their names, stating that MIDN Pelly's name was the last to be added (although her name was in one of the pipes recorded on the bridge tape).[T3150, T3179, E91] LEUT Shawcross stated that the fact that there was a fourth

missing person was not known until about an hour and a half after the incident occurred.[T1927] LEUT Shawcross's evidence is consistent with the second message, sent at 1117, which reported the CO_2 drench had been activated and only three personnel missing,[E48] and an entry in the OOW Notebook that only three personnel were missing at 1124.[E16A]

4.20 It seems likely that key personnel, including the CO and Engineer, were aware of all four missing personnel at the time of the CO_2 drench, however this information was not widely appreciated, and led to at least one inaccurate message being sent to external authorities.

Conclusion

4.21 The initial identification of missing personnel was achieved as quickly as practicable under the circumstances, but was completed in HQ1 in a non-systematic way. The initial notification to external authorities was inaccurate.

INITIAL MANAGEMENT AND REPORTING OF THE FATALITIES

4.22 The first fatality, LS Meek, was found by the second hose team to enter the MMS after the CO_2 drench. He was found on the top plates and, after the absence of a pulse was established by the I/C, was moved to the base of the fridge flat ladder.[E50A] He was attended by a number of personnel, who put him in a Paraguard stretcher and placed an ELSRD on him.[T2008, E159, E172, E101A, E41] There appeared to be some initial uncertainty amongst some personnel as to whether he was, in fact, deceased.[E101A, T2415]

4.23 The report of LS Meek's discovery was recorded in HQ1 (where the location was erroneously noted as middle plates) at 1205.[E18, E129] LEUT Ewington, at Aft DC, stated that the report included the statement that LS Meek did not have a pulse.[E46] Evidence was given by LEUT Gishubl that in HQ1 he heard that the casualty was moving or alive [E38A] and by LEUT Shawcross that he had a pulse.[T1940] Neither officer could recall specifically who the report came from, but LEUT Shawcross stated that it came from Aft DC.[T1940] About 15 minutes later, HQ1 heard by telephone that there was no pulse and the casualty was dead.[E38A, E126, T1914] The source of these reports has not been able to be determined, however it is clear that there was initial uncertainty in HQ1 as to the whether the casualty was alive or dead.

4.24 In response to this uncertainty PO Plant, LEUT Eggerling, and AB Moffatt relocated to port side Tank Deck immediately forward of the superstructure and set up a resuscitation bay. Equipment available included a blanket, Thomas Pack, intravenous fluids [E57A] and defibrillator.[E150]

4.25 The other three fatalities were discovered by Hose Team 1 on the middle plates. On each occasion, the Team I/C, LS Daly, confirmed that there was no pulse, feeling through his antiflash gloves, and on two occasions provided reports personally to personnel at the fridge flat door. These reports were not accurately recorded anywhere. Aft DC recorded 'casualty middle plates No 2 Hose Team'.[E14, T716-7] The timing of this report is consistent with the discoveries of Hose Team 1, which exited the MMS at 1234. LS Daly made two reports to someone at the fridge flat. His evidence on the latter report is consistent with AB Munday's evidence that, while she was attending to LS Meek after he had been placed in the Paraguard, someone told her of 'three casualties in the

middle plates port side'.[T353] It seems likely that the 1229 casualty entry on the Aft DC incident board refers to the latter report of LS Daly. This discovery was not recorded in HQ1 at that time.

4.26 Reports of a further two fatalities being found are recorded (as 'second' and 'third') in HQ1 at 1240 and 1244, but these times are inconsistent with the known period that hose team 1 was in the MMS.[E129] LEUT Shawcross stated that these reports came from Aft DC.[T1940, E18] Evidence was given that, when Hose Team 2 came to the previously discovered bodies on the middle plates, at least one report was passed to someone in the fridge flat.[E187, E386] The records in HQ1 of the discovery of the second and third fatalities are inaccurate and almost certainly relate to these later reports.

