# APPALACHIAN SEARCH AND RESCUE CONFERENCE, INC.

# <u>DPERATIONS PLAN</u>

(SAROP)



Second Edition August 1984

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# Appalachian Search and Rescue Conference Search and Rescue Operations Plan (ASRC SAROP)

## PURPOSE:

This document is intended to provide a general outline of the procedures to be followed by the ASRC in conducting search or rescue operations. It is for the general information of any interested parties, but is particularly intended for the orientation of ASRC members and members of other organizations with which the ASRC comes in contact.

#### SCOPE:

The SAROP treats search and rescue (SAR) organization and procedures only in a general way: it neither covers any detailed procedures nor gives any official ASRC standards. These may be found in the ASRC Operations Manual. The SAROP treats elements of search strategy only in an incidental fashion. This material is available in the SAR literature.

#### **APPLICABILITY:**

This Plan is a sketch outline of procedures for the ASRC to follow in conducting a lost person search operation; to be complete, it assumes that the ASRC is planning overall strategy, controlling all ground operations, coordinating all communications, and providing Field Team Leaders for all non-ASRC teams. In some searches, the ASRC role will be limited to only a few of these capabilities. The ASRC Operations Manual provides detailed guidelines for adapting the SAROP to these situations, and to operations other than lost person search (e.g. downed aircraft search or natural disaster), but ultimate authority for modification of the Plan rests with the ASRC Mission Coordinator.

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# I. INTRODUCTION

In order that a search and rescue operations plan (SAROP) be both effective and practical it must meet four important criteria. The first is

#### A. Completeness.

The SAROP must anticipate and provide for all aspects of search and rescue (SAR) operations. Means must be provided to meet the needs of the searchers while simultaneously providing procedures to deal with a multitude of search and rescue contingencies. Although the general problem of SAR is one of considerable complexity, the SAROP, if it is to be practical, must have

#### B. Simplicity.

The SAROP will be executed by fallible people, often under considerable stress. If the SAROP is as simple as possible, the searchers are less likely to make mistakes which would jeopardize the mission. Furthermore, a complex plan burdens the searchers with its own procedures rather than fulfilling its proper function of freeing their creative powers to attack the mission's more substantial problems.

The SAROP attempts to simplify the conduct of a SAR mission by identifying and standardizing only the most important and general procedures. For each routine procedure a form is provided which outlines the standard procedure so the searcher doesn't forget anything, provides work space so the searcher gets complete and correct information and can organize his thoughts, and, finally, provides a written record for the accurate information of other searchers and for documentation of the mission afterwards. Completing the paperwork assures that the mechanics of the Plan are executed smoothly and efficiently but with a minimum of effort.

Still, many different situations may arise during a mission, and rigid standardization will impede progress rather than improve it. Hence the importance of

#### C. Adaptability.

Although the SAROP is intended to provide standard procedures which may be followed with little thought, it does not ignore the intelligence of the searchers who are using it. It is up to the mission leaders to adapt the Plan to the situation at hand and apply only those procedures which are necessary or useful. It is through adaptability that a simple plan can be complete.

There are two main features of the SAROP which aid its adaptability. The first is the organization of a mission into five phases: Phase 0: Alert and Mobilization Phase 1: The Quick Response Phase 2: Scratch and Sweep Swarching Phase 3: Saturation Searching Phase 4: Withdrawal

Though, for completeness, the SAROP assumes that the ASRC is conducting a large search by itself, it is easy to adapt it to situations where the ASRC's role is more limited. For instance, if the Responsible Agent is managing the search and asks the ASRC only to provide two Field Teams to search a rugged area, the ASRC MC will probably function as Mission Staff by himself (or with one assistant), and the procedures of Phase 2 will be followed. If, however, the Responsible Agent asks the ASRC to provide leaders for teams of local people, the procedures of Phase 3 would best be implemented, with a complete complement of ASRC members as Mission Staff. Each Phase need only be initiated if it is appropriate, and the strategy employed in each Phase is based on need rather than procedure.

The second adaptable feature of the SAROP is the functional organization. The Plan describes many jobs which may need to be performed during a mission. How people are assigned to jobs, or the jobs to people, depends on the circumstances and is up to the leaders. For example, a Field Team is composed of Field Team Leader, Assistant Field Team Leader, Medic, Rescue Specialist, Radio Operator, Driver, and Searchers, but on a simple task a team of two people can discharge all these duties. The titles used in the SAROP are carried by functions, not individual people. The main reason for specifying these functions with titles is to provide a quick and simple means to assign and divide the work of the Mission Staff or Field Team.

Finally, an effective and practical SAROP must provide

# D. Clear Delineation of Authority.

A SAR operation can only be useful if it is a coordinated, unified effort. An operation involving many people of different backgrounds, capabilities, and training can only be expected to succeed if the standards of the SAROP are enforced by a unified leadership with a well-defined hierarchy.

Although a paramilitary chain of command may be the ideal, ASRC leaders must understand that neither ASRC members nor volunteers will submit to such a system, and it is surely not necessary. Nevertheless, the leaders must be able to expect that their instructions will be followed fully and that all searchers will respect the command hierarchy.

## I. INTRODUCTION

The SAROP provides five distinct levels of authority: Searcher level, Field Team Leader level, Mission Staff level, ASRC Mission Coordinator, and Responsible Agent. It is most important that all ASRC members understand that the ultimate authority during a mission is the Responsible Agent. The ASRC serves at his pleasure and is failing in its duty if it does not provide the service he wants.

Strictly speaking, only the County SAR Coordinator (often but not always the Sheriff), a State official, a National Park Superintendent, or the Aerospace Rescue and Recovery Service may be considered the Responsible Agent. However, in the SAROP, the term Responsible Agent is used for anyone with authority over the ASRC. The CAP Mission Coordinator is a notable example.

