Extract from:

NWC 2082

THE UNITED STATES NAVAL WAR COLLEGE

Operations Department

Extract from

COMMAND AND CONTROL AND COMMUNICATIONS LESSONS LEARNED:

IRANIAN RESCUE, FALKLANDS CONFLICT, GRENADA INVASION,

LIBYA RAID

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Chapter IV
"The Grenada Invasion"

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Reprinted from Command and Control and Communications Lessons Learned: Iranian Rescue, Falklands Conflict, Grenada Invasion, Libya Raid by Colonel Stephen E. Anno and Lieutenant Colonel William E. Einspahr, Air War College Research Report, No. AU-AWC-88-043, Air University, United States Air Force, Maxwell Air Force Base, Alabama, pp. 36-63.

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CHAPTER IV

THE GRENADA INVASION

On 25 October 1983, under code-name Urgent Fury, members of the United States military invaded the island nation of Grenada following the 19 October murder of Prime Minister Maurice Bishop and the subsequent collapse of government institutions and public order.{1} Responding in part to an urgent request for help from the Organization of Eastern States, President Reagan said that he took this action for three reasons:

> First and of overriding importance, to protect innocent lives, including up to 1,000 Americans whose personal safety is, of course, my paramount concern. Second, to forestall further chaos, and third, to assist in the restoration of conditions of law and order and of government institutions to the island of Grenada....{2}

To secure objectives in Grenada and to facilitate operations, the island was operationally split in half. The Marines covered the northern half of the island while Army rangers covered the south.{3} The invasion in the south focused on an unfinished runway at Point Salines. Shortly after midnight on 25 October 1983, Army special forces commandos parachuted onto the island to prepare the runway for C-130 cargo aircraft carrying 700 Army rangers. After the rangers had secured the runway, 800 more troops would land, freeing the rangers to press northward where they were to secure the safety of American medical students and bring under control the capital of St. Georges. In the north, 400 Marines would land and rescue the small airport at Pearls.

Preceding the operations in the north and south, Navy seal teams were airdropped near St. Georges to secure the safety of the Grenadian Governor General who was being held under house arrest by opposing forces in the governor's mansion and to capture the government radio station at St. Georges.{4} In total, an invasion force of 1,900 U.S. troops, reaching a high of about 5,000 in five days, and 300 troops from the assisting neighboring islands encountered about 1,200 Grenadians, 780 Cubans, 49 Soviets, 24 North Koreans, 16 East Germans, 14 Bulgarians, and 3 or 4 Libyans.{5} Within three days all main objectives were accomplished. Five hundred ninety-nine (599) Americans and 80 foreign nationals were evacuated, and U.S. forces were successful in the eventual reestablishment of a representative form of government in Grenada.{6}

That is not to say, however, that the invasion went without challenge. The first challenge was the lack of good intelligence data. For example, at Point Salines operations bogged down because resistance was much greater than expected.{7} In attempting to rescue the Governor General, American forces were stymied by larger Cuban and Grenadian forces than anticipated. By listening to Cuban radio broadcasts, it seemed that the resistance was being directed from a place called Fort Frederick. As it turned out, but not previously known, Fort Frederick was the nerve center for the Cuban and Grenadian forces and once it was destroyed resistance simply melted away.{8} Topographical data was

another problem. Instead of accurate grid maps, American invaders were forced to improvise by using tourist maps.{9} Finally, the invasion force lacked precise data on the location of the American medical students they were to rescue. One account noted that attack planners did not realize that the American medical students were spread out over three locations. {10} The final challenge to invading forces was the lack of a fully integrated, interoperable communications system. This latter challenge will be discussed later, after a review of the command and control structure for the invasion of Grenada.