Conclusions

4.27 The source of the inaccurate information that the first casualty found in the MMS may have been alive has not been established. It may have derived from the request for an ELSRD, or the transfer of comments or concerns expressed by those attending to LS Meek. There appears to have been a failure to pass clear casualty information over the normal communications circuits.

4.28 The initial assessment of the casualties by members of the hose teams was appropriate, but was hampered by antiflash gloves, which should have been taken off.

4.29 The placing of LS Meek in a Paraguard stretcher was uneccessary. If extrication was required to allow attempts at resuscitation it should have been done by the quickest available means, and if resuscitation was not to be attempted the evolution was unnecessary.

4.30 The establishment of a casualty reception bay following the receipt of information that one of the casualties in the MMS may have been alive was appropriate. The bay was adequately equipped under the circumstances.

Recommendations

4.31 The importance of clear and concise casualty information being passed over normal communications circuits should be emphasised in damage control training.

4.32 The importance of making the key decision as to whether or not casualties discovered at an incident scene require emergency extrication should be emphasised in damage control training.

4.33 The limitations of stretcher capability should be emphasised in damage control training.

MEDICAL STAFF SUPPLEMENTATION

4.34 The first request for the provision of supplementary medical staff was made within 15 minutes of the outbreak of the fire. WESTRALIA's emergency medical organisation were solely responsible for providing immediate medical care to the injured

until the arrival at 1145 of the two MOs and CPOMED. Three of the injured (those with smoke inhalation) had the potential to deteriorate.

4.35 Further medical support was requested from ships in company at 1236, and these additional personnel were transferred by boat and helicopter within 20 minutes. It seems likely that this further supplementation was initiated in response to PO Plant's request of HQ1 for assistance with casualty extrication.

4.36 By 1300, there were a total of nine medical personnel embarked: two MOs, four Skill Grade 4 medical sailors and three Skill Grade 3 medical sailors. The two key personnel, LEUT Eggerling and PO Plant, were in the MMS. WO Smith was at RASCO attending to the injured with the SMETs. The remainder, including the second MO and five medical sailors, were located on the port side tank Deck awaiting the outcome of PO Plant's and LEUT Eggerling's inspection of the casualties in the MMS.

4.37 With the number of injured under treatment, the personnel unaccounted for and the ever-present risk of further injury to personnel fighting the fire, the decision to request medical staff supplementation was clearly necessary.

Conclusion

4.38 Medical staff supplementation was appropriately requested and promptly provided.

MANAGEMENT OF THE INJURED AT RASCO

4.39 The overall management and supervision of the injured were in the hands of LS Page for most of the time prior to their medevac. There were a number of interventions by PO Plant in the stages leading up to the arrival of the first medical officer, these being limited to the provision of specific medical procedures and advice. One of the MOs and CPO Bonner were in attendance from about 1150 to 1245, but they were involved principally with individual assessment and treatment, and liaison with FBWHC and command regarding the medevac. WO Smith arrived at 1250 and provided guidance in the ongoing management prior to the medevac. She said in her evidence that LS Page gave her a good handover on each of the casualties and had taken control.[T903]

4.40 Throughout the day, LS Page supervised the monitoring and general care of the injured by the SMET members.[T1219] Her skill at doing this was commended by a number of personnel, both medical staff and casualties. CPO Bonner noted she was well in control and displayed professionalism and concern for her casualties.[T1059] PO Hollis commended her for calming and reassuring him.[E124A] PO Hollis also gave evidence that in the early stages of the incident, she took charge of the SMET members as well as caring for him.[T1875] PO Francis also noted she did a great job leading the SMET members.[E109]

