State Aeronautics Roles in Developing Emergency Air Operations Branches

Requested by
Derek Kantar, Division of Aeronautics

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The Caltrans Division of Research, Innovation and System Information (DRISI) receives and evaluates numerous research problem statements for funding every year. DRISI conducts Preliminary Investigations on these problem statements to better scope and prioritize the proposed research in light of existing credible work on the topics nationally and internationally. Online and print sources for Preliminary Investigations include the National Cooperative Highway Research Program (NCHRP) and other Transportation Research Board (TRB) programs, the American Association of State Highway and Transportation Officials (AASHTO), the research and practices of other transportation agencies, and related academic and industry research. The views and conclusions in cited works, while generally peer reviewed or published by authoritative sources, may not be accepted without qualification by all experts in the field.

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Executive Summary

Background

The Caltrans Division of Aeronautics is part of a team led by the Governor's Office of Emergency Services (Cal OES) and Caltrans' Office of Emergency Management (OEM) that is developing California's first state-level emergency Air Coordination Group (ACG), which is intended to augment air response to federal- and state-declared emergencies. The Division of Aeronautics wanted to clarify its authority under state and federal law for establishing an ACG or Air Operations Branch (AOB), learn from the experience of other state aeronautics divisions and collect best practices for establishing a state-led ACG or AOB.

To assist with this effort, CTC & Associates:

- Conducted a search of various California Government Codes and other state regulations and policies to clarify any authority or directives currently given to Caltrans related to emergency air operations and an AOB specifically.
- Surveyed state representatives of the National Association of State Aviation Officials about their aeronautics divisions' roles in emergency air operations in general and the establishment of state emergency AOBs in particular.
- Interviewed state and Federal Emergency Management Agency (FEMA) representatives to supplement the information gathered from the survey.

Summary of Findings

California State Codes

California Codes make no explicit reference to establishing an ACG or AOB. However, several sections do establish the powers of Caltrans and the Division of Aeronautics. The State Aeronautics Act grants the Division of Aeronautics power to:

- Cooperate with the federal government, political subdivisions in California, other states and other organizations.
- Establish temporary standards to protect and insure the general public interest and safety.
- Own and operate aircraft for use in fulfilling its duties.

Under the California Emergency Services Act, the Governor's Office has the authority to use public airports to mitigate the effects of an emergency. The act also recognizes the authority of the governor and Cal OES to recognize committees or boards that provide services essential to the mitigation of effects of an emergency.

Several state policies more directly address Caltrans' role in emergency response. The California State Emergency Plan, Emergency Function 1 Transportation Annex, delegates responsibility for developing, implementing and maintaining Emergency Function 1 (EF 1) to Caltrans and the California Highway Patrol. Emergency Function 1 specifically directs the emergency function coordinator to work with the Caltrans Division of Aeronautics and/or the air branch in regard to aviation response.

The California Office of Emergency Services maintains plans for several specific emergency incidents. Two of these plans, the Southern California Catastrophic Earthquake Response Plan and the California Cascadia Subduction Zone Earthquake and Tsunami Response Plan, both

specify that an AOB will coordinate air response. The Southern California plan specifies that the AOB will be initially established at the State Operations Center (SOC).

Survey of Current Practices

Eight out of 17 survey respondents—Maryland, Minnesota, New Hampshire, Ohio, South Carolina, Utah, Washington and West Virginia—have defined AOB procedures. Of these, the state department of transportation (DOT) is the lead agency for the AOB only in New Hampshire, Ohio and South Carolina. In other states, the AOB falls under the responsibility of the State Police (Maryland), Department of Natural Resources (Minnesota) or Office of Emergency Management (Washington, West Virginia). In Utah, an AOB is currently being organized, and the Division of Aeronautics is playing a support role.

Reported state DOT roles in emergency air response varied significantly. Emergency support and asset or mission coordination were the most commonly reported roles. In Ohio, the DOT Office of Aviation is the lead agency for coordinating aviation assets; in New Hampshire, the DOT's Bureau of Aeronautics is the lead agency for establishing the Aviation Operation Branch, although after the AOB is established it provides support as needed.

Only a few survey respondents offered recommendations for establishing an AOB. These included caution to avoid overextending an aviation program's core mission, the importance of building strong relationships and strong communication plans, and the necessity of devoting adequate staff time to developing the program. Additionally, one respondent urged the importance of building plans around "least common denominators": equipment and systems that are available to all of the agencies that are part of the AOB.

Interviews

Interviewees, however, recommended two clear models for establishing an AOB. FEMA Air Operations Branch Director Don Davidson said that New Hampshire's plan has been successfully used as a model for AOBs in FEMA Region I states, which makes it something of a regional plan. He recommended that other states attempt this form of regional cooperation and said that even in the Western states with more land area and more geographical variation, regional cooperation should be feasible.

Sheldon Mack of the Minnesota Department of Natural Resources suggested using the National Wildfire Coordinating Group's Incident Command System National Training Curriculum Module 10 as a model AOB plan. (The module's purpose is to "describe the role of the Air Operations Branch and how to set up an effective aviation organization to support incidents.")

Several interviewees said that California should have extensive experience in air response through its wildfire fighting efforts. They recommended the California Department of Forestry and Fire Protection (CAL Fire) as a resource in establishing the AOB and potentially a partner in its operations.

Gaps in Findings

The survey and follow-up interviews suggest that it is not particularly common for state aeronautics divisions to be central to the establishment of emergency AOBs. In particular, several respondents recommended the use of CAL FIRE as a resource and partner because of its significant experience in emergency air operations while fighting wildfires.

Next Steps

The Division of Aeronautics might consider the following next steps when establishing a state-level AOB:

- Identify agencies that could be resources and partners. Several respondents recommended CAL FIRE. Other agencies that are often included in an AOB are military branches (including National Guard and the Civil Air Patrol), state police, emergency management agencies and state departments of homeland security. U.S. Customs and Border Protection was also suggested as an asset, although that agency cannot commit to being on call for individual states at all times.
- Carefully examine the model plans identified: the New Hampshire Aviation All Hazards Emergency Response Protocol, the National Wildfire Coordinating Group's Incident Command System National Training Curriculum Module 10 and FEMA's National Incident Management System.
- Consult the individuals cited in this report when questions arise during plan development.

