The International Maritime Rescue Federation Mass Rescue Operations Project:

Command, control & coordination

Overview

The IMRF’s mass rescue operations (MRO) guidance is provided in 30 separate chapters at www.international-maritime-rescue.org. For downloadable documents referenced in this chapter please use the drop-down menus or return to the MRO project main page under ‘Resources’. For a general introduction please see chapter 1, ‘Complex incident planning – the challenge: acknowledging the problem, and mass rescue incident types’.

This chapter discusses:

- the need for coordination
- the distinction between ‘coordination’, ‘command’ and ‘control’
- coordinators in addition to those detailed in the IAMSAR Manual
- the strategic, tactical and operational tiers
- the Incident Command System
- coordinating with industry
- communications officers
- specialist coordinators

1 Fitting it all together

1.1 The guidance in this part (chapters 17-25) focuses on various aspects of the coordination question. The concept of coordination itself, and the various coordinators who may be involved, are discussed in this chapter. The main coordinating roles identified in the IAMSAR Manual – the SAR Coordinator, the SAR Mission Coordinator, the On Scene Coordinator and the Aircraft Coordinator – are discussed in chapters 18, 19, 20 & 21. Some of the uses to which surface units and aircraft may be put in a mass rescue operation are discussed in chapters 22 & 23 respectively. Chapter 24 considers the important and sometimes difficult matter of coordinating the maritime and the shoreside response.

1.2 Good communications are vital to all aspects of a successful MRO response. We discuss communications in chapter 25.
2 Command, Control, Coordination

2.1 In planning for, and carrying out, a mass rescue operation, the most important consideration is how to find the additional resources needed to fill the rescue ‘capability gap’ (see chapter 4). However, identifying the extra resources is not the end of the matter. Their use must also be effectively and efficiently coordinated.

2.2 In chapter 5 we used the analogy of the jigsaw puzzle to illustrate the need for coordination. All the pieces of the puzzle are needed to complete the picture, and all need to be fitted carefully together so as to ensure that there are no gaps and no overlaps.

2.3 Coordination may be defined as ‘the organisation of the different elements of a complex activity so as to enable them to work together effectively’. It is important to distinguish ‘coordination’ from two other activities with which it will co-exist in an MRO: ‘command’ and ‘control’.

2.4 Command is the authority to direct; to give orders. There will, for example, be someone in command of each responding unit – each ship, aircraft or other SAR unit. There may be longer chains of command, extending beyond the individual unit, especially in military organisations. In these circumstances senior commanders, in other units on scene or ashore, will be able to give orders to junior unit commanders.

2.5 Control in this case refers to overall authority, typically that of the coastal State within whose waters the incident is occurring. There may be national rules and regulations which will impact on the way an MRO is managed. This is often the case in a counter-pollution or salvage response, when the State may wish to take measures to protect its environment or other interests: it is less likely to be a prominent issue in lifesaving. However, controls of this type may be in place, and should be borne in mind.

2.6 The important point here is that the three ‘C’s – command, control and coordination – co-exist. Chains of command and national controls are not somehow set aside in an MRO. There are likely to be several different command structures in place simultaneously as different types of unit respond, even if all are operating within a single overarching control framework. All these command and control structures will continue to function. They therefore need to be coordinated.

2.7 Once again, it is very important that this element of coordination – the coordination of different command structures within an overall framework of control – is planned for beforehand and understood by all responders. Lines of authority need to be clear, and areas of potential misunderstanding or conflict identified and dealt with at the planning stage. The commander of one military unit, for example, may be
senior to the commander of another and can therefore issue orders to the junior unit – but s/he cannot expect to issue orders to other responding units not in his or her command structure. Similarly, the authority to control operations may be vested in a particular government organisation. Other organisations, or individual units, should understand that they cannot override this controlling authority, even in an MRO.

2.8 These can be uncomfortable issues, particularly for those used to a command structure and unused to a coordinated one which relies on cooperation rather than the issuing of orders. All responders, therefore, need to have an understanding of how their activities will be coordinated, and who is responsible for coordinating them – and they need to accept this structure. Effective coordination is vital to successful response, and to be effective the principles and practice of coordination must be accepted by all concerned.

2.9 Here we must make mention of the fourth ‘C’: \textbf{COMMUNICATION}. Efficient communication is vital to effective coordination at all stages, including the planning and plan implementation stages. We discuss this vital fourth ‘C’ in chapter 5 as regards planning and in chapter 25 as regards communications during the MRO itself. We also discuss the need for good communication \textit{after} the event, in chapters 5, 29 & 30.