# II. PHASE O: Alert and Mobilization

During Phase 0, the ASRC is alerted through the cooperation of the Virginia Office of Energy and Emergency Services (OEES) and the University of Virginia Police Department (UVAPD), whereupon the members of the appropriate ASRC Groups are mobilized. After analysis of the available information, the appropriate action is taken. This may involve the dispatch of a Quick Response Team (QR Team) or the planning of a major search effort. Phase 0 is illustrated in Figures 1 and 2.

# A. The Virginia Office of Energy and Emergency Services (DEES) and the University of Virginia Police Department (UVAPD)

The ASRC publicly lists the emergency phone number of the Virginia DEES as its primary emergency phone number: (804) 323-2300. At any hour of day or night, this phone number will reach a Duty Officer at the Virginia OEES Emergency Operations Center (EOC) at Richmond, Virginia. This duty officer will note the caller's name, phone number, and type of problem; he then assures this Complainant that the ASRC will be alerted and that an ASRC Alert Officer will call in a few minutes. The Duty Officer then telephones the University of Virginia Police Department (UVAPD) and relays the information to the UVAPD Dispatcher, who notes the information on an ASRC Mission Alert Form (MAF). The UVAPD Dispatcher then uses a paging system to alert members of the ASRC's Blue Ridge Mountain Rescue Group (BRMRG); one of these members becomes the Alert Officer (AO) and contacts the UVAPD Dispatcher. If for any reason the paging system does not work, the UVAPD Dispatcher calls down an Alert Officer List (AO List) until he reaches an Alert Officer. This ends the alerting responsibilities of the OEES and the UVAPD, though OEES often provides continued coordination and communication services.

#### B. ALERT OFFICER (AO)

After receiving the MAF information from the UVAPD Dispatcher, the Alert Officer calls the Complainant to get confirmation and enough information to plan an appropriate response. He enters the information on a Mission Data Form (MDF).

From this point, the procedure of the AO is dictated by the situation, but several things must be attended to:

- 1. The AO must select an appropriate response (e.g. dispatching a Quick Response Team from a nearby Group).
- Sufficient information must be secured to support the response; the MDF and Missing Person Questionnaire (MPQ) help in this effort.
- 3. The Complainant must be assured that action is being taken.
- 4. Arrangements for further communication with the Complainant must be made.
- 5. An ASRC Mission Coordinator (ASRC MC) must be appointed and informed. The AO may appoint himself ASRC MC, otherwise he appoints a qualified ASRC MC, usually from the Group closest to the mission.



**figure 1.** Phase 0: ASRC Alerting Process. The Responsible Agent (or Complainant<sup>1</sup>) requests search or rescue assistance from the ASRC by calling the Virginia Office of Energy and Emergency Services (OEES), which contacts the UVA Police Dispatcher, which uses a paging system to alert an ASRC Alert Officer (AO). The AO gets initial information from the Responsible Agent (or Complainant), selects an ASRC Mission Coordinator (ASRC MC) from a Group near the mission, and relays the information to him.

#### Notes

1. The ASRC may alert its members and even institute a callout on the basis of a call from a Complainant other than the Responsible Agent, but must secure the Responsible Agent's approval before conducting any field operations within the jurisdiction.

2. The paging system of the ASRC's Blue Ridge Mountain Rescue Group is used to secure an Alert Officer.

3. In certain circumstances, detailed in the ASRC Operations Manual, OEES is authorized by the ASRC to commit ASRC resources without screening by an Alert Officer; in these cases (e.g. a request for specific assistance from Shenandoah National Park), the Alert Officer will simply relay instructions from OEES directly to an ASRC MC.



Figure 2. Phase 0: ASRC Mobilization. After being appointed by an Alert Officer, the ASRC MC organizes the response through Dispatch Officers (DO's) at each Group and, if appropriate, a Quick Response Team Leader (QRL) or Overhead Team (OHT) Leader.

# Notes

1. The ASRC MC is generally from the Group nearest the mission site, as the Quick Response team will generally be sent from this same Group. This simplifies the necessary close coordination between ASRC MC and QRL. Thus, in this diagram, the MC would probably be a member of Group C.

2. If a Quick Response Team or Overhead Team is to be dispatched, the team leader is given general instructions by the ASRC MC and then proceeds to assemble the team by calling members himself.

3. Since the DO and the QRL or OHT Leader will be attempting to alert members of the same Group, close coordination between them is necessary to avoid duplication of effort.

# C. APPALACHIAN SEARCH AND RESCUE CONFERENCE MISSION COORDINATOR (ASRC MC)

The ASRC Mission Coordinator's job is to direct all aspects of the ASRC's participation in the operation. The effectiveness of the ASRC is his responsibility.

The ASRC MC's first task is to approve and implement the AO's initial response plan (but note that the AO and ASRC MC may be the same person). Unless the Responsible Agent made the initial request for help, no action can be taken in the field; if the initial request is from some other source, once the ASRC MC has initiated the appropriate mobilization plan, he must contact the Responsible Agent.

### D. MOBILIZATION PLANS

Mobilization plans vary from Group to Group, but each Group level callout is coordinated by a Dispatch Officer (DO) appointed by the ASRC MC. Since the DO's duties ideally involve radio communications with teams en route to the operation, an amateur radio operator (ham) will, when possible, be appointed as DO. Even if radio communications are not available, or if they fail, it is vital that the DO be in regular contact with the MC and with all Group teams en route to or from the mission by a regular telephone schedule.