Command and Control

Planning for the invasion of Grenada began in earnest on 21 October 1983, four days before the invasion itself.{11} Prior to 21 October, and after Prime Minister Bishop's arrest on 13 October, some planning had been done for a noncombatant evacuation of Americans from Grenada, but it was not until late on 22 October that Presidential confirmation was given to the Commander-in-Chief, Atlantic Command (CINCLANT), Admiral Wesley McDonald, through the Joint Chiefs of Staff (JCS), to plan the expanded mission.{12} After JCS review, modification, and approval of the plan, and after two late meetings of the National Security Council, President Reagan made the final decision on 23 October to launch the invasion two days hence. In making

the decision, President Reagan ordered full authority for the operation to be vested in the JCS to avoid command and control bottle necks that were built into previous American operations.{13}

To carry out the invasion of Grenada, Joint Task Force (JTF) 120 was established, and Vice Admiral Joseph Metcalf III was placed in command. Assigned to JTF 120 were elements of all United States services: Army, Navy, Air Force, and Marines. Supporting the invasion, but not under Admiral Metcalf's command, was a force of Policemen from Barbados, Jamaica, and other Caribbean nations known collectively as the Caribbean Peacekeeping Force. Also supporting JTF 120 was the U.S.S. Independence Battle Group, elements of Military Airlift Command, Tactical Air Command, Strategic Air Command, and the U.S. Readiness Command.{14} Appendix B illustrates the chain of command just described.

In executing the mission, the command and control structure operated with simplicity and was designed to employ forces in a manner consistent with their training. From the President down, mission type orders were given where the upper levels of command decided the "what" of the mission and the lower elements decided the "how".{15} To allow forces to fight the way they were trained, two ground commanders were used, one for the Marines in the north and another for the Army units in the south. While violating a principle of war regarding unity of command, the adjustment was necessary to ensure that differences of operating styles

between the services did not hamper operations.{16} To improve unity of effort, Admiral Metcalf held a daily conference of subordinate joint task force commanders. Each day these subordinate commanders came to his flagship, the U.S.S. Guam stationed off Pearl airport, or he went ashore to decide the next days itinerary. The product of each meeting was a hard copy message up the chain of command to CINCLANT and the JCS giving them the military objectives for the next day.{17} Finally, based in part on previous experiences in Vietnam where a considerable portion of his time and attention was consumed in appeasing the upper elements of the chain of command, Admiral Metcalf dedicated a significant portion of his staff to handle such matters. Four members of his staff, under the direction of a Navy Captain, were given the task of working the up side of the chain of command to the National Command Authority. In addition, his operations officer manned a secure phone connection to CINCLANT during all active combat operations. Not less than two situation reports (SITREPS) were submitted each hour. Abandoning the formatted SITREP report, Admiral Metcalf preferred instead to use an unformatted, plain English style. That style, he believed, helped reduce confusion and resolve conflict between reports being sent independently by the various service components to their respective headquarters, many reports of which were passed along to the Pentagon. This saturated up-channel reporting, according to Admiral Metcalf, not only kept his seniors fully informed, but kept their staffs busy and allowed him the time and created conditions such that he could retain control over military action at the local level.(18}

Communications to support command and control will be discussed next.

Communications

As with other military elements of the Grenada invasion, communications support was driven by the time-sensitive, come-as-you-are scenario. However, unlike the fighting elements which were organized to conduct operations independent of one another, communications systems were not allowed such freedom. Communications was to have been the glue that would tie together the operation of the four independent United States military service elements. Unfortunately, communications support failed in meeting certain aspects of that mission. While details of the problems encountered are classified and, therefore, are not available for this report, sufficient information is available in unclassified sources to characterize communications support and to point out successes and failures.