2.10 At this point in our discussion, the most important point to communicate is that coordination does not mean command or control! The SAR Mission Coordinator (SMC: see chapter 19), On Scene Coordinator (OSC: chapter 20) and Aircraft Coordinator (ACO: chapter 21) will be seeking to use the facilities available to them in the most efficient and effective way. They will be asking unit commanders to undertake certain actions, or not to do so, as part of this coordination process. But these are usually requests, not orders. In most cases the SMC, OSC and/or ACO will not have command or control authority over the units responding: they are coordinators.

2.11 In the spirit of cooperation that underpins all SAR, and to facilitate the coordination that is so particularly vital in an MRO, individual units should comply with the coordinators’ requests if they can do so, or explain why they cannot or why they would prefer alternative action.

3 \textbf{The coordinators}

3.1 The IAMSAR Manual defines four SAR coordination roles: the three just mentioned (SMC, OSC & ACO) and the SAR Coordinator (see chapter 18). The SAR Coordinator has a vital planning role, but need not be involved operationally. The SMC has a lead role in the response to any SAR operation and, in an MRO, will usually be supported by an OSC and, if there are several responding aircraft, an ACO.

3.2 The IAMSAR Manual does not distinguish further coordination roles. MRO planners should, however, consider the value of extra links in the coordination network, while bearing in mind that any additional links contemplated should give clear added value and must be understood by responders. Superfluous links in the network can be confusing. So can unfamiliar ones introduced \textit{during} an operation: the coordination network should be pre-planned, even if not all of its elements are needed in a particular operation.

3.3 Some of these additional coordinators may have a primarily communicative function. Their role is to link the coordinators of different parts of the operation so that each understands, at least in broad terms, what the others are doing and what help they may need or may be able to provide. See ‘Communications officers’ below.
3.4 Other coordinators in addition to those mentioned in IAMSAR may have decision-making roles. Two tiers of inter-agency coordination are often identified, working in support of the decision-makers on scene and at the Rescue Coordination Centre(s) and the equivalent centres organising shoreside operations. The leaders on scene may be referred to as being ‘operational’ commanders – the commanders of the various response units, working collaboratively together. They should be supported by ‘tactical’ officers, operating at one remove, who have the ‘big picture’ and, within the overall plan, agree the current priorities. Finally there should be ‘strategic’ support: a single top-level inter-agency coordinating entity which monitors the action, arranges the supply of additional resources as required (and if possible), and decides on any changes to the plan that the circumstances may require. For further consideration of the three-tier coordination concept, see ‘Strategy, tactics, operations’, below.¹

3.5 As discussed in chapter 15, the response to some types of MRO may include significant industry involvement – from the offshore and cruise industries in particular. This response should be carefully coordinated with that of the various other emergency response organisations. See ‘Coordinating with industry’, below.

3.6 Finally, there may be a need for specialist coordinators in the network. For want of a better phrase we might call these officers ‘sub-coordinators’: people who are given responsibility for coordinating particular parts of the action.

3.7 If, for example, support is being provided aboard the casualty instead of, or as well as, evacuation and ‘traditional’ rescue activity (see chapter 15), a ‘sub-coordinator’ may be needed on board to oversee the various support teams’ work and report their results and requirements back to the OSC and/or SMC. Similarly, a sub-coordinator may be placed in charge of coordinating searches of the area around the casualty, either because it is known that people are missing or, as discussed in chapter 9, as a precaution. Leaving search as well as rescue coordination in the hands of a single OSC may result in overload. Appointing ‘sub-coordinators’, reporting back to the OSC or to the SMC direct, can ease that load. See chapters 19 & 20, and ‘Specialist coordinators’, below.

4 Strategy, tactics, operations

4.1 The three-tier coordination concept mentioned above should operate in any complex incident response, whatever names are given to the three tiers.

4.2 At the ‘front end’, on scene (remembering that the ‘scene’ shifts with the survivors as they are transferred to places of safety), there is an obvious need for operational coordination of the various response units. At sea, this coordination usually falls to an On Scene Coordinator, perhaps supported by an Aircraft Coordinator and ‘sub-coordinators’: see ‘Specialist coordinators’, below.

