Chapter VII
Incident Commander:
Toward Effective First Decisions

FACTORS AFFECTING FIRST DECISIONS

In natural or human-induced emergencies, decisions made during the very first minutes and hours are critical to successful damage control, the prevention of casualties and structural losses, and ultimately the overall resolution of the disaster (Asaeda, 2002; Aylwin et al., 2006). In the Three Mile Island nuclear accident, for example, the response efforts in the early stages included a serious mistake; as many investigations have noted, without this mistake, Three Mile Island would have been limited to a relatively insignificant incident (The President's Commission Report, 1980). However, the initial information in emergency situations often is unclear and limited, which can lead to different interpretations of the problem. During the first few minutes of the Three Mile Island nuclear accident, more than 100 alarms went off, and there was no system for suppressing the unimportant signals so that operators could concentrate on the significant ones. That is, the information was not presented in a clear or sufficiently understandable manner. Although warnings displayed the pressure and temperature within the reactor coolant system, there was no direct indication that the combination of pressure and temperature would mean that the cooling water was turning into steam. Rather than adding cooling water then, the operators (or those who supervised them) turned off the pumps—a seriously poor decision. Obviously, understanding differences makes a difference. Different response methods may result in different resolutions, and a deficient response may increase losses.

Keinan and colleagues (1987) find that deficient decision making results mainly from a person's failure to undertake a systematic consideration of all relevant decision alternatives. In emergency situations however, decision makers usually do not have enough time to take all alternatives into systematic consideration when making the first decisions in the very first minutes. During the events of September 11, for instance, after realizing the potential hijacking, command center supervisors had little time to take action. According to the 9/11 Commission Report (2004), the time interval from the awareness of the hijacking to the first flight crash was approximately 8–30 minutes (see Table 7.1). Given such time constraints, it is almost impossible for commanders to conduct systematic analyses and carefully consider all alternatives. Therefore, such a theoretical decision-making approach is useful only in ideal situations that include absolutely no time constraints.

Table 7.1. Timeline of the U.S. September 11, 2001, event

Takeoff (EST, a.m.)	Likely Takeover	Crash Time	Event	Control Center Awareness	Elapsed Time (crash – awareness)
7:59	8:14	8:46:40	Flight AA 11 (Boston to Los Angeles) crashes into North tower of World Trade Center (WTC) in New York .	8:25 (Boston center aware of hijacking)	21 minutes
8:14	8:42–8:46	9:03:11	Flight UA 175 (Boston to Los Angeles) crashes into South tower of WTC.	8:55 (New York center suspects hijacking)	8 minutes
8:20	8:51–8:54	9:37:46	Flight AA 77 (Washington, D.C. to Los Angeles) crashes into the Pentagon.	9:25 (Herndon command center)	12 minutes
8:42	9:28	10:03:11	Flight UA 93 (Newark to San Francisco) crashes in field in Shanksville, PA	9:34 (Herndon command center	30 minutes

Source: The 9/11 Commission Report (2004).

One goal of decision making is to turn chaos or disorder into an orderly and normal response. Specifically, decision making during emergency response situations must (1) attempt to minimize the consequence of the disaster/incident as much as possible and (2) make use of the best abilities from among limited available resources. The associated response actions determined by decisions thus must prioritize according to their importance and urgency.

All responses to an emergency can be classified into two categories. In the first category, when responders are aware of the occurrence of an incident, the event itself has already ended (e.g., an explosion) and may have resulted in causalities. Thus, much of the response attention priority focuses on assessing the site impact and conducting search and rescue operations, including pre- and in-hospital medical treatment for affected people, distribution of relief supplies, logistics, tracing victims and aiding family reunification, psychological counseling, or monitoring secondary threats. In the second category, responders are aware of the occurrence, but the event itself has not yet ended. Thus, the priority becomes preventing the continuing development of the event, in addition to rescue and emergency service efforts. For example, on 9/11, Boston, New York, and Herndon center controllers realized the occurrence of possible hijackings approximately 25–65 minutes after the flights took off from the airports and before they crashed into the World Trade Center (WTC), the Pentagon, and a field in Shanksville, Pennsylvania, respectively. After recognizing the possible hijackings, the controllers' priority became how to handle the hijacking event. Each command center immediately implemented an existing protocol, which included clearing the airspace, monitoring and tracking the flights, assigning military escort aircraft to follow the flights, and reporting anything unusual. This protocol presumes that (1) the hijacked aircraft are readily identifiable and will not attempt to disappear; (2) there is sufficient time to address the problem through the appropriate FAA and NORAD chains of command; and (3) the hijacking will take a traditional form and not be a suicide hijacking designed to convert the aircraft into guided missiles. This existing protocol, in place on 9/11, clearly was unsuited in every respect for what was about to happen (9/11 Commission Report, 2004): The tragedies were not averted, and crashes occurred. At that point, the priority moved to activating rescue and emergency service actions immediately.