There are three major types of mobilization, which may be invoked in any combination (e.g. an Overhead Team, QR Team, or both, followed by a full callout):

# 1. The Quick Response Team

If a Quick Response Team (QR Team) is appropriate, as for a rescue or for a search where the ASRC will be conducting the hasty search, the ASRC MC appoints a Quick Response Team Leader (QRL) and the QRL assembles his QR Team. It is possible for the ASRC MC to appoint himself QRL; however, even seemingly simple rescues may escalate into difficult situations lasting many hours and requiring major management decisions. Therefore the ASRC MC should not go into the field (that is, away from the roadhead) unless the situation is desperate; in the field, he is isolated from his lines of communication and command.

# 2. The Overhead Team

If the Responsible Agency requests ASRC assistance in managing a search, an Overhead Team (OHT) of several ASRC members will usually depart immediately for the search scene. The Overhead Team will become the Mission Staff once they arrive at the scene, and the ASRC will move from Phase 0 to Phase 2 without a Quick Response (Phase 1).

# 3. The Full Callout

If the Responsible Agency requests ASRC members for field operations for a large search, the ASRC MC alerts DO's in all ASRC Groups, which then follow their own mobilization procedures.

If an Overhead Team is dispatched, the ASRC MC may accompany the OHT. However, this isolates him from telephone communications with the Responsible Agent, and if the radio link between the ASRC MC and his Group DO should fail, the ASRC is left leaderless during the crucial early hours of the mission. There are several ways to avoid this. One is to appoint an experienced member as DO of the ASRC MC's Group, who is given general instructions and allowed considerable discretion in carrying them out. A better solution is for the ASRC MC to send out a QR Team or Overhead Team, but stay at home himself; once the team arrives on the scene, the job of ASRC MC is turned over to an ASRC member there. The exact procedure is not important, so long as

- a. The ASRC always has a clearly-defined and accessible Mission Coordinator, and
- b. Any plan for transfer of authority is made clear to all involved.

Once the callout procedures are set into motion, the ASRC MC begins the tasks of gathering information and planning for the operation. These tasks are not complete until the operation has ended.

# E. DISPATCH OFFICER (DO)

The Dispatch Officer (DO) has two main responsibilities during Phase O. The first is to establish radio or intermittent telephone contact with the QR Team, Overhead Team, or any Group vehicles en route to the mission. The second is to execute the callout plan according to the MC's instructions. When the callout is finished, the DO gives the ASRC MC a quick survey of the members available; the Alert Summary Form (ASF) aids the DO in compiling this information. The DO continues to serve as a contact point between the ASRC MC and the members of the Group, and is considered a member of the Mission Staff carrying out the ASRC MC's orders at the Group level. Therefore, the DO becomes the highest-ranking operational officer in the Group. The DO should arrange for his own relief as necessary.

The Dispatch Officer uses a Searcher Alert Form (SAF) to organize the callout information to be relayed to each member. Each ASRC member is equipped with a SAF so that he may record his dispatch instructions completely.

With the approval of the ASRC MC, the Dispatch Officer may serve additional Mission Staff functions, for example, arranging for news releases to the home-town news media.

# III. PHASE 1: The Quick Response

The primary missions of the Quick Response Team (QR Team) are rescue and evacuation. In situations requiring these functions there is no question that dispatching a QR Team is appropriate, and in such cases the operation may move from Phase 1 directly to Phase 4 (withdrawal). Nevertheless a QR Team can serve a useful function in a search situation as well. Although the probability of actually finding a lost person with a QR Team may be small, the team can fulfill four important missions in a search. These are

- 1. Hasty search (and possibly man-tracking or cutting for sign) near the point last seen;
- Initial survey search;
- 3. Initial scratch or sweep search (see p. 23 for task definitions); and
- 4. Initial base operations.

Even if the QR Team fails to find the victim, the information it gathers about terrain, weather, map accuracy, and road conditions may be crucial in the smooth mounting of a large-scale search.

The QR Team will usually make the first contact with the Responsible Agent and others at the site. Good working relationships will depend on how this contact is made.

During travel to the search or rescue site, the Base Officer (see below) and the Group Dispatch Officer maintain a regular communications schedule. If radio communication is not possible or if it fails, the QR Team stops regularly at a telephone to check in. This communications link, from the ASRC MC to the QRL, is required so that the QR Team may be turned back or rerouted if necessary; this is most common during downed aircraft searches.

QR Team organization is illustrated in Figure 3.

#### A. QUICK RESPONSE TEAM ORGANIZATION

There are five positions on a Quick Response Team, but a single person may fill more than one position.

#### 1. Quick Response Team Leader (QRL)

The Team Leader's responsibility is to carry out the mission assigned by the MC, within the constraint that he provide for the safety of his Team. He is the highest authority on the QR Team, but he must consider the judgement of the other specialists, particularly the MEDIC. The QRL's specific duties are

- a. Mission planning;
- b. Navigation;
- c. Personnel management;
- d. Equipment management;
- e. Safety; and
- f. Mission reporting.



Figure 3. Phase 1: The Quick Response Team (QR Team). The Quick Response Team (QR Team) is organized by the Quick Response Team Leader (QRL). Meanwhile, the Dispatch Officer (DO) is alerting the rest of the Group, and the other Groups are being alerted by their own DO's. Communication from the ASRC MC to the QR Team in the field is maintained through the ASRC MC's Group DO, the Base Officer, and the QR Team Radio Operator (RO). The ASRC MC continues to gather intelligence and plan the operation under the Responsible Agent's direction.

# III. PHASE 1 - The Quick Response

#### 2. Assistant Team Leader (ATL)

The QRL may, at his discretion, appoint a team member as Assistant Team Leader, to serve as his lieutenant. The specific duties of the ATL are

- a. Serving as leader if the QRL is absent or incapacitated; and
- b. Handling tactical details (e.g. establishing the QR Team's Base and readying the Team for the field) while the QRL is engaged in strategic planning or liason (e.g. conferring with the ASRC MC or a Sheriff's Deputy).

