

**LESSONS LEARNED 2003**

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**SUCCESSSES AND CHALLENGES  
FROM AAR ROLL-UPS**



**For: Wildland Fire Lessons Learned Center  
C/O The National Advanced Fire & Resource Institute  
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## **LESSONS LEARNED RELATED TO THE COMMAND FUNCTION**

### **Span of Control for Area Command Teams**

**Background:** Area command teams (ACT) reported that maintaining an effective span of control provided their most difficult challenge. For example, one ACT reported that during the first week of their assignment, the regional Multi-Agency Coordinating (MAC) Group assigned ten incident management teams (IMTs) to the Area Command. With a large number of emerging incidents in two adjoining states, and multiple in-briefings occurring every day, it soon became apparent that the Area Command would exceed an effective span of control.

The Area Command was split into two new Area Commands, with a major highway dividing the two areas of jurisdiction. The regional MAC consolidated fires under IMTs and shifted fires between Area Commands as fires came under containment or conditions dictated. Eventually the MAC decided to consolidate all the fires back under a single ACT, and shift the remaining team to another part of the region to assume command over fires not benefiting from Area Command support.

**Lessons Learned:** Area command teams need to look for weaknesses in the coverage of incidents within and near their command, remain flexible, and be willing to make changes that are in the interest of their host agencies. Area Command and MAC Groups need to ensure that they do not exceed the Area Command's effective span of control by assigning too many incidents/IMTs to the Area Command.

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### **Establishing Working Relationships With Other Agencies**

**Overview:** IMTs stressed the importance of effective interagency relationships, and point to their ability to establish and maintain effective working relationships with interagency cooperators as notable successes in four different circumstances; including the Space Shuttle Recovery Effort, when cooperating with local government, when cooperating with state and provincial agencies (and their cooperators), and when facilitating cooperation between agencies.

#### **1. Space Shuttle Columbia Recovery Effort**

**Background:** Teams assigned to the recovery effort reported that the working relationships that developed between their IMT and the personnel of the Environmental Protection Agency (EPA), National Aeronautical and Space Administration (NASA), FEMA Disaster Field Office (DFO,) and the Texas Forest Service (TFS) improved understanding of agency-specific missions and contributed to effective, coordinated operations.

Interagency communications represented a key facet. One IMT established relationships and protocols that caused information to be passed from agency to

agency on issues affecting the incident. Consequently, cooperators spoke often and at length to ensure that each agency's needs were addressed. This provided not only for a smooth transition when another IMT assumed command, but strengthened the relationships between cooperators as time progressed.

Other teams credited unified command for their interagency success. One team established unified command even though the delegation of authority indicated a single command structure, because the delegation of authority included three distinct mission objectives. At least one IMT integrated local government agencies into the team, allowing them to take advantage of local expertise to accomplish the incident objectives.

However, one IMT pointed out that a lack of overall strategy and coordination between branches, coupled with rapidly changing objectives, created confusion in its demobilization planning and delays and inefficiencies in resource allocation. According to this IMT, the situation could have been alleviated if the recovery effort had carried the Incident Command System (ICS) organization one step further by instituting an Area Command to unify all agencies under a single command structure.

Other IMTs, found that the multitude of agencies involved, their individual missions and the range of organizational structures did not align with the concept of unified command that they normally expect when using the ICS. The unfamiliar approach to unified command resulted in a steep learning curve, and a challenge to coordination between the branches, between agencies and the DFO, and confusion over protocols and authorities involved in various aspects of managing the incident.

## 2. Cooperating with Local Government

**Background:** Numerous IMTs had the opportunity for extensive contact with agencies of local government during the 2003 fire season, and cited their ability to establish and maintain effective working relationships with representatives of local government as their most notable success.

### What Success Looks Like

On one incident, the relationship that developed between the IMT and the County Commissioners established a foundation that the host agency can continue to build on. On another fire, the issue of fire damage to the municipal watershed provided an opportunity for team members with background experience in this area to work alongside county officials to identify possible assistance programs for the community.

