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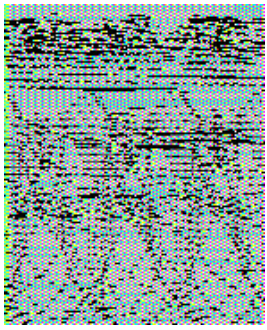

Quality Air Force in an Emergency

Leadership Principles and Concepts for Emergency Response Forces

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Foreword

The Air Force has challenged leaders to integrate and use quality principles as a way to improve operations throughout the service. In this study Lt Col David F. Bird, USAF, reminds us that these quality principles apply to emergency response forces—both before and during a crisis. He proposes that senior leaders view quality concepts and principles as a way of creating an environment to spark the highest performance by their subordinates and not as giving up authority or control.

At wing level, the disaster control group forms in response to a crisis incident ranging from an aircraft accident to natural disasters. Quality concepts and tools apply to this emergency response organization's plans, priorities, and the way it interacts with the many different agencies involved in a major complex crisis. Therefore, Bird expounds, senior leaders or potential on-scene commanders should see quality as a strategic, integrated system with a leadership style that involves everyone in the organization in controlling and continuously improving ways to stabilize the incident.

Colonel Bird believes that quality concepts such as organizational vision, strategic planning, management by fact, customer focus, and continuous improvement can turn an emergency response force into a world-class organization. The USAF has recognized the benefits of quality management principles and has incorporated them into restructuring the service. The new objective wing embodies sound quality concepts and should permeate all functional areas in the Air Force. Hence, Bird concludes, there is a need for a new type of emergency response force that strengthens the chain of command, decentralizes power, consolidates resources under a single commander, streamlines the structure, and clarifies functional responsibilities between squadrons. He describes such an emergency response force structure within the chapters of this study.

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Lt Col David F. Bird Jr. (BS, civil engineering, The Citadel; MBA, Michigan University) has been a career civil engineering officer since 1978. He has held civil engineering positions at base, major command, and Air Staff levels and has served in planning and programming, construction, environmental management, and inspector general functional areas. He has been the executive officer to the Air Force Civil Engineer and a squadron commander. Colonel Bird has been assigned in Tactical Air Command, Military Airlift Command, Pacific Air Forces, and Air Combat Command both stateside and overseas. He has been involved in over 15 aircraft incidents, natural disasters, and major response operations. His duties on these responses have ranged from surveying and mapping officer to squadron operations officer to the on-site commander for the disaster control group. He is a registered professional engineer in the state of South Carolina and a licensed land surveyor in the state of Louisiana. Colonel Bird is a graduate of Squadron Officer School, Air Command and Staff College, and the Air War College—all in residence.

Quality Air Force in an Emergency

The secret of a leader lies in the tests he has faced over the whole course of his life and the habit of action he develops in meeting those tests.

—Mikhail Gorbachev

It's 1410 hours on a sunny and clear Wednesday afternoon. You have just left the wing staff meeting, and you stop in the hallway to talk with the other squadron commanders before leaving the building. After a few minutes you leave, looking forward to getting back to the squadron and going over the notes you have just taken at the meeting. You hear that familiar paging call on the fire crash net over your radio as you walk to your car. After carrying a "brick" for over two years, you've gotten used to the page. However, you still listen to the first part of the broadcast to hear what type of emergency the fire department is responding to. This time the alarm-room operator is speaking quickly with some urgency in his voice when he says, "Tower notifies us that two pilots have ejected over the airfield, an F-16 is going down, and parachutes are over the field!" The operations assistant fire chief is across the runway training with the majority of the firefighters in an abandoned facility. He answers the announcement with, "Control—Chief 3. I see the parachutes and a large column of smoke on the southwest parking ramp. We are responding."

After hearing this conversation on the radio, your attention has changed from the drive back to the squadron to arriving at the incident scene. Driving to the flight line, you monitor the crash net and hear Chief 3's reports of secondary explosions and requests for mutual aid from the local county and city fire and ambulance companies. As you turn the corner onto the flight line, you see a large smoke plume rising into the sky. Then you hear the fire chief announce that he has arrived at the incident and sees a C-141 aircraft on fire and that he is assuming command as the incident commander. You are somewhat relieved that Chief 1 is near the scene. As you arrive at the incident, you establish the on-scene command-and-control point and prepare for the arrival of the group commander and the

disaster control group (DCG). This DCG contains 15–20 personnel from different agencies on base that will form the command-and-control structure for the on-scene response force at the incident.

You take a minute and look around the area. What you see is a C-141 aircraft completely engulfed in flames with what seems to be over 20 different fire trucks spraying foam on the fire. You also notice aircraft debris spread across the parking ramp, damaged buildings nearby, and some small fires in a group of buildings across the ramp. Yet you do not see the F-16 or a smoke plume from a crash site. You radio Chief 1 and tell him the location of the DCG. You also request an update on the F-16's status and location. The tower interrupts you to announce that a C-130 has declared an in-flight emergency with flight control problems due to a midair collision with the F-16. The tower goes on to say that the C-130 will be landing on the runway in two minutes. Meanwhile, Chief 1 responds informing you that the F-16 appears to have broken up into small pieces near the buildings across the ramp, and he sees over 100 people injured, with at least 25 fatalities. You ask Chief 1 what available fire equipment will respond to the emergency landing of the C-130. He replies that no crash fire equipment is available. Your boss, the group commander, then arrives to assume the on-scene commander's duties.