4.3 The on-scene work is overseen at the tactical level, which again requires close cooperation and coordination between the responding agencies. A physical grouping of tactical officers is best, if this can be arranged, although geography may dictate otherwise. As regards the maritime SAR effort – but only this – the SAR Mission Coordinator takes the tactical lead. The SMC works very closely with the OSC and ACO, but also needs to coordinate closely with the shoreside responders, especially as regards the selection of landing places and information on expected times of arrival, numbers and condition of survivors, and so on.

¹ Some organisations use these terms differently, or other terms altogether – but the underlying principle is the same.
4.4 A tactical group can work at the Rescue Coordination Centre (RCC), so long as they do not impede the SAR work of the SMC and his/her team. If the tactical group is established elsewhere, the deployment to the RCC of communications officers is recommended. See below, and also chapter 24 on maritime-shoreside coordination.

4.5 Finally a strategic coordination group is also required, to monitor what is going on (which once again requires effective communications links); to find and deploy necessary additional resources; and to decide on any changes to the plan that may prove necessary. As discussed below, there may be industry involvement and, if so, the company or companies chiefly concerned should be represented on the strategic group, as well as being in communication with the tactical group.

4.6 As discussed in chapter 15, there may be different courses of action for the SMC and the tactical and strategic coordination groups to consider. The master of a passenger ship in difficulty, for example, will want to keep people aboard the ship if possible: it is their ‘best lifeboat’. In such circumstances, the responders must coordinate whatever support the master needs to enable this to happen. Alternatively the master may decide on a precautionary evacuation, which will be partial, for essential crew will remain aboard. Now the responders have to conduct a traditional MRO as well as providing ongoing support. Or a full abandonment may be necessary – and the second two options still have to be prepared for even if the master is attempting the first.

4.7 Everyone involved has to have information appropriate to their place in the operation, and to know what their tasks are now, and may be in the near future. All this requires careful, and complex, coordination. And, as ever, this complexity is best addressed by careful planning and training beforehand.

5 Incident Command System

5.1 The IAMSAR Manual notes the vital importance of good coordination:

“If basic concepts and terms are recognized and understood by all emergency responders, they will be much better prepared to coordinate joint efforts.

“Standard SAR procedures should typically be followed for the SAR part of the response, but these procedures will be largely independent of other efforts. Companies or authorities handling other aspects of the response will follow command, control and communication procedures developed for their respective organizations and duties.”

5.2 The Manual recommends the Incident Command System (ICS) as one simple and effective means of meeting the need for overall crisis management. IAMSAR Volume II Appendix C, ‘MRO incident management’, provides general information about the Incident Command System, noting that “it works best with some advance familiarisation and training”:

“ar the ICS is designed for use when multiple organizations and jurisdictions need to be jointly involved in a coordinated emergency response activity.

“While organizations have their respective systems of command and control or coordination, these should be compatible with systems in use by others so that organizations can function jointly and effectively when necessary. Commonality and similarities among crisis management systems locally, regionally and internationally foster effective joint efforts.

2 Volume II Chapter 6.15.34-36.
“The ICS does not take control, responsibility or authority away from SAR services; SAR services remain focused on lifesaving, while the ICS focuses on promoting an effective overall incident response.”

5.3 The ICS can be used where no equivalent means of overall incident management is in place. It
- accommodates all risks and hazards
- is simple, powerful and flexible
- can easily expand or contract as the incident warrants
- relieves the SAR system of coordinating non-SAR missions
- enables SMCs to use the ICS contacts to draw on additional resources, and
- ensures better communication and cooperation between agencies.

5.4 The IMRF recommends the ICS to those who have yet to develop such an overall incident management structure, and, for those who already have one, recommends that the system in place be checked against the provisions of IAMSAR Volume II Appendix C.

6 Coordinating with industry

6.1 In situations in which the emergency develops relatively slowly, so that, at least in its early stages, a full MRO response is not required, the company whose ship or offshore installation is in difficulty will generally lead the response. The company response team should alert the relevant authorities to the situation, including the relevant RCC, so that preparations can be made in case the situation deteriorates. It may be that the company will request some assistance from the emergency response authorities, but the overall coordination lead remains with the company while the situation is under control.

6.2 The relevant national authorities are likely to require reassurance that this is the case: an example of the exercise of overall ‘control’. Good communication is necessary from the outset. If the situation deteriorates there will come a point at which the company can no longer contain it, and at this point overall coordination will pass to the RCC, as regards the maritime response, and to the relevant response authorities ashore.