# 3. Medical Officer (MEDIC)

The MEDIC is responsible for the medical care of the victim(s) and incidental medical care of Team members. The MEDIC should be at least a basic Emergency Medical Technician (EMT). The MEDIC's specific duties are

- a. Assembling necessary medical equipment and supplies;
- b. Medical care of team members;
- c. Medical care of victim(s); and
- d. Advising the QRL and Rescue Specialist on the medical situation and priorities during rescue and evacuation.

#### 4. Rescue Specialist (RS)

The Rescue Specialist is responsible for the execution of any technical operations including rescue and evacuation of the victim(s). His specific duties are

- a. Assembling necessary technical equipment including litters and rigging;
- b. Supervising all roped travel;
- c. Planning and supervising rescue and evacuation;
- d. Advising the QRL of the technical situation and priorities; and
- e. Enforcing safety standards.

#### 5. Radio Operator (RO)

The Radio Operator's responsibility is to maintain communication with the Base Officer (BO). His specific duties are

- a. Assembling communications equipment (with the BO);
- b. Establishing initial contact with the BO (and DO) during Phase 0;
- c. Maintaining contact with the BO; and
- d. Advising the QRL of the communications system.

#### 6. Base Officer (BO)

The BO is responsible for securing the QR Team's Base (where the vehicles are left) and providing a communications link to the outside world, particularly the DO (and through him, the ASRC MC) and the Responsible Agent. The BO remains at the Base and therefore need not be field qualified, but he should, if possible, be an Amateur Radio Operator (Ham). His specific duties are

- a. Assembling communications equipment (with the RO);
- b. Establishing initial contact with the DO and RO during

Phase 0;

- c. Maintaining contact with the RO and DO;
- d. Advising the QRL, RO, and DO of the communications situation;
- e. Keeping a Radio Log (the BO will likely become the Communications Officer during Phase 2);
- f. Handling inquiries from the public or other agencies at Base; and
- g. Maintaining liason with the Responsible Agent.

The QR Team must be adapted to fit the situation at hand. The number of searchers, the choice of leaders, and the equipment taken all depend on the particular problems the QR Team expects to face.

#### B. DISPATCH OFFICER (DO)

The DO's duties during Phase 1 are the same as during Phase O: if a QR Team has been dispatched from his Group, establishing and maintaining contact with the QR Team (and any other ASRC teams in transit), and maintaining contact with the QR Team through the Base Officer. The DO keeps a Radio Log of all communications traffic (even if most of the traffic is by telephone, the log is still by convention termed a Radio Log). The DO serves as a Group communications center, fielding all enquiries from Group members and thus freeing the ASRC MC from distraction; the DO also serves as a contact point with the DO's of other Groups.

#### C. ASRC MISSION COORDINATOR (ASRC MC)

During Phase 1 the ASRC MC is faced with two main problems. The first is supporting the QR Team. The second is planning for Phases 2, 3, and 4, should the QR Team not find the victim.

- 1. The support requirements of the QR Team are
  - a. Manpower (if more is needed);
  - b. Supplies (if the QR Team is in the field more than 24 hours);
  - c. Intelligence:
    - i. Mission status,
    - ii. Victim information,
    - iii. Weather reports, and
    - iv. Maps;
  - d. Medical and evacuation support:
    - i. Helicopter evacuation,
    - ii. Rescue Squad (ambulance) evacuation,
    - iii. Medical supplies for definitive care (if the MEDIC is capable of it); and
  - e. Communications (if the situation is more difficult than anticipated).

# III. PHASE 1 - The Quick Response

- 2. Planning for a large scale search depends on the circumstances, but five general principles apply:
  - a. All action must be approved by the Responsible Agent.
  - b. Initial and continued intelligence gathering is essential to success.
  - c. The Mission Staff should be assembled and briefed early so they can help in the planning.
  - d. The DO should be kept informed of all actions.
  - e. The Staff should go to the site as early as possible, but should take care not to leave prematurely.

# IV. PHASE 2: Scratch and Sweep Searching

If the QR Team is unsuccessful, the ASRC MC will have to initiate a large scale search effort. During Phase 1, he should have made plans for this contingency, so that a Base Camp can be established and Phase 2 can begin when daylight and weather permit.

During Phase 2, the ASRC MC's strategy will consist mainly of containing the search area (if appropriate), using small teams for scratch and sweep searching of rugged areas and places where there is a high probability of clues, and using air-scenting search dogs for less rugged terrain and areas with a high probability of finding the victim proper. The details, of course, depend on the situation.

Untrained volunteers should be employed sparingly; most of the search techniques of Phase 2 are designed for small, fast, highly-trained, and self-sufficient, Field Teams. Though few volunteers are prepared such rigorous work, especially night search or evacuation, rough terrain, or foul weather, these people should be sought out and their assistance secured. Local people who are neither in condition nor equipped for the field may still be useful; often they have more thorough knowledge of the terrain than any ASRC people, and the wise ASRC MC will exploit this knowledge. Local amateur radio operators may be useful as Base Camp radio operators, and some volunteers might be used for containment or for search tasks in level and accessible terrain, provided the weather is good. Otherwise, ASRC personnel provide the tactical forces during Phase 2.