Other IMTs found local sheriff's departments to be excellent cooperators, providing accurate and timely evacuations and working closely with the IMT. At

these incidents, sheriff's deputies were assigned to work with the IMT and attended most planning meetings and briefings throughout the incident. One IMT developed a Unified Incident Agreement with the County to spell out how the IMT and the County would function together in unified command. In that instance, the IMT tasked their Liaison Officer with negotiating the agreement with the County. Ultimately the Liaison Officer's involvement and the Unified Incident Agreement improved the effectiveness of unified command. Other IMTs conducted joint planning with county officials, including contingency planning and population protection planning, even when they were not formally in unified command.

At another incident, the IMT reported that a particularly progressive county had previously conducted emergency management training simulations involving large incident scenarios. According to the IMT, the County's training obviously helped prepare county officials, as evidenced by the efficient joint contingency planning conducted between the IMT and County personnel. In other cases, the cooperative effort represented the first time that county personnel had completed such plans.

#### What Success Does Not Look Like

As would be expected, not all contact between IMTs and agencies of local government was positive. One IMT reported that working with the County Emergency Management Coordinator (EMC) and local fire departments presented their greatest operational challenge. Questions regarding jurisdiction and the role of the IMT became an issue during structure protection decisions, and those questions never were resolved. While the IMT respects the role of local fire districts to protect private property, they observed that structure protection was never in place on the scale necessary to adequately protect hundreds of threatened homes. The IMT reports that, at times, no one represented the EMC at planning meetings or operational briefings, mainly because the EMC was overwhelmed by the scope of his responsibilities. The EMC and his resources located themselves at their own ICP, even though the host agencies and the County were in unified command. Excellent cooperation between the IMT and the County Commissioners helped resolve some problems.

#### 3. Cooperating with State and Provincial Agencies (And Their Cooperators)

**Background:** Both IMTs and agency resources at the local level cited the importance of effective interagency working relationships with State and Provincial agencies. Several IMTs cited their experience working closely with state departments of forestry or natural resources as notable successes.

Reciprocal agreements between the USDA Forest Service Pacific Northwest Region, the Colville National Forest and the British Columbia Forest Service facilitate joint actions to be taken on incidents located along the U.S. and

Canadian Border. In one example, a U.S. IMT operated in unified command with a Canadian Provincial agency and a Canadian municipal fire department, with good results. On this incident, a fire on the U.S. side of the border threatened a community in British Columbia. The agreement helped to delineate operational and fiscal responsibilities, allowed the IMT to unify command with Canadian agencies, and enabled the team to assign operational branches to the Canadians. With joint planning, the IMT was more effective at using the resources available to them; and produced one, common plan that provided a higher degree of safety and effectiveness to the operations.

However, the IMT reported that it took time to develop a sufficient level of trust between the IMT and their Canadian counterparts. Both the Delegation of Authority and the Incident Action Plan (IAP) listed objectives to protect both U.S. and Canadian citizens and property; and trust developed as the IMT demonstrated that they were taking sufficient action to protect Canadian resources. Provincial fire managers were involved in developing a common plan, made daily input, and monitored operations. According to the IMT, this kind of participation and documented priorities proved to be very helpful when working both with the media and the threatened community.

Another IMT pointed to reciprocal agreements for fire support between states as an important relationship for IMTs to understand. The team reported on a situation in which, the State of Minnesota had loaned two CL-215 aircraft to the State of Montana because of the severity of Montana's fire season. One complex of fires, managed by this IMT, was very near a major river and reservoir and presented an unlimited supply of water and short turnaround time for aircraft. The IMT used the CL-215s, and the planes were a great help in holding parts of the fires until the IMT could get ground resources in place. However, according to the IMT, the lesson learned is not the successful use of the aircraft, but taking advantage of the reciprocal agreement between the states.

#### 4. Facilitating Cooperation Between Agencies

**Background:** Teams cited their role as facilitators of better working relationships between agencies as major success stories as well.

One IMT assigned one of their Branch Directors as a Group Supervisor working with the Burned Area Emergency Rehabilitation (BAER) Team to work with one of the host agency's cooperators as they planned an adjacent wildlife burn. The Group Supervisor also worked with the rehabilitation group and assisted the local airshed coordinator on the burning of local fields.

Another IMT facilitated a better working relationship between a national park and the neighboring Native American nation concerning the sharing of resources for initial attack (IA). The IMT brought the two agencies together, and formed a team

responsible for IA in much of the National Park and on reservation lands. The IMT reports that it hopes this relationship will continue for future fire seasons.