While tactical radio units were brought to the Grenada invasion, as will be discussed later, heavy use was made of satellite voice communications. According to Admiral Wesley McDonald, CINCLANT,

> Satellite communications were used in most cases all the way from the company level to the JCS. I do not mean that the JCS was on the same voice circuit as a company commander--it was quite the opposite. We had several satellite channels assigned, so we made extensive use of man-pack radio terminals. Of course we backed up our satellite paths with high frequency radios. I don't think I will surprise anyone when I say that in this type of operation, satellite connectivity is absolutely essential.{19}

While Admiral McDonald notes the abundant use of satellite communications, it cannot be said that communications capability itself was abundant. Several participants cite shortages of communications including Admiral Metcalf, Commander of Joint Task Force 120. Admiral Metcalf notes,

> We had one secure voice channel, and this was a task force common circuit. The usual operating practice is for commanders to set up a private circuit. But we had only one channel available, so when Admiral McDonald wanted to talk to me, we had to use the party line. ...when either my call sign or Admiral McDonald's went out over the circuit, the line was instantly cleared. ...if there were things that could not be worked out over the public line, then I would put them on the hard copy.{20}

Similar communications shortages existed in the distribution of intelligence information. One of the more noted intelligence shortcomings of the operation was the lack of up to date topographical information (maps) on Grenada. When adequate maps were found, they apparently had to be flown to the Grenada task force rather than being sent by electrical transmission.{21} In reviewing the Grenada operation Admiral McDonald, CINCLANT, said,

> We have designed and are continuing to design systems which collect intelligence in great volume and in near real time, but I am concerned as to whether we are designing into these systems the communications capability to get that data to the tactical commander in a useable fashion and timely manner...What good is sophisticated satellite imagery sitting in Washington, D.C., or Norfolk, Va., when the field commander who needs it is on the ground in Grenada, on a ship off Lebanon, or in some even more remote corner of the world. [In the future there will be] more and more sophisticated intelligence collection systems, capable of collecting more data faster, but when I look at the communications capacities that we plan..., I don't see the channels being dedicated to moving the data to where it is needed. Nor, for that matter, do I see that we have provided the wherewithal to our tactical commanders to receive, correlate, and make sense out of all that data.{22}

Shortages were not the only communications problems found during the invasion of Grenada; interoperability was another. For example, uncoordinated use of radio frequencies prevented radio communications between Marines in the north and Army Rangers in the south. As such, interservice communication was prevented, except through offshore relay stations, and kept Marine commanders unaware for too long that Rangers were pinned down without adequate armor.{23} In a second incident, it was reported that one member of the invasion force placed a long distance, commercial telephone call to Fort Bragg, N.C. to obtain C-130 gunship support for his unit which was under fire. His message was relayed via satellite and the gunship responded.{24} Commenting overall on the issue of interoperability, Admiral Metcalf wrote, "In Grenada we did not have interoperability with the Army and the Air Force, even though we had been assured at the outset that we did.

So, consequently, we could not make the installed communications work." {25}

Several factors have been cited as the cause of the communications problems which were confronted in Grenada. Among them were insufficient planning for the operation, lack of training, inadequate procedures, maldeployment of communications security keying material for the different radio networks, and lack of preparation through exercise realism. {26} While the details of most of the above noted causes are not available in unclassified sources, the issue of exercise realism has been perceptively explained by Admiral Metcalf following the invasion:

> We do conduct communications exercises in the Navy, but in these exercises, we give our communicators about 12 months preparation. Therefore, it should not be surprising that when the exercises start, communications work.... The communicators may not be so much at fault. Our failure in preparatory exercises to uncover and anticipate problems similar to those we faced in Grenada may have been because our exercises are overprepared. Given enough time, anyone can make communications work. And if the objective of an exercise is to make things work, then the conduct of the exercise will be optimized to show that the exercise will work. Unfortunately, in a crisis situation--a "come-as-you-are" situation--they did not work.{27}

Wrapping up the Grenada operation, lessons learned in command, control, and communications will be discussed next.

Lessons Learned

The military operation in Grenada, while it will not go down in history as one of America's great undertakings, provides some interesting and useful lessons in the area of command, control, and communications.