Detailed Findings

Statutory Authority Related to Emergency Air Operations

We examined the California Government Code, State Administrative Manual and other state regulations and policies for sections that grant authority for establishing an emergency AOB to Caltrans and any authority or directives given to Caltrans related to emergency air operations.

The Government Code does not provide any authority explicitly related to an emergency AOB. However, several sections could be interpreted as offering Caltrans the necessary authority in that they broadly grant Caltrans and the Aeronautics Division the power to develop and use air resources in the state. Nothing in these sections assigns responsibility for developing an AOB to another entity.

Sections of the code that address the powers of Caltrans and the state's emergency operations follow:

Government Code, Title 2, Division 3, Part 5, establishes the California Department of Transportation's powers and duties. Chapter 2, Article 2 describes the department's authority in emergencies. Although this article does not address aviation (or any other mode of transportation) specifically, Section 14121 states that "The department may perform any work required or take any remedial measures necessary to avert, alleviate, repair, or restore damage or destruction to property as provided in this article."

Public Utilities Code, Division 9, Part 1, the State Aeronautics Act, does not specify emergency activities, but it does broadly discuss the powers of Caltrans and the Division of Aeronautics. Relevant sections include:

Chapter 1, Section 21002 (d)-(e): This section provides general provisions and definitions for the act. Subdivision (d) grants the division the necessary powers and duties "so that the state may properly perform its functions relative to aeronautics and effectively exercise its jurisdiction over persons and property, assist in the development of a statewide system of airports, encourage the flow of private capital into aviation facilities, and cooperate with and assist political subdivisions and others engaged in aeronautics in the development and encouragement of aeronautics."

Subdivision (e), however, limits the division's authority by "[e]stablishing only those regulations which are essential and clearly within the scope of the authority granted by the Legislature, in order that persons may engage in every phase of aeronautics with the least possible restriction consistent with the safety and the rights of others."

Chapter 2, Article 2 defines Caltrans' powers and duties as they relate to aviation. Again, this article does not address emergency activities explicitly. However, Section 21244 does recognize the department's authority to protect the general public interest and safety, specifically stating that "after appropriate public hearings, the department may make and amend temporary general or special rules and procedures and establish temporary minimum standards consistent with this part as it deems necessary to administer this part."

Sections 21248 through 21251 provide the department the authority to cooperate with other political subdivisions, states or federal government or its agencies to carry out its responsibilities.

Section 21257 permits the department to own and operate aircraft and employ airmen and mechanics to carry out its duties.

Government Code, Title 2, Division 1, Chapter 7, the California Emergency Services Act, describes the state's powers for emergency preparation. This act contains no specific reference to an AOB or the Division of Aeronautics, however, Article 5, Section 8585 (e) does explicitly assign responsibility for the state's emergency and disaster response services to the Office of Emergency Services.

Article 6, Section 8591, however, grants the governor and Cal OES the right to formally recognize and assign authority or responsibility to "boards established by or with segments of the private sector, public agencies, or both the private sector and public agencies, that control facilities, resources, or the provision of services essential to the mitigation of the effects of an emergency or recovery therefrom."

Government Code, Title 1, Division 1, Chapter 1, Article 3.7, the Emergency Management Assistance Compact, describes California's intent to share emergency response resources with other states during times of disaster. While aviation or aeronautics is not explicitly mentioned, they may fall under the generic resources that are included. Section 179.5, Article 2 assigns responsibility for formulating interstate mutual aid plans to the state official responsible for emergency management.

Other documents that define emergency air response authority include:

California State Emergency Plan. Section 14.1.8 (page 100) defines Caltrans' role: "Provides transportation policies and guidance as needed. Coordinates state agency plans, procedures and preparations for route recovery, traffic regulation and air transportation."

The California State Emergency Plan Emergency Function 1 Transportation Annex defines the California State Transportation Agency as the lead agency or department for developing, implementing and maintaining EF 1, with responsibility delegated to Caltrans and the California Highway Patrol. The emergency function coordinator is directed to "[w]ork with the Caltrans Aeronautics Division and/or the air branch in regard to aviation-related response activities, including the use of state owned airports. Coordinate aerial reconnaissance and photographic missions, as requested, provided resources are available."

The California Office of Emergency Services maintains plans for several emergency incidents. Its Southern California Catastrophic Earthquake Response Plan declares that in the first 24 hours after an earthquake, the "DOT works with the Federal Aviation Administration (FAA) to determine operational status of commercial airfields and reports this to the FEMA Regional Response Coordinating Center (RRCC) and State Operations Center (SOC). Airspace control is managed by the FAA with advisory support from the National Guard, Customs and Border Protection (CBP), and the Department of Defense (DoD). An Air Operations Branch is initially established at the SOC and supported by federal partners including, but not limited to DoD, CBP, and the United States Coast Guard (USCG)." (page 5)

Section 1.7 of the plan defines mission-essential tasks, including emergency air response: "Air operations are established through a phased approach and coordinated by a joint state and federal Air Operations Branch. An Air Operations Branch will be established to coordinate and manage strategic aviation missions including supply, airlift and air evacuation operations from outside the affected area to augment local response capabilities. Tactical air operations are conducted by local responders and include helicopter and fixed-wing operations inside the affected area. Initial assessments of critical air operation infrastructure, airfields, communications assets, and aids to navigation, will be conducted to

better understand the scope of damage done to the area aviation capability. Airfields capable of supporting air operations and staging of resources will be identified, and emergency airfield repairs will be completed by organic airfield assets with repair effort augmented by federal support as requested."

The Office of Emergency Services' California Cascadia Subduction Zone Earthquake and Tsunami Response Plan**,** Section 2.7.4, defines establishing air operations for emergency response and damage assessment as a mission-critical task: "Air operations will be established through a phased approach and will be coordinated by a joint state and federal Air Operations Branch that will manage strategic aviation missions, including supply, airlift, and air evacuation operations from outside affected areas, to augment local response capabilities. Tactical air operations will be conducted by local responders and will include helicopter and fixed-wing operations. Initial assessments of critical air operation infrastructure, airfields, communications assets, and aids to navigation will be conducted to better understand the scope of damage done to area aviation capability. Airfields capable of supporting air operations and staging resources will be identified and emergency airfield repairs will be completed using existing airfield assets and augmented by state and federal support, as requested."