The basic tactical unit in a search and rescue operation is the Field Team; the command and support unit is the Mission Staff. The Staff assembles Field Teams designated by letters (usually referred to by the ITU-ICAO phonetic alphabet, e.g. *Field Team Bravo, Field Team Belta*). The Mission Staff deploys these teams on specific tasks (designated by numbers) in accordance with the ASRC MC's search strategy. The Task Assignment Form (TAF; see Figure 4) is used in assembling a Team suitable for a specific task. Figures 5 and 6 illustrate Phase 2 organization.

#### A. MISSION STAFF

The purpose of the Mission Staff is to provide the MC with enough manpower to meet all his responsibilities in conducting the operation. This frees him to carry out his primary functions of strategy planning and liason with the Responsible Agent. On a small operation, the ASRC MC may himself discharge some or all the staff duties. There are six of these:

TASK ASSIGNMENT FORM									
TASK	NO.	TEAM	СОММО		D	ISPATCH	MODE	FINAL DEE	BRIEF
						TIME	INITIAI	TIME	INITIAL
GEOGE	RAPHICA	L FEATUR	E			MAP NAM	E		
	TYPE					DIF	FICULTY 2 3	45	6
ASSIGNMENT								J	
								time	
PERSONNEL	FTL MEDIC RO				SR SR SR				
CAL	DR ATL				SRSR				······································
Ω.							_		
EQUIPMENT	GROUP				11	NDIVIDU.	AL		
	TRANSP	ORT ,							
COMMUNICATIONS									

APPALACHIAN SEARCH AND RESCUE CONFERENCE, INC.

TAF

**Figure 4.** The Task Assignment Form (TAF) The TAF is used by the Mission Staff as a worksheet for assembling Field Teams to carry out tasks the Operations Officer creates based on the ASRC Mission Coordinator's strategy. The OO fills in the task number and description, the PO fills in the names of team members, the EO fills in the equipment to be issued, and the CO fills in communications instructions. The FTL is then summoned and briefed, then he assembles his team and heads for the field. One copy of the TAF goes with the FTL, the other is kept in a TAF File for reference by the Mission Staff.



Figure 5. Phases 2, 3, and 4: Mission Staff The Mission Staff, under the direction of the Operations Officer (OD), develops Field Teams to execute particular tasks. Logistics is handled by the Communications Officer (CO), Personnel Officer (PO), and Equipment Officer (EO). The Dispatch Officer (DO) manages personnel still in town.



Figure 6. Phases 2, 3, and 4: Field Team Organization The Field Team consists of a Field Team Leader (FTL), Assistant Team Leader (ATL), Radio Operator (RO), Medical Specialist (MEDIC), Rescue Specialist (RS), Driver (DR), and Searchers (SR). The Field Team Radio Operator communicates with the Radio Operator at the Base Camp Communications Center (COMCTR).

#### IV. PHASE 2 - Scratch and Sweep Searching

## 1. ASRC Mission Coordinator (ASRC MC)

During Phase 2, the responsibilities of the ASRC MC are a. Maintaining liason with the Responsible Agent and

- leaders of other organizations in the operation;
- b. Choosing a site for Base Camp;
- c. Debriefing the QRL;
- d. Continuing intelligence gathering;
- e. Planning strategy (maintaining the Strategy Map);
- f. Planning for management of a find, including rescue plans; and
- g. Planning relief and support.

#### 2. Operations Officer (OO)

The Operations Officer (OO) is the MC's lieutenant. He is responsible for executing the ASRC MC's strategy and for running the Base Camp and the Operations Center. He supervises all other members of the Mission Staff. His specific duties are

- a. General operational planning;
- b. Supervising task assignment (the OO initiates each Task Assignment Form (TAF));
- c. Maintaining the Status Map;
- d. Maintaining the TAF File;
- e. Briefing and debriefing Field Team Leaders (FTL's);
- f. Maintaining the mission Operations Log;
- g. Enforcing security in Base Camp; and
- h. Supervising the Mission Staff.

# 3. Communication Officer (CO)

The Communications Officer (CO) is responsible for the effectiveness of all ASRC mission communications. His specific duties are

- a. Directing the establishment, maintenance, and improvement of the communications network;
- b. Supervising the Communications Center and Radio Operators:

i. Enforcing communications SOPs and security,

ii. Enforcing security at the Communications Center, iii. Supervising log keeping, and

- iv. Maintaining the Communications Systems Chart;
- c. Advising the Mission Staff on communications matters;
- d. Advising the Equipment Officer (EO) on the issue and maintenance of communications equipment; and
- e. Providing communications instructions to Field Teams (this is accomplished by entering the instructions on the Task Assignment Form (TAF)).

## IV. PHASE 2 - Scratch and Sweep Searching

#### 4. Equipment Officer (EO)

The Equipment Officer (EO) is responsible for the phys-

- ical needs of the operation:
  - a. Equipment (including specification of personal and team gear for each task);
  - b. Transport;
  - c. Shelter;
  - d. Food;
  - e. Water; and
  - f. Sanitation.

Some of the EO's specific duties are:

- a. Maintaining the Equipment Inventory;
- b. Issuing equipment to Field Teams and collecting it on return (the EO notes equipment to be issued to the Team on the Task Assignment Form (TAF));
- c. Scheduling the use of vehicles;
- d. Scheduling the efforts of relief agencies (e.g. the Red Cross) to supply food and shelter; and
- e. Advising the Mission Staff on matters under his control.

# 5. Personnel Officer

The Personnel Officer (PO) is responsible for managing all the people working under the ASRC in the operation. He should be able, at any time, to say where any given person is, or whether a person of certain capabilities and personal equipment is available for team assignment. The PO's specific duties are

- a. Registering all incoming searchers;
- b. Checking out all outgoing searchers;
- c. Maintaining the Personnel Roster (a card file);
- d. Coordinating with the DO's in executing the ASRC MC's dispatch and relief plans; and
- e. Assembling Field Teams (by listing names on the Task Assignment Form (TAF)).

