

APPALACHIAN SEARCH AND RESCUE CONFERENCE, INC.

SEARCH AND RESCUE
OPERATIONS PLAN (SAROP)
TRAINING MANUAL

First Draft

December 1985

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**Appalachian Search and Rescue Conference
Search and Rescue Operations Plan (SAROP)
Training Manual**

PURPOSE:

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

SCOPE:

The SAROP Training Manual 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 Training Manual treats elements of search strategy and tactics only in an incidental fashion. This material is available in the SAR literature; see Appendix A of the *ASRC Basic Member Training Course* for a bibliography.

APPLICABILITY:

This Manual outlines procedures for conducting a lost person search operation; to be complete, it assumes that the ASRC is coordinating a medium-sized search, including planning overall strategy, controlling all ground operations, coordinating all communications, and providing Field Team Leaders for all non-ASRC teams. Since the ASRC role may be limited to only a few of these capabilities, or may differ markedly from lost person search (e.g. downed aircraft search or natural disaster), guidelines are provided within the Manual and the ASRC Operations Manual for adapting the the ASRC management structure to these situations, but ultimate authority for modification of the SAROP rests with the ASRC Incident Commander.

NOTE REGARDING THIS DRAFT EDITION:

This edition of the SAROP Training Manual incorporates two major changes from previous editions of the SAROP: the Overhead Team and the Incident Command System. The concept of the Overhead Team has been added to the First Response Phase; an Overhead Team is a small team of management-trained ASRC, dispatched to the search area to assist with the initial organization of a search operation. The national Incident Command System has been integrated into the Manual, resulting in some changes in the Command Staff structure (although Field Team organization and the task assignment procedure are unchanged). The Incident Command System is flexible and uniform management system, initially developed for interagency coordination of wildfire suppression, which is now being widely adapted to other complex multi-agency operations, including search. The text has also been edited for clarity and succinctness, and to complement the Manual's general outline of ASRC operations, specific operational policies have been compiled into a draft Operations Manual. Although this SAROP Training Manual is a direct successor to the older editions of the SAROP itself, a draft of a condensed version this Manual, suitable for easy field reference, now carries the appellation of Search and Rescue Operations Plan (SAROP).

Printing History:

SAROP First Edition, 1975; Yorke Brown, Editor

SAROP First Edition, with revisions; July 1978

SAROP Second Edition, October 1983; Keith Conover, Editor

SAROP Training Manual, First Draft, 1985; Keith Conover, M.D., Editor

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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 meet 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 three main features of the SAROP which aid its adaptability. The first is the organization of a mission into five phases:

Alert and Mobilization Phase

The Quick Response Phase

Scratch Search Phase

Saturation Search Phase

Withdrawal Phase

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 SAROP and this Manual assume that the ASRC is managing the entire search, but it is simple to adapt the SAROP 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 Field Teams to search certain areas, the ASRC Incident Commander (ASRC IC) will probably function as Command Staff by himself, and the procedures of the Scratch Search Phase will be followed. If, however, the Responsible Agent is managing the search and asks the ASRC to provide leaders for teams of local people, the procedures of the Saturation Search Phase would best be implemented, with a complete complement of ASRC members as ASRC Command Staff.

The second adaptable feature of the SAROP is the functional organization of both Incident Command System (ICS) and non-ICS structures. 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, 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 Command Staff or Field Team.

I. Introduction

The third feature of the SAROP contributing to its adaptability, and in many ways the most important one, is its use of the national Incident Command System (ICS). The ICS is part of the National Interagency Incident Management System (NIIMS), a system for improving coordination on federal interagency operations. Although initially designed for federal agencies involved with wildfire suppression, the ICS is now being used by federal and non-federal organizations for a wide variety of incidents including disasters and searches. It will probably become a nationwide standard.

The ICS provides a management structure which may be expanded as needed for adequate control of a growing operation. The SAROP's extensive use of ICS structure and nomenclature ensures that the ASRC Command Staff may expand the management structure, using ICS procedures and forms, with little difficulty. This is true whether the ASRC retains overall command of the operation, hands over command to another agency, or takes part in a unified command structure with other agencies. Thus, the SAROP's use of the ICS also helps to ensure:

D. Compatibility.

The SAROP adopts most of the conventions of the ICS, as employed in a medium-sized search, with some extensions suited for the ASRC's primary activities: mountain rescue and wilderness search (e.g. Field Teams, Task Assignment Forms, and alert postures). None of these extensions is in any way incompatible with the ICS; other agencies employing the ICS will find most of the ASRC's nomenclature and position descriptions familiar, and it is therefore relatively simple to form a unified command structure, merging the command structures of several agencies.

Finally, an effective and practical SAROP must provide

E. 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 some sort of 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.

The SAROP provides five distinct levels of authority: Searcher level, Field Team Leader level, Command Staff level, ASRC Incident Commander, 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 Incident Commander on a downed aircraft search is a notable example.)

II. THE ALERT AND MOBILIZATION PHASE

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During the Alert and Mobilization Phase, the ASRC is alerted through the cooperation of the Virginia Department of Emergency Services (DES) and University of Virginia Emergency Medical Communications Center (UVA MEDCOM), 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 Overhead Team (OHT) or Quick Response Team (QR Team) or the planning of a major search effort. The Alert and Mobilization Phase is illustrated in Figure 1.

A. The Virginia Department of Emergency Services (DES) and University of Virginia Emergency Medical Communications Center (UVA MEDCOM)

The ASRC publicly lists the emergency phone number of the Virginia Department of Emergency Services (DES) 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 DES Emergency Operations Center (EOC) at Richmond, Virginia, who will note the caller's name, phone number, and type of problem on an ASRC Mission Alert Form (MAF); he then assures this Complainant that he will be contacted by the ASRC in a few minutes. The Duty Officer then contacts University of Virginia Emergency Medical Communications Center (UVA MEDCOM) dispatcher, who notes the information on his own Mission Alert Form, and then uses a paging system to alert members of the ASRC's Blue Ridge Mountain Rescue Group (BRMRG); one of these members becomes the ASRC Alert Officer (AO). (If for any reason the paging system does not work, the UVA MEDCOM dispatcher calls down an Alert Officer List (AO List) until he reaches an Alert Officer.) The DES will generally continue to provide the ASRC with communications and coordination support throughout the mission, and the ASRC IC will keep the DES up to date on the mission's progress. Through a cooperative agreement, all search and rescue (SAR) organizations in the Virginia Search and Rescue Council are notified whenever the ASRC is participating in a mission.