CAL FIRE's Model Operating Agreement for Aided Low Level Night Operations Between California Department of Forestry and Fire Protection and United States Forest Service and [Insert Specific Cooperator] specifies that "[a]n air operations branch section shall be established for nighttime operations and staffed appropriately, based on the complexity and the needs of the incident."

Survey of Current Practice

To gauge the current roles of state DOT aeronautics divisions in emergency air operations and the establishment of state emergency AOBs, we surveyed state representatives from the National Association of State Aviation Officials. The survey included the following seven questions:

- What federal statutes or regulations do you cite as providing authority and responsibility for your role in emergency air operations?
- Does your state have statutory or regulatory provisions for creating and/or standing up an Incident Command System (ICS) Air Operations Branch to respond to emergency situations?
- Does your state have defined operating procedures for an ICS Air Operations Branch?
- What role does your state DOT aviation program have under Emergency Support Function #1?
- Does your state DOT aviation program have any leadership role in emergency air operations?
- What other federal- or state-level agencies are members of the Air Operations Branch in your state?
- Are there any other recommendations or cautions that you can offer to a state aviation program that is in the process of establishing procedures for its role in an ICS Air Operations Branch?

We asked survey recipients who were not the person responsible for their state's ICS AOB to forward the survey to the most appropriate individual. In a few states, we sent the survey to multiple individuals (at Caltrans' recommendation) and asked for only one response to represent the state. We received 17 responses to the survey; Appendix A presents the full text of all responses.

The table on the following page provides an overview of key findings from the survey.

Summary of Survey Responses

State	Authorities Cited		Defined AOB Procedures	DOT Role under ESF #1	AOB Members
	Federal	State			
Alabama				None	
Alaska				None	
Florida				Provide information, communicate	
Georgia				None	
Maryland		X	X	Support airport response	Maryland State Police
Minnesota	X	X	X	Unsure	U.S. Bureau of Indian Affairs, U.S. Forest Service, U.S. Fish and Wildlife Service, National Park Service, Army National Guard, Minnesota Department of Natural Resources
Montana		X		Provide air search and rescue	
Nebraska		X		Provide air transportation	
New Hampshire		X	X	Establish and identify AOB director; support operations	Civil Air Patrol, Coast Guard, New Hampshire Guard, Federal Aviation Administration
New Jersey				Provide information	
New Mexico				None	
Ohio		X	X	Coordinate aviation assets	Ohio National Guard, Ohio Wing of the Civil Air Patrol, Ohio State Highway Patrol
Pennsylvania	X	X		Provide advisory and service support	

Summary of Survey Responses

State	Authorities Cited		Defined AOB Procedures	DOT Role under ESF #1	AOB Members
	Federal	State			
South Carolina		X	X	Co-lead agency; Aeronautics' role: carry out operations rather than plan them	Department of Transportation; Air National Guard; Department of Commerce, Division of Public Railways; Department of Corrections; Department of Education, Office of Transportation; Department of Natural Resources, Law Enforcement Division; Department of Public Safety; Office of Regulatory Staff; South Carolina Law Enforcement Division; Budget and Control Board, Division of Aeronautics; State Ports Authority; Forestry Commission; Civil Air Patrol
Utah		X	X (Under development)	Provide aircraft	FAA, liaison officers from U.S. military branches, FEMA, Civil Air Patrol (Utah Wing), U.S. Forest Service
Washington		X	X	Coordinate non-commercial air transportation; assess aerial damage	U.S. Coast Guard, U.S. Navy, U.S. Customs and Border Patrol, Washington Air National Guard, Civil Air Patrol (Washington Wing), King County, Snohomish County, Pierce County, City of Seattle
West Virginia				Provide equipment; support command area	

Statutory Authority for Emergency Air Operations

Only two states, Minnesota and Pennsylvania, reported citing any federal statutory authority for emergency air operations to any state agency. Minnesota (whose emergency air operations are coordinated by the state Department of Natural Resources) provided a Master Cooperative Wildland Fire and Stafford Act Response Agreement between the state and the USDA Forest Service, which cites 19 federal statutes and three state statutes. Of particular interest for this investigation is the Robert T. Stafford Disaster Relief and Emergency Assistance Act, which authorizes federal and state agencies to respond to other federal and state agencies during presidentially declared emergencies.

Pennsylvania cited Homeland Security Presidential Directive 5: Management of Domestic Incidents, which directed the development and administration of the National Incident Management System and provided a nationwide template for government agencies, nongovernmental organizations and the private sector to work together to prevent and respond to incidents.

Several states described state statutes or regulations that provide authority for emergency air operations. In many states, this authority creates a dedicated emergency management agency:

- New Hampshire's Title 1, Chapter 21-P, Section 21-P:37, describes the emergency management powers of the state division of homeland security and emergency management. Aeronautics is not explicitly mentioned in this section, although it presumably falls under the director's powers of "general direction and control of the division of homeland security and emergency management" and "preparing a comprehensive plan and program for the emergency management of this state."
- Utah Code 53.2a, the Emergency Management Act, creates a state Division of Emergency Management responsible for emergency response.
- Pennsylvania's State Emergency Operations Plan aligns commonwealth operations with the Pennsylvania Emergency Management Services Code, 35 Pa. C.S.A. §§ 7107-7707. The plan focuses incident response through the State Emergency Operations Center, although many other entities, including state departments, are included in the effort. The Pennsylvania Department of Transportation is identified as the coordinating and primary agency for the plan's ESF #1 Transportation Annex.
- Nebraska's respondent did not cite a specific code or section, but stated that authority rested with the Nebraska Emergency Management Agency, established in Nebraska Administrative Code Title 67. This title does not explicitly refer to aviation or aeronautics.
- Ohio's Emergency Operations Plan includes an Aviation Support Plan, which assigns the Office of Aviation, as well as several support agencies, specific responsibilities in an emergency.