#### 6. Dispatch Officer (DO)

The DO's do not go to the mission site, but stay at the Group's home town. The DO's responsibilities during Phase 2 are first, to provide a communications link from Base Camp to the ASRC members in his Group's home town, and second, to execute the MC's dispatch plan. In coordination with the Communications Officer, the DO's third responsibility is to establish and maintain communication with all ASRC members dispatched from the home town to the mission Base Camp. Each DO is responsible for providing his own relief.

#### B. THE FIELD TEAM

The Field Team is the basic tactical SAR unit. The success of the mission depends entirely on the intelligence with which teams are deployed and on their effectiveness in the field.

A Field Team is organized in much the same way as the  $\ensuremath{\mathbb{Q}}\ensuremath{\mathbb{R}}$  . The differences are

- 1. The leader is called a Field Team Leader (FTL),
- 2. There is no Base Officer,
- Since the EO endeavors to have vehicles driven only by their owners, appropriate members of the Team may be designated as drivers (DR's), and
- The Field Team is designated by a letter and referred to by the ITU-ICAO phonetic for that letter (e.g. *field Team Charlie*).

# C. OPERATIONAL PROBLEMS

#### 1. Task Assignment

A task is an attempt to solve a particular tactical search and rescue problem generated by the MC's strategy. There are four basic kinds of task:

a. Support Task

This is an effort to resupply or add manpower to a team in the field.

- b. Commo Task
  - i. Relay: a radio operator who relays messages.
  - ii. Repeater: an automatic or semiautomatic relay station.

#### c. Search Task

- i. Scratch: search of a point or linear feature (e.g. a trail, ravine, or ridge) by a small team.
- ii. Survey: visual inspection of a large area from a single vantage point.
- iii. Swaep: wide-spaced line search of an area.
- iv. Saturation: close-spaced line search of an area.
- v. Hasty: the initial search of the point last seen; usually performed by the Responsible Agency, but may be performed by a Quick Response Team.
- vi. Tracking (also known as man-tracking): using the step-by-step or a similar method for following the victim's trail.
- v. Cutting for Sign: small teams, generally working perpendicular to the victim's expected line of travel, looking for tracks or other clues of passage.
- vi. Containment: the use of trail or road patrols to minimize the search area by assuring the victim has not left the search area.
- d. Rescue Task
  - i. Rescue: extrication and medical stabilization.
  - ii. Evac: transportation of the victim to a road or helicopter landing zone (LZ).

There are an infinity of variations.

#### IV. PHASE 2 - Scratch and Sweep Searching

Once a task need has been identified, the OO numbers it and enters a description on a Task Assignment Form (TAF). The other staff members then follow the standard task assignment procedure (on the TAF) to assemble a suitable Field Team with proper equipment and communications to execute the task. The FTL is summoned and briefed; he assembles his Team; it gets a final briefing from the FTL (or possibly the OO) and departs from Base Camp.

If a task is identified which can be carried out by a team already in the field, a similar (but simpler) procedure is followed and the team is briefed by radio on its new assignment.

When a team returns to Base Camp, the FTL must be debriefed and the team must check all its equipment with the EO before its task is considered complete.

#### 2. Relief

People are fragile; a searcher's efficiency and safetyconsciousness decrease rapidly under stress or after a few hours of searching. The Staff must be careful not to overextend the operation's manpower capabilities, or mistakes will be made and accidents will happen.

In some situations, the ASRC MC will not want to carry out any night searching, except for some simple surveys. A single Staff can effectively run such a "daylight operation" by sleeping at night.

On the other hand, it is reasonable to search around the clock, and so the Base Camp must be manned by relief Staffs. Ordinarily, this is accomplished with two relief Staffs and the regular staff, standing eight hour watches. Each relief Staff is led by a Watch Officer (WO) who serves as both ASRC MC and OO during his shift. The WO should notify the ASRC MC of any major developments.

Relief of searchers in the field is even more important. Exhausted searchers, even if willing, must not be sent out on yet another task: it is poor tactics to expend two searchers' lives trying to save one victim. The ASRC MC's dispatch plan should allow for staggering of mobilization times so that fresh searchers are always available.

#### 3. Safety

Everyone should be fanatical about safety. An operation involving 100 people for 3 days entails 7200 searcher-hours of opportunity for disaster.

#### 4. Liason with Other Organizations

The ASRC will seldom, if ever, be operating by itself on a mission. To ensure success, the ASRC MC must understand what the Responsible Agent expects of the ASRC and endeavor to fulfill that expectation without interfering with other organizations. Careful coordination by the ASRC MC is essential.

## 5. Communications

Effective communication is extremely important to an effective operation. There are two aspects of effective communication:

- a. The net must be complete. Traffic cannot be passed to a station that cannot be worked. The CO must place relays and repeaters where they are needed and the OO must try not to send teams where he can't talk to them. RO's should be well-trained in field maintenance of radios and must follow their commo instructions.
- b. Message handling must be accurate. Every fixed station must maintain a complete Radio Log. Communications Center RO's must use the standard ASRC Message Format for all traffic passed. Radio Operators must understand that their job is to pass traffic, not to generate it. Tactical decisions must be left to the leaders. Use of the radio Standard Operating Procedure (SOP) and Message Format enhances accuracy.

# 6. Position Information

Quick and unambiguous reporting of team position is essential to an efficient search operation; a search team which cannot communicate its position is useless as a strategic tool. Each Field Team must be able to report its position, using the standard ASRC Grid System, at any time.