As the group commander arrives, you exchange information concerning the incident. You begin an update, telling him first that there is a large-frame-aircraft fire involving a C-141 parked on the ramp completely engulfed with flames but with no indications of victims. However, there appears to be a mass casualty situation involving 100 victims—with over 25 fatalities—across the ramp where the F-16 came to rest. The two pilots in the F-16 have ejected and their condition is unknown. Finally, we have an in-flight emergency involving a C-130 with flight control problems as a result of a midair collision with the F-16. The C-130 is on final approach to the airfield and there is no firefighting equipment available to respond to the runway.[1] The group commander now questions you and asks, "What do we do next?"

The group commander's question is not a call for what direction to give the emergency response forces. Instead, it is

a call for the leadership principles and concepts senior officers or on-scene commanders use in an emergency situation. This leader faces the daunting task of bringing together a multiagency disaster control group in the middle of a crisis to stabilize a major emergency incident. The answer to the on-scene commander's question is to apply sound quality principles, techniques, and leadership concepts as a way to control the incident. There are clear reasons why sound quality leadership styles, and not other leadership styles of the past, apply. From a senior leader's perspective, quality concepts and principles do apply to emergency response forces both before and during an emergency incident.

The Air Force has challenged leaders to integrate and use quality principles as a way to improve our operations throughout the service.[2] The first place for senior leaders or on-scene commanders to start is with the leadership style that is appropriate in a crisis situation. This paper does not define leadership in a crisis but assesses whether the quality leadership model is appropriate for leading an emergency response force.

There are a multitude of quality concepts defined by leadership and management experts like Deming, Juran, and Baldrige that apply to business. Emergency response forces can and should use these same quality business practices to improve their performance. This paper explores how best to use quality concepts for emergency response forces and proposes a new organization for the wing-level emergency response force. The Air Force needs to change the way we lead, organize, and execute disaster responses. Using sound quality principles is a good start.

Leadership Styles

Blessed are the people whose leaders can look destiny in the eye without flinching but also without attempting to play God.

—Henry Kissinger
Years of Upheaval

A quality-focused organization can be very effective in emergency responses and adapt to the dynamic challenges it faces during a crisis. However, most people placed in a

leadership position during a crisis will resort to a very "authoritative" approach versus a "decentralized" one. This is understandable because of the way a crisis is characterized. In a crisis, leaders are surprised. They feel they must make decisions rapidly and that their superiors must make decisions at the highest levels in the organization.[3] Also, many people assigned to lead emergency response organizations as the on-scene commander have little or no experience in a crisis situation. It is vital that senior leaders not change their leadership style or tear down the chain of command. Ideally, in a crisis, empowerment, planning, trust, teamwork, and the chain of command must work unimpeded.

Quality Skeptics

Skeptics of the total quality management (TQM) concept that is reinventing government, sweeping public business, and being implemented throughout the Air Force might say that using quality in an emergency is absurd. Many skeptics believe quality stops when a crisis starts.[4] They believe that during an emergency there is no time to pull out the "Pareto charts" or form a "process action team" to make group decisions. Quality can easily apply to business undertakings when there is a widget to sell or a profit sheet to balance. Most skeptics believe quality could never apply to combat or emergency operations.

When faced with an emergency or crisis situation, most leaders will personally take charge and control every detail of the situation. Many senior leaders in the Air Force, especially current group commanders who came through the ranks in the shadow of macho leaders from the past, have a direct command-and-control mentality and try to micromanage each and every aspect of emergency response efforts. At many Air Force installations, when the disaster control group forms at an incident site, the on-scene commander will require each member to stand on a placard on the ground.[5] In addition, communications between DCG members are all channeled through this commander. These procedures are in place to allow the on-scene commander to control every decision concerning the incident.

Many times this micromanagement type of leadership is a result of unfamiliarity with emergency response operations. These leaders are "rookies" in the position of the on-scene commander but hold very senior rank in the Air Force and have many years of experience in leadership positions. They are also first-time leaders in this type of crisis since the vast majority of senior officers in the Air Force are not former firefighters, medics, or security police officers. Senior leaders in the Air Force come from an officer corps made up of broadly experienced professionals—not technicians. On-scene commanders who use this command-and-control mentality in a complex situation like a major emergency response will fail. They will fail because they tend to rely exclusively on their own intelligence, past experience, and the perception they have of this chaos. [6]

Senior leaders on an emergency response force should see quality as an environment to create and not as giving up authority or control. According to Gen Ronald R. Fogleman, chief of staff of the Air Force, leaders create a climate in which everyone can contribute to the maximum of their potential. But the skeptics argue that leaders in a crisis, facing a fast-paced situation where immediate action is required, should resort to the traditional authoritative form of leadership and decision making. For them, the quality method of decision making that uses thorough analysis, participation, and consensus building would not be appropriate. [7] However, this view of leadership applies only at the tactical level of an emergency response. Quality concepts would not necessarily apply when fire chiefs are setting up fire attack operations on a burning C-141. Moreover, fire chiefs must demand clear and concise compliance with their directions and decisions during an actual fire attack operation. Everyone under their command must obey without hesitation orders on where firefighting equipment will stage and who will set up on the aircraft without hesitation.