II. Alert and Mobilization Phase

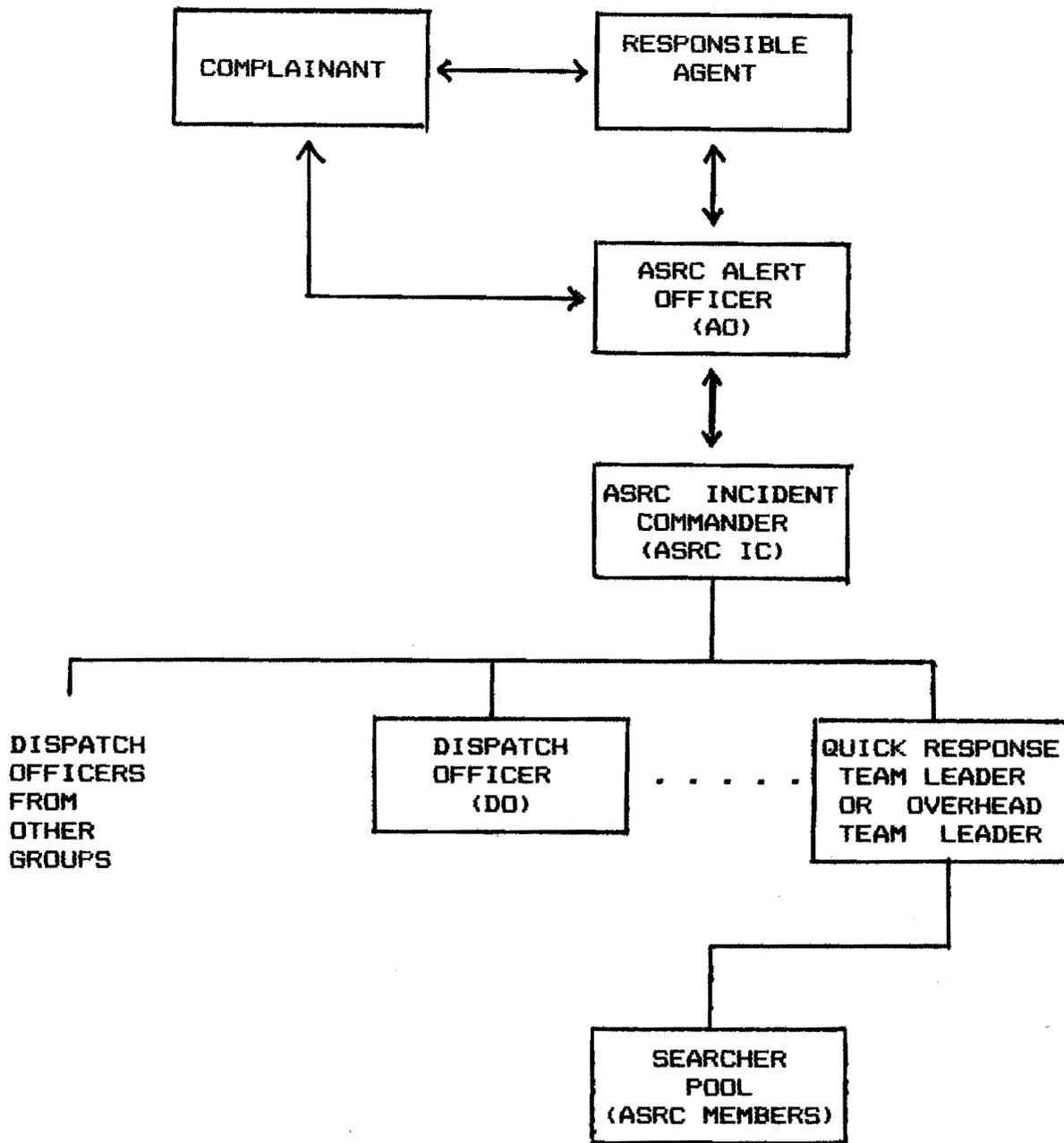


FIGURE 1: Alert and Mobilization Phase. The Complainant requests search or rescue assistance from the ASRC by calling the Virginia DES, which contacts the UVA MEDCOM dispatcher, which uses a paging system to alert an ASRC Alert Officer (AO). The AO gets initial information from the Complainant, initiates an OHT or QRT Callout if needed, selects an ASRC Incident Commander (ASRC IC) from a Group near the mission, and relays the information to him. The ASRC IC then organizes the response through a Dispatch Officer (DO) and, if appropriate, a Quick Response Team Leader (QRT Leader), Overhead Team Leader (OHT Leader), or both. If the call comes from a Complainant other than the local Responsible Agent, all actions must be cleared with the Responsible Agent.

II. Alert and Mobilization Phase

Mobilization plans vary from Group to Group, and each Group must keep the ASRC Alert Officers up to date on Group alert and mobilization plans, but three general principles apply.

