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UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON D.C.
STATEMENT OF
RICHARD A. DAVIS
ASSOCIATE DIRECTOR, NATIONAL SECURITY
AND INTERNATIONAL AFFAIRS DIVISION
BEFORE THE
SUBCOMMITTEE ON LEGISLATION AND NATIONAL SECURITY
COMMITTEE ON GOVERNMENT OPERATIONS
HOUSE OF REPRESENTATIVES
ON
THE DEPARTMENT OF
DEFENSE'S EFFORTS TO ACHIEVE INTEROPERABILITY



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MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE:

I AM PLEASED TO APPEAR BEFORE THE SUBCOMMITTEE TODAY TO TESTIFY ON OUR REVIEW OF THE DEPARTMENT OF DEFENSE'S (DOD'S) EFFORTS TO ACHIEVE A GREATER DEGREE OF INTEROPERABILITY FOR COMMAND, CONTROL, AND COMMUNICATION SYSTEMS. DURING THIS REVIEW YOU ASKED US TO PAY PARTICULAR ATTENTION TO

- THE EXTENT TO WHICH INTEROPERABILITY PROBLEMS HAVE BEEN IDENTIFIED DURING RECENT TRAINING EXERCISES AND PAST OPERATIONS SUCH AS GRENADA;
- THE NATURE OF THE IMPEDIMENTS PREVENTING THE ACHIEVEMENT OF INTEROPERABILITY AND THE EXTENT TO WHICH THESE IMPEDIMENTS CAN BE OVERCOME; AND
- THE PROGNOSIS FOR THE JOINT TACTICAL COMMAND, CONTROL, AND COMMUNICATIONS AGENCY ACHIEVING A SIGNIFICANTLY GREATER DEGREE OF INTEROPERABILITY AMONG THE MILITARY SERVICES.

BACKGROUND

INTEROPERABILITY, ACCORDING TO THE JOINT CHIEFS OF STAFF (JCS), IS ACHIEVED AMONG COMMAND, CONTROL, AND COMMUNICATION (C3) SYSTEMS WHEN INFORMATION IS EXCHANGED AMONG THE SERVICES DIRECTLY AND SATISFACTORILY. TO ACHIEVE INTEROPERABILITY, THE SERVICES NEED COMPATIBLE EQUIPMENT AS WELL AS COMPATIBLE OPERATIONAL PROCEDURES SUCH AS CODES, FORMATS, AND AUTHORIZATIONS. THE OVERALL PLAN, OR DESIGN, TO DEVELOP AND ASSURE THIS COMPATIBILITY IS REFERRED TO AS THE C3 ARCHITECTURE WHICH IS ESSENTIAL TO THE ACHIEVEMENT OF INTEROPERABILITY.

ARMY, NAVY, AIR FORCE, AND MARINE CORPS FORCES, WHEN ENGAGED IN JOINT OPERATIONS, MUST BE ABLE TO USE THEIR COMBINED POWER TO ACHIEVE MAXIMUM EFFECTIVENESS. THIS COMBINED USE IS ACCOMPLISHED THROUGH THE CONTINUOUS EXCHANGE OF INFORMATION USING THE VARIOUS ELEMENTS OF THE COMMAND AND CONTROL SYSTEMS WHICH SUPPORT AND LINK THE TACTICAL COMMANDER WITH OTHER COMMANDS AND ELEMENTS. EVERY ASPECT OF THE OPERATION DEPENDS HEAVILY ON THIS VITAL FLOW OF INFORMATION.

INTEROPERABILITY--A LONGSTANDING PROBLEM

THE SERVICES HISTORICALLY HAVE BEEN UNABLE TO COMMUNICATE EFFECTIVELY AMONG THEMSELVES DURING JOINT OPERATIONS AND EXERCISES. THIS WAS THE CASE IN KOREA, THE DOMINICAN REPUBLIC

LANDING, VIETNAM AND, ALMOST 20 YEARS LATER, DURING THE GRENADA INTERVENTION IN 1983. TODAY THERE ARE STILL INSTANCES IN WHICH THE SERVICES CANNOT EFFECTIVELY TALK OR EXCHANGE INFORMATION.

THE INABILITY OF AIR AND GROUND UNITS TO EFFECTIVELY COMMUNICATE CAN LEAD TO SERIOUS CONSEQUENCES. FOR EXAMPLE, SURFACE-TO-AIR MISSILES COULD SHOOT U.S. AIRCRAFT OR U.S. AIRCRAFT COULD BOMB OR FIRE UPON AMERICAN FORCES, AS OCCURRED IN GRENADA.

DURING THE VIETNAM WAR, THE SCARCITY OF INTEROPERABLE COMMUNICATION EQUIPMENT SEVERELY HAMPERED OPERATIONS, ESPECIALLY IN CLOSE AIR SUPPORT OPERATIONS. CLOSE AIR SUPPORT IS DEFINