

THE AIRPORT SYSTEM IN AN EMERGENCY – WHAT ARE OUR CURRENT PROCEDURES?

By definition, an earthquake, like any disaster, disrupts the normal way in which business is conducted. There are, however, plans by various airports and airport users on how airports will and should be used after an earthquake. The current system contains plans, both formal and informal, of:

- the Federal Aviation Administration;
- the three major international airports;
- other airports (including general aviation, out-of-region, and military/federal airports); and
- airport users (including passenger carriers, air cargo carriers, disaster services providers, and businesses).

This section summarizes the extent of those activities in 2000.

Federal Aviation Administration (FAA)

The Federal Aviation Administration (FAA) has responsibility for the management of the nation's air traffic system. The Airports Division of FAA works with the Air Traffic, Flight Standards, Airways Facilities and Logistics Divisions to provide for the installation and maintenance of federal navigational equipment and Air Traffic Control facilities. FAA works with City and county governments to construct airport runways, taxiways, and airport terminal facilities, and provides for the management of airport transportation on a daily basis (J. Rodriguez, FAA, personal communication, 2000).

The Airports Division of the FAA keeps a record of airport facilities and emergency services contacts. In the event of a serious earthquake, the San Francisco Airports District Office will conduct a survey of the airport facilities to assess damages and the need for federal funding for repairs for runways/taxiways, airport access roads, and terminal/cargo facilities. The public agencies that own and operate airports will be requested to submit grant applications for reconstruction projects. Funding priority will be given to runway/taxiway repairs and terminal areas needed to move passengers, airfreight, and the U.S. mail (J. Rodriguez, FAA, personal communication, 2000).

Bay Area International Airports

The three international airports are required by the Federal Aviation Administration to prepare emergency plans. These three plans include earthquake procedures. The specificity of those procedures, and the exact nature of those procedures, varies from airport to airport. In one case, the plan contains extensive checklists for use by airport personnel. The checklists streamline the decisions of personnel as they confirm the operational status of the FAA air traffic control tower, fire station, runway surfaces and lighting, taxiway surfaces and lighting, signage, utilities (power, gas, propane, communications, water, generators, and fuel farm), access routes, and medical support resources. In another case, the plan focuses on coordination with other agencies, administrative procedures, procedures for the care and sheltering of passengers and employees, and medical issues. In the third case, the emphasis of the earthquake portion of

the plan is on duck-cover-hold procedures, as well as on evacuation procedures.

The difficulty in writing an emergency plan results, in part, from the four roles of that planning in an earthquake disaster:

- to protect employee and public safety during an earthquake (such as by the use of duck-cover-hold emergency procedures);
- to provide for employee and public safety in the immediate aftermath of the earthquake (such as plans for the medical care, feeding and sheltering on site of airport employees and passengers);
- to ensure the most rapid return of the airport to a status where the airport can be used for the dispatch and delivery of emergency personnel and materials; and
- to ensure the most rapid return to full operational status by the airport.

The existing plans could all be improved and expanded with more extensive coordination among the three Bay Area airports, as well as with airport users, general aviation airports, military and federal airports, and airports outside the Bay Area.

General Aviation Airports



source –
J. McCloud
for California Pilots Association

General aviation airports are not subject to the same requirements for emergency plans that FAA requires of the commercial airports. However, as facilities owned and operated by local governments, they are, or should be, involved in emergency planning with the local government that owns them. There is typically not a separate emergency plan prepared for the airport facility. These airports, however, have a longer history of collaborative planning with other general aviation airports than the larger airports. Thus, they understand the benefits of working together to define creative solutions for mutual problems.

These airports have nighttime staffing issues that are more significant than with larger commercial airports (G. Petersen, San Mateo County Airports Manager, personal communication, 2000).

In addition, several Bay Area general aviation airports have been involved in airlift operations in past earthquakes and are familiar with the process. For example, after the 1989 Loma Prieta earthquake, approximately 300,000 pounds of emergency supplies were flown to the Watsonville and Hollister airports from the Hamilton Field, Buchanan, and Reid Hillview airports (J. White, California Pilots Association, personal communication, 2000).