First, there needs to be more unification of the U.S. military. This can be seen in the fact that the different operating procedures between the service branches caused disunity of operations in Grenada. Unification can take many forms, from more joint exercises to major reorganizations. It is not the intent of this paper to advocate one form or another, only to point out that the invasion of Grenada pointed to a need for more interservice unification.{28}

Second, planning needs to be improved. While it can be argued that four days of planning is not sufficient for an operation of this type, one must also recognize the U.S. military obligation to be responsive to the national leaders. Grenada was a real-world operation which demanded an immediate response, even if not fully planned. Nonetheless, two lessons were learned in the area of planning. In response to C3 problems, U.S. Atlantic Command, in 1985, was developing a generic C3 plan that would permit rapid adaptation to varying situations. If successful, this plan could become a model for other unified or specified commands.{29} Next, responding in Congressional

hearings on the Grenada operation, Admiral McDonald, CINCLANT, noted,

> We found that in the command and control area... effectiveness could have been bolstered with a few more representatives of the services had we the time to include them in the planning... As an example, General Trobaugh [Commanding General of the 82nd Airborne Division and commander of Army ground forces in Grenada] didn't get into the planning until about 2 [two] days before he was designated to participate and to lead the Ranger battalion.{30}

Third, the Grenada operation validated a simple command structure where authority is delegated to the lowest possible level. According to Admiral Metcalf, JTF 120 Commander, having the combat elements fight as they were trained and having a command structure where it was very, very clear that the field commander was in charge were key elements in the success of the operation. Quoting Admiral Metcalf,

> I felt that I could tell the various command elements, whether it was the Army, Air Force, or anybody else, what I wanted to do. I just stayed out of the "how" just like my seniors stayed out of the "how" with me... They gave me guidelines, very general. I went down there and we had no mucking around from on high.{31}

Fourth, and closely tied to lesson number three, is the requirement to keep everyone up the line well informed. Admirals McDonald and Metcalf both agree that by keeping his superiors fully informed, near real-time through frequent SITREPS, Admiral Metcalf was able to exercise greater freedom of command locally.{32} In small, politically sensitive operations, like Grenada, extensive up channel reporting is thus seen as another key to success.

Fifth, innovation by field units played a major role in filling C3 gaps and helped bring about a successful operation. Incidents like the soldier who used the commercial telephone to request C-130 gunship support and the Ranger officer who dialed the Grand Anse Campus to see if the students he was to rescue were still there point to innovative successes.{33} While innovation is a poor substitute for a well planned operation, it can and in the case of the Grenada invasion it did contribute to success. As such innovation should be encouraged as part of unit training and field exercises.

Sixth, the invasion of Grenada pointed out quite clearly the need for an expanded intelligence distribution system. As more and more intelligence data is collected, there must be the wherewithal to get that data to the tactical commander in near real-time. Furthermore, tactical commanders must have the capacity to analyze and correlate the data for immediate use.

Seventh, and last, more realism needs to be placed into joint exercises, particularly that regarding communications to support command and control. Rather than giving communicators months to work the details of communications support, they instead should be forced to exercise with the same warning that would be experienced in real-world situations. Through exercise realism, interoperability can be tested and verified or fixed as necessary before it is challenged for the first time under

live fire.{34} Communicators, like the fighting forces, must concentrate on preparing for the wartime mission and avoid the trap of looking primarily at day-to-day operations.

In another successful military operation, the next chapter will look at the C3 implications of the Libyan raid.