Conclusions

4.41 The provision of continuing medical care of the injured was left to the SMET members and was well carried out.

MEDICAL EVACUATION OF CASUALTIES

4.42 Neither PO Plant nor the two MOs were involved in the medevac planning process. No medical escort was provided during the flight. LEUT Eggerling agreed that it would have been preferable to have had one, and she would have provided at least a SMET member.[T875] LEUT Stone gave evidence that he left instructions for a medic to accompany the patients, but there is no evidence that this instruction was passed on to LS Page or WO Smith. Dr Mark offered the opinion that the lack of a medical escort during the medevac had no impact on the patients' care.[T3225, T3231]

4.43 Whilst the lack of positive control over the medevac process by medical staff had no adverse impact on casualty outcome, this was due to the short duration of the flight and the lack of any deterioration in the smoke inhalation casualties. Positive medical control of a medevac is necessary to ensure that all measures are in place to reduce the impact of any unexpected deterioration in the condition of the casualties.

Conclusion

4.44 The decision to implement the medevac was taken by command without consultation with either of the two key medical personnel who were in the MMS at the time. Inadequate consideration was given to the preparation of the injured for medevac or their requirements in flight, and this resulted in no medical escort being despatched, and the management of the intravenous lines being an afterthought. Despite these shortcomings, there was no adverse impact on casualty care.

FATALITY EXTRICATION

4.45 The fatality extrication process took in excess of two hours. There were problems related to the lifting the bodies, both from middle plates to top plates, and then to the fridge flat. These were overcome by the use of two-fold purchases. There were also problems with the quality of the body bags.

4.46 The usual practice of casualty extrication from WESTRALIA's MMS is in a stretcher using the MMS hoist. In the event that the hoist is unserviceable, casualty extrication is usually undertaken in a Paraguard because the ladders are considered too narrow and steep to carry casualties up. In exercises of this nature, the evolution is time consuming and tiring because of the steep ladder.[T1234, T1356-7] LCDR Crouch stated that stretchers, fire hose lifts, and man carries have been used to get people out of the MMS during exercises [T2957], but the NBCD Training Officer, SBLT Plummer, gave evidence that since she had been on board, the ship had always used the Paraguard stretcher to extricate casualties from the MMS. Fire hose lifts had been considered, but had never been used in the MMS.[T1163-4] WO Baker agreed that fire hose lifts were not exercised in these circumstances because it would place the simulated casualty at risk.[T2412-3]

4.47 The extrication of the casualties was made more difficult by the lack of a suitable stretcher. LS Nunn gave evidence that he asked for a Stokes Litter as it would have been better, but none was carried on board.[E101A] He observed that the Stokes litter replacement, the Ferno Washington would also have been capable of getting a casualty out, but he felt the material was unsuitable as it would be a hazard in the heat.[T1353-4]

4.48 The body bags were not properly sewn together and the zippers kept breaking. The carry handles were inadequate and the fatalities had to be placed in poleless litters to allow easier carrying.[E378A, T1303]

4.49 The decision to remove the fatalities from the MMS was taken to allow the CO to confirm positive identification and to reduce the possibility of stress on those attending the fire scene. The procedure took a considerable amount of time and a large number of people, and was particularly difficult. Positive identification had been established by PO Plant by 1330, and each of the bodies could have been covered and moved to a discrete and dignified location. When the ship came alongside, people used to handling bodies could have undertaken casualty extrication.

Conclusions

4.50 Although the circumstances that led to the decision to remove the fatalities from the MMS are understandable, a better course may have been to leave them within the MMS, covered and placed in a suitable location.

4.51 The quality of body bags and the lack of a suitable and serviceable stretcher inhibited the fatality extrication process. Extrication was delayed because there was a lack of ready appreciation of mechanisms that could be employed in order to lift casualties in the event the hoist was unserviceable.

4.52 The difficulties encountered in extricating the fatalities highlighted the potential for significant problems had urgent extrication of a live casualty from the MMS been required.