Among the other states, the majority of authorities cited took the form of acts or plans that establish a dedicated emergency management agency:

- Minnesota Statute 88.02-88.22, the Wildfire Act, describes the state Department of Natural Resources' powers in responding to fires. This act does not reference air operations, even though the survey respondent said that responsibility for air response to emergencies was held by the Department of Natural Resources. The governor's Executive Order 11-03 directs each agency in state government to carry out general emergency preparedness and planning for response and recovery.
- In Montana, Title 67 covers aeronautics as a whole. Section 67-1-102 offers an overview of the state transportation department's authority; it does not address emergency

operations beyond declaring that the purpose of the title is to "further the public interest and aeronautical progress by providing for the protection and promotion of safety in aeronautics." Section 67-2-105 permits the department to employ air search and rescue volunteers.

- Washington cited authority from its Comprehensive Emergency Management Plan and its State and Regional Disaster Airlift Plan. The Comprehensive Emergency Management Plan assigns the Aviation Division responsibility for search and rescue (SAR) operations for aircraft in distress, missing, or presumed down, as part of ESF 1. Related land SAR operations, including the rescue and/or recovery of victims of a downed aircraft incident, are the responsibility of the chief law enforcement officer in whose jurisdiction the incident site is located, as part of ESF 9.

ICS AOB Procedures

Fewer than half of survey respondents (eight out of 17) said their state has defined AOB procedures. The DOT aeronautics or aviation division is the lead agency for the AOB in New Hampshire, Ohio and South Carolina only. South Carolina's Combined Aviation Response Plan lists the DOT and South Carolina Air National Guard as the primary agencies, but it assigns responsibility for acting "as the permanent lead agency for Air Branch planning, operation, and management" to the South Carolina Air National Guard. In other states, the agencies responsible for the AOB are the State Police (Maryland), Department of Natural Resources (Minnesota), National Guard (Utah) or Office of Emergency Management (Washington and West Virginia).

According to FEMA Air Operations Branch Director Don Davidson, other FEMA Region I states have AOB procedures based on New Hampshire's. He said that Massachusetts, Rhode Island and Vermont have each formally adopted the plan; Maine and Connecticut have not but they do possess it and could use it in an emergency. Only in New Hampshire is the Bureau of Aeronautics the lead agency for the plan; other states in the region typically turn responsibility over to the National Guard because of their manpower and experience. Davidson said that Region I is the only FEMA region where this type of regional effort has occurred. There have been efforts to create a national FEMA plan, but because of changes in priorities after the 2008 presidential election, progress has been very slow. He said he hopes that a national plan will be finished by the end of the year.

While Louisiana did not respond to the survey, Utah Division of Aeronautics Director Pat Morley cited Louisiana's Air Coordination Branch as a model for the procedures that Utah is currently developing. The National Guard is the lead agency for Louisiana's Air Coordination Branch.

State DOT Roles in Emergency Air Response

Many state DOTs plays some role in emergency air response even if there is no formally established AOB. These roles vary greatly by state, but in several instances include coordinating air assets or missions, providing emergency support, providing information about airport status or providing air transportation.

Members of State AOBs

Similarly, participating members of state AOBs varied significantly by state. Membership reported by survey respondents frequently included military entities such as state National Guard units and state wings of the U.S. Air Force Auxiliary's Civil Air Patrol.

Recommendations for Establishing an AOB

Only a few respondents offered recommendations for establishing an AOB. The advice typically focused on strong communications and relationship building among all entities, patience and caution in developing the branch, and adequate resources devoted to the task. Specific recommendations offered were:

Alabama: "Proceed cautiously to avoid overextending the aviation program's core mission, whatever that might be."

Florida: "Relationships built during [everyday] operations and small incident responses should be maintained. These relationships should be tested and improved during exercises. People should train as [if] they are going to fight. Do not alter relationships during times [of] crisis."

Minnesota: "Coordinate with other ICS Aviation Branch entities to ensure common terminology, common frequencies, common command structure, common standards, common training, common organizational structure."

Montana: "There are many procedures, steps and development to organize a working ICS. It will take one individual full time to get the program created and successful."

New Hampshire: "Good communication is critical—communicate often."

Utah: "Be patient as you work on developing your Air Operations Branch. At times it may seem like herding cats but it's worth the effort. I think the communications plan between agencies is the most challenging part."

West Virginia: "The new interoperable radios are the best thing that has happened. We can talk to all responding agencies."

Interviews

To supplement the survey responses, we conducted follow-up telephone interviews with several individuals.

Federal Agencies

FEMA

Contact: Don Davidson, Air Operations Branch Director, donald.davidson@fema.dhs.gov

Background
Davidson was a part of the group that developed New Hampshire's Air Operations Plan in 2008 when he was serving as commander of the New Hampshire wing of the Civil Air Patrol. He said that he subsequently brought New Hampshire's plan, with only minor modifications to account for differences in entity names and geographical features, to the other FEMA Region I states (Connecticut, Maine, Massachusetts, Rhode Island and Vermont). While only Massachusetts, Rhode Island and Vermont have formally adopted these plans, Davidson said that the other states appreciated the plan and have it available for use in state emergencies and also for emergencies that require regional cooperation. He recommends this type of regional cooperation, even in Western states where there is greater land area and geographical variation, although he acknowledges that FEMA has been slow to adopt that idea.

In 2008, he adds, there was a FEMA effort to develop a national air operations system. That effort largely stalled with the new administration after the 2008 election, although he says it has been progressing slowly and he hopes to have a document available by the end of the year.

In Region I, the lead agency for individual state AOBs varies: In New Hampshire, the Bureau of Aeronautics is the lead, while other states use the National Guard. Davidson acknowledged that the National Guard typically has the experience and the manpower necessary to lead an AOB. However, he also noted that the National Guard is at the call of the federal government, and in the middle of a disaster, the Guard may be placed under federal control. If the Guard is the AOB lead, he recommended having a contingency plan should the Guard be federalized.

Recommendations
Davidson suggested looking at CAL FIRE's model for how to run air response. While its procedures may not be entirely applicable to all emergencies, they should be a good starting point.

He also recommended U.S. Customs and Border Protection as an asset to call on since it has a large fleet of aircraft and a lot of aviation talent. He cautioned, however, that this agency cannot commit to being on call at all times.