CHAPTER V

LIBYA RAID

On the late evening of 15 April and early morning of 16 April 1986, under the code name El Dorado Canyon, the United States launched a series of military air strikes against ground targets inside Libya. The timing of the attack was such that while some of the strike aircraft were still in the air, President Reagan was able to address the US public and much of the world. He emphasized that this action was a matter of US self defense against Libya's state-sponsored terrorism. In part, he stated, "Self defense is not only our right, it is our duty. It is the purpose behind the mission...a mission fully consistent with Article 51 of the U.N. Charter."{1}

The use of force was specifically prompted by what the President claimed was "irrefutable proof" that Libya had directed the terrorist bombing of a West Berlin discotheque nine days earlier which had killed one American and injured 200 others.{2}

The raid was designed to hit directly at the heart of Gaddafi's ability to export terrorism with the belief that such a preemptive strike would provide him "incentives and reasons to alter his criminal behavior." The final targets of the raid were selected at the National Security Council level "within the circle of the President's advisors."{3} Ultimately, five targets were selected:

- the Aziziyah barracks which was described as the command and control headquarters for Libyan terrorism.

- the military facilities at Tripoli’s main airport.

- the Side Bilal base, which administration officials said was used to train terrorists in underwater sabotage.

- the Jamahiriyah military barracks in Benghazi which were described as another terrorist command post, and finally,

- the Benina air base southeast of Benghazi.{4}

All except one of these targets were chosen because of their direct connection to terrorist activity. The single exception was the Benina military airfield which based Libyan fighter aircraft. This target was hit to preempt Libyan interceptors from taking off and attacking the incoming US bombers.{5} It should also be noted that the French Embassy in Tripoli and several of the neighboring residential buildings also were bombed inadvertently during the raid; they were not targeted.{6}

Mission planners decided, as part of the effort to attain tactical surprise, to hit all five targets simultaneously. This decision had crucial impact on nearly every aspect of the operation since it meant that the available US Navy resources could not perform the mission unilaterally. {7} The only two types of aircraft in the US inventory capable of conducting a precision night attack were the Navy’s A-6s and the Air Force’s F-111s. The Navy had two

aircraft carriers in the Mediterranean at the time planning for the raid: The America and The Coral Sea. Each had ten A-6 aircraft, but these were not the total of 32 aircraft estimated as required to successfully hit all five targets with one raid. The closest F-111s were based in the United Kingdom (UK); and use of these UK based aircraft dramatically affected the scope and complexity of the operation. Planning was even further compounded when the French refused to grant authority to overfly France. This refusal increased the distance of the flight route from Great Britain to Tripoli by about 1300 nautical miles each way, added 6-7 hours of flight time for the pilots and crews, and forced a tremendous amount of additional refueling support from tanker aircraft.{8}

The size of the strike force's final configuration was immense and complex. Approximately 100 aircraft were launched in direct support of the raid:

Air Force

28 KC-10 and KC-135 tankers
5 EF-111 Raven ECM (Electronic Countermeasure) aircraft
24 FB-111 Strike aircraft (six of these were airborne spares, and returned to base after the initial refueling)

Navy

14 A-6E strike aircraft
12 A-7E and F/A-18 Electronic warfare and jamming aircraft which undertook air defense suppression for the mission
Several F-14 Tomcats which took up the long range Combat Air Patrol (CAP) responsibilities
4 E-2C Hawkeye airborne command and control and warning aircraft

In addition to the above, several helicopters were deployed for possible search and rescue operations, and "50-80 more aircraft were airborne in the vicinity of the carriers some 150-200 miles off shore."{9} In fact, the total size of the force was criticized as excessive from various sources. All combined, the whole operation involved (to some degree) "more aircraft and combat ships than Britain employed during its entire campaign in the Falklands."{10}

The first aircraft to launch were the 28 tankers from Britain followed closely by the F/EF-111s. Four refuelings and several hours later, these planes rounded the tip of Tunisia and were integrated into the Navy's airborne armada by an Air Force officer aboard a KC-10 tanker which had been modified to function also as an airborne command coordination center.

Although joint in nature, the actual execution of the strike was operationally and geographically divided between the Navy and Air Force. Navy A-6s were assigned the target in the Benghazi area, and the Air Force F-111s hit the other three targets in the vicinity of Tripoli. The actual combat commenced at 0200 (local Libyan time), lasted less than 12 minutes, and dropped 60 tons of munitions. However, the planning, coordination, and control required to create that 12 minutes of combat started much earlier and demanded careful and detailed arrangements.