Out-of-Region Airports

Out-of-region commercial airports include Sacramento International Airport (SMF), Mather Field (MHR), Stockton, and Monterey. Sacramento County handles both SMF and Mather Field MHR. SMF is commercial airport with limited customs and immigration services. MHR, however, is not certified to handle passenger aircraft. Five major cargo companies use it. These two airfields, even when combined with Stockton Airport, do not have the capability of handling the 80 – 100 flights per hour currently handled by the three major Bay Area airports (OAK, SFO, and SJC). Depending on the time of day, these out-of-region airports could expect to be saturated within the first two hours of a major earthquake in the Bay

Area. Thus, major airport closures could expect to cause flight changes throughout the western portions of the country (S. Soto, Airport Firefighting and Airports Operations, Sacramento County, personal communication, 2000).

In an emergency, the first actions of these airports will be to ensure that they can be safely operated. Thus, they plan to move emergency equipment into open areas, dispatch units to survey damage, and prepare for aftershocks. If damage occurs, priority will be given to lifesaving efforts, call for medical help as needed, and fire suppression action. As victims are searched for, they anticipate that they may be involved in light rescue operations and may need to call for heavy equipment to rescue trapped victims. The airports will use mutual aid as needed, and use the airport paging systems for self-help instructions. Finally, the airports plan to establish access controls, organize multi-purpose staging areas, and set up for cargo aircraft relief operations.

Travis Air Force Base

At Travis Air Force Base, the priority is their wartime mission to support military operations. However, a commercial aircraft declaring an in-flight emergency may land at Travis AFB. In addition, civil authorities may designate Travis AFB as a base support installation and FEMA Mobilization Center. The rail lines servicing the base enhance the usefulness of the facility. In these instances, the facility will respond to a top-down request for support from FEMA. The AFB has begun to participate in disaster exercises. This has been a change in directive from the top air force command at the base (Lt. Col. R. Sandico, Travis Air Force Base, personal communication, 2000).

Air Cargo Carriers

The cargo carriers are challenged even on a normal business day to get goods delivered in the Bay Area due to the overstressed transportation network. An earthquake would make many transit corridors unavailable. Given the “just-in-time” nature of business, companies now count on their cargo carriers to be a “mobile warehouse” for them. The package is not in the back room, but in the back of a truck coming to them. Thus, it is that much more important for cargo carriers to be in business after a disaster. Cargo carriers use the full transportation network, including airports, roads, and rail lines.

UPS has been a leader in developing a plan for earthquake response and recovery. Their first priority is to protect employees and their families through drills, communications networks, meeting and evacuation points, and training for safety. The communications system includes radios for communications with employees at airports in and outside the region. Their second priority is to protect business assets, including securing computers to desktops, retrofitting hazardous older buildings, and working with customers to minimize their business disruption. Their third priority is to help the community they serve. In northern California, UPS plans to assist the Red Cross in logistics and with emergency support vehicles for the first 7 – 10 days after a major earthquake. An unprepared business may join the list of victims of the disaster. UPS plans to be a prepared business and to be a resource for the community in time of need (D. Bullert, UPS, personal communication, 2000).

The principal concern of a cargo carrier should an airport be shut down is how that carrier can get to their equipment so that they can go to an alternate airport. A secondary concern is setting up an alternate service network using a combination of alternate airports (such as Mather), alternative rail yards (such as Stockton rather than Richmond), and ground transportation.

Airline Passenger Carriers

The passenger carriers have goals similar to the cargo carriers, for they want to protect their employees and their assets, as well as to serve the community. However, they have the additional concern that their “cargo” is people. The disaster created by an earthquake may be one of the most stressful, emotionally challenging, and physically exhausting events we will ever experience. The stresses on carrier employees are particularly intense as they struggle to meet the needs of the passengers. Thus, carriers such as Southwest Airlines have developed guidelines for making the necessary decisions in an emergency. These guidelines have been provided to all carrier employees (C. Enriquez, Southwest Airlines, personal communication, 2000).