Davidson emphasized the importance of having someone in charge of record keeping at all times—who maintains detailed information about available assets, contact information agencies involved in emergency response and details about those agencies' qualifications. This role is distinct from the AOB director, who runs the branch when it is stood up.

FEMA Region VIII

Contact: Andrew Batten, FEMA Region VIII, 303-235-4800, andrew.batten@fema.dhs.gov.

Background
Batten is not aware of any dedicated AOB in any of the Region VIII states (Colorado, Montana, North Dakota, South Dakota, Wyoming and Utah). He said that any air operations expertise in the Region VIII states would primarily lie with the National Guard.

Recommendations
Batten expressed surprise that California would be seeking information. He said that his expectation was that California's firefighting experience would give the state more expertise in emergency air response than nearly any other.

State Agencies

Arkansas Department of Transportation

Contact: Jerry Chism, assistant director, Arkansas Department of Aeronautics, 501-376-6781, jerry.chism@arkansas.gov.

Background
Internet research found that Arkansas had a well-established Aviation Operations Plan for emergency response. Chism, however, said that the state has no formally established AOB. The state Department of Emergency Management spearheads emergency management and disaster response, although the state highway department is the lead agency for the ESF #1 Transportation Annex. Under the plan, the Department of Emergency Management requests air assets through ESF #1 to an Air Coordination Group, which includes the Civil Air Patrol, Department of Aeronautics, the State Police Aviation Unit, the National Guard and the Air Force.

The state has an online program for managing requests and a list of air assets that is visible to requestors, but the Air Coordination Group is responsible for selecting which air assets are deployed.

Recommendations
Chism said that the Department of Aeronautics was the Air Coordination Group lead, but he suggested that the military entities should take that role because it owns the aircraft that is typically used. By routing requests through the Department of Aeronautics, he said, the process has an extra step and takes time that isn't necessary.

He also emphasized the importance of thoroughly testing an emergency response plan. Every time Arkansas has tested its plan, Chism said, something didn't work the way that team members had planned or they came up with a new and better way of doing something.

Louisiana Governor's Office of Homeland Security and Emergency Preparedness

Contact: Jason Lachney, Assistant Section Chief, Operations, Governor's Office of Homeland Security and Emergency Preparedness, 225-925-7520, jason.lachney@la.gov.

Background

Lachney said that Louisiana has an air branch—the Air Coordination Branch (ACB)—that was established around 2008. The National Guard was the lead agency in developing the ACB and is the lead agency for operating it. The state Department of Transportation and Development is not involved in the ACB because it doesn't have a role in Louisiana air assets.

Recommendations

Lachney emphasized the importance of collaboration in establishing an emergency AOB under ESF #1. He said that in Louisiana, when a mission comes in, the entities in the branch decide which agency has the best assets to respond to it, and only then is the mission tasked.

Minnesota Department of Natural Resources

Contact: Sheldon Mack, Wildfire Aviation Supervisor, Minnesota Department of Natural Resources, 218-327-4574, sheldon.mack@state.mn.us.

Background

Mack said that the National Wildfire Coordinating Group's Incident Command System National Training Curriculum Module 10 was the model for Minnesota's All Risk Aviation Operation Plan. He said that FEMA's National Incident Management System is similar to the ICS model, organized under a national management structure.

Recommendations

Mack recommended that other states use Module 10 to develop an AOB as well. He said that it is important for agencies who will be involved in air response to agree on fundamental concepts like an organizational structure and communications methods beforehand.

He also urged that the response plan be built around "lowest common denominators"—systems that will be available to all agencies. For example, building a response plan around 800-MHz public safety radios is detrimental if not all of the agencies have access to those radios or if the infrastructure needed to transmit signals is not available in all parts of the state.

Like Davidson, Mack recommended using CAL FIRE's wildfire response as a model. "They have a command structure, a training structure and a terminology structure," he said. "Creating another one and trying to merge the two is only going to work if they are already very similar."

New Hampshire Department of Transportation

Contact: Tricia L. Schoeneck Lambert, Administrator, Bureau of Aeronautics, 603-271-1674, tlambert@dot.state.nh.us.

Background
Lambert said that FEMA was the lead in developing New Hampshire's AOB procedures (as Davidson described above) in 2009. The AOB is activated when the state Department of Homeland Security's Emergency Operations Center determines that one is needed and contacts the Bureau of Aeronautics.

Recommendations
Lambert said that an AOB is worthwhile because it takes the guesswork out of which agency is responsible for what tasks. Practicing the plan, however, is critical as well as strong communication among all agencies involved in the AOB and the Emergency Operations Center.

She also noted that if the AOB is required to stand up for a significant period—for example, two weeks or longer— the AOB director will need to rotate. The Bureau of Aeronautics maintains a list of qualified AOB directors who can be assigned as situations warrant; the director would be assigned each time the AOB is stood up based on the specific conditions. (Despite having procedures in place, the state has not yet stood up the AOB.)

Ohio Department of Transportation

Contact: Mark Groves, Aviation Manager-Chief Pilot, 614-387-2347, mark.groves@dot.state.oh.us.

Background
In Groves' survey response, he said the Office of Aviation is the lead agency for coordinating aviation assets under ESF #1. In the follow-up interview, however, he said that the Office of Aviation is small and that while aviation is part of the state's Emergency Operations Center, it is only one of about 30 agencies involved. Overall, the Emergency Operations Center is administered by the Ohio Emergency Management Agency.

South Carolina Department of Transportation

Contact: Hugh Tuttle, Chief Pilot, South Carolina Aeronautics Commission, 803-743-3191, htuttle@aeronautics.sc.gov.

Background
Tuttle offered the South Carolina Air Branch Operations Combined Aviation Response Plan as his response to our survey. This plan lists the Department of Transportation and the South Carolina Air National Guard as the lead agencies for the AOB. However, the plan also states that "The South Carolina Air National Guard, working under and with the guidance of ESF-1, will act as the permanent lead agency for Air Branch planning, operation and management." In the interview, Tuttle confirmed that South Carolina Aeronautics is responsible for carrying out operations rather than leading or planning them.