6.3 It may be, of course, that the emergency is such that it is clearly beyond company capabilities from the outset. In slowly developing cases, however, it can be useful to think of the lead responsibility as being shown by a pendulum. While the company response is believed sufficient, overall coordination remains with them, even if the various emergency response authorities are providing support of some kind. If the situation deteriorates, the pendulum swings. Now the RCC and its equivalents for the shoreside response take the lead, and the company supports them.

6.4 Company support can be very significant, particularly at the strategic level. The company will (or at least should) wish to provide for their passengers and personnel once they have reached places of safety, working with local health, care and border agencies. The company can be particularly helpful in providing onward transport and accommodation, money, clothing etc. To provide this support, the company will need information from the emergency response agencies – who is being taken where, what is their condition, and so on.

6.5 The need for good communications and coordination with the company is clear in all these circumstances. In some cases – with the offshore industry, for example, or large ferry companies – these coordinated
responses can be planned together beforehand. In others – the cruise industry, for example – this is more difficult. But the company should always be an important link in the coordination network, and should be included in the tactical and strategic coordination groups described above.

7 Communications officers

7.1 ‘Communications’ or ‘liaison’ officers are a very useful aid to successful coordination in complex incidents such as MROs. It is important that everyone (including these personnel themselves!) should understand what their role is. They are there to provide timely and accurate transfer of information, and to explain their parent organisation’s role(s), responsibilities, capabilities and requirements. They are usually not decision-makers.

7.2 Communications or liaison personnel are most usefully established when – as will usually be the case – there are several coordinating centres or groups responding to the emergency. In addition to the RCC where the SMC is based, coordinating the maritime rescue, there is likely to be at least one shoreside coordination centre, where the different agencies responding to the emergency ashore will organise their response. There may be more than one such centre, especially if survivors are being brought ashore in widely separated locations.

7.3 Similarly, there may be more than one Rescue Coordination Centre (as defined in the IAMSAR Manual) involved in an MRO – if resources are deployed or survivors are being brought ashore across more than one SAR Region, for example. Such neighbouring RCCs, however, should have established cooperative working arrangements, and will speak the same SAR ‘language’. Problems of communication should always be watched for, of course (see chapter 25), but there should be no need for the physical exchange of liaison officers.

7.4 However, liaison officers may well be required at other points in the coordination network. The aim of deploying them is to ease the flow of information. This means ensuring that necessary information is passed on efficiently, and that it is understood: again, see chapter 25. A common point of communications failure in this sense is between the maritime and shoreside elements of the operation. The role of the SMC, for example, is to ensure that rescue is successfully carried out, which includes delivery of survivors to a ‘place of safety’, usually ashore. As discussed in chapter 24, it has sometimes been the case that what the SMC and rescue units consider a ‘place of safety’ is not what the shoreside responders would prefer. The exchange of liaison officers between the coordinating RCC and the shoreside coordination centre(s) will help overcome such failings in communication.

7.5 Communications officers can also be deployed to the scene. There are two points in particular where this may be useful: aboard the OSC’s unit, and aboard the casualty itself.

7.6 Ideally, the person appointed as OSC in an MRO will have been part of the planning and training phases of MRO preparation: the commander of a suitable SAR unit, for example. This individual and his/her team should not require an additional liaison officer’s services. But if the OSC appointed has not been part of the planning and training regime – the master of a ship that just happens to be in the area, for example – sending a communications officer to assist will have significant benefits, easing the flow of information by explanation as necessary and, perhaps, by taking over direct communications with the RCC, to free up a member of the OSC’s own team.

7.7 A deployed communications officer can fulfil the same roles aboard the casualty – and even more usefully, for the casualty’s commander and his/her team will be busy managing the incident itself. Whether assistance personnel are to be placed aboard a casualty (when evacuation or partial evacuation
of that unit may be required) will depend on the circumstances, and the decisions of the casualty’s commander, the SMC and the communications officer’s own parent authority. But there are circumstances in which such a deployment will bring very real benefits.

7.8 It is, of course, essential that communications officers should be trained in their role, including the training necessary to safeguard them during offshore deployment. A clear understanding of their own role is particularly important. If deployed simply as communications officers (and they may have other roles – see below), they need to be able to limit themselves to acting as an information conduit. They must not be drawn into making decisions or giving advice beyond their remit.

7.9 Communications officers also need equipment: their own communications equipment, with spare batteries etc, so that they can function independently of the unit to which they are deployed, and any equipment necessary to their own health and safety.

