LAW ENFORCEMENT MUTUAL AID PLAN
(SAR) ANNEX

MUTUAL AID GUIDELINES

SEARCH AND RESCUE
ALPINE TEAM

February 9, 2006

California Governor's Office of Emergency Services
Law Enforcement Branch
Search and Rescue Mutual Aid – Alpine Team Guidelines

ACKNOWLEDGMENT

This document is the product of a cooperative effort of an assembled Search and Rescue Alpine Team Specialist Working Group and the California's State Sheriff's Search and Rescue Coordinators.

The California Governor's Office of Emergency Services gratefully acknowledges the valuable input and collective expertise from the following members of the SAR Alpine Team Specialist Working Group:

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This document was completed, accepted, and approved by the State Sheriff's SAR Coordinators on January 19th, 2006. It was further accepted and approved by the California State Sheriff's Association on February 9th, 2006.

Introduction

Pursuant to the California Government Code, Chapter 7 of Division 1 of Title 2, "The Emergency Services Act", the California Governor's Office of Emergency Services (Cal OES), Law Enforcement Branch manages and maintains the State of California Search and Rescue Mutual Aid Program. This includes the publication of plans pertaining to Search and Rescue Mutual Aid. This publication, The Cal OES SAR Mutual Aid Plan, serves as an annex to the Cal OES Law Enforcement Mutual Aid Plan.

In order to refine the State's Search and Rescue Mutual Aid Program, the Cal OES Law Enforcement Branch assembled California's 58 County Sheriffs' Search and Rescue Coordinators, as well as California's State and Federal SAR Cooperators. This group of interested agencies is called the "State Sheriffs' Search and Rescue Coordinators". The main objective of this group is to collectively review and address statewide SAR issues to improve the effectiveness and efficiency of the State's SAR Mutual Aid Program.

One of the main issues identified was the existence of multiple and inconsistent "standards" that affect the SAR discipline, specifically mutual aid SAR responses. The lack of statewide consistency in how SAR resources were evaluated and categorized made it difficult for SAR resources to be used as a mutual aid resource. This issue was addressed in detail by the State Sheriffs' SAR Coordinators. Their objective was to create mutual aid guidelines that met or exceeded existing applicable "standards" while creating effective and efficient statewide criteria for mutual aid SAR responses. These guidelines are intended to define SAR proficiencies solely for mutual aid resources.

- These guidelines contain information for law enforcement agencies to consider when addressing the broad range of issues related to Search and Rescue Mutual Aid. These guidelines do not constitute a policy, nor are they intended to establish a standard for any agency. CAL OES is sensitive to the needs for agencies to have individualized policies that reflect concern for local issues. CAL OES intends these guidelines to be a resource for law enforcement agencies that will provide maximum discretion and flexibility in the development of individual agency policies.

The creation of California's SAR Mutual Aid Guidelines encompasses all potential SAR disciplines and is developed as follows:

1. The State Sheriffs' SAR Coordinators identify the guideline discipline need.
2. The State Sheriffs' SAR Coordinators elect one of their fellow coordinators to chair the guideline creation process.
3. The State Sheriffs' SAR Coordinators identify and task a group of subject matter experts into a "Specialist Working Group".
4. The Specialist Working Group creates the guidelines based upon their knowledge and experience and submits them back to the coordinators for review, recommendation, and/or approval.
5. Once approved by the coordinators, and reviewed by CAL OES Administration and Staff Counsel, the coordinators present the guidelines to the California State Sheriffs' Association (CSSA) for their review, recommendation and/or approval.
6. Once approved by CSSA, the guidelines become part of the CAL OES California Law Enforcement Mutual Aid Plan – SAR Annex.

Effectiveness and efficiency is achieved as California's SAR Mutual Aid Guidelines are created by California's SAR experts, for California's Sheriff's SAR Coordinators, and approved by the Sheriffs of California, all for the benefit of those who become the subjects of search and/or rescue in California's SAR environments.