# 7. Public Relations

Public relations is the province of the Responsible Agent. All enquiries should be referred to him or his delegates (sometimes the ASRC MC is one). ASRC members should respectfully refer to their superiors questions from the press or public, except to provide general information about the ASRC or one of its Groups. Searchers must be reminded by the PO to be tactful but close-mouthed.

#### 8. Evacuations

Once a victim is located and medically stabilized, the problem of removing him to a hospital remains. The evacuation ("evac") is carried out in two stages: transportation by a Field Team to an accessible location such as a road or a helicopter landing zone ("LZ"), and then transportation by ambulance or helicopter to the appropriate medical facility.

Planning for various evac contingencies must be done well before the find so that no time is lost once the rescue is complete. The ASRC MC should note on the Strategy Map all potential LZ's and passable roads, but the OO should note on the Status Map only those under consideration for use.

Planning the evac route should be done using all available reconnaissance data, especially the observations of the FTL at the site. Arrangements for ambulances or helicopters will be made by the ASRC MC, usually in consultation with the Responsible Agent.

# V. PHASE 3: Saturation Searching

Phase 3 begins when the ASRC MC decides to begin saturation searching (whether scratch and sweep searching are terminated or not). The organization of the operation changes little; it is the nature of the tasks which is different. The biggest change is the large influx of people (mostly untrained volunteers) and the subsequent dilution of trained Field Teams with inexperienced searchers.

Even though the ASRC has the capacity to manage a large search operation, the ASRC membership, even with its Auxiliary Members, is not sufficient to mount a large-scale saturation search unaided. Consequently, untrained local volunteers will be needed during phase 3. These are a mixed blessing. The main problem is that, in general, they are inexperienced searchers and must be taught search techniques on the spot. This teaching makes great demands on the leadership capabilities of ASRC members. During Phase 2, few untrained local volunteers should be employed except in containment tasks or in those special circumstances where a particular volunteer has valuable expertise. During Phase 3, however, volunteers are completely indispensable.

The usual deployment of volunteers is in saturation line searches. ASRC members provide leadership, communications, and medical expertise, while volunteers provide the bulk of the manpower. Specially skilled volunteers, such as amateur radio operators (hams) and rescue squad EMT's, should be distributed to positions where their skills can be useful. During Phase 3, ASRC members must be particularly aware for safety problems; it is customary, for example, for each FTL to carry extra food, clothing (e.g. wool hats) and storm shelters.

Each local volunteer reporting for service with the ASRC must register with the PO (using a Searcher Registration Form (SRF)) and be issued a Searcher Information Sheet (SIS) containing line search instructions, operational procedures, and safety rules. The PO should endeavor to assign volunteers to Field Teams quickly to avoid confusion. Each FTL is then responsible for the welfare and effectiveness of his volunteers.

Volunteers leaving the search must check out with the PO, and each FTL should see that his volunteers do so. VI. PHASE 4: Withdrawal

Phase 4 begins whenever the search is terminated, either because it has been successful or because it has been abandoned. An orderly withdrawal is necessary so that no searchers get misplaced and so that the ASRC is again ready for mobilization. The withdrawal is carried out in three stages:

#### A. Withdrawal of Non-ASRC Searchers

All volunteer non-ASRC searchers under ASRC management must be accounted for, and since some can be counted on to fail to check out, ASRC members will be needed to track them down.

#### B. Withdrawal of ASRC Searchers

Once the non-ASRC searchers are all checked out, ASRC members begin withdrawing from the mission. The procedure is the same as checking in from a task in the field, except that each Field Team is released to return home rather than to rest in Base Camp. All searchers must check out with the PO and all equipment must be checked through the EO.

## C. Withdrawal of ASRC Mission Staff

Once all people and equipment and equipment are accounted for, the ASRC MC should report to the Responsible Agent that all is well then withdraw the Staff. The mission is not complete, however, until all equipment is returned to its proper state of readiness with its home Groups, and the ASRC MC (and his Staff) have completed the Mission Report, consisting of the information on a standard National Association for Search and Rescue (NASAR) Report, a narrative summary, and all pertinent logs and forms.

For each entry, a definition is provided, or a reference in Bold print indicates an explanation in the text of the Plan. Air-Scenting Search Dogs: see Search Dogs Alert Officer.....II.A, II.B Amateur Radio Operator: a person who has passed a Federal Communications Commission test and is licensed to use a wide variety of radio equipment and bands for personal or public service use.....II.D, III.A.6, IV. V AO: Alert Officer ASRC: Appalachian Search and Rescue Conference, Inc. III.C. IV.A.1 ASRC Grid System: A 1-kilometer grid overprint, usually added to 7.5-minute topographic maps as they are photocopied. The grid is usually oriented so as to be compatible with the UTM/MGRS system. It is described in the pamphlet The ASRC ASF: Alert Summary Form Auxiliary (Auxiliary Member): ASRC members who have outdoor experience and have attended a one-day training session on survival, search, ASRC operations, and non-technical evacs..V Base Camp: the central location from which the mission is conducted. Ordinarily contains an Operations Center (OPSCTR), a Communications Center (COMCTR), and Rest Area.....IV, IV.A.2 IV.B Briefing/Debriefing: Giving instructions to a FTL obtaining a detailed report from him concerning a completed task.....IV.A.2, IV.C.1. BO: Base Officer CO: Communications Officer COMCTR: Communications Center Communications Center: Place at Base Camp from which communica-Communications Officer.....IV.A.3, IV.C.5 Communications Systems Chart: A chart used by the CO to schematically represent the communications network. It shows deployment of stations, call signs, frequencies, special instructions, and check-in information.....IV.A.3 Complainant: An individual or agency requesting ASRC aid; may be Containment: Use of patrols or other means to contact the victim should he walk out.....IV