Recommendations

4.53 The quality and suitability of current service issue body bags should be investigated.

4.54 Stretcher requirements for the extrication of casualties should be reviewed.

4.55 Training in the use of all means of casualty extrication from compartments should be regularly conducted, emphasising methods that allow the evolution to be conducted rapidly. Ships should consider the provision of suitable lifting mechanisms to aid the rapid manual extrication of casualties.

MEDICAL INCIDENT MANAGEMENT

4.56 After the initial stabilisation of the injured at RASCO, positive control of the varied medical activities on board seems not to have occurred.

4.57 After the establishment of the resuscitation bay at about 1215, PO Plant spent most of his time attending to the fatalities. In particular, he was in the MMS at the time of the arrangement of the medevac. The second key member of the medical team, LEUT Eggerling, who was the more operationally experienced of the two MOs embarked, was similarly occupied. The other MO joined medical staff on the tank deck shortly before 1300 awaiting the possible recovery of the missing from the MMS, as did all the medical

sailors apart from WO Smith who found only SMETs attending the injured when she arrived at RASCO.[E54A, E55A, E61, E70, E84, E151]

4.58 There were two direct consequences of this situation:

a. the injured were attended to by SMET members, and later WO Smith, with no other MO or medical sailor assistance; and

b. there was no positive coordination of the medevac by medical staff, resulting in a disorganised departure with only passing consideration of the casualties' needs, and failure to embark a medical escort of any type in the aircraft.

4.59 LCDR Opie who, as the ship's Supply Officer, has the role of providing help, resources and guidance, whilst leaving the coordination of the medical response to the POMED, stated that he felt that PO Plant coordinated the response, drawing on the knowledge and expertise of the two MOs as necessary.[T2290] PO Plant was clear in his own mind that his role was managing and delegating the resources available to provide the best care to all casualties.[T1225] LEUT Eggerling was also of the view that PO Plant was controlling the situation.[E57] CPO Bonner gave evidence that he left the overall casualty management organisation to PO Plant as it was 'his ship', but noted that LEUT Eggerling had a lot of input, mostly in relation to clinical matters.[T1071]

4.60 On the other hand, WO Smith stated that she was not sure who was coordinating the response because she did not know who was on board.[T903] In his evidence, LEUT Stone summed up the situation on board in the following terms:

> I guess [there was] some confusion in what role each of us was really playing . . . that stemmed from the confusion that it all happened very quickly. In retrospect, I think the casualty management organisation . . . was quite confused. . . . It seemed to be very much a joint decision-making [process] along the way. PO Plant . . . necessarily took charge of the extraction teams, but the overall [person] in charge was certainly unclear.[T1043-4]

4.61 While this situation did not, in the event, cause any difficulties, had the condition of one of the injured deteriorated significantly, or had another serious injury occurred, the response may have been sub optimal. Better medical incident management would have resulted had HMAS SUCCESS's MO had prime responsibility handed over to her on her arrival on board, with the POMED acting as the key expert on ship specific matters. Neither should have been involved in activities in the MMS. The second MO, accompanied by another member of WESTRALIA's ship's company (not necessarily a member of the medical staff), could have performed the task of identification and certification of the fatalities, and there were sufficient other personnel on board to undertake casualty extrication should it have been deemed necessary.

4.62 Notwithstanding the problems with overall coordination, PO Plant received high praise from many personnel. LEUT Eggerling praised him for his untiring and ceaseless efforts to control the situation and ensure the safety and well-being of all personnel involved in casualty handling.[E57] LS Page stated that his calmness and direction gave her strength to do her job.[E161] LS Nix commented on his calmness when casualty reports were requested when PO Plant was busy.[E383] AB Osmon remarked that he was instrumental in holding the medical personnel together.[E150]

Medical Incident Management Training

4.63 Inadequacies of the coordination of the medical response appear to have resulted from a lack of training. LEUT Eggerling stated that she had not received any specific training in shipboard mass casualty management. While she had done a number of Navy-specific medical and other courses, and had completed the Early Management of Severe Trauma course (run by the Royal Australian College of Surgeons), none of these specifically covered the issue of management of a ship's emergency medical organisation, particularly in mass casualty incidents.[T872] LEUT Stone also stated that he had not done any courses where he was provided instruction in the management of mass casualties in a shipboard environment.[T1037]