The following guidelines include "typing" of both the SAR environment as well as the SAR resource. They are designed to match the conditions, environment and possible length of deployment (normal operational periods should be 12 hours) as determined by the mutual aid requestor and the minimum equipment, experience, and skill level the responding agency should consider when sending SAR personnel.
The goal of "typing" is to be able to identify the largest number of SAR resources while minimizing the risk of placing an unsuitable SAR resource in an unsafe situation. The responding agencies' liaison or leader shall have final approval of any assignments their personnel are asked to perform.
Volunteer SAR personnel should be properly registered as Disaster Service Workers (DSW). DSW registration will ensure that the volunteers are eligible for worker's compensation coverage if they should be injured and provides additional liability protection for the volunteer and the government agency.

NOTE: The endeavor of Search and Rescue necessitates response into difficult and unpredictable circumstances in widely varied and many times hazardous terrain. These guidelines are intended to assist Search and Rescue Coordinators in identifying appropriate emergency response resources to effect searches and rescues in the most expeditious manner possible while considering known and unknown hazards. These guidelines are not intended to address all eventualities. Rather they are a set of tools derived from collective knowledge to address the task at hand. Search and Rescue is inherently dangerous and participants respond with knowledge of the associated risks.

It is the responsibility of agencies responding to California Search and Rescue Mutual Aid requests to provide qualified personnel and equipment that meet or exceed the recommended level of skills and capabilities stipulated in these guideline documents.

The California SAR Mutual Aid Guidelines are only minimum guidelines and circumstances that are unique to a particular search and rescue mission may dictate that additional or higher skills and qualifications may be necessary for the safety of the searcher and for successful search and rescue operations.

Summary

An Alpine Search and Rescue Team Member is a SAR member capable of conducting search and rescue operations in various terrain and weather conditions which are more severe than the usual environments that the average Ground Searcher is normally expected to operate in. The dividing line is that if there is snow or ice in quantity or condition that requires the use of skis, snow shoes or crampons to travel over, then the environment has become some type of Alpine Search and Rescue environment. There are basic skills that all Search and Rescue Team members 'should' have before going into the field during a search and additional skills and equipment required for the Alpine Search and Rescue Team Member.

Alpine Search and Rescue Team Guidelines

Alpine Search and Rescue Teams differ from Ground Search Teams mainly due to the different weather, altitude and avalanche hazards they must face and the different equipment and skills they use to overcome the hazards and travel in these conditions. These guidelines are intended to differentiate Alpine/Mountaineering Searchers from Ground Searchers to allow for knowledgeable selection of teams to handle situations that are specific to their expertise and training.

An Alpine Searcher is a SAR member who is able to move efficiently, knowledgeably and safely in winter conditions through mountainous terrain at low or high altitudes or to search over completely consolidated, hard packed snow in the summer at high altitudes. The three things that are critical for Alpine Searchers are:

- The ability to survive in winter storm and avalanche conditions while still searching.

- Competent skiing or snow shoeing ability, both the strength and ability to ski downhill in difficult snow conditions and also to ski or snow shoe uphill for long distances carrying large loads while breaking trail.

- The ability to carry out or assist with technical rescue operations and to properly use mountaineering tools and techniques.

With these three critical abilities in mind, 4 types of search environment and conditions have been designated and rescuer capabilities for each type of environment have been identified to assist the coordinator in the level of search team to request.

Alpine Personnel should be grouped together according to mode of transportation; skis or snow shoes. Skiers will normally be able to cover greater distances more quickly than snow shoers will. Longer missions should be given to skiers and closer in missions should be given to snow shoers.

The following pages contain three tables: 1) Search Environment Type and 2) Searcher Capabilities and Skills, 3) Team Capabilities and Skills. Keeping in mind local conditions and safety requirements, the SAR Coordinator should select the resource required by combining and selecting from the Search Environment Type and Recommended Capabilities and Skills Type tables. For example, if the search area is under 7000 feet but has snow that is soft and bottomless in the afternoon and is frozen hard in the night and morning hours it would likely be considered a Type 2 Environment because skis or snow shoes would be needed during the day and crampons and ice axe would be needed at night and in the morning. Type 4 Searchers would not have the crampons or ice axe skills and Type 3 Searchers would not have the skis or snow shoes.