Senior leaders and potential on-scene commanders should view quality in a much broader sense during a major emergency response. Quality applies to how an emergency response organization plans, prioritizes, and interacts with the many different agencies involved in a major complex response. Therefore, quality should be seen as a

strategically integrated system with a leadership style that is applied before and during an emergency response.

Quality Operating Styles

In the Air Force, Quality Air Force (QAF) is a leadership commitment and operational style that inspires trust, teamwork, and continuous improvement.[8] It involves everyone in an organization in controlling and continuously improving how work is performed.[9] An emergency response organization is no different as it applies quality concepts toward its business undertaking of emergency responses. The functional organizations around the Air Force installation come together and form the disaster control group made up of medical, security, firefighting, environmental, aircraft maintenance, legal, public affairs, engineering, and command-and-control personnel. The commander of this disaster control group applies a quality leadership style that teaches, encourages, sets the vision, and creates an environment for outstanding productivity both during and before an emergency. Gen John Michael Loh, commander of Air Combat Command, says "leadership is the art of inspiring others to achieve extraordinary goals and levels of performance. It creates trust, which leads to teamwork and the ability to work toward continuous improvement together in a mission-oriented way, rather than a functionally oriented way."[10]

The quality style of leadership for the on-scene commander must be to focus all functional areas on the incident and to ensure there are no barriers to carrying out each functional area's mission. Quality leadership requires restructuring the relationships between workers and leaders. Initial on-scene personnel responding to an emergency will be midgrade civilians or noncommissioned officers (NCO) making the early strategic decisions on how to stabilize the incident. These strategic decisions can have a long-term effect on the total outcome of the emergency. This initial response force could be one fire truck, a security police patrol car, and one ambulance vehicle led by the operations assistant fire chief. Senior leaders must fully empower, train, and hold these personnel accountable. Many times they will be the only ones to respond, because

the simplicity of the incident will allow them to stabilize it without any more help. If the incident becomes more complex, leaders could use a building-block approach by calling upon those functions in the emergency response force needed for a specific type of incident.[11] The on-scene commander's job is not to direct and coordinate. If the building-block approach is to work, the senior leader must get everyone not only to think about their specialty but about how to integrate their work with the overall focus on the incident. This is not the dictatorial, authoritative leadership style so often taken by on-scene commanders in a crisis. Instead, the leader's job should be to shift from performing the coordination to creating the environment that allows other people to work productively and coordinate their own activities.[12]

Applying Quality Principles

People ask the difference between a leader and a boss. . . . The leader works in the open and the boss in covert. The leader leads, and the boss drives.

—Theodore Roosevelt

QAF principles and techniques provide the tools to improve the operations of an organization. This also applies to an emergency response force made up of a multitude of military and civilian agencies formed at the base during a crisis. The quality concepts that apply are organizational vision, strategic planning, management by fact, customer focus, and continuous improvement. These concepts have a proven track record in world-class organizations around the globe and can apply to emergency response forces.

Organizational Vision

An organizational vision serves as the catalyst to accomplish the mission. Thomas E. Cronin, in his book *Military Leadership: In Pursuit of Excellence,* says a vision provides an organization and its members "a clear sense of direction . . ., serves to clarify problems and choices, . . . builds morale . . ., and provides possibilities and promise." For subordinates to

relate themselves to the unit, every leader of an organization must have a vision.

An emergency response organization does not work together from day to day. That is why everyone must know clearly the on-scene commander's vision before they arrive at the incident. A vision for emergency response organizations could be "Eliminate hazards, save lives, and protect resources." This vision sets the commander's direction for the responding team. It says first, the team will not place any responding personnel in harm's way until the hazards are removed. It sets the tone of safety so response forces help in the solution and do not become part of the problem. Second, it asserts that team members place a high value on human lives with their concentrated efforts to rescue anyone in danger. Last, the team will protect equipment and facilities. Since every response is different, this vision is broad enough to set strategic priorities for planning *before* the incident and to allow a framework where tactical decisions can be made *at* the incident.

Strategic Planning

Strategic planning takes the vision and moves it into action. There should be many levels of strategic planning within the Air Force; only then can ideas, innovation, and new approaches to mission accomplishment take hold in an organization.[13] QAF concepts for a wing-level strategic plan must include the mission, vision, values, goals, objectives, and action plans.[14] The emergency response organization on base includes many different units within the Air Force and the local and state government jurisdiction. Deciding goals, objectives, and action plans for the group before an incident response is an invaluable practice.

Traditional strategic planning models can align and review plans for emergency responses. Emergency incidents are very complex these days because of hazardous materials in aircraft composites, industrial shops on base, and the chance for mass casualties in aircraft accidents. Emergency forces available on an installation are undermanned and underequipped; this results in the need for mutual aid from local off-base organizations in the vast majority of incidents.[15] Available on-base firefighting equipment and

manpower, security personnel for area control, and medical treatment and transportation assets are not sufficient for most major accidents or natural disasters. Therefore, a sound gap analysis that assesses current capabilities to meet the most probable scenario would generate clear requirements for mutual aid from off-base emergency response assets to an on-base response.