Command and Control

The command and control philosophy used in an operation can be crucial to its success. "Local command always has been important, but we tend to lose sight of it at times."{11} For example, in the 1983 Navy air strikes in Lebanon, an Army general in Europe under pressure from the US caused the local on-scene commander to launch strikes "at the wrong time with the wrong weapons."{12} In the case of El Dorado Canyon, every effort was made to provide the on-scene commander full authority to make any necessary decisions. Admiral Crowe, Chairman of the JCS, briefly described his "noninterference" theory of command and control: "You just clinch your teeth, and stay the hell out of it."{13}

The Commander of the Navy's Sixth Fleet located in the Mediterranean, Vice Admiral Frank Kelso, was designated as the joint commander of the overall operation. In accordance with Admiral Crowe's philosophy, this on-scene commander was given command and control of the operation. He was given the task and the timeframe to attack; it was then his responsibility to put it all together."{14} However, he also had full authority and flexibility to deal with any varying contingencies or changes in the strike environment.{15} In fact, Vice Admiral Kelso had unilateral authority to "cancel the raid up to the moment if it looked like weather or operational factors could be a problem."{16} As a measure of the command and control effectiveness, Admiral Crowe indicated that the raid could have been terminated up until 10 minutes prior to execution.

The concept of noninterference with command and control seems to have cascaded down the entire chain of command in varying degrees. A formal diagram of the command and control arrangements might appear complex; reflecting operational control lines, tactical control responsibilities, vertical/lateral coordination channels, reporting chains, etc. However, in actual practice, normal and existing channels through European Command (EUCOM) were used. Each service essentially did its own target weaponeering and planning for the operational area.{17} Nearly all of the detailed staff planning fell largely to the unit level. Initial warning orders for a possible strike against Libya were issued to various tasked organizations in late December 1985.{18} "The nature of the contingency tasking severely limited their [higher headquarters] assistance."{19} Certainly, there was an understandable reluctance of headquarters staff officers who would not fly the mission to make firm decisions for those who would.{20} In addition, there was a substantial flow of inquiries and guidance direct to the tasked units.

Preparation for the actual operation entailed limited live rehearsals and exercises with the Navy and tanker forces. One specific effort was for the F-111s to practice a long rendezvous with the tankers. Although the practice went reasonably well, it was ultimately decided to avoid the command and control and communications complexities such a rendezvous would create, and simply have the fighters accompany the tankers along the entire route.{21} In addition, it

was quickly discovered that Navy and Air Force vernacular and terminology differ greatly. As a result, liaison officers were exchanged among USAF organizations and with the Navy to facilitate planning and coordination. For example, the Air Force provided an experienced pilot to be a part of the Navy's battlestaff during the raid; the Navy also deployed a similarly qualified officer to sit as part of the command structure aboard the KC-10 command aircraft.{22}

As mentioned earlier, the actual area of operation was divided, the Air Force taking Tripoli, and the Navy taking those targets in the Benghazi area. This division of responsibility was done largely to simplify and deconflict command and control of the operational aspects of the raid. The modified KC-10 tanker was given charge of the Air Force resources while the carrier America controlled the Navy aircraft. The airborne E-2C Hawkeyes provided early warning, air control vectors, and operations.

Up-channel reporting was minimized. In fact, General Donelly, Commander-in-Chief, US Air Forces in Europe, indicated that there were no status reporting requirements imposed for the actual raid.{23} Clearly, the relatively short duration of the raid would have precluded any formal or elaborate status reporting structure, regardless of higher headquarters desires. However, timely reporting of the preliminary results was essential for at least two reasons. First, President Reagan went on national television to discuss the raid with the public; he needed at least some information

on how it went. Second and more tragically, an aircraft and its two crew members were lost during the combat. Families had to be notified prior to the public release of the information. This up-channel reporting appears to have been handled for the most part informally and verbally using established communication systems.