1. The Group level callout is carried out or supervised by a **Dispatch Officer (DO)** selected by the ASRC IC. Since the DO's duties ideally involve radio communications, the ASRC IC will often appoint an **amateur radio operator (ham)** to be DO.
2. If an **Overhead Team (OHT)** is appropriate, as for most requests for assistance with a managing a lost person search, the ASRC IC appoints an **Overhead Team Leader (OHT Leader)** who selects the members of his Team and departs for the incident area. (As soon as the OHT reaches the area, the OHT Leader will become the new ASRC IC.)
3. If a **Quick Response Team (QR Team)** is appropriate, the ASRC IC appoints a **Quick Response Team Leader (QRT Leader)** and the QRT Leader assembles his QR Team.
4. If a Conference-wide callout is appropriate, the ASRC IC alerts DO's in all ASRC Groups, which then follow their own mobilization procedures.
5. Although the ASRC IC may appoint himself OHT Leader, an interim ASRC IC will be appointed to serve while the OHT Leader is traveling. It is also possible for the ASRC IC to appoint himself QRT Leader; however, even a simple rescue may escalate into a difficult situation lasting many hours and requiring major management decisions. Therefore, the ASRC IC will very rarely travel to the scene or go into the field without appointing an interim ASRC IC, because in a car, plane, or on the mountain he is isolated from his lines of communication and command.

II. Alert and Mobilization Phase

6. Since the ASRC receives requests for many different kinds of assistance, and is sometimes notified of an incident which might require ASRC assistance before a formal request for assistance arrives, four **alert postures** are used to describe the alert and mobilization state of the ASRC.

a. Notification

A SAR incident is in progress, and the ASRC may be requested.

b. Alert

A SAR incident is in progress, and a request for ASRC involvement is probable.

c. Standby

A QRT or OHT is to be assembled and ready to go at a moment's notice, but dispatch is temporarily on hold.

d. Callout

The ASRC has been requested, or is actively involved in the incident.

7. The ASRC IC will ensure that every ASRC Group is aware of an ASRC mission, even though teams may be dispatched from only one or two Groups.

Once the callout procedures are set into motion, the ASRC IC begins, in concert with the Responsible Agent, the tasks of gathering information and planning for the operation. These tasks are not complete until the operation has ended.

D. The Dispatch Officer (DO)

The Dispatch Officer (DO) has two main responsibilities during the Alert and Mobilization Phase. The first is to establish radio or intermittent telephone contact with the OHT, QR Team, or any Group vehicles en route to the mission. The second is to execute the callout plan according to the IC's instructions. When the callout is finished, the DO gives the ASRC IC a quick survey of the manpower he has available; the **ASRC Alert Summary Form (ASF)** aids the DO in compiling this information.

Each ASRC member is equipped with an **ASRC Searcher Alert Form (SAF)** so that he may record his dispatch instructions completely.

III. THE FIRST RESPONSE PHASE

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During the **First Response Phase**, the ASRC IC dispatches to the scene, by the most expedient means available, those resources most urgently needed. The two most common ASRC resources to be dispatched during the First Response Phase are a Quick Response Team (QR Team) and an Overhead Team (OHT).

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 First Response Phase directly to Withdrawal Phase.

During travel to the search or rescue site, the **Base Officer (BO)** (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, so that the QR Team may be turned back or rerouted if necessary.

When a Responsible Agent asks for ASRC assistance in managing a lost person search, the most urgent need is for a small team of ASRC members experienced in the management of search operations: an **Overhead Team (OHT)**. The team members act as managers or advisors, for local personnel or other SAR teams, or they act as an advance team. As an advance team, they will make all the necessary arrangements so that further SAR respondents can be rapidly and efficiently deployed. In addition to the OHT, a few search resources might be dispatched; depending on the terrain, weather, and availability of resources, this might be a few ASRC Certified Members to serve as Field Team Leaders, or perhaps a pair of search dogs and handlers.

A. Quick Response Team Organization

There are five positions on a Quick Response Team, but a single person may fill more than one position. QR Team organization is illustrated in Figure 3.

1. The Quick Response Team Leader (QR Team Leader)

The Team Leader's responsibility is to carry out the mission assigned by the ASRC IC, 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 QR Team Leader's specific duties are