Utah Division of Aeronautics

Contact: Pat Morley, Director, Utah Division of Aeronautics, 801-715-2260, pmorley@utah.gov.

Background

Morley said that Utah is currently developing its AOB procedures. He said that the Utah National Guard is leading the plan development because of its experience in emergency response, its close contacts with other National Guard units to see what they have done in the past, and the availability of resources devoted to the task. He noted that the National Guard also used the plan from Louisiana as a model.

Recommendations

Illustrating Davidson's caution, however, Morley said that the individuals assigned to work on the plan for the National Guard have often been deployed on missions, requiring a new person to take over. In fact, neither Morley nor Sheila McCurtis, an operations planner for the state emergency management office, knows the individual with the National Guard who is currently leading the AOB development.

Contacts

CTC & Associates contacted the individuals below to gather information for this investigation.

Federal Agencies

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Utah
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Utah Division of Aeronautics
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Appendix A: Complete Survey Responses

Alabama

Contact: John Eagerton, Chief, Aeronautics Bureau, Alabama Department of Transportation, 334-242-6820, eagertonj@dot.state.al.us.

1. **Federal statutes:** The ALDOT Aeronautics Bureau does not provide emergency air operations assistance.
2. **State statutory provisions?** No.
3. **Defined ICS Air Operations Branch procedures:** No.
4. **DOT Role under ESF #1:** None.
5. **Leadership role:** No.
6. **Members of state AOB:** Alabama Department of Public Safety - operates a fleet of fixed and rotary wing aircraft for law enforcement purposes. Alabama Emergency Management Agency - lead agency in responding to natural disasters and other emergencies.
7. **Recommendations for establishing AOB:** Proceed cautiously to avoid overextending the aviation program's core mission, whatever that might be.

Alaska

Contact: John Binder, Deputy Commissioner of Aviation, Alaska Department of Transportation & Public Facilities, 907-269-0730, john.binder@alaska.gov.

1. **Federal statutes:** Alaska does not have emergency air operations.
2. **State statutory provisions?** No.
3. **Defined ICS Air Operations Branch procedures:** No.
4. **DOT Role under ESF #1:** None.
5. **Leadership role:** No.
6. **Members of state AOB:** Alaska Department of Military and Veterans Affairs is the primary contact for emergency operations.
7. **Recommendations for establishing AOB:** [No response]

Florida

Contact: David Roberts, Aviation Operations Administrator, Florida Department of Transportation, 850-414-4507, david.roberts@dot.state.fl.us.

1. **Federal statutes:** None.
2. **State statutory provisions?** No.
3. **Defined ICS Air Operations Branch procedures:** No.

4. **DOT Role under ESF #1:** Provide updated airport status. Serve as contact for SEADOG. Assist airports with disaster preparation, response, and recovery mostly through coordination and grant program.
5. **Leadership role:** Yes—only in providing airport status updates and capabilities.
6. **Members of state AOB:** All local, state, and federal assets operating aircraft in response to a disaster can potentially participate. Most opt out. Operations manual never fully developed or adopted. Only considered during worst disasters.
7. **Recommendations for establishing AOB:** Relationships built during every day operations and small incident responses should be maintained. These relationships should be tested and improved during exercises. People should train as they are going to fight. Do not alter relationships during times on crisis.

Georgia

Contact: Ed Ratigan, Project Manager, Intermodal Programs, Aviation, Georgia Department of Transportation, 404-631-1332, eratigan@dot.ga.gov.

1. **Federal statutes:** No role.
2. **State statutory provisions?** No.
3. **Defined ICS Air Operations Branch procedures:** No.
4. **DOT Role under ESF #1:** None.
5. **Leadership role:** No.
6. **Members of state AOB:** Unknown.
7. **Recommendations for establishing AOB:** No.

Maryland

Contact: Ashish J. Solanki, Director, Office of Regional Aviation Assistance, Maryland Aviation Administration, 410-859-7064, asolanki@bwiairport.com.

1. **Federal statutes:** MAA's Regional Aviation Office has no role in emergency air operations.
2. **State statutory provisions?** Yes. This function/role is performed by the Maryland State Police, MAA has no ICS Air Operations Branch role.
3. **Defined ICS Air Operations Branch procedures:** Yes. This function/role is performed by the Maryland State Police.
4. **DOT Role under ESF #1:** Because MAA also operates BWI Marshall and Martin State Airports, MAA has defined roles to provide emergency support function if events occur at these airports.
5. **Leadership role:** No.
6. **Members of state AOB:** Maryland State Police performs all duties of the Air Operations Branch.
7. **Recommendations for establishing AOB:** [No response]

Minnesota

Contact: Sheldon Mack, Wildfire Aviation Supervisor, Minnesota Department of Natural Resources Forestry, 218-327-4574, sheldon.mack@state.mn.us.

1. **Federal statutes:** Master Cooperative Wildland Fire and Stafford Act Response Agreement, http://mnics.org/wpress/wp-content/uploads/2014/03/2014-Master-Cooperative-NASPF-Agreement.pdf.
2. **State statutory provisions?** Yes, Minnesota Statutes 88.02-88.22, https://www.revisor.mn.gov/statutes/?id=88; Minnesota Emergency Operations Plan; Minnesota Governor's Executive Order 11-03, http://www.leg.mn/archive/execorders/11-03.pdf.
3. **Defined ICS Air Operations Branch procedures:** Yes: Incident Command System-National Training Curriculum, Air Operations, Module 10, I-300 - NFES 2458, http://www.fws.gov/contaminants/fws_oscp_05/fwscontingencyappendices/C-ICS/ICS-text/ICS10I-300Air.pdf. The Minnesota Incident Command System, All Risk Aviation Plan and the Minnesota Air Operation Plan, https://dps.mn.gov/divisions/hsem/seoc/Documents/HSEM Disaster Plan_Final.pdf. Department of Public Safety - All Hazard / Disaster Response. Minnesota Emergency Operations Plan, https://dps.mn.gov/divisions/hsem/all-hazards-planning/Documents/2013-official-meop-public.pdf.
4. **DOT Role under ESF #1:** Unsure.
5. **Leadership role:** No.
6. **Members of state AOB:** Bureau of Indian Affairs, US Forest Service, US Fish and Wildlife Service, National Park Service - Federal Fire /all risk response State Patrol, Army National Guard, Department of Natural Resources -State & Federal fire / all risk response
7. **Recommendations for establishing AOB:** Coordinate with other ICS Aviation Branch entities to ensure common terminology, common frequencies, common command structure, common standards, common training, and common organizational structure.