4.64 PO Plant stated that he had received some training in his Phase 4 Course in mass casualty management, including actual scenarios with up to three casualties in a damage control environment. He stated that he had been given training in the management of the organisation on board in emergencies, but that did not cover in detail the SMET members.[T1226-1227] He completed his Phase 4 Course in December 1996, and WESTRALIA was his first sea posting since then.

4.65 The Leading Seaman Medics Course (authorised in April 1998) includes the subject 'Manage the Ship's Medical Emergency Team (in the absence of a Medical Officer)'.[E435] The Board is uncertain to what extent this includes the detail of managing mass casualty scenarios.

Conclusion

4.66 The Board is of the view that the medical incident management could have been achieved more effectively, and that this resulted in inappropriate disposition of medical personnel to meet overall requirements, and inadequate medical control of the medevac. This occurred because the ship's medical coordinator, and the more experienced of the two medical officers, had their attention diverted towards the identification and confirmation of death of the bodies in the MMS. The Board considers that the more experienced of the two MOs would have been better utilized if she had taken over the role of medical incident management on arrival, utilising the ship's senior medical sailor as her senior adviser in relation to ship-specific matters. The Board considers that this did not occur because of the inadequate training of MOs in shipboard medical incident management, and the relative inexperience of the senior medical sailor in this role.

Recommendations

4.67 Training of medical officers in shipboard medical incident management should be provided, with a particular emphasis on the need to assume control when embarked in response to a major incident with mass casualties.

4.68 The training of senior medical sailors should be reviewed to ensure that proper emphasis is placed on medical incident management in shipboard mass casualty incidents.

COMMUNICATION OF CASUALTY STATE

4.69 One of the key factors in effective mass casualty management is a clear understanding by command and the medical incident manager of the numbers and disposition of casualties. This allows for effective deployment of resources, and appropriate command decisions on priorities.

4.70 Most detailed casualty reports provided during the day bypassed the normal communications circuits and consequently were not recorded.[E46] LS Nunn gave evidence that CPO Jenkins told him to pass messages about casualties 'quietly' and not to 'make it well known', and that this is what CPO Jenkins had been telling everyone.[T1314, T1355] CPO Jenkins stated that he only spoke to LCDR Crouch about casualties.[T3971] LEUT Walters stated that he personally passed much of the information on casualty matters between HQ1 and Aft DC.[E43, T612] Additionally, CMDR Dietrich stated that LCDR Crouch personally updated him by telephone on the casualty state each time it changed.[T3179]

4.71 During all damage control incidents, casualty details should be entered on the DC state boards at HQ1 and Repair Bases as they are reported. These boards were markedly deficient in their recording of casualties.

4.72 In addition to the DC board in HQ1, Emergency Station SOPs require that a casualty state board be maintained in HQ1 by the senior medical sailor.[E312] In the event, PO Plant delegated this task to LS Nix.[E97] The casualty state board as tendered in evidence showed the three personnel initially injured, and the four deceased. Additionally AB Street is recorded as a casualty, but not AB Liddell. Locations of the personnel are recorded, but the only times noted are 'fridge flat 1536' against both MIDN Pelly and LS Meek.[E100] This detail is in error: the time recorded was during the first entry of the medical teams for casualty extrication, but the evidence is that MIDN Pelly and LS Meek were only positioned closer to the tiller flat at this time, rather than being lifted into the fridge flat.