An Incident Commander Type 4 (ICT4) in the lake states cited interagency cooperation between the USDA Forest Service, the State Department of Natural Resources (DNR), volunteer fire departments, and local law enforcement agencies as a notable success; citing good working relationships, developed over several years, as a worthwhile effort that is paying off. On one particular incident, the willingness of various agencies to work together under unified command enabled the organization to protect all the structures in the fire area and control the fire. This joint effort was possible due to agreements worked out in advance and the knowledge that none of the agencies can “go it alone”.

Yet another team recounted their experience working with two different Native American tribes on fires spanning two different reservations, where political differences and the relationship between the tribes became a factor. In this case, the IMT saw how a good working relationship is imperative when working for two agencies with different viewpoints. The IMT needed to establish a relationship with each agency, so that both agencies received what they wanted from the incident. At times, the situation required the IMT to facilitate compromise. Daily contact by the IC, Planning Section Chief, and Operations Section Chief was necessary to make things work in this situation.

The IMT helped build an improved relationship between the tribes by working with tribal representatives on a one-on-one basis, and by working at meeting the needs of both tribes. The IMT asked both tribes to be at the planning meetings to discuss differences, with the objective of the two tribes working together in a Type 3 organization. Representatives of both tribes were at briefings for both operational periods and talked to the personnel going out on the different fires.

#### **Lessons Learned:**

- ☀ Developing a working relationship between members of the IMT and personnel of other key agencies increases understanding of agency specific missions and contributes to effective implementation of operations. Stay flexible and adapt operating procedures.
- ☀ Success requires effective interagency and intra-team communications. IMTs should place a priority on establishing relationships and protocols that create opportunities to communicate often and cause information to be passed within the team and from agency to agency on issues affecting the incident.
- ☀ Unified command works extremely well when implemented properly, particularly when missions are complex. The roles of each participant in the unified command must be well defined and each participant must work within their defined role.

- ☀ During fires involving or anticipating evacuations, closures and public meetings, a representative of the county sheriff's office should attend most, if not all, planning meetings and operational briefings throughout the incident. Consider involving a deputy sheriff as a temporary member of the IMT. Engage the county officials including fire chief, sheriff and emergency management director in contingency and population protection planning even when not in a unified command.
  - ☀ Engage counties and rural fire districts in unified command to create a "true partnership." Use a written agreement to guide how the IMT and the County will function in unified command. Integrate local agencies into the unified command to gain the expertise of local resources in accomplishing incident objectives. Develop the organization to the extent necessary to completely unify the activities of all agencies. IMTs should look for opportunities to work with county officials, and identify possible assistance programs for the community. Counties that have planned for large-scale incidents and have trained using scenarios simulating large incidents can be well prepared to interact with IMTs.
  - ☀ IMTs need to work closely with state departments of forestry or natural resources where those agencies are "players," and recognize that IMTs should view reciprocal agreements for fire support between states as an important relationship to understand and take advantage of.
  - ☀ Local interagency cooperation between the USDA Forest Service, the state natural resources/forestry agency, volunteer fire departments, and local law enforcement agencies is critical to success in many areas. The willingness of various agencies to work together under a unified command enables operational success, particularly when agreements are worked out in advance and agencies acknowledge that no single agency can "go it alone".
  - ☀ IMTs can play a vital role as facilitators of better working relationships within and between agencies. Relationships and agreements established during the incident can have lasting positive effects.
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## **Establishing Working Relationships with Local Citizens**

**Background:** Several teams reported on their experiences creating effective working relationships with local citizens. In one case, the IMT was confronted with local ranchers engaged in their own suppression activities. Each day, these ranchers would approach operations personnel in the field, and express their view of the IMT operation, often in a hostile fashion.

The IMT kept the ranchers informed and listened to their concerns, because the team felt it was imperative to open lines of communication, explain the importance of the strategy and tactics undertaken by the IMT, and inform the ranchers of the risks they were exposing themselves to. The IMT included local citizens in the suppression effort when they were qualified to participate, and the team invited the ranchers to the daily briefings, and listened to their input.