A sound strategic plan could provide advance warning where the most likely incidents would occur. The plan would identify where the dangerous materials are stored or used on base, the routes most traveled by vehicles containing hazardous materials, and potential aircraft accident zones associated with airfields. The plan could also determine the capabilities needed before an emergency arose at an incident site involving hazardous materials. Action plans developed as the result of strategic planning efforts would identify equipment items such as dump trucks, evacuation distances, type of firefighting agent, and the decontamination methods needed at a given incident site. Also, since Air Force aircraft involve hazardous materials like hydrazine, a plan with goals and objectives on how to stabilize the incident would benefit the initial response crew. From an action plan, teams could develop specific functional plans across all the areas and agencies assigned to the response organizations *before* an accident involving hydrazine. The disaster response group's senior leadership would determine what additional firefighting equipment, ambulances, and security forces were needed from downtown assets and set in place the agreements with local government agencies. Such arrangements would also allow downtown agencies to train with on-base emergency response forces. Then all initial responding elements would be fully empowered to call for a particular "set" of augmentation without any bureaucratic approvals. Formal strategic planning would determine mission requirements, objectives, and action plans, resulting in more effective operations.

Customer Focus

Focusing on the customer is the highest priority for emergency response forces. The bottom line of quality is "providing customers what they expect to receive."[16] Thus, no customer's desires, expectations, or preconceived notions

should go unattended. Customers are anyone who receives what the emergency response force is producing—incident stabilization.[17] This type of customer is thought of as *external*. There are also *internal* customers, who belong to organizations within the emergency response force. This type of customer may depend on work or may produce work that the emergency response force uses.[18] The emergency response force's understanding of quality must never differ from that of their customers'.

Customers of an emergency response force are receiving a service intended to save lives and protect resources. This service involves the basic tenet of quality where achieving or reaching for the highest standards is based on performance versus being satisfied with sloppy or fraudulent outcomes.[19] The emergency response force must provide its product under many different conditions. On an Air Force installation this may mean providing incident stabilization for

- large-frame-aircraft incidents such as C-5s, C-141s, or KC-10s involving up to 300 mass casualties;
- small-frame-aircraft incidents such as F-16s, F-15s, or F-117s involving explosive munitions and deadly hazardous materials;
- structural fires on base in large industrial shops;
- natural disasters from severe weather that includes flooding, thunderstorms, or tornadoes;
- bomb threats involving hostages;
- nuclear-weapon incidents;
- vehicle accidents with trapped passengers or vehicles transporting hazardous materials; and
- base-housing-area emergencies.

Senior leaders must ensure the external customer is clearly defined in each of these possible incidents. They must also set the standards of performance using quality as a system of economically producing emergency services to satisfy customer requirements.[20]

Internal customers must be satisfied by receiving products or services conforming to their requirements. Thus internal customers greatly impact the way emergency response forces satisfy external customers. The disaster control

group comes together at a time of crisis, each member bringing a special contribution to the mission. Senior leaders must ensure that internal products or services are combined to produce the highest quality performance to support the organization. This is accomplished when barriers are removed between all the functional areas and everyone is focused on the mission. By removing barriers between functional areas, senior leaders empower this multiagency response force. Most importantly, when the assistant operations fire chief—a midgrade civilian or NCO—calls for a tow truck from the transportation motor pool, he can expect immediate service. Motor pool personnel must be empowered with the authority to respond to this request without needing approval up their functional chain of command. Stabilizing this particular incident may require the motor pool to support the fire chief. In many cases, the more we understand the needs of our "downstream customers," the better the whole process works.[21]

The one factor that makes customer focus more difficult for emergency services is the element of danger. Over the past 10 years in the United States, an average of 200 firefighter fatalities and more than 100,000 injuries have occurred per year.[22] In a single year alone, over 6,100 victims died in fire incidents and over 95,000 were injured, with total property loss of $15 billion.[23] In the face of such violence and danger, response teams should do everything possible to support customer requests. For the emergency response force, no customer expectation is too strenuous, too extreme, or too outrageous.

Management by Fact

Management by fact means the quality leader makes decisions based on data, not guesswork.[24] This quality concept is very important to an emergency response force, since it would not place a human life in danger based on hunches. Management by fact requires leaders to look for root causes of problems rather than react to superficial symptoms. The focus is on improving products and services by improving how work gets done (the methods) instead of simply what is done (the results).[25]

Approaching this complex emergency-response-force organization from a "results only" perspective would cause its failure. New on-scene commanders have a tendency to measure activity and not production of the emergency services. For example, some would say that a good measure of merit would be how fast you can put a fire out from the time you arrive at an incident. However, in some cases, emergency response forces would let the fire burn out on its own rather than attack it with water. To the layman, this tactic seems inappropriate to the job of incident stabilization. On the contrary, sometimes putting water on burning hazardous materials produces a mixture that creates a larger environmental clean-up spill than just allowing it to burn off into the atmosphere. In addition, some senior leaders have the "crash-and-dash" mentality. They believe a good measure of merit is how fast you can get everyone to an incident after you have been notified. This indicator does you no good if you run up to an incident faster than anyone else with the wrong crews. Emergency response organizations should not look at results indicators related to the final output. Rather they should look at how the processes are performing in providing the services. [26]

Senior leaders or potential on-scene commanders should emphasize the methods within this total system of emergency services. The interrelationships between fire-fighting, medical treatment or transportation, security control, environmental mitigation, command-and- control, explosive disposal, and engineering services are complex and very interdependent. If senior leaders focus only on the results, then little if any attention is paid to the processes and systems that are the real capabilities of the emergency response force.[27] Senior leaders should focus on what training people are receiving and how it is being integrated with local and state response organizations. Is the equipment fully operational and being maintained and upgraded? What is the overall readiness of each of the units that come together in a time of crisis?