4.73 The early information provided to external authorities highlighted the poor recording of the casualty status, with the first two messages reporting only three missing personnel. Signalled updating of the injured to the final total of five only occurred at the time the medevac occurred, which was nearly an hour after the final injured member presented.[E48] Additional detail on the status of the missing and injured was sent by telephone.[E121, E337, E365]

Conclusion

4.74 Casualty status awareness was complicated by the decision to keep casualty information perceived to be sensitive off the normal communications circuits. This resulted in inaccurate information being passed and a failure to keep proper records. Neither the DC state board nor the casualty state board was properly completed.

Recommendation

4.75 Damage control and medical training should include an emphasis on the need to pass clear information on casualty status through the normal communications circuits to ensure accurate tracking of casualty status throughout an incident so that appropriate management decisions can be made.

MEDICAL MATERIEL

4.76 Quantities of supplementary medical materiel were provided from a number of sources. LEUT Eggerling brought additional equipment with her when she was transferred from SUCCESS [E57A], and the STIRLING RHIB also brought a Thomas Pack and Oxy-viva with the medical team.[E70, E84]

4.77 When WO Smith arrived at RASCO, LS Page advised her that the ship was low on IV fluids, and at 1306 WESTRALIA requested the OSC arrange for some to be transferred. ADELAIDE did so at about 1310.[E61, E52] As the casualties were evacuated within 30 minutes, these items were not ultimately required.

4.78 LS Page commented that about 90 per cent of the medical equipment on board was held in the Sick Bay, and these stores were unable to be readily accessed because the Sick Bay was in the superstructure which was inside the smoke boundary.[E161] Within RASCO, there were two Burns Boxes, but she did not have the key. She did not believe there were any intravenous fluids at RASCO, but there were sufficient available from the aeromedical evacuation kits provided from STIRLING and SUCCESS.[T2447-8]

4.79 There were no significant defects with any specific items of equipment or materiel

Conclusion

4.80 There were adequate quantities of medical materiel available during the incident. Some difficulties were encountered at RASCO because access to the Sick Bay to replenish stocks was inhibited by smoke boundaries.

Recommendation

4.81 Medical materiel should be better distributed between the sickbay and the FAPs rather than concentrated in the sickbay.

SMET Jackets and Red Cross Brassards

4.82 The RAN has recently introduced a SMET jacket, which has several pockets in which medical materiel is carried by the SMET member. The jacket is designed to replace the bag previously used. A standard contents list has been published,[E255] and the jacket includes red crosses to replace the Red Cross brassard. PO Plant indicated that he had modified the contents to include additional items he considered necessary for casualty management, including intravenous fluids and stiff-neck collars.[T1213]

4.83 PO Plant stated that he does not use a SMET jacket, finding that he can carry in a first aid bag all those items that he requires in the initial management of casualties.[E97] AB Moffatt, having just joined the ship, provided himself with an ad hoc first aid bag.[E151]

4.84 The SMET personnel involved in the incident provided a number of comments in relation to their use around WESTRALIA.

4.85 AB Hutchinson stated she 'hates' the SMET jacket, commenting that it is 'not very good at all'. When filled up it is too bulky, and nothing else can be carried while wearing it.[T2328-9] LS Page gave evidence that the jacket gets stuck on everything when trying to get down hatches and things fall out. She has a bag that contains the same as the jacket, and it is easier to carry.[T2428] AB Gormly noted that the jacket is not ideal, and it is difficult to locate items in the pockets, with some tending to fall out.[E211]

4.86 The alternative view was offered by AB Osmon, who considered the jacket 'probably better' than a bag. He had not, and did not on the day, encounter any problems with it.[T2243-4]

4.87 A number of the supplementary medical personnel embarked reported some difficulty identifying who were SMET members when they arrived on board. LEUT Stone was unable to identify them because no one was wearing brassards.[T1044] CPO Bonner recognised the SMET members because of their bags and jackets, but again none had brassards.[T1066] In contrast, AB Hutchinson was able to readily identify WO Smith as a medical sailor as she was wearing a 'Red Cross thing through [her] epaulettes'.[T2332]

Conclusions

4.88 While there were no specific difficulties associated with the use of the SMET Jacket during the incident, HMAS WESTRALIA's SMET members find them inconvenient and awkward to use.