Communications

Communication systems were an integrated part of El Dorado Canyon from its inception to its conclusion. In fact it can be said communications provided the impetus for the President's decision to authorize the raid, specifically, the American intelligence interception of a message from Gadaffi ordering an attack on Americans "to cause maximum and indiscriminate casualties."{24} Another communications source, an intercepted Libyan message outlined the attack being planned in West Berlin.{25} The significance of communications was illustrated further when a secure call just prior to launch from HQ SAC in Omaha to the UK was necessary to confirm that the mission was still on. Apparently, the execution order was handcarried for security reasons to most of the tasked organizations. The tanker representatives at HQ SAC had not been notified that a large portion of their assets were soon to take off in support of the raid.{26} In addition, five minutes before the actual attack, jamming aircraft went into Libya to disrupt radar and communications systems.{27} The suppression of these communications was considered crucial to

the success of the mission. In fact, one of the reasons Navy EA-6 aircraft were used was because the EF-111s could not jam one of the Libyan frequency bands.{28} A final example of the criticality of communications is that one of the attack aircraft was "late getting off a tanker." He aborted the mission because at that point, he was out of sequence and timing with the rest of the attack force, and at night and without communications (due to radio silence procedures), the pilot "didn't believe he should go in."{29}

The array of communications utilized for the raid evolved throughout the planning phase. During the initial planning stages of El Dorado Canyon, fixed, existing communications facilities were the primary means of communications. During the actual operation, airborne communications became the predominant means to maintain command and control. While the communications generally worked well, there were problems and deficiencies.

Initial planning actions placed a premium demand on the availability of secure voice communications. Unfortunately, access to this network was extremely limited at the unit level. Most bases throughout the Air Force possess only one secure phone to support the entire installation. Compounding the problem was the fact that not all the existing secure phones are compatible. There were times when action planners had to travel physically to another facility or even a geographically distant installation to conduct business on secure phones.

As one might expect, intelligence communications requirements were extensive. Target selection planning and weaponeering were critical to mission success. Multiple locations needed extensive secure photo and other imagery. The Intratheater Imagery Transmission System (IITS) was used extensively by the US European intelligence community. However, IITS terminals were not available at every location involved with planning the raid. Also, the sheer volume of information exceeded the system's capacity. Therefore, regular airlift shuttles of 2-3 times per week were required to disseminate the information. Over the three and one half months between initial notification and the actual execution of the raid, 12,000 pictures and images were hand carried to at least three separate locations. IITS did prove particularly indispensable and effective in the distribution of time sensitive material.{30}

Command and Control was supported primarily by satellite communication (SATCOM) systems. Two SATCOM nets were used to link Washington, EUCOM, USAFE, The Sixth Fleet, and the F-111 wing at Lakenheath. In addition, extra communications were put into a KC-10 tanker in order to create a limited airborne command and control capability. A SATCOM terminal was installed to contact the Joint Commander (located on the carrier America), as well as other higher headquarters as necessary. The SATCOM terminal is not a part of the organic capability of the KC-10, and the equipment was literally put into the main body of the aircraft by strapping

it to a table; yet it was a primary means of communication between the commander of the Air Force forces and Vice Admiral Kelso.{31}

The joint exercises with the Navy and the training missions with SAC quickly highlighted another area of interoperability problems. Specifically, the Air Force F-111 fighters had Have Quick frequency hopping UHF radios. However, neither the USAF tankers nor any of the Navy aircraft had these type of compatible radios. The radios were installed in the tankers before the mission, but were not available to the Navy aircraft. This situation was undoubtedly at least a consideration in the rationale used to geographically divide the area of operations.