Senior leaders or potential on-scene commanders have a natural tendency to look for blame when a mishap occurs during incident stabilization. Dr Joseph M. Juran pointed out many years ago how incorrect the widely held belief was that an organization would have very few problems if

only workers would do their jobs right. He pointed out that the potential to eliminate mistakes lies mostly in improving the system through which work is done, not in changing the workers.[28]

Continuous Improvement

Continuous improvement provides the emergency response force with a long-term perspective in all its activities.[29] The philosophy of an emergency response force —like all quality efforts—should be to constantly strive to improve. To do otherwise would engender a sense of complacency, which leads to stagnation, which leads to ruin.[30] However, for an organization that functions only when a crisis occurs, continuous improvement is very difficult to achieve. The needed focus should be on goals and objectives that support the vision defined in strategic planning. Items to address include the level of equipment on hand for specialized response teams; incident reporting times by initial response teams; training for hazardous materials accidents; and interoperability with local, state, and federal agencies. Senior leaders should create a consistency of purpose to motivate a prosperous organization for long-term growth rather than short-term goals.[31]

Investing in training and people will result in organizational growth. So often, units that perform day-to-day emergency responses, such as the fire department, security police, and hospital, will train extensively on the tactics to stabilize an incident. However, when a major incident that requires many different agencies on an installation or a downtown jurisdictional issue evolves, we find the emergency response force disjointed and misguided. The emergency response force must train frequently under the most realistic conditions. This should involve all of the agencies that make up the disaster control group as well as local and state organizations. The emergency response force must be trained to trust.[32] The team must trust themselves, their equipment, and their leaders to set and enforce standards that will result in the highest level of performance. Training ultimately must result in people's being able to work unsupervised and to do things right the first time.[33]

The centerpiece for continuous improvement is people. Many times people turn in gallant performances during a crisis that go unrecognized. Examples of acts of courage that often go unrewarded include a firefighting rescue crew going into the back of a burning C-141 to see if the maintenance crew got off the aircraft; a maintenance crew moving an aircraft adjacent to a burning one to a safe distance away; or a security policeman placing one of a hundred burn victims in the backseat of a patrol car and taking the victim to the hospital instead of waiting for an overtaxed ambulance system to respond. These people often do not receive recognition because of the fear associated with major mishap investigations. Senior leaders should accentuate the performance of delivering this product called emergency services and should not become trapped in the search for accountability through investigative boards that surround major mishaps. Deming's belief that we should eliminate fear within our organization applies to all of our emergency response forces. In the Air Force, some people believe that being a tyrant and threatening subordinates exercises some tremendous power.[34] The chief of staff believes we need to create a climate in which supervisors, managers, and leaders at all levels don't feel threatened by new ideas and new innovations.[35] The on-scene commanders should publish a resolution that people will not lose their jobs for their contribution to quality and productivity.[36] Senior leaders should always reward those who foster good ideas and continuous improvement.

Continuous improvement for an emergency response force must be part of the culture of a total quality organization. Achieving improvement continuously does not occur easily or quickly. It requires time, investment, and an unfaltering commitment to respect the customer, who should always be satisfied, and the people within the organization, who are the critical resources. Continuous improvement will force the emergency response force to look on quality improvement as a long-term process that involves senior leadership, midlevel leadership, and workers at all levels in a continuous process. It is not a program that has a beginning, a few milestones, and a conclusion.[37]

A Proposed Change

Destiny is not a matter of chance; it is a matter of choice.

—Anonymous

The Air Force as a whole has embraced the quality movement and culture at many levels. In the late 1980s, the Department of Defense saw "quality as absolutely vital to our defense. . . ."[38] The quality movement asked organizations to search for better ways of conducting their missions. Then in 1991, the objective-wing concept was developed and implemented throughout the Air Force. The main purpose was to restructure the Air Force in a way that reflects vision, incorporates modern management practices associated with the quality movement, and builds combat capability.[39] It is now time for the emergency response forces to change the way they do business—to apply quality concepts. Now is the time to change the structure of the old way emergency response forces delivered their product and to reinvent it as an organization better in line with the objective wing.

Air Force Restructure

The Air Force has restructured to meet its overall charter of Global Reach—Global Power for the nation. To implement this strategy, the Air Force has undergone vast changes in its goals and organization. This restructuring occurred at the same time that the Air Force was receiving smaller budgets. Reinventing the Air Force focused on ways to improve combat capability and to increase peacetime effectiveness. Reinventing was not seen as the same thing as incremental change. Reinvention amounts to a break with the past, a transformation. What should emerge at the end is something really new. A 1991 Air Force white paper stated that the reinventing of the Air Force had five basic themes:

1. Make every effort to strengthen the chain of command through better alignment of responsibility, authority, and accountability.
2. Decentralize, with the flow of power and people out of headquarters and into the field. Large staffs are a

thing of the past; the people in the field will be more empowered to operate as teams with more authority over how they function.
3. Consolidate resources under a single field commander who has responsibility for a particular mission.
4. Streamline and flatten our structure by removing unnecessary layers to improve reaction time and process.
5. Clarify functional responsibilities with a view toward untangling those organizational lines that have become confused over the years.[40]

This new objective wing strategy became known as "one wing, one base, one boss."[41] This strategy has squadron commanders working for group commanders who work for the wing commander. Hence, the wing commander is the sole commander charged with responsibility to carry out the mission of the installation. The objective-wing strategy also made the squadron the point of executing the mission or the fighting unit of the Air Force. This new objective wing embodies the quality principles of teamwork, accountability, and empowerment.