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

III. First Response Phase

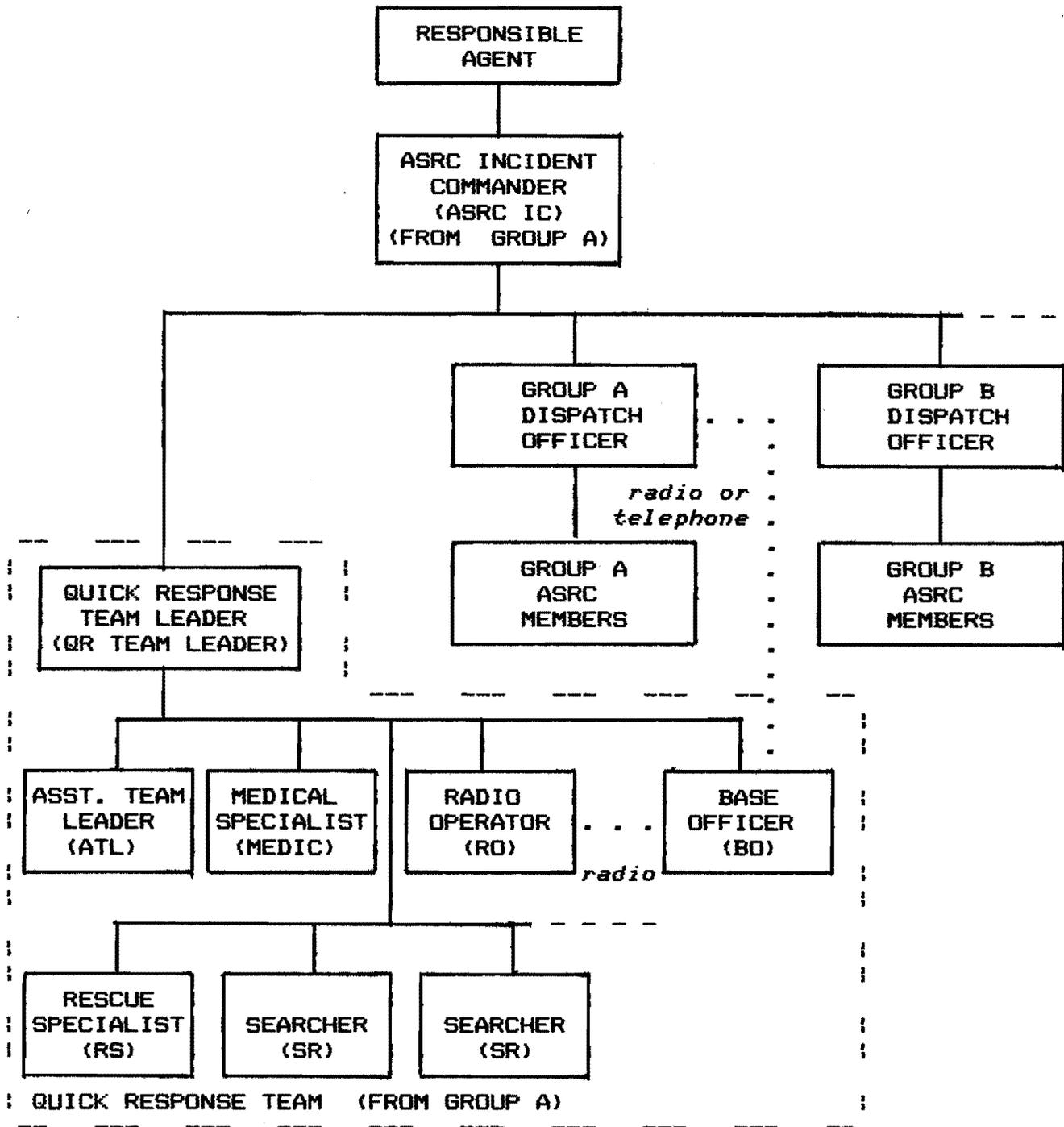


Figure 3. First Response Phase: The Quick Response Team (QR Team). The Quick Response Team (QR Team) is organized by the Quick Response Team Leader (QRL). Meanwhile, the Dispatch Officer (DO) is alerting the rest of the Group, and the other Groups are being alerted by their own DO's. Communication from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

2. The Assistant Team Leader (ATL)

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

- a. Serving as leader if the QR Team Leader 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 QR Team Leader is engaged in strategic planning or liason (e.g. conferring with the ASRC IC or a Sheriff's Deputy).

3. The Medical Specialist (MEDIC)

The **MEDIC** is responsible for the medical care of the victim(s) and incidental medical care of Team members. The **MEDIC** position should be assigned to the team member best qualified to care for a patient in the field. 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 QR Team Leader and Rescue Specialist on the medical situation and priorities during rescue and evacuation.

4. The 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 QR Team Leader of the technical situation and priorities; and
- e. Enforcing safety standards.

5. The 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 the Alert and Mobilization Phase;
- c. Maintaining contact with the BO; and
- d. Advising the QR Team Leader on the communications system.

III. First Response Phase

6. The Base Officer (BO)

The Base Officer (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 IC) 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 Alert and Mobilization Phases;
- c. Maintaining contact with the RO and DO;
- d. Advising the QR Team Leader, RO, and DO of the communications situation;
- e. Keeping a **Radio Log** (the BO will likely become the Communications Unit Leader during the Scratch Search Phase);
- 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. Overhead Team (OHT) Organization

The number of members on an OHT is not fixed, but depends on the nature of the operation, the number of management-trained members available, and the availability of transportation (an OHT is often dispatched by air transport). The positions on an OHT include an **Overhead Team Leader (OHT Leader)** and a Radio Operator. During transit to the scene, the OHT Radio Operator maintains communications with the Dispatch Officer of the dispatching Group. When the OHT reaches the scene, the First Response Phase ends and the Scratch Search Phase begins. The original ASRC IC relinquishes command of the ASRC to the OHT Leader, who becomes the new ASRC IC, and appoints members of his Team (or others) to Command Staff positions as described in a subsequent section.

C. The Dispatch Officer (DO)

The DO's duties during First Response Phase are the same as during the Alert and Mobilization Phase: if an OHT, QR Team, or groups of members from his Group have been dispatched from his Group, establishing and maintaining contact with them, and maintaining contact with them through the QR Team's Base Officer or Radio Operators of the OHT or groups of members in transit. 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 IC from distraction; the DO also serves as a contact point with the DO's of other Groups.

D. The ASRC Incident Commander (ASRC IC)

During the First Response Phase the ASRC IC is faced with two main problems. The first is supporting the QR Team or OHT. The second is planning for subsequent Phases if a search subject is not readily found or should a rescue escalate into a major operation.

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 48 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).

2. Planning for a large scale search depends on the circumstances, but four 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 Group DO's should be kept informed of all actions.
 - d. The ASRC IC must prepare an adequate summary of events and communications to forward to the OHT Leader who will, when he reaches the search area, become the new ASRC IC.

IV. THE SCRATCH SEARCH PHASE

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If the OHT or QR Team are unsuccessful in locating the search subject immediately, the ASRC IC will have to initiate a large scale search effort. During the First Response Phase, he should have made plans for this contingency, so that a Command Post can be established and the Scratch Search Phase can begin when daylight and weather permit.

During the Scratch Search Phase, the ASRC IC's will start with containing the search area and starting attraction tasks, if these have not already been done. The Scratch Search Phase will usually form the bulk of a search operation, and will consist mainly of active search efforts using air-scenting search dogs for less rugged terrain and areas with a high probability of finding the victim proper, and using small ASRC teams for scratch and sweep searching of places where there is a high probability of clues, and for rugged areas not suitable for the dogs. The details, of course, depend on the situation.

Untrained volunteers should be employed sparingly; most of the search techniques of the Scratch Search Phase are designed for small, fast, highly-trained, and self-sufficient Field Teams. Though few volunteers are prepared such rigorous work (especially tasks at night, or in rough terrain or foul weather), but local people often have more thorough knowledge of the terrain than any ASRC members, and the wise ASRC IC will exploit this knowledge. Local amateur radio operators may be useful as Command Post 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 the Scratch Search Phase.