4.89 Medical personnel were difficult to identify because they were not wearing Red Cross Brassards.

Recommendations

4.90 The suitability of the SMET jacket should be further investigated.

4.91 All medical personnel, including SMET members, should be required to wear Red Cross Brassards when duty and when at Action or Emergency Stations.

MEDICAL TRAINING

Clinical Training

4.92 Apart from the previously noted lack of training in shipboard medical incident management, both the medical officers had undertaken the military specific courses appropriate to their needs on the day. In particular, they had both undertaken the Rotary Wing Aeromedical Evacuation Course and Early Management of Severe Trauma

Course.[T871, E70] The two medical sailors likewise had completed appropriate courses, although PO Plant had not done any refresher training in the period immediately preceding him joining the ship.[T1228] LEUT Eggerling stated that in her opinion PO Plant could have capably managed the injured for 24 hours without assistance.[T874]

4.93 All SMET personnel had completed the SMET Course, most within the preceding two years.[E316] The exception was LS Nix who completed his course in 1994, but had been posted to HMAS SWAN in a SMET role up to 1996.

4.94 The training of the SMET members was good. All SMET personnel interviewed stated that they had been trained to undertake all the tasks they were required to perform.[T2328, T2426, T2242] Additionally, none of the medical officers or sailors identified any deficiencies. PO Plant described his SMET members as a 'good bunch'.[T1207] LEUT Eggerling noted that the SMET members at RASCO were operating very efficiently.[T874] AB Moffatt commented that the SMET personnel performed really well, were reliable and 'got the job done'.[E151] There were no deficiencies in their skills.[T2261]

Ship Board Training

4.95 PO Plant undertook a program of regular shipboard training, directed particularly towards the provision of first aid skills to ship's company and SMET members. Additionally, since 01 Jan 98, two toxic hazard exercises, each with two casualties, and two major damage control exercises, the first with two casualties and the second with one, had been conducted.[E98]

4.96 The MMS fire exercise conducted on 30 Apr called for one casualty with a broken leg on the upper deck to occur in the early stages of the incident, with other casualties occurring if firefighting procedures were incorrectly performed. During the exercise, no personnel carried out their drills incorrectly, and only one casualty was simulated.[T1233, T2956-7]

4.97 Evidence was given that most fire exercises conducted in the MMS predominantly involve walking wounded who have been able to get up ladders with minimal assistance. Most casualty exercises in the MMS are toxic hazards where the crane can be used to winch the casualties to the fridge flat from the top plates.[T1164] Concern was expressed over the risks to personnel during exercises when lifting casualties out of the MMS in stretchers or using fire hose lifts.[T1164]

4.98 Little consideration had been given to exercising alternative means of extricating casualties from the MMS in the event that either the winch hoist was unserviceable or rapid evacuation was required. The lack of exercises in which realistic numbers and types of casualties were simulated, other than when Sea Training Group were embarked, exacerbated this.

4.99 PO Plant gave evidence that during most DC exercises he assumes the role of umpire, and therefore did not obtain much practice in medical incident management.[T1205] PO Edmonds also stated that casualty recording procedures during exercises differed from the real situation, in that the DC recorder rather than the POMED did it during exercises.[T2319]

Conclusions

4.100 The clinical training of medical staff and SMET members was adequate to meet the needs of this incident.

4.101 Shipboard medical training provided to SMET members and ship's company was adequate.

4.102 The conduct of major damage control exercises did not provide realistic casualty scenarios, either in numbers or types of casualties, and the POMED, because he assumed the role of an umpire, did not obtain sufficient experience in medical incident management.

Recommendation

4.103 Major damage control exercises should include realistic numbers and types of simulated casualties, and should be conducted so that the senior medical sailor receives regular training in medical incident management.