Search Environment Type and Conditions			
TYPE 1	**TYPE 2**	**TYPE 3**	**TYPE 4**
Winter – including Fall and Spring when winter type weather has occurred or is in progress or forecast to occur. Typically October through April. Snow will normally be soft requiring skis or snow shoes but may be rain or sun crusted or wind packed requiring crampons and ice axe. Winter Type Weather- high winds, sub-zero temperatures, persistent sub-freezing highs, excessive precipitation, water ice, alpine or glacier ice. Day or night operations Any mountain terrain and any altitude. Variable avalanche hazard from low to extreme with both human triggered and naturally triggered slides possible over a wide area. Persistent hazards due to persistent cold temperatures.	**Spring-** including extreme late Spring and early Summer when fair weather has existed and is forecast to continue but winter weather is still possible. Snow may be frozen hard at night and in the morning requiring crampons and ice axe, turning soft later in the morning or afternoon requiring skis or snow shoes. Spring Type Weather- cool to warm afternoons usually above freezing, cool to sub-freezing nights and mornings usually in the teens or warmer, possible afternoon showers, water ice, alpine or glacier ice, Day or night operations Any mountain terrain and any altitude. Avalanche hazard typically more stable but can be variable and extreme due to generally warmer weather, sudden changes in temperature, wind, weather and terrain features.	**Summer-** anytime there is full time consolidated, hard packed snow or ice on the ground requiring crampons, ice axe tools and general mountaineering skills. Skis and snow shoes are not necessary. Summer Type Weather- generally fair weather, afternoon showers possible, night and morning temperatures at or above freezing, warm to hot afternoons, alpine or glacier ice. Day or night operations Any mountain terrain and any altitude. Avalanche hazard, usually low to non-existent, unseasonable snow or strong winds could cause a hazard to develop, ice and rock fall are the greater danger.	**Low Altitude Winter or Spring-** anytime there is snow on the ground requiring skis or snow shoes and with an absence of ice or hard packed snow that would require crampons and ice axe tools and skills. Winter or spring like weather typical of lower altitudes, normally sub-freezing night and morning temperatures in the teens or warmer, afternoons normally above freezing, less wind and no forecasted extreme winter temperatures. Day or night operations Flat to moderate hills usually below tree line. Terrain generally well below prime avalanche slope angles, 30 degrees or less with avoidable steeper terrain, snowed in urban areas or remote residential tracks, roads, trails and parks. Variable avalanche hazard, usually low to moderate. Extreme hazards usually easy to avoid due to lower angled and better anchored slopes. Unusual avalanche hazards from roof tops or cut outs and clearings on and near roadways.

Searcher Capabilities and Skills				
	TYPE 1	**TYPE 2**	**TYPE 3**	**TYPE 4**
Can be deployed to Environment Type	**1/2/3/4**	**2/3/4**	**3**	**4**
Operational periods without external support	24 hours, any weather, with victim Capable of field operations of 72 hours or more	24 hours with victim Capable of field operations of 72 hours or more	24 hours with victim Capable of field operations of 72 hours or more	12 hours with victim Capable of field operations of 24-72 hours or more
Operational Conditions	Anytime, day or night any weather, blizzard included, sub-zero temperatures, any altitude	Warmer Spring Type weather, day or night, sub-freezing night and morning temperatures in the teens, near freezing to warm afternoons, any altitude.	Summer as soon as snow has fully consolidated to early fall before cold temperatures and accumulative snow fall has occurred.	Winter or Spring type weather below tree line, including rain, snow, blizzard and freezing to low teens night time temperatures, warmer day time temperatures.
Medical Skills	Current First Aid/CPR One team member should have a higher level medical certification.	Current First Aid/CPR One team member should have a higher level medical certification.	Current First Aid/CPR One team member should have a higher level medical certification.	Current First Aid/CPR One team member should have a higher level medical certification.
Radio Communica-tions	Member should be familiar with basic radio communication skills. This should include: understanding the use of Mutual Aid Radio Frequencies and basic radio etiquette	Member should be familiar with basic radio communication skills. This should include: understanding the use of Mutual Aid Radio Frequencies and basic radio etiquette	Member should be familiar with basic radio communication skills. This should include: understanding the use of Mutual Aid Radio Frequencies and basic radio etiquette	Member should be familiar with basic radio communication skills. This should include: understanding the use of Mutual Aid Radio Frequencies and basic radio etiquette
Knowledge of Basic SEMS/ICS	Member should be familiar with the "Standardized Emergency Management System/ ICS	Member should be familiar with the "Standardized Emergency Management System/ ICS	Member should be familiar with the "Standardized Emergency Management System/ ICS	Member should be familiar with the "Standardized Emergency Management System/ ICS
Helicopter Safety	Trained in helicopter use, landing zones, protocols	Trained in helicopter use, landing zones, protocols	Trained in helicopter use, landing zones, protocols	Trained in helicopter use, landing zones, protocols
Field Interview Skills & Information Handling	Member should be familiar with the handling of sensitive information and basic interview skills when dealing with witnesses and the public.	Member should be familiar with the handling of sensitive information and basic interview skills when dealing with witnesses and the public.	Member should be familiar with the handling of sensitive information and basic interview skills when dealing with witnesses and the public.	Member should be familiar with the handling of sensitive information and basic interview skills when dealing with witnesses and the public.