Another IMT faced private landowners who had objectives that competed with the team's control objectives and safety concerns. To address this challenge, the IMT worked closely with the personnel of the state natural resources agency, who were familiar with the local citizens and their concerns. Working with the state personnel, the Operations Section Chief and the Safety Officers were able to ensure that the landowner's requests could be worked into fire operations in a safe manner. This approach required understanding, not only what the landowner wanted to accomplish, but also the constraints that the IMT faced. The IMT and the landowners developed the ability to integrate the landowners' needs and the IMT's requirements while ensuring the safety of all concerned.

In another situation, the IMT faced a difficult issue that endangered relations with local citizens. The IC told his team that he expected both his team members and single resources assigned to the incident to possess good interpersonal skills and demonstrate the ability to work well with personnel from outside the team, such as with the incident's local, contract drivers. However, the IMT included a single resource Equipment Manager who supervised six local drivers, several of whom were female. Apparently, the Equipment Manager, who was male, engaged in behavior, directed toward the female drivers, that the drivers and the IMT found unacceptable. Consequently, the IMT sent the Equipment Manager home. The IC invited the drivers and their spouses to have dinner with him at the ICP, and cautioned the IMT members to pay attention to their units and ensure that members of the IMT were not jeopardizing community relations by displaying inappropriate behavior. The actions taken appear to have resolved the situation satisfactorily.

**Lessons Learned:** Community relations are extremely important, and IMTs need to pay attention to community affairs. The expectation that team members will manage for positive community relations must be made clear. IMTs should take action to maintain community relations where they are good, improve relations where they can be improved, and fix community relations problems decisively and immediately when they occur. Keep local citizens informed, listen to their input and concerns, educate and inform them, invite stakeholders to operational briefings and try to make them part of the effort when possible.

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### **Effective and Efficient Team Transitions**

**Background:** Numerous IMTs reported that effective and efficient team transitions represented some of their most notable successes during 2003.

#### What Success Looks Like

One IMT reported that the transition to their team from another IMT was the best they had ever experienced. The team cited the professionalism and attitudes of the Type 1 IMT members as contributing to this success, and asserted that the successful transition set the stage for continued safe operations at the incident. This team's experience echoed that of two other IMTs who reported a great transition during the recovery effort. The teams worked together through an extended transition period that was needed to gain familiarity with an unfamiliar, non-wildfire situation and new procedures.

Another IMT was asked to take over a fire immediately following their "in-briefing," because uncertified personnel were currently leading the resources on the fireline. The IMT agreed to take the fire over after Operations had an opportunity to get on the ground and establish contact with the two volunteer fire departments fighting the fire. The IMT implemented this plan with great success, in part because the local forces, although lacking a certified Type 3 Incident Commander were well organized, well trained, properly outfitted with PPE, had common communications, posted lookouts, and had identified escape routes and safety zones.

That team's success story was similar to the experience of another IMT that reported their first opportunity to use what their team calls a "rolling start." According to this IMT, most host jurisdictions are faced with the dilemma of what to do about initial attack resources that have worked excessively long shifts prior to the IMT's arrival. This IMT uses the "rolling start" concept to more quickly transition into their first operational period once they have arrived. For example, the IMT was ordered at 1700, and since some team members were less than three hours from the incident, IMT members arrived at the incident quickly and created an IAP with the host jurisdiction for the next day operational period. The IMT in-briefed at 0600, and assumed command of the fire at 0800. They used a combination of local resources and incoming resources that had been resource

ordered that morning. The approach allowed for a smooth transition with the local IA resources, and quicker release of those resources.

Another experience demonstrates what happens when ACTs transition well. During one IMT's assignment, a transition occurred between ACTs. The transition was smooth and seamless. Impacts to the IMT were minimized during transition, and support from the Area Command to the IMT remained excellent. Critical resources were obtained for accomplishment of high priority tactics and objectives, and conference calls were scheduled and conducted for each function providing excellent inter-incident coordination.

Finally, several respondents commented on the importance of receiving a good briefing when they arrive on an incident. In one example, the orientation the IMT received and the help they received from local personnel, who they incorporated into the organization, represented two factors contributing to the team's success. According to this IMT, it is extremely important for incoming teams to listen to the local experts regarding fire behavior and logistical issues. Some respondents reported that a few key, local Administratively Determined Hires (AD) and other support personnel aided incoming teams in maintaining operational and planning continuity through their command transition.