The operation was conducted in radio silence (at least to the extent possible). All four refuelings en route to the targets were performed without communications, as was the actual combat strike. In fact, concern was created among the pilots because there was no code word established to confirm the go ahead for the attack. Only an abort code was provided. This situation was troublesome since many things could have changed during the six to seven hour flight from the UK to Libya. In addition, limited communications caused problems in linking the fighters back up with the tankers after their exit from the combat zone. This was compounded all the further because one strike aircraft was lost during the strike. The entire armada remained in the vicinity for over an hour trying to account for all aircraft.{32} Eventually, SAC High

Frequency (HF) fixed equipment located at Mildenhall UK was used to confirm the number of aircraft which had returned from the strike zone.

One final communications area deserves specific mention. That is the interface between the Air Force fighters and the Navy Search and Rescue (SAR) forces. This interface was weak. Apparently due to the distance from the UK, the USAF planners had inadvertently overlooked making any arrangements for SAR operations.{33} Specific procedures for contacting and working with the Navy SAR effort had not been worked out or exercised. This deficiency was severely emphasized when trying to locate the missing F-111.

Lessons Learned

Admiral Crowe commented after the raid that "We didn’t do everything right..." but "I don’t see any military action as flawless,"{34} on balance, the overall Libya mission "was very successful."{35} Perhaps a great deal of the success experienced was simply because the command and control and communications equipment and procedures were never really stressed during the raid; resistance outside the immediate area of attack was nonexistent. Libyan air defense aircraft never launched; had they, and been effective, lack of an execute code word might have caused substantial confusion. In addition, the full tanker force remained highly vulnerable while conducting the after raid link-up with the fighters. It’s likely that even Libyan interceptors could have raised

havoc in such a target rich environment. However, even with no resistance directed toward command and control and communications, problems surfaced. The area of action was divided because of interoperability difficulties: Navy aircraft did not possess the Have Quick radios, terminology and procedures varied significantly, and the Naval SAR operations were not fully coordinated with or familiar to the Air Force pilots.

The first lesson is clear. There is a need for more unification among the services. One of the results of the Libya raid analyses was the creation of a JCS Military Operating Procedure (MOP) 191 dated 14 May 1987, which calls for periodic no-notice interoperability exercises among the services.

Second, unit level planning can be crucial to mission success. Three and one-half months provided limited but essentially adequate time to rehearse and practice procedures. Still major areas of interface were overlooked. It is essential that basic procedures should be established and practiced as a normal way of doing business among all the services, or at least a cross familiarization with the other services prior to a crisis. In addition, wing/unit level planners need a working knowledge of existing command and control and communications capabilities. When the scope of the mission was expanded unit level personnel were time constrained and therefore unable to adequately assess the advisability of using the E-3 AWACS (vice the jury-rigged

KC-10) as the airborne command post. One of the F-111 wing operational planners indicated that "If he knew then what he has learned since..." he would have concluded that AWACS was the proper tool to command and control the force.

Third, a short, simple chain of command and the delegation of maximum authority to the lowest operational level was again validated. Vice Admiral Kelso had total authority to execute or terminate the mission.

Fourth, an up-channel status reporting structure was essential to keep superiors informed. It was also of critical import to provide a structure which could support the ability of the President or other superiors to provide last minute guidance or direction based on any changing political situations. The balance must be for tactical operational decisions to be the purview of the on scene commander.

Fifth, the planning phase of the operation clearly pointed out the requirement for an expanded intelligence distribution system. Liaison intelligence and weaponeering personnel were also required to support wing level analysis. Time and multiple contingencies may preclude such a deployment of skills in the future. Plus, in a truly joint operation, the crossflow of intelligence between services could be critical.

Sixth, in this situation, the communications technicians had time to jury-rig and reconfigure hardware to make the war fighting resource interoperable and therefore more effective. Time to install or build a communications

capability cannot be part of quick reaction operations. Established interoperable capabilities must exist and be ready to go to war every day.