The basic tactical unit in a search and rescue operation is the Field Team; the command and support unit is the Command Staff. The Staff assembles Field Teams designated by letters (referred to by the International Telecommunications Union--International Civil Aeronautical Organization (ITU-ICAO) phonetic alphabet, e.g. *Field Team Bravo*, *Field Team Delta*). The Command Staff deploys these teams on specific tasks (designated by numbers) in accordance with the ASRC IC'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 the Scratch Search Phase organization.

The ASRC IC will direct the placement of initial search facilities, if this has not already been done. The **Command Post (CP)** consists of the **Operations Center** where the Command Staff work and the **Communications Center**, which is the command node for all search radio networks. The **Incident Base** is where members and equipment are kept between field assignments; the Base may be adjacent to the CP, or at some more convenient location. **Camps** are established as necessary to support field operations. (**Staging Areas** are mentioned in ICS materials, particularly for staging with firefighting vehicles, but are seldom used in lost person search.) **Helibases** serve as bases for helicopters working with the search, and **Heli-spots** where a helicopter may safely land are noted for use in Field Team transfers or patient evacuations.

A. The ASRC Command Staff

The purpose of the Command Staff is to provide the ASRC IC with enough manpower to meet all his responsibilities in conducting the operation. This frees him to carry out his primary functions of overall supervision, strategy planning, and liason with the Responsible Agent.

On a small operation, the ASRC IC may himself discharge some or all of the staff duties, but a large operation might employ a Command Staff of thirty people or more. The Incident Command System (ICS) lists many potential Staff positions, some of which are designed for fire suppression activities and clearly unnecessary for lost person searches (e.g. Air Tanker Coordinator) and some which will never be needed by a volunteer organization such as the ASRC (e.g. Time Unit Leader, Compensation Claims Unit Leader).

Therefore, a Command Staff consisting of the seven positions most appropriate for a medium-sized search was selected for description in the SAROP. By grouping all search-related ICS functions into these seven positions, a concise description of the necessary search management functions is achieved. When one of the functions under one of the seven SAROP positions corresponds with a named ICS position, the name of that position is noted in {brackets}.

If the search grows larger than can be managed by the seven positions described here, the Command Staff must be expanded using some of the methods described in the pocket-sized **ICS Field Operations Guide** and other ICS materials, such as the establishment of up to five **Branches**, each consisting of up to five **Divisions** or **Groups**.