Montana

Contact: David J. Hoerner, SAR Coordinator, Aeronautics, Montana Department of Transportation, 406-250-6248, dhoerner@mt.gov.

1. **Federal statutes:** Mont. Code Ann. 67-1-102 (http://codes.lp.findlaw.com/mtcode/67/1/1/67-1-102) Policy. It is hereby declared that the purpose of this title is to further the public interest and aeronautical progress by: (1) providing for the protection and promotion of safety in aeronautics; Mont. Code Ann. 67-2-105 (http://codes.lp.findlaw.com/mtcode/67/2/1/67-2-105) Policy. Air Search and Rescue. [Note: While this response was provided for the question about federal statutes, it actually refers to state statutes.]
2. **State statutory provisions?** No. [Note: See response to question 1.]
3. **Defined ICS Air Operations Branch procedures:** No.
4. **DOT Role under ESF #1:** Mt Aeronautics is responsible for Air Search and Rescue with concerns to missing aircraft or activated emergency locator transmitters.

5. **Leadership role:** Yes; Montana Aeronautics is responsible for Air Search and Rescue with concerns to missing aircraft or activated emergency locator transmitters.
6. **Members of state AOB:** Civil Air Patrol is available for Emergency Locator Transmitter finds. AFRCC (Air Force Rescue Coordination Center) will activate Army National Guard, which will support if all other Agencies are not available. Helicopter. USAF-Malmstrom will assist with (Hoist Capable)-AFRCC will activate.
7. **Recommendations for establishing AOB:** There are many procedures, steps and development to organize a working ICS. It will take one individual full time to get the program created and successful.

Nebraska

Contact: David D. Morris, Division Manager of Flight Operations, Nebraska Department of Aeronautics, 402-471-2371, david.morris@nebraska.gov.

1. **Federal statutes:** None.
2. **State statutory provisions?** Yes. This is the Nebraska Emergency Management Agency, a state agency under the authority of the Governor's administration (NEMA).
3. **Defined ICS Air Operations Branch procedures:** No.
4. **DOT Role under ESF #1:** Provide Air Transportation To State Agencies.
5. **Leadership role:** No.
6. **Members of state AOB:** Nebraska Emergency Management Agency (NEMA) Coordinates emergency procedures for state level emergency assistance, including assignment of air transportation.
7. **Recommendations for establishing AOB:** 402-471-7410 Nebraska Emergency Management Agency (NEMA).

New Hampshire

Contact: Tricia L. Schoeneck Lambert, Administrator, New Hampshire Department of Transportation, 603-271-1674, tlambert@dot.state.nh.us.

1. **Federal statutes:** None that I am aware of.
2. **State statutory provisions?** Title 1, Chapter 21-P, Section 21-P:37, http://www.gencourt.state.nh.us/rsa/html/I/21-P/21-P-37.htm.
3. **Defined ICS Air Operations Branch procedures:** We currently have an aviation appendix to the ESF#1 plan. It is currently being updated. It will be available shortly.
4. **DOT Role under ESF #1:** NHDOT, Bureau of Aeronautics is currently the lead agency to set up the Aviation Operation Branch and to identify an Aviation Operation Branch Director. The Bureau was selected as the initial lead because we are on call 24/7 for aircraft emergencies/accidents, etc.
5. **Leadership role:** Only in the onset to set up the Aviation Operation Branch. The Bureau then provides support as needed during the operation.
6. **Members of state AOB:** Civil Air Patrol (Aviation asset); Coast Guard (Aviation asset); NH Guard (Aviation asset); FAA.
7. **Recommendations for establishing AOB:** Good communication is critical—communicate often.

New Jersey

Contact: Ashwin Patel, Acting Manager, Division of Aeronautics, New Jersey Department of Transportation, 609-530-2900, ashwin.patel@dot.state.nj.us.

1. **Federal statutes:** [No response]
2. **State statutory provisions?** No.
3. **Defined ICS Air Operations Branch procedures:** No.
4. **DOT Role under ESF #1:** Advisory role, for example, which general aviation airports are available in case of an emergency or location of the general aviation airports, etc.
5. **Leadership role:** No.
6. **Members of state AOB:** New Jersey State Police.
7. **Recommendations for establishing AOB:** [No response]

New Mexico

Contact: Ron Keller, Aviation Safety & Education Administrator, Aviation Division, New Mexico Department of Transportation, 505-244-1788 ext. 9114, ronaldb.keller@state.nm.us.

1. **Federal statutes:** Not applicable.
2. **State statutory provisions?** No.
3. **Defined ICS Air Operations Branch procedures:** No.
4. **DOT Role under ESF #1:** None.
5. **Leadership role:** No.
6. **Members of state AOB:** possibly General Services Division, Air Operations, State of New Mexico.
7. **Recommendations for establishing AOB:** Not applicable.

Ohio

Contact: Mark Groves, Aviation Manager-Chief Pilot, Ohio Department of Transportation, 614-387-2347, mark.groves@dot.state.oh.us.

1. **Federal statutes:** Authority comes from State of Ohio Emergency Management plan promulgated by the Governor. The Order defines the responsibility of the respective agencies during a disaster or incident when the EOC is activated.
2. **State statutory provisions?** No. [Note: See response to question 1 above.]
3. **Defined ICS Air Operations Branch procedures:** Yes. http://ema.ohio.gov/Documents/Ohio_EOP/ESF 1 - Aviation Support Plan - Tab A.pdf.
4. **DOT Role under ESF #1:** Ohio Department of Transportation Office of Aviation is the lead agency for coordinating Aviation assets for ESF 1.
5. **Leadership role:** No.
6. **Members of state AOB:** Ohio National Guard, Ohio Wing of the Civil Air Patrol, and the Ohio State Highway Patrol.
7. **Recommendations for establishing AOB:** [No response]

Pennsylvania

Contact: John Melville, Aviation Specialist Supervisor, Bureau of Aviation, Pennsylvania Department of Transportation, 717-705-1239, jmelville@pa.gov.