The Air Force's quality movement aims at continuous change and, more fundamentally, institutionalized change. Changes to the way we practice different enterprises within the Air Force have not permeated all functional areas. This lack of change to align with the concepts of the objective wing and the quality movement is evident in the way emergency response forces operate.

A Need to Change

The management and organization of the emergency response forces within the Air Force have not made any institutionalized changes. The vast majority of emergency response forces are organized as outlined in Air Force Regulation 355-1, *Disaster Preparedness*.[42] This same organization was described in this regulation in 1974. The organization dictated in this regulation is directly opposite to the objective-wing themes. As shown in figure 1, the objective wing completely disbands the chain of command established within the wing when an emergency occurs. At the first moment of an incident, the disaster control group

Figure 1. Old Disaster Control Group Organization

comes together from a multitude of different squadrons, each with its own functional areas. The squadron commander is seen as just another functional area—not as within the chain of command to the on-scene commander. For example, the mortuary affairs officer is a function of the services squadron that works with that commander day to day. The squadron commander knows the strengths and weaknesses of mortuary affairs. Yet during an emergency, the mortuary affairs officer reports directly to the on-scene commander—with complete disregard for the chain of command. This type of organization weakens the chain of command and completely disrupts the responsibility, authority, and accountability of all the squadrons that come together to form the DCG.

The on-scene commander personally assumes the responsibility for stabilizing the incident by eliminating the efforts of the total organization. The concept of a single field commander who has all of the resources and responsibility for a particular mission is embodied by this type of organization. However, this kind of organization is set up for failure because of its complexity. The on-scene commander under this kind of organization has about 25 individuals reporting to him, creating a large span of control. According to the National Fire Protection Association, the industry standard for an effective span of control during a crisis is five to seven individuals.[43] The on-scene com-

mander makes all of the decisions and is the bottleneck for information flow between functional areas.

This type of disaster control group will cause no flow of power into the lowest level of the organization. Each of the disaster control group's functional areas are aligned under the on-scene commander. This lack of empowerment hampers the efficiency of the emergency response forces. It also creates an environment for the on-scene commander to have a command-and-control mentality. This leadership style will stifle an organization by not allowing the normal teams within each squadron to operate with any authority. The on-scene commanders in this situation are senior officers with many years of experience in leadership positions. However, they will fall into a dictatorial and information-overload leadership style during a crisis under this type of organization. The on-scene commander will try to make every decision, to control the information flow, and to have everyone in the emergency response force reporting to him without regard to the chain of command. This type of emergency response force organization lacks the precepts of sound quality concepts.

A Proposal

A new organization is needed, one that is based on quality concepts and industry standards. Using the objective-wing themes, I propose an emergency response force as outlined in figure 2. This new organization for the disaster control group strengthens the chain of command, decentralizes power, consolidates resources under a single commander, streamlines the structure, and clarifies functional responsibilities between squadrons.

The new organization is flexible enough to apply to any emergency incident from aircraft accidents to natural disasters. This structure uses the building-block approach to determine what the organization would look like and what type of resources are needed in a particular type of incident. Unlike the current disaster control group, the proposed organization does not call for reorganizing the wing's chain of command at the first moment of a crisis. The people in the organization work together the same way during their day-to-day operations as they would during a

Figure 2. New Disaster Control Group Organization

crisis. The everyday chain of command stays the same when the disaster control group forms. The group commander is the on-scene commander with squadron commanders reporting directly to the on-scene commander. The squadron commanders are responsible for their functional areas the same as before the DCG comes together. Therefore, depending on the type of incident, the squadron commanders can choose the type of functional areas they need to respond to the incident.

This organization meets the tenets of quality and the objective-wing strategy. The on-scene commander is the sole commander and all of the resources are consolidated under this single field commander to perform the mission. This allows the commander to establish the vision, values, and goals for the organization. The on-scene commander is leading squadron commanders and a very large and complex organization. This is normal; being placed into this job during a crisis is not a different situation.

The commander blocks in figure 2 (at the top of the organization chart) represent individuals at the incident on-site command post. The subordinate blocks represent the normal teams within a squadron that are empowered to do their jobs in support of the mission. No longer would everyone crowd around the fire chief's truck to control the incident or to search for information. Each squadron would be performing its job with authority decentralized all the way down to the lowest block in the organization. Sound command and control would occur, with information flow between the functional areas through the squadron commanders to the on-scene commander as it is done during normal operations. This new organization also reduces the span of control dramatically. The on-scene commander supervises a manageable number of people during a crisis, which conforms to the industry standard outlined by the National Fire Protection Association. The organization is also very flat, since a very small staff may go with the on-scene commander to help in public affairs and legal issues. Hence, we have one boss at one incident leading commanders who understand their missions.

The concept of decentralization provides flexibility for this type of organization. Figure 2 describes the largest and

most complex disaster control organization. This organization would activate during a major incident requiring all of the resources outlined in figure 2. However, the initial response forces would be much smaller, as shown in figure 3. This initial response force is fully empowered to make the decisions needed to stabilize the incident. At most installations, the vast majority of "runs" by the emergency response force consists of these functional areas. In most cases, the on-scene commander would be the assistant operations fire chief on duty empowered to determine if the incident is stabilized. This midgrade civilian or NCO would have the authority to terminate the incident at his discretion. This small force would know its limits and could identify an incident type that needed more resources quickly. If required, the on-scene commander would ask for more resources, and the squadrons would bring the necessary types of functional areas to the incident.