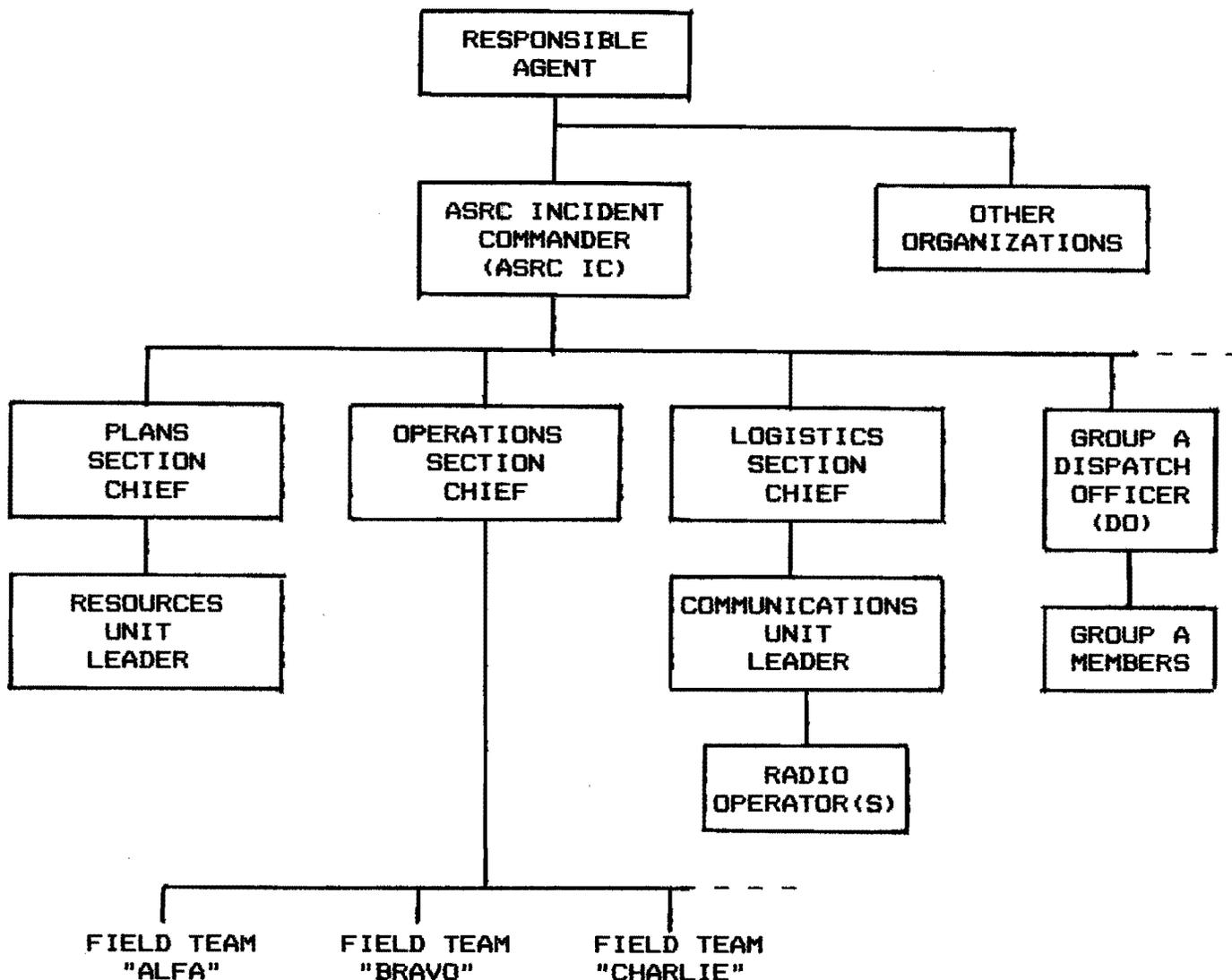


Figure 5. Scratch, Saturation, and Withdrawal Phase Command Staff

The Plans Section Chief aids the ASRC IC in the development of strategy and tactics for upcoming shifts and days, and the Resources Unit Leader (RESTAT) manages personnel and equipment. The Logistics Section Chief manages the support logistics of the Incident Base and any Camps or Helibases, and the Communications Unit Leader manages radio and other communications nets. Under the direction of the Operations Section Chief the Communications Unit Leader and Resources Unit Leader develop Field Teams to execute particular tasks, and manage them while in the field. The Dispatch Officer (DO) manages personnel still in town. Specific exceptions to this command structure (e.g. a Unified Command Structure) are discussed in the SAROP text, the ASRC Operations Manual, and ICS materials.

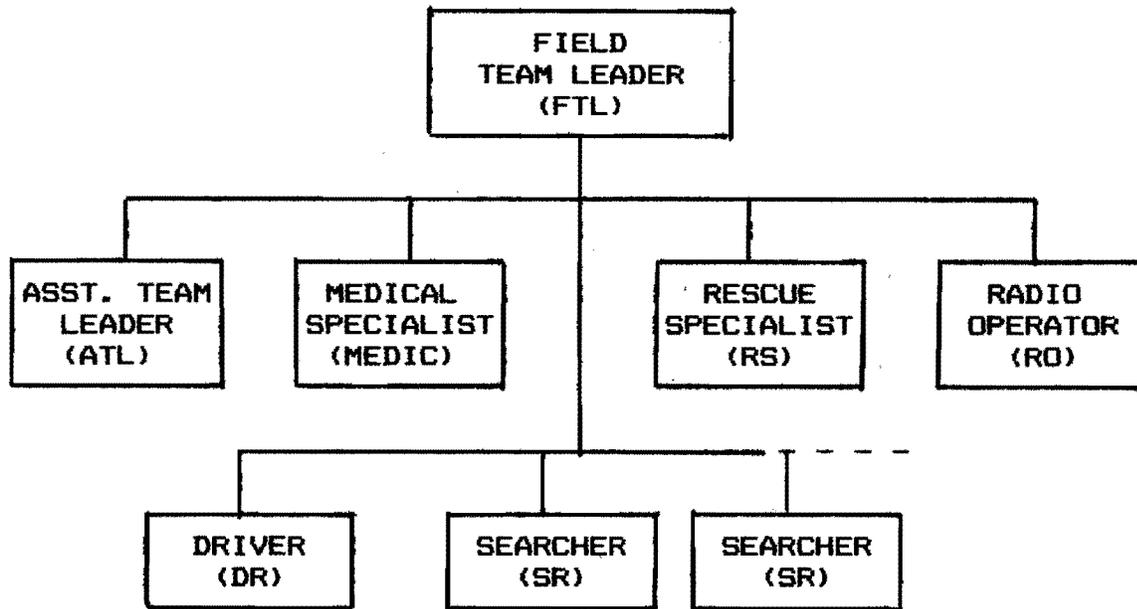


Figure 6. Scratch, Saturation, and Search Phase Field Team Organization The Field Team consists of a Field Team Leader (FTL), Assistant Team Leader (ATL), Radio Operator (RO), Medical Specialist (MEDIC), Rescue Specialist (RS), Driver (DR), and Searchers (SR). The Field Team Radio Operator communicates with the Radio Operator at the Command Post Communications Center (COMCTR).

1. The ASRC Incident Commander (ASRC IC)

During the Scratch Search Phase, the responsibilities of the ASRC IC are

- a. Debriefing the QRT Leader, if appropriate;
- b. Supervising strategy development by the Plans Section Chief;
- c. {Liason Officer}: maintaining liason with the Responsible Agent and leaders of other organizations in the operation;
- d. {Information Officer}: if so authorized by the Responsible Agent, assisting and dealing with members of the press;
- e. {Safety Officer}: monitoring the operation for hazards to searchers;
- f. Choosing a site for the Command Post and other facilities;
- g. Continuing intelligence gathering; and
- h. Supervising the Command Staff.

2. The Plans Section Chief

The Plans Section Chief is responsible for the collection, evaluation, dissemination, and use of information about the development of the search and status of resources, and for generating plans for future shifts and days of the operation. On smaller operations, the ASRC IC will usually serve as Plans Section Chief himself. Specific duties of the Plans Section Chief include:

- a. {Documentation Unit Leader}: maintaining accurate and complete operation files, and maintaining the mission Operations Log;
- b. Planning strategy (maintaining the Strategy Map and producing shift or daily plans);
- c. Planning for management of a find, including rescue, medical, and evacuation plans;
- d. {Demobilization unit Leader}: making demobilization plans;
- e. Planning relief and support; and
- f. Supervising the Resources Unit.

3. The Resources Unit Leader (RESTAT)

The Resources Unit Leader (RESTAT, for REsources STATUS) is responsible for managing all the people and Field Teams under ASRC control. 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. All personnel under ASRC control are identified by a card in the Personnel File, which is filed under one of three categories:

- a. **Assigned:** the person is currently assigned to a Field Team.
- b. **Available:** the person is at Incident Base or one of the Staging Areas and is available for assignment to a Field Team.
- c. **Out-of-Service:** the person has signed out of the operation, or is otherwise not available for assignment to a Field Team.

The Resources Unit Leader's specific duties are

- a. {Check-in Recorder}: registering incoming and checking out outgoing searchers;
- b. Maintaining the Personnel Roster and Equipment Inventories (card files);
- c. Assembling Field Teams (by listing names on the Task Assignment Form (TAF)).
- d. Issuing equipment to Field Teams and collecting it on return; the Resources Unit Leader specifies personal and team gear for each task, and notes equipment to be issued to the Team, on the Task Assignment Form (TAF)); and
- e. {Situation Unit Leader}: Coordinating with the DD's in executing the ASRC IC's dispatch and relief plans.