8 Specialist coordinators

8.1 We noted above the potential usefulness of ‘sub-coordinators’ in looking after particular parts of the MRO. The aim here is to assign discrete elements of the operation to a coordinating officer or unit, so as to better manage the whole – the ‘bite-sized chunk’ approach. Other units tasked to that particular ‘chunk’ of the operation report to this sub-coordinator, who in turn passes on information to, and receives instructions from, an officer with wider responsibilities; usually the OSC but sometimes the SMC direct, if this is more efficient.

8.2 Examples of such sub-coordinators include an officer placed in charge of search activity around the scene of an MRO (a ‘search coordinator’), and an officer coordinating support activities aboard a vessel in distress (an ‘on-board coordinator’). Other on-scene sub-coordinators might include a professional unit assigned to marshal ‘non-professional’ small craft offering to assist in an incident within their range (a ‘small craft marshal’: see chapter 13) and/or, for MROs occurring on or near to the shore, an officer appointed to coordinate the activities of land SAR units (a ‘land SAR coordinator’ or similar term designed not to confuse this on-scene function with the activities of units coordinating activity at landing sites or places of safety).

8.3 The Aircraft Coordinator (see chapter 21) may be a ‘sub-coordinator’ when aircraft are fulfilling subsidiary and specialist roles in an MRO. On the other hand, if the majority of the rescue work is being undertaken by helicopters, the ACO may be the lead coordinator on scene. (For use of surface units and aircraft in MROs, see chapters 22 & 23.)

8.4 In the examples given above, the sub-coordinators will report to the OSC or SMC. The sub-coordinator function can also be usefully applied in other parts of the operation. A coordinator and communicator will be needed at landing sites, for example, to report on progress and requirements to the RCC and/or the equivalent bodies coordinating the shoreside response. If survivors are being brought to different reception centres, perhaps widely separated geographically, there is an important coordination function.

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3 Simple ideas often contain wisdom! Major, complex incidents can be very daunting – akin to the task of eating an elephant… How do you eat an elephant? One bite at a time.

4 This is a rare circumstance, but not unknown. Most of the survivors of the Norman Atlantic fire in December 2014 were rescued by helicopters after the ship’s evacuation systems were overwhelmed by the fire, and the MRO coordination on scene became chiefly a matter of organising the arrival and departure of helicopters over many hours.
in gathering and organising information on who has gone where. Medical and other care, transport, accommodation and other matters all also need to be coordinated.

8.5 Planners and the overall coordinators at the time of the incident – particularly at the strategic level – should consider where best to place coordination personnel to make the operation run more easily and to improve the flow of information. See also chapter 25.

9 Conclusion

9.1 Good coordination is essential to a successful MRO. The many pieces of the jigsaw need to be fitted smoothly together to complete the ‘big picture’ – to locate, support and rescue all at risk.

9.2 Unit commanders joining the operation will be asking ‘Who do I report to, for instructions and advice and to obtain or pass information?’ The answers to such questions should be determined at the planning stage, at least in general, while also allowing necessary flexibility to adjust the plan to suit the precise circumstances ‘on the day’. A network of coordinators is required – not so large as to become confused or confusing, but sufficient to spread the information, decision and communications loads.

9.3 The diagram below may not be complete, and it may include elements which will be unnecessary in a particular emergency. It is indicative. It may help to visualise the points discussed above. The SAR Coordinator, who plays a leading role at the planning stage (see chapter 18), does not usually have an operational role, so is omitted from the diagram.

9.4 The communications network that must underpin and enable this coordination network is discussed in chapter 25.

10 Summary

- Good coordination is essential to successful mass rescue operations.
- It is necessary to distinguish between ‘command’, ‘control’ and ‘coordination’, and to coordinate different responding organisations’ command networks efficiently and effectively. This requires good communication between and within the responding organisations.
- A network of coordination and communication nodes should be pre-planned, to include specialist ‘sub-coordinators’ in addition to the coordinators defined in the IAMSAR Manual.
Three tiers of coordinated action can be identified: the ‘operational’ tier, on-scene; the ‘tactical’ tier; and the supporting ‘strategic’ tier. In cases in which their units are the subject of the MRO, company representatives should be included at the tactical and strategic levels.

Suitably trained and equipped ‘communications’ or ‘liaison’ officers can be of great assistance to the decision-makers if deployed to key points in the response network to facilitate the passage of information and to explain their parent organisations’ roles, needs and capabilities.

11  Further reading

11.1  The IAMSAR Manual Volume II Chapter 6.15 focuses on mass rescue operations and, at 6.15.34-36 in particular, on MRO coordination. Volume II Appendix C contains useful information on the Incident Command System.

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