#### What Problems Look Like

Not all team transitions went well. On one fire, a communication breakdown occurred during the transition from a Type 3 IMT to a Type 1 IMT. According to respondents, critical information about fire behavior, spot fires, completed line, and future operations was lost in the transition. The fire was burning on the jurisdictions of two agencies, and the two agencies had assembled an understaffed, ad hoc Type 3 team comprised of local personnel. The agencies decided to monitor the fire, maintain structure protection, and establish evacuation trigger points.

Communications began to break down within the Type 3 organization because the Incident Commander (IC) and the Operations Section Chief had little contact with each other over the course of two operational periods. Communication continued to degrade as members of the incoming Type 1 IMT began to arrive and interact with members of the Type 3 IMT individually. As the Type 3 IC became increasingly involved with the arriving Type 1 IMT, communications within the Type 3 IMT continued to erode. Consequently, the Type 3 Operations Section Chief, who also happened to be the Fire Management Officer of one of the local agency units, missed a strategy meeting where the decision was made for the Type 1 team to transition into command of the incident.

The Type 3 Operations Chief also lacked communication with the line officer, who was committed to the Type 1 IMT in-briefing and preparing the WFSA. Apparently, the agency administrator did not think that consultation with line

personnel was necessary because the Type 3 IC, who had not made it to the line or communicated with the Operations Section Chief, had sufficient knowledge.

According to reports, the Type 1 IMT took command of the fire without shadowing the existing operation for an operational period, and immediately shifted from an indirect strategy initiated by the Type 3 IMT over a period of days, to a direct strategy, discounting local knowledge and situation awareness in the process. The maps prepared by the Type 1 IMT, and included in the IAP, did not show the presence of spot fires that were known to exist by the Type 3 Operations Chief/local FMO. That afternoon, the fire made a run, structure protection and evacuation trigger points were reached by afternoon, and the local community was evacuated.

**Lessons Learned:**

- ☼ Effective and efficient team transitions are critically important and have direct impact on safe, effective and efficient operations. The professionalism and attitudes of the team members contribute to effective and efficient transition.
  
  - ☼ Teams need to make their transitions quickly and efficiently, but should not be rushed. Effective transitions can be accomplished by taking creative approaches to the team's protocols and procedures. Use an extended team transition period to assure success when necessary. When asked to assume command of a fire immediately, first ensure that the team has acquired complete situational awareness before proceeding.
  
  - ☼ Transition between area command teams can have an enormous impact on IMTs within the Area Command. The transition should appear seamless to the teams, impacts should be minimized, and support from the Area Command to the IMT must be continued without interruption. Consider using local Administratively Determined (AD) personnel and other support personnel to maintain operational and planning continuity through command transitions.
  
  - ☼ Good briefings are essential to good IMT performance. It is also extremely important for incoming teams to listen to the local experts regarding fire behavior and logistical issues.
  
  - ☼ As an incident situation becomes more critical and stressful, people tend to "get busy" and communicate less, when there is actually a need to communicate more. Take time to communicate. Interpersonal communication between team members becomes especially important during these times, particularly during team transitions.
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## **Strategic Thinking on Very Large Incidents**

**Background:** Numerous IMTs reported that large numbers of fires, very dry fuels and resource shortages required them to think even more strategically than usual to succeed. Teams routinely reported that, while doing their part to control large numbers of fires under very challenging conditions, resource shortages presented one of their most difficult challenges.

IMTs report that resource shortages caused them to prioritize their fires based on resource availability. For example, when faced with limited availability of aircraft and aviation personnel, one IMT scaled back line operations to a level they could support with available aircraft. According to the IMT, operational objectives took longer to achieve, but were accomplished safely.

Another IMT reported that they adopted a “think big” philosophy to help them determine the appropriate management response while managing a very large number of fires in a single complex. By employing this philosophy, the IMT targeted priority fires, managed some fires as “Fire Use,” and took action on lower priority fires as time and resources allowed.