Some airlines view their responsibility to deliver passengers to an airport, not to care for and feed those passengers if they are stranded. This issue needs to be addressed with collaborative planning among airports, passenger carriers, and disaster relief agencies.

To the extent that passenger flights are diverted to other airports, these carriers may be dependent on road-based transit to deliver passengers to their destination.

Bay Area Red Cross and Other Disaster Service Providers



source –
American Red Cross, Bay Area Chapter

The disaster service providers currently expect the airports and airlines to service the needs of stranded passengers and employees, particularly for the first few days. For a Hayward scenario event, they will need to move about 10,000 people into the affected area for logistics, mass care, mental health, family services, public affairs, and health services support in the first 7 – 10 days. In addition, they plan to move medical supplies, communications equipment, computer equipment, and mass care support supplies into the area (J. Cahill, American Red Cross – Bay Area, personal communication, 2000).

Major airport and road closures are also assumed. Therefore, initially, local logistics workers inside the Bay Area will support the Red Cross effort to the best of their ability and operate autonomously. Marshalling is planned to occur in Reno next to the airport, with a closer material mobilization center and staging area in the Sacramento area. A staff mobilization center is planned for the Stockton area. The Red Cross plans to open a staff reception area in the vicinity of Los Angeles area airports, and then people would be bused to Stockton if airports at Stockton and Sacramento were unavailable. East Bay activities might be supported with a mobilization center in the Stockton-Tracy area, for this area has both port and airport facilities which might be used. At the present time, West Bay activities might be supported by opening a logistics center at Moffett Federal Airfield. In past disasters, the Red Cross has brought in supplies by air to

Moffett and stored them there until they can be separated and redistributed. However, as the air museum at Moffett expands, this space may not be readily available. In addition, potential problems with runways discussed earlier may make use of this facility impractical. Travis AFB is being looked at as an alternate. The Red Cross is dependent on commercial shipping; food and other materials are typically trucked. The Red Cross hopes to continue to develop planning relationships with the airports, developing a liaison network which is useful to both the airports and the Red Cross, and integration of the American Red Cross needs into airport priorities (J. Cahill, American Red Cross – Bay Area, personal communication, 2000).

Business Users

As stated earlier when describing the role of cargo carriers, businesses have concerns about building and shipping and products. A typical manufacturing business relies on supplies from multiple companies that are trucked to the manufacturing facility. In the high-tech business environment of the San Francisco Bay Area, many of those parts are delivered as airfreight. That facility then adds value by creating a more complex and complete product. Those products are then sent throughout the world for distribution. Thus, there is a highly complex “supply chain” network system just to build and distribute one product. Typical disruptions in this network include:

- problems with information (such as data inconsistencies);
- operational delays (such as a delay in delivery of parts similar to the world-wide impact of the 1999 Taiwan earthquake on computer circuits); and
- strategic issues (such as how to set up a design system to meet customer demands).

Information technology businesses in the Bay Area get supplies from all over the world, and distribute product throughout the world. Airport cargo is an integral part of the logistical system. Companies such as Agilent Technologies have a plan for what to do after a disaster, such as an earthquake, but realize that the success of that plan is highly dependent on the particular affects of any earthquake (M. Ronstadt, Agilent Technologies, personal communication, 2000). Back-up shipping systems include use of barges to get product to and from airports, use of helicopters, and use of alternate airports outside of the region, such as Sacramento. Smaller businesses are typically not as sophisticated with their emergency planning as larger companies. They may easily experience disruptions in communications that cause them to be unable to contact airports, their suppliers, and their distributors.

Businesses have several concerns after an earthquake related to product being shipped. Where is the product in the distribution channel? Can the product be expected to reach the customer? What kind of shape is the product in? If it is damaged, can you get it back to the manufacturer? Where will the product be held? Although there will be some delay that is expected in the distribution system, it will not be long before cargo customers will expect service to return to normal to allow the economy to return to normal.