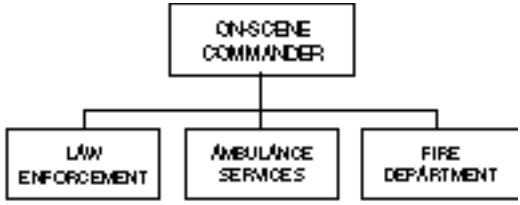

Figure 3. Initial Response Force Organization

The ability to design the DCG to fit the current incident is a major benefit. No longer would the group commander call everyone out to an incident to find that over half of the individuals responding are not needed for the emergency. The DCG would configure the organization depending on the type of crisis. A typical disaster control group might look like figure 4 if a base were responding to a minor fuel spill requiring containment, mitigation, and cleanup. The natural building-block approach that adds to the initial response force in figure 3 maintains the chain of command. Since the fire chief would most likely be the on-scene commander, the new on-scene commander would come from that chain of command to the group com-

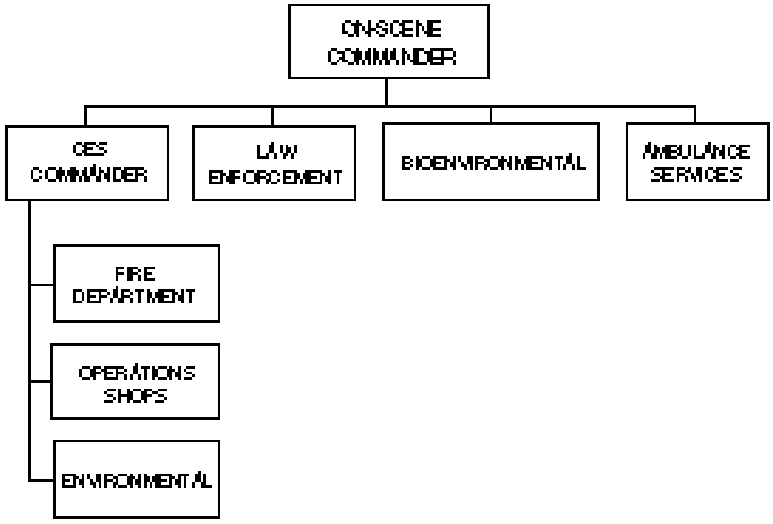

Figure 4. Modified Disaster Control Group Organization

mander. The on-scene commander would then be the civil engineering squadron commander until more resources are needed. Since the disaster control group would not need the complete functions outlined in figure 2, a modified organization would be formed. This organization would include the additional functions of bioenvironmental engineering, environmental management, and heavy equipment from the civil engineering shops to stabilize this type of incident. This natural adapting characteristic clearly identifies each functional area responsibility and untangles any lines of authority that may be confused during a time of crisis.

This new organization capitalizes on the well-thought-out objective wing. The disaster control group is in the business of delivering a service that saves lives and protects resources. Emergency responses must stop being treated by senior officers as a time to change the way they should lead. We do not want people to check in their brains when they come to work; thus, senior leaders should not check in their successful leadership traits when they come to a crisis. Let's organize and lead as we know

best—by focusing on the mission and the team, and by trusting our experiences.

Conclusions

Perhaps in His wisdom the Almighty is trying to show us that a leader may chart the way, may point out the road, but that many leaders and many peoples must do the building.

—Eleanor Roosevelt

On the surface, applying quality principles in an emergency situation may seem inappropriate. In a tactical sense, where quick decisions must be made, the quality precepts of thorough analysis, participation, and consensus building would not apply. However, quality is more than charts and groupthink. It is a style of leadership that is very appropriate to large, complex organizations. It is a broad, strategic, integrated system of improvement that senior leaders can effectively use to perform their missions. Emergency organizations are large, face very complex problems, and require heroic leadership in an environment of chaos and danger.

The leadership style of trust, teamwork, and continuous improvement applies to emergency organizations. It involves everyone in an organization in controlling and continuously improving performance. Ideally, the on-scene commander applies the quality leadership precepts of teaching, encouraging, setting the vision, and creating the environment for outstanding productivity—before and during an emergency. This quality style of leadership will minimize the barriers between functional areas and allow the team to focus on the mission.

Quality concepts are tools for organizations to grow and improve their operations both before and during an incident. Quality concepts such as organizational vision, strategic planning, management by fact, customer focus, and continuous improvement can turn an emergency response force into a world-class organization. Emergency response forces can't afford *not* to deliver the product—human lives are at stake. Setting the direction and planning for all contingencies must be sparked by senior leadership. Senior leaders should make

decisions using facts—not hunches—when responding to a customer call, thus reducing the chance for mistakes. Finally, an emergency organization must always try to improve its operations or it will degrade to ineffectiveness.

This paper proposes a possible organization for wing-level emergency response forces using sound quality concepts. It is based on the theme of the recent restructuring of the Air Force using quality precepts to establish objective-wing structures. This new organization for the DCG strengthens the chain of command, decentralizes power, consolidates resources under a single commander, streamlines the structure, and clarifies functional responsibilities between squadrons.

The Air Force has challenged organizations to improve their operations. This new disaster control group organization does just that!

