

# Minnesota Incident Command System Annex to “All Risk” Aviation Operations Plan Air Search and Rescue Procedures



## ***Forward***

Search and Rescue (SAR) operations have a special character that requires additional consideration for interagency air operations. SAR air operations differ from many other kinds of operations in the following ways:

- SAR for missing aircraft often involves potentially thousands of square miles, spanning distances of hundreds of miles.
  - This reduces the practicality of point-to-point radio for separation planning
  - This reduces the effectiveness of using an “Air Tactical Group Supervisor”.
- SAR requires extensive ground-based management for planning, including clue collection, aircraft separation, “probability of detection” statistics calculation, etc.
  - Often SAR clues are off-scene, collected by telephone calls, etc.
  - SAR management requires the accumulation of information collected by multiple flights and then analyzed by trained SAR managers.
- For safety reasons, best practices require no two aircraft are in the same search area at the same altitude at the same time – this is in part due to the nature of search patterns; two overlapping SAR patterns have many intersection points.
- In the case of SAR spanning a large area, there is often confusion regarding what agency is in charge.
  - Usually, in Minnesota, a missing person search will be lead by a Sheriff (or a collection of Sheriffs)
  - Missing aircraft searches are generally state or federal

## ***Required Coordination Before Flight***

For reasons of both safety and effectiveness it is critical that all SAR air operations must be coordinated on the ground before flight. The leading agency must be identified, and the flight must be integrated into the total operation. This means that the flight must be briefed and, at the end, debriefed in such a way that the lead agency is aware of the plan and the results of the sortie. An agency that intends to assist in the search, should first identify the lead operational organization. This depends on the type of search, as described in the following two subsections:

### **Missing Aircraft Searches**

The State of Minnesota Dept. of Public Safety Duty Officer should be aware of all missing aircraft searches in the state, whether federal or state in jurisdiction. The duty officer will have contact info for the organization operationally leading the search. An organization that wants to participate in a missing aircraft search, should call the state duty officer to get contact info for the lead organization.

### **Missing Person Searches**

The state duty officer may also be aware of other SAR operations, but usually a sheriff's department will be in charge of missing person search. Ideally, the sheriff/IC will assign someone as an "air branch director." If so, operations should be coordinated with that position. In the absence of such an assignment by the sheriff/IC, then it is important that each participating air resource organization ask the sheriff for contact info for all other such organizations, so that coordination can be established.

## ***Airborne Communication Procedures***

As described in the "All Risk" Aviation Operations plan, air-to-air communication for SAR will be accomplished using **122.750 MHz** (or a local CTAF frequency when in proximity to an airport). Aircraft conducting SAR operations should monitor this frequency. It will not, however, be practical for air-to-air communication to be used as a primary separation and coordination technique except in cases where the search area (or rescue scene) is quite small. In cases where the area is small (at most 10 miles across), then the basic 10-mile-out announcement strategy as defined in the "All Risk" plan should be used. An Air Tactical Group Supervisor may also be assigned on occasions when the search area is small.

To the extent possible, communications procedures between all airborne SAR sorties and the SAR command post should be established. This should be briefed to sorties prior to takeoff.

## ***Operational Phases***

Usually SAR operations operate in two phases. An initial phase (or hasty search) is accomplished when resources and clues are relatively few. An extended phase (or comprehensive search) then follows if the initial searches did not find the objective. The extended phase may span many days. Both initial and extended phases require on-the-ground coordination and planning.

## ***Recommended Coordination***

When conducting SAR air operations, the incident commander or designated staff should, as convenient and practical, contact the Minnesota Interagency Fire Center Aviation Desk (218-327-4582) to notify them of any day-time SAR air operations north of 45° North latitude. In turn, the IAFC Aviation Desk can provide, during non-winter months, an Aircraft Status Report, which summarizes current air safety concerns and air operations north of the Twin Cities by numerous agencies and organizations.

## ***Reference Documents***

- MEOP – Minnesota Emergency Operations Plan (MN DPS)
- United States National Search and Rescue Supplement to the International Aeronautical and Maritime Search and Rescue Manual  
[http://www.dtic.mil/doctrine/jel/other\\_pubs/nsrsupp.pdf](http://www.dtic.mil/doctrine/jel/other_pubs/nsrsupp.pdf)
- United States National Search and Rescue Plan  
[http://www.dtic.mil/doctrine/jel/other\\_pubs/nsp.pdf](http://www.dtic.mil/doctrine/jel/other_pubs/nsp.pdf)