Navigation	Ability to navigate using GPS, altimeter, maps and compass in zero visibility	Ability to navigate using GPS, altimeter, maps and compass in zero visibility	Ability to navigate using GPS, altimeter, maps and compass in zero visibility	Ability to navigate using GPS, altimeter, maps and compass in zero visibility
Avalanche Skills	Avalanche Level 2 or Equivalent Training: Advanced skills to efficiently conduct single and multiple buried beacon searches and burial rescue. Familiar with Survivor/Victim procedures. Understanding of weather and terrain that can produce avalanches, snow pack evaluation, test procedures and interpretation, route selection.	Avalanche Level 1or Equivalent Training: Able to efficiently conduct single and multiple buried beacon searches and burial rescue. Familiar with Survivor/Victim procedures. Understanding of weather and terrain that can produce avalanches, snow pack evaluation, test procedures and interpretation, route selection. **Avalanche Level 2 or Equivalent Training recommended for at least one member of each team**.	Avalanche Level 1 or Equivalent Training: Able to efficiently conduct single and multiple buried beacon searches and burial rescue. Familiar with Survivor/Victim procedures. Understanding of weather and terrain that can produce avalanches, snow pack evaluation, test procedures and interpretation, route selection.	Avalanche Level 1 or Equivalent Training: Able to efficiently conduct single and multiple buried beacon searches and burial rescue. Familiar with Survivor/Victim procedures. Understanding of weather and terrain that can produce avalanches, snow pack evaluation, test procedures and interpretation, route selection. **Avalanche Level 2 or Equivalent Training recommended for at least one member of each team.**
Tracking Skills	Proficient in Tracking	Proficient in Tracking	Proficient in Tracking	Proficient in Tracking
Fitness	Fitness appropriate for conditions, terrain, and mission.	Fitness appropriate for conditions, terrain, and mission.	Fitness appropriate for conditions, terrain, and mission.	Fitness appropriate for conditions, terrain, and mission.
Snow Travel Skills	Experienced, good to excellent backcountry skier while carrying 30-40 pound pack, able to ski all snow conditions Snow shoers need to be experienced at traveling in the winter backcountry environment	Experienced, good to excellent backcountry skier while carrying 30-40 pound pack, able to ski all snow conditions Snow shoers need to be experienced at traveling in the winter backcountry environment	Experienced and able to effectively travel over hard snow while wearing crampons with a 30-40 pound pack.	Experienced and able to effectively travel with chosen mode of transportation in flat to moderate terrain on skis or snowshoes with a 30-40 pound pack.
Snow Travel Gear	Skiers- Alpine Touring (Randonee) or Telemark Skis, boots and binding with climbing skins. Snow Shoes- Backcountry type snow shoes with heel	Skiers- Alpine Touring (Randonee) or Telemark Skis, boots and binding with climbing skins. Snow Shoes- Backcountry type snow shoes with heel	Crampons, Ice Axe	Skiers- Backcountry/X-Country (Nordic) Skis or Alpine Touring (Randonee) or Telemark, boots, bindings and climbing