4. The Operations Section Chief

The Operations Section Chief is the IC's lieutenant. He is responsible for executing the strategy developed by the ASRC IC and Plans Section Chief, and responsible for running the Command Post Operations Center. He supervises all other members of the Command Staff. His specific duties are

- a. General operational planning;
- b. Supervising task assignment (the Operations Section Chief initiates each Task Assignment Form (TAF));
- c. Maintaining the TAF File;
- d. {Situation Unit Leader}: maintaining the Status Map, which shows the current state of the search, and
- e. Briefing and debriefing Field Team Leaders (FTL's).

5. The Logistics Section Chief

The Logistics Section Chief is responsible for the physical needs of the operation:

- a. Equipment;
- b. Transport;
- c. {Facilities Unit Leader}: sheltered sleeping areas and security at incident facilities as needed;
- d. {Food Unit Leader}: food and water;
- e. {Medical Unit Leader}: incidental medical care for searchers and staff; and
- f. Sanitation.

The Logistics Section Chief also supervises the Communications Unit Leader.

6. The Communications Unit Leader

The Communications Unit Leader is responsible for the effectiveness of all ASRC mission communications. His specific duties are

- a. Directing the establishment, maintenance, and improvement of the communications networks, which are:
 - i. the Tactical Net: the primary radio communications network for command and control of Field Teams,
 - ii. the Command Net: radio or land-line communications between members of the Command Staff,
 - iii. the Support Net: communications for logistical support, and
 - iv. the Ground-to-Air and Air-to-Air nets: for coordination of air support activities.
- 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 Command Staff on communications matters;
- d. Advising the Resources Unit Leader 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)).

7. The Dispatch Officer (DO)

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

B. The National Interagency Incident Management System (NIIMS) and Incident Command System (ICS)

The National Interagency Incident Management System (NIIMS) was developed initially as a way to improve the management of large wildfires, ones that required the efforts of many different agencies and jurisdictions (e.g. the Forest Service, the Park Service, and local fire departments). This was later extended into a system for managing any sort of incident that cut across traditional agency lines, including natural disasters and lost person searches. The most important portion of NIIMS for the ASRC is the Incident Command System (ICS). The Incident Command System is detailed in documents available through the ASRC, but a brief outline of portions pertinent to ASRC Trainee and Basic Members is presented here.

The ICS is designed to be simple, flexible, adaptable, and expandable. Key concepts include:

1. A standardized functional structure with uniform terminology, procedures, and organization, which thereby promotes cooperation between organizations, and which is easily applied to incidents large or small.
2. Provision for a unified command structure and consolidated action plans when multiple organizations are working together.
3. A modular organization which may be expanded as the incident expands, using the concept of manageable span of control to keep command structures from breaking down.
4. Integrated communications using plain english with no radio codes.

The ICS structure has six levels of organization, with a distinct term for each level and for the managers at each level. Since this is a functional organization, positions are created and filled only when and as needed. Thus, for a small search with only two Field Teams, the Incident Commander by himself might fulfill all the duties of the entire Command Staff. See Table 1 and Figure 8 for the basic ICS Command Staff structure.

When a search operation expands beyond the management scheme outlined in the SAROP, it becomes necessary to use the procedures of the ICS to expand the management structure to meet the needs of the operation. It is assumed that all ASRC Command Staff personnel are familiar with the ICS beyond the material presented in the SAROP, and will be able to expand the operation smoothly.

Level	ICS term	ASRC Example
Incident Command	- Incident Commander	- ASRC IC
Command Staff	- Officer	- Information Officer
Section	- Section Chief	- Operations Section Chief
Branch	- Branch Director	- (none)
Division/Group	- Division/Group Supervisor	- (none)
Unit	- Unit Leader	- Field Team Leader, Resources Unit Leader

Table 1: ICS Organization Levels, Managers, and ASRC SAROP examples.

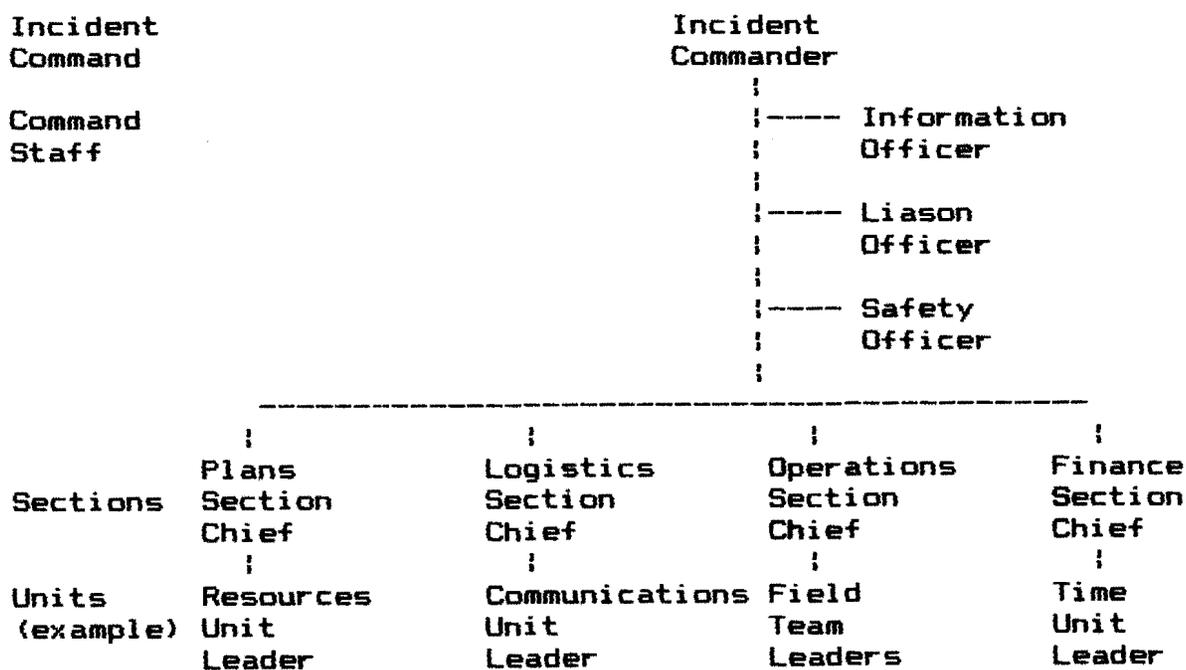


Figure 7: ICS Command Structure.