II.E. III.B. IV.A.6 DO: Dispatch Officer Dogs: see Search Dogs DR: Driver EMT: Emergency Medical Technician Emergency Medical Technician: a person who has completed the U.S. Department of Transportation 100-hour basic EMT course and is certified as an EMT by the National Registry of EMT's or by a given state.....III.A.3, IV, V EO: Equipment Officer EOC: Emergency Operations Center Emergency Operations Center: the headquarters (staffed 24 hours a day) of the Virginia DEES.....II.A Equipment Officer.....IV.A.4 Equipment Inventory: A card file system which lists all equipment available to the ASRC and which shows its deployment......IV.A.4 Evac: Evacuation Field Team.....IV, IV.B, IV.C.1 FTL: Field Team Leader Field Team Leader.....I.D, IV.B, IV.C.1 Grid Systems: see individual entries (ASRC Grid System and MGRS/UTM system) Group: The ASRC is divided into semi-autonomous Groups, each Ham: Amateur radio operator Hasty Search: A search of the area immediately surrounding the Point Last Seen (PLS), the subject's intended destination, or other readily accessible areas with high probability of clues.....III ITU-ICAO Phonetics: a standard system of easily-pronounced and easily-distinguished words for the letters of the alphabet which has been adopted by the International Telecommunications Union and the International Civil Aeronautical Organization, and by treaty is the only such phonetic system to be used in radio communications.....IV, IV.B LZ: Landing Zone Landing Zone: An area prepared for the landing of a helicopter, including a touchdown pad, clear landing and take-off lanes, and standard markings for the touchdown pad and wind direction; more information may be found in the ASRC Operations Manual.....IV.C.1, IV.C.7 MAF: Mission Alert Form MC: see ASRC MC MDF: Mission Data Form MEDIC: Medical Specialist

Medical Specialist	III.A.1, III.A.3
Message Format: A standard set of information which accompanies all messages from Mission Staff to the field and vice versa,	
MGRS/UTM Grid System: the Military Grid Reference System (MGRS), which uses the Universal Transverse Mercator (UTM) grid.	IV.C.5
which is overprinted on some topographic maps, and for which special ticks (marks) are placed along the edge of every	
Operations Manual	IV.C.6
Military Grid System: see MGRS/UTM Grid System	TT.B
Mission Alert Form	11.A
Mission Data Form	II.A
Mission Report: A summary of all significant events during an ASRC mission, prepared by the ASRC Mission Coordinator and	
Mission Staff, ASRC MC, ON, CN, PD, FN, DN,	$\mathbf{U}_{\mathbf{U}}$
	IV.A, IV.A.2
MPQ: Missing Person Questionnaire	
OEES: Virginia Office of Energy and Emergency Services OHT: Overhead Team	II.A
00: Operations Officer	TU A 7
Uperations Ufficer	IV.C.1,
	IV.C.5
Operations Center: Place at Base Camp where strategy is planned and tasks assigned. Abbreviated OPSCTR	IV.A.2
Operations Log: A record of all significant operational events occurring during a mission. Abbreviated OPSLOG	IV.A.2
OPSCIR: Operations Center	
Overhead Team	II.D.3
Personnel Officer	IV.A.5, V
Personnel Roster: A card file system which lists all personnel available to the ASRC and shows their deployment	IV.A.5
PLS: Point Last Seen Point Last Seen: Last known location of a victim	111
PO: Personnel Officer	
URL: Uulck Kesponse leam Leader OR Team' Quick Response Team	
Quick Response Team	II.A,
	II.D,
	III.A
Wulck Response leam Leader	III.A.1
Radio Log: A record of all traffic passed by a station, and other	-
notes pertinent to communications. (It is called a Radio	
Log by convention, even it most or all trattic is passed by	III.A.6.
cerepnone./	III.B, IV.C.5

Reconnaissance: The gathering of information about conditions at a remote location; not to be confused with survey search Responsible Agent: The person (or agency) to whom the ASRC is responsible during a mission	III I.D, II.C,
Radio Operator	III.C, IV.C.7 <b>III.A.5</b> , IV.C.5
Radio SOP: A set of standard procedures for radio communications, including the phonetic alphabet, identification procedures, and special prowords (e.g. <u>Roger</u> : Message received and understood)	
Rescue Specialist. RO: Radio Operator RS: Rescue Specialist SAF: Searcher Alert Form	III.A.4
SAR: Search and Rescue SAROP: Search and Rescue Operations Plan Search Dogs: Dogs specially trained to find a lost person by	
detecting airborne scent, and which have proved very effec- tive in appropriate environments; not to be confused with dogs that follow a ground scent trail (tracking dogs) Searcher Alert Form	IV II.E
Searcher Information Sheet Searcher Registration Form SIS: Searcher Information Sheet Standard Message Format: see Message Format	v
SOP (Standard Operating Procedure): see Radio SOP SRF: Searcher Registration Form Status Map: A map of the search area showing what has been done	
200 to show positions of Field Teams, areas of coverage, clues, and reconnaissance data	IV.A.2, IV.C.7
Strategy Map: A map of the search area used by the ASRC MC to plan strategy and by the GO to make task assignments	IV.A.1, IV.C.7
TAF: Task Assignment Form TAF File: A file of Task Assignment Forms maintained by the OO. The file keeps the TAF's available for reference and modifi- cation and is the definitive record of personnel and equip- ment deployment	IV.A.5
Task Task Assignment Form	IV, IV.C.1 IV, <i>Figure 4</i> , IV.A.2-5, IV.C.1
Traffic: Any communications relating to the mission or to any other matters not related directly to the communication	
UTM: Universal Transverse Mercator (Grid System): see MGRS/UTM Grid System	
UVAPD: University of Virginia Police Department	11.A

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