Notes

1. The description of this aircraft accident is taken from a series of after-action reports concerning an F-16, C-130, and C-141 incident on 23 March 1994 at Pope AFB, N.C.: "The Pope Incident—First Report" by Jimmy Goodman, fire chief, Pope AFB, N.C.; "Initial Status Report to HQ/ACC Battle Staff from the 23CES/CC on 25 March 1994" on emergency response efforts and costs of the aircraft accident 23 March 1994; "Alarm Room Log" dated 23 March 1994, Pope AFB Fire Department; Memorandum, Department of Nursing, by Maj Patricia D. Horoho, Head Nurse, DEM, Womack Army Medical Center, Ft Bragg, N.C., dated 6 April 1994.

2. *The Quality Approach: Helping You Achieve Success in Today's Air Force,* 2d ed. (Maxwell Air Force Base, Ala.: Quality Institute, September 1994), 67.

3. Spanier, John, "The Games Policy Makers Play," in *Games Nations Play,* 7th ed. (Washington, D.C.: CQ Press, 1990), 277–281.

4. Lt Col Thomas F. Wynn Jr., "Total Quality Management and Combat Leadership: Does TQM Stop When the Bullets Start Flying?" in *Senior Leaders View Quality: Selected Essays Class of 1994* (Maxwell Air Force Base, Ala.: Air War College, 1994).

5. A call to 11 Air Force bases indicated that seven have placards they use at incident sites to control the whereabouts of DCG members. At one installation, they were preparing for an operational inspection and decided to start this system of placards because of a new support group commander.

6. Warren Bennis, *On Becoming a Leader* (Massachusetts: Addison-Wesley Publishing Company, 1993), 1–11.

7. J. Daniel Howard, "The Only Way Ahead," *Proceedings*, June 1992, 86.

8. *The Quality Approach,* 1.

9. David K. Carr and Ian D. Littman, *Excellence in Government: Total Quality Management in the 1990s* (Arlington, Va.: Coopers & Lybrand, 1993), 3.

10. Gen John Michael Loh, speech to the National Quality Month Kick-Off at the Hampton Roads Quality Council, Hampton, Va., 1 October 1992.

11. Federal Emergency Management Agency (FEMA), *The Incident Command System*, National Emergency Training Center, National Fire Academy, NFA-ICS-SM, 1 August 1989, 1–6.

12. Tom Shoop, "Brave New Leadership," *Government Executive*, July 1994, 24.

13. Maj Gen Perry M. Smith, "Creating A Strategic Vision: The Value of Long-Range Planning," *Air University Review*, September/October 1986, 16.

14. *The Quality Approach,* 23.

15. *Air Force Manpower Standards (AFMS) for DMRD 967* were changed and calculated for fire departments on Air Force installations, considering which off-base mutual aid response would be available to augment crews (dated 1991).

16. Dr Myron Tribus, *Quality First: Selected Papers on Quality and Productivity Improvement* (Cambridge, Mass.: Massachusetts Institute of Technology, 1987), 4.

17. Ibid., 28.

18. Ibid.

19. Barbara W. Tuchman, "The Decline of Quality," *New York Times Magazine,* 2 November 1980, 38.

20. David A. Garvin, *Managing Quality: The Strategic and Competitive Edge* (New York: Free Press, 1988), 191–97.

21. Carr and Littman, 28.

22. FEMA, 1–4.

23. Ibid., 1–5.

24. Peter R. Scholtes et al., *The Team Handbook: How to Use Teams to Improve Quality* (Madison, Wis.: Joiner Associates Inc., 1992), 1–2.

25. Ibid., 1–2.

26. Carr and Littman, 61.

27. Scholtes et al., 1–4.

28. J. M. Juran, ed., *Quality Control Handbook* (New York: McGraw-Hill, 1951), 24-8 through 24-15.

29. Lt Col Michael J. Prowse, "Total Quality Management: Good Enough for Government Work," Research Report no. AU-ARI-90-9 (Maxwell AFB, Ala.: Air University Press, 1992), 50.

30. Carr and Littman, 66.

31. W. Edwards Deming, *Out of the Crisis* (Cambridge, Mass.: Massachusetts Institute of Technology, 1986), 24–26.

32. "ACC Quality," Air Combat Command, presentation of ACC Quality to Vice President Gore in Summer 1993, 30.

33. Ibid., 30.

34. Capt Robyn A. Chumley, "We're in Good Hands," *Airman,* January 1995, 2–7.

35. Ibid., 6.

36. Deming, 26.

37. John D. Rittenhouse, "Raising the Quality Standard in Defense Manufacturing," *Defense Management Journal* 22 (January–March 1993), 12–17.

38. US Secretary of Defense Frank C. Carlucci, memorandum, undated, *DOD Handbook on Total Quality Management*, inside front cover.

39. "Air Force Restructure," Department of the Air Force white paper, September 1991, 2.

40. Ibid., 2–3.

41. See Interim Technical Report, AL-TR-1992-0067, "Objective Wing Alternatives and Logistics Issues" (Armstrong Laboratory: Frontier Technology, Inc., September 1992).

42. An informal poll of about 25 base civil engineers and 15–20 fire chiefs at the 1994 USAF Fire Conference revealed that most disaster control groups were organized using AFR 355-1 with no thought to modify it, even though AFI 32-4001 (published in May 1994) provided the flexibility to reorganize to any format.

43. FEMA, chap. 2–5.