C. The Field Team

The Field Team is the basic tactical search and rescue 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 QR Team. The differences are

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

In ICS terminology, the ASRC Field Team is considered a Task Force, because the team is formed for a particular task, and broken down into its component ASRC (and other) members once the task is completed and the Field Team has reported back to Incident Base. A Strike Team would be a team which always had a set number of members and equipment, in distinction to the functional organization of an ASRC Field Team, which can be composed of two up to many more members, depending on the particular task.

D. Operational Problems

1. Task Assignment

A task is an attempt to solve a particular tactical search and rescue problem generated by the ASRC IC'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. **Sweep:** 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 helispot.
- There are an infinity of variations.

Once a task need has been identified, the Operations Section Chief numbers it and enters a description on a Task Assignment Form (TAF). The Communications Unit Leader and Resources Unit Leader 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 Operations Section Chief or his designate, and departs from the Command Post, Incident Base, or other facility.

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 the Command Post, the FTL must be debriefed and the team must check in all its personnel and equipment with the Resources Unit Leader before its task is considered complete.

2. Relief

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

In some situations, the ASRC IC 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 Command Post 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 IC and OC during his shift. The WO should notify the ASRC IC 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 IC'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. Coordination with Other Organizations

In jurisdictions with infrequent search and rescue incidents, the Responsible Agent is usually unfamiliar with the technical details of wilderness search and rescue and the ASRC's procedures. When this is the case, ASRC members are almost always under the command of ASRC Field Team Leaders, who are in turn commanded by the ASRC Command Staff; the ASRC Command Staff is in turn responsible to the Responsible Agent. This allows safe yet maximal use of the talents of ASRC members. In a situation such as this, the ASRC must operate its own Command Staff independent of the other agencies involved, and the SAROP provides for this. (The final decision as to the ASRC's deployment on any mission is, of course, the ASRC IC's).

If another search and rescue (SAR) organization is involved in the mission (e.g. a search dog team), and it wishes to participate with the ASRC in a unified Command Staff, a Command Staff Liason from the other SAR organization may be attached to the ASRC IC, and management personnel from the other organization may be employed in Command Staff positions as described previously.

When many organizations are involved in a large operation, it sometimes is appropriate to form a Unified Command Staff with command personnel from each agency jointly determining objectives and commanding the operation. However, the ASRC, as a volunteer organization, always has a clearly identified ASRC IC who has responsibility for the safety and proper use of ASRC members, and authority to commit them to the operation or remove them from the operation if that becomes necessary.

There are certain specific instances in which the ASRC relegates command over ASRC members directly to another agency; these instances are specified by Cooperative Agreements which are found in the ASRC Operations Manual. In these cases, the ASRC IC relinquishes command of the ASRC and becomes the ASRC Command Staff Liason, and retains only the authority to terminate ASRC involvement if this becomes necessary. An example of this kind of arrangement is when the ASRC is assisting Shenandoah National Park with a large search operation.

5. Communications

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

- a. The nets must be complete. Traffic cannot be passed to a station that cannot be worked. The Communications Unit Leader must place relays and repeaters where they are needed and the Operations Section Chief 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 ICS **General Message Form (GMF)** 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 General Message Form 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 IC 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 Command Staff 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 area ("helispot"), 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 Strategy Map should note all potential helispots and passable roads, but the Plans Section Chief 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 IC, usually in consultation with the Responsible Agent.

V. THE SATURATION SEARCH PHASE

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The Saturation Search Phase begins when the ASRC IC decides to begin saturation searching (whether scratch and sweep searching are terminated or not). Saturation searching is usually a last resort, as it is inefficient and often destroys clues. 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 the Saturation Search Phase. 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 the Scratch Search Phase, few untrained local volunteers should be employed except in containment tasks or in those special circumstances where a particular volunteer has valuable expertise. During the Saturation Search Phase, 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 the Saturation Search Phase, 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 Resources Unit Leader using a **Searcher Registration Form (SRF)**, and be issued a **Searcher Information Sheet (SIS)** containing line search instructions, operational procedures, and safety rules. The Resources Unit Leader 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 Resources Unit Leader, and each FTL should see that his volunteers do so.

VI. THE WITHDRAWAL PHASE

The Withdrawal Phase begins whenever the search is terminated, either because it has been successful or because it has been abandoned. If the search is terminated without a find, the ASRC IC usually advises the Responsible Agent on passive search tactics which may be continued as long as needed. 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 Resources Unit Leader and return any ASRC-controlled equipment.

C. Withdrawal of ASRC Command Staff

Once all people and equipment and equipment are accounted for, the ASRC IC 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, the Virginia DES is notified of this, and the ASRC IC (and his Staff) have sent the ASRC Secretary 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.

TASK ASSIGNMENT FORM								
TASK NO.	TEAM	COMMO	DISPATCH MODE		FINAL DEBRIEF			
			TIME	INITIAL	TIME	INITIAL		
GEOGRAPHICAL FEATURE			MAP NAME					
ASSIGNMENT	TYPE			DIFFICULTY				
				1	2	3	4	5
DATE								
PERSONNEL	PFI _____		SR _____					
	MEDIC _____		SR _____					
	PO _____		SR _____					
	PS _____		SR _____					
	LR _____		SR _____					
TOTAL	ATI _____		SP _____					
EQUIPMENT	GROUP			INDIVIDUAL				
TRANSPORT								
COMMUNICATIONS								