One Type 2 IMT decided to simply monitor their fire by air for several days and help the host unit develop trigger points for suppression actions and evacuations. The terrain was very rough, rocky, and inaccessible. The IMT concluded, in consultation with the host unit, that their strategy would present less risk and cost. The incident caused them to rethink where teams put people and how much money they spend putting out some fires when, due to safety concerns or total costs, those fires may be better left in a monitoring status. According to this team, when considering Wildland Fire Situation Analysis (WFSA) alternatives, a monitoring strategy may prove less costly than spending millions of dollars and exposing fire personnel to unnecessary risk.

Yet another IMT found themselves in a situation not uncommon in 2003. The team was assigned to manage a complex of eight fires, totaling 30,000 acres, with some fires branched. Faced with shortages of helicopters, helicopter management personnel, and line overhead, the IMT felt that they were stretched beyond their capabilities. According to this team, the IMT members grew professionally from the experience, but that expectations and needs were beyond their organizational ability.

### **Lessons Learned:**

- ☀ When dealing with a very large number of fires in a single complex, look at the “big picture” and gain situation awareness of the entire incident. Set priorities and consider the full range of options available when establishing the appropriate management response to individual fires. Prioritize fires based on resource availability, scaling back line operations based on the available resources needed to safely succeed.
- ☀ Type 2 IMTs are not intended to manage branched fires and large complexes. The expectations and needs of these incidents exceed the organizational ability of most Type 2 IMTs.
- ☀ When safety concerns or costs dictate, consider leaving fires in a monitoring status, rather than taking expensive suppression action or compromising safety.

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### **Australian Approach to Human Resources**

**Background:** In Australia, Human Resource Specialists are not used on fire assignments. According to the U.S. personnel who went to Australia in 2003, there was no talk about recognizing or highlighting the importance of people's differences and it was not addressed in the IAP or briefing.

**Lesson Learned:** American firefighters can learn from foreign assignments, particularly by being exposed to different ways of doing business. We may want to examine the Australian approach to the fire camp human resources function.

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### **Too Few Resources Assigned to the Human Resources Specialist**

**Background:** One IMT reported that they had too few dedicated human resource assets and that their Human Resource Specialist was unable to manage the incident's human resources workload. The IMT addressed the challenge by having IMT members educate personnel during briefings, providing messages in the IAP, conducting educational sessions, modeling appropriate behavior, and resolving issues at the lowest level between affected personnel.

**Lesson Learned:** IMT members can supplement the Human Resources Specialist when human resource assets are inadequate.

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## **Incident Command Lessons from Australian Assignments**

**Background:** Many lessons were learned about how fires are managed and suppressed in Australia, particularly regarding approaches to incident command.

### Having a Deputy IC from the Domestic Agency was Essential

According to U.S. personnel who went to Australia in 2003, having a Country Fire Authority (CFA) Deputy IC (DPIC) assigned to fires managed by U.S. personnel proved essential. The CFA DPIC was able to coordinate movements of CFA equipment and personnel to meet operational needs. The IMT maintained continuity and consistency by maintaining the same CFA DPICs in the rotation.

### Taking Advantage of Local Knowledge and Coordinating Day and Night Command

Local ICs were very knowledgeable of the factors that influenced fire behavior, the terrain, transportation systems and other elements that determine effective tactics and strategy.

The Australians managed their fires with a Day IC and a Night IC that worked together as part of one, seamless IMT. The day shift would concentrate on resource ordering and deployment orders, and the night shift would take the responsibility for strategic planning, mapping and tracking of resources and logistical support.

In some circumstances, this was not the case, and there were two independent IMTs, one for night shift and a different one for day shift. According to the respondents, having two independent IMTs was not efficient. Inconsistencies between night shift and day shift ICs generated confusion and reduced production because each could and would change the other's plans and resource assignments. At times, each IMT was working from different incident objectives because ICs failed to coordinate and agree on them.

### IC Role

U.S. personnel reported that ICs got bogged down in the day-to-day operations rather than keeping the big picture viewpoint and managing the overall team. The respondents observed that the ICs were consulted on every issue, big or small, and this had the potential to discourage initiative and development of leadership skills within the IMT.

### Taking Advantage of Foreign Expertise When Assigned

During the first deployment to Australia, there seemed to be no clear idea of what to do with the U.S. personnel or what expectations were for them. At times, the U.S. personnel felt that they were working well below their capabilities. However,