	elevators and enough floatation to carry the searcher with a pack in soft snow.	elevators and enough floatation to carry the searcher with a pack in soft snow.		skins. Snow Shoes- Any durable snow shoe with enough floatation to carry the searcher with pack in soft snow.
Avalanche Safety Gear	457 kHz Avalanche Transceiver, Ski/Probe Poles or Avalanche Probe poles, metal bladed alpine snow shovel.	457 kHz Avalanche Transceiver, Ski/Probe Poles or Avalanche Probe poles, metal bladed alpine snow shovel.	Metal bladed alpine snow shovel.	457 kHz Avalanche Transceiver, Ski/Probe Poles or Avalanche Probe poles, metal bladed alpine snow shovel.
Special Winter camping Skills and Equipment	Knowledge of and experience with snow shelter, emergency shelter construction, personal or team possession of and experience with setting up and fortifying 4 season mountaineering type tent(s) with snow or rock walls.	Knowledge of and experience with snow shelter, emergency shelter construction, personal or team possession of and experience with setting up and fortifying 4 season mountaineering type tent(s) with snow or rock walls.	Knowledge of and experience with snow shelter and emergency shelter construction, personal or team possession of and experience with setting up and fortifying 3 season backpacking type tent(s) with snow or rock walls.	Knowledge of and experience with snow shelter and emergency shelter construction, personal or team possession of and experience with setting up and fortifying 3 season backpacking type tent(s) with snow or rock walls.
Mountaineer-ing Skills	Good general mountaineering skills including ice axe self arrest and self belay, climbing with crampons, roped travel and crevasse rescue knowledge of proper use of snow and ice anchors.	Good general mountaineering skills including ice axe self arrest and self belay, climbing with crampons, roped travel and crevasse rescue knowledge of proper use of snow and ice anchors.	Good general mountaineering skills including ice axe self arrest and self belay, climbing with crampons, roped travel and crevasse rescue knowledge of proper use of snow and ice anchors.	Recommended
Technical Gear	Ice axe, crampons, snow fluke or picket, ice screw, climbing harness and PPE	Ice axe, crampons, snow fluke or picket, ice screw, climbing harness and PPE	Ice axe, crampons, picket, ice screw, climbing harness and PPE	Not Required
Technical Skills	Technical Skills equivalent to Technical Rope Rescue Type 2 team member. Technical Type 1 Recommended.	Technical Skills equivalent to Technical Rope Rescue Type 2 team member. Technical Type 1 Recommended.	Technical Skills equivalent to Technical Rope Rescue Type 2 team member. Technical Type 1 Recommended.	Technical Skills equivalent to Technical Rope Rescue Type 3 team member. Technical Type 1 or 2 Recommended.

An Alpine Search and Rescue Team consists of a minimum of two searchers who are traveling together and are completely self contained for the duration of their mission. The following table lists skills and minimum numbers of personnel with those skills per team. A number indicates the minimum number of team members with those skills, and X indicates recommended skills for all team members.

Team Capabilities and Skills				
	TYPE 1	**TYPE 2**	**TYPE 3**	**TYPE 4**
Can be deployed to Environment Type	1/2/3/4	2/3/4	3	4
Navigation Basic Skills	X	X	X	X
Navigation Superior Skills	2	2	1	1
Avalanche Level 1 or equivalent training	X	X	X	X
Avalanche Level 2 or equivalent training	X	1		1 Recommended
Snow Travel Skills	X	X	X	X
Snow Travel Gear	X	X	X Crampons	X
Avalanche Safety Gear	X	X	X Minimum of a Shovel	X
Special Winter camping Skills and Equipment	X	X	X	X
Mountaineering Skills	X	X	X	Recommended
Technical Gear	X	X	X	Not Required
Technical Skills	X Type 2	X Type 2	X Type 3	Not Required