1. **Federal statutes:** Homeland Security Presidential Directive (HSPD)-5, Management of Domestic Incidents, directed the development and administration of the National Incident Management System (NIMS). NIMS provides a consistent nationwide template to enable Federal, State, tribal, and local governments, nongovernmental organizations (NGOs), and the private sector to work together to prevent, protect against, respond to, recover from, and mitigate the effects of incidents, regardless of cause, size, location, or complexity.
2. **State statutory provisions?** The Pennsylvania State Emergency Operations Plan (SEOP) aligns Commonwealth operations with the PA Emergency Management Services Code, 35 Pa. C.S.A. §§ 7107-7707, http://www.portal.state.pa.us/portal/server.pt?open=512&objID=4625&mode=2.
3. **Defined ICS Air Operations Branch procedures:** [No response]
4. **DOT Role under ESF #1:** PennDOT Bureau of Aviation provides advisory and service support to the PA Emergency Management Agency (PEMA) Operations Section during emergency activations. Responsibilities include, but not limited to, coordinating with the Federal Aviation Administration (FAA) to restrict and control the airspace around disaster sites, and to assist with establishing controls and priorities for aircraft involved in emergency operations.
5. **Leadership role:** PEMA does not currently have an established Air Operations Branch. When the SEOC is activated, depending on the level of activation, aviation taskings are coordinated by PEMA's central Operations Section with each State agency. If the level of aviation demand becomes significant, then an improvised Air Branch may be established with all aviation taskings coordinated through that section. Leadership of the impromptu section will depend upon mission requirements and could be either the Aviation Bureau, Civil Air Patrol, Pennsylvania State Police or National Guard Bureau.
6. **Members of state AOB:** Bureau of Aviation, Civil Air Patrol, Pennsylvania State Police, National Guard Bureau.
7. **Recommendations for establishing AOB:** [No response]

South Carolina

Contact: Hugh Tuttle, Chief Pilot, South Carolina Aeronautics Commission, 803-743-3191, htuttle@aeronautics.sc.gov.

1. **Federal statutes:** [No response]
2. **State statutory provisions?** [No response]
3. **Defined ICS Air Operations Branch procedures:** Yes; procedures described in "South Carolina Air Branch Operations Combined Aviation Response Plan."
4. **DOT Role under ESF #1:** [No response]
5. **Leadership role:** Yes; procedures described in "South Carolina Air Branch Operations Combined Aviation Response Plan."

6. **Members of state AOB:** Described in "South Carolina Air Branch Operations Combined Aviation Response Plan."
7. **Recommendations for establishing AOB:** [No response]

Utah

Contact: Pat Morley, Director, Utah Division of Aeronautics, 801-715-2260, pmorley@utah.gov.

1. **Federal statutes:** I am not aware of any federal statutes or regulations.
2. **State statutory provisions?** Utah Code 53.2a http://le.utah.gov/UtahCode/section.jsp?code=53-2a.
3. **Defined ICS Air Operations Branch procedures:** Yes; Utah is in the process of organizing an Air Operations Branch. I'd say we're 80% complete. It's been a lot of work! It seems the more we work at it, the more questions and issues come up.
4. **DOT Role under ESF #1:** The Utah Division of Aeronautics plays a support role by providing two King Air aircraft and Cessna 206 with pilots to support missions as assigned by the Air Operations Branch.
5. **Leadership role:** The Director of Aeronautics does not have a leadership role, but an advisory role.
6. **Members of state AOB:** FAA (Salt Lake Center, Salt Lake TRACON, Salt Lake Tower) Liaison officers from US military branches, FEMA, Civil Air Patrol (Utah Wing), US Forest Service (Their air attack coordinators are very experienced with communication, logistics, and planning).
7. **Recommendations for establishing AOB:** Be patient as you work on developing your Air Operations Branch. At times it may seem like herding cats but it's worth the effort. I think the communications plan between agencies is the most challenging part.

Washington

Contact: Thomas Peterson, Aviation Emergency Services Manager, Washington State Department of Transportation, 360-705-7442, peterth@wsdot.wa.gov.

1. **Federal statutes:** None.
2. **State statutory provisions?** Washington Comprehensive Emergency Management Plan State and Regional Disaster Airlift Plan (SARDA).
3. **Defined ICS Air Operations Branch procedures:** Task books.
4. **DOT Role under ESF #1:** Coordinate all non-commercial air movement. Aerial damage assessment, light transport.
5. **Leadership role:** Yes; Is under WSDOT Office of Emergency Management instead of aviation division.
6. **Members of state AOB:** US Coast Guard, US Navy, US Customs and Boarder Patrol, Washington Air National Guard, Washington Wing of the Civil Air Patrol, King County, Snohomish County, Pierce County, City of Seattle.
7. **Recommendations for establishing AOB:** [No response]

West Virginia

Contact: Chuck Runyon, Special Assistant to the Secretary/Chief of Emergency Operations, West Virginia Department of Transportation, 304-558-9512, chuck.d.runyon@wv.gov.

1. **Federal statutes:** In West Virginia, aeronautics falls in the boundaries of the DOT. So we meet with TSA and others with in the emergency response group.
2. **State statutory provisions?** We do have as the TSA and Kanawha County Emergency Mgmt. works hand in hand with the DOT in all forms of emergencies. We have a place both in the command center and as emergency responder.
3. **Defined ICS Air Operations Branch procedures:** We respond to the command area in air emergencies and we also support with equipment as needed. We also help to shut down roadways to airport if need be.
4. **DOT Role under ESF #1:** We support aviation, first responders, law enforcement, the TSA, and the Director of Homeland Security.
5. **Leadership role:** Yes, as we set in the command post, we do talk and help make decisions with IC on scene. And, if there is a crash off-site, we respond to help IC.
6. **Members of state AOB:** DOT, WV National Guard, Homeland Security Director.
7. **Recommendations for establishing AOB:** The new interoperable radios are the best thing that has happened. We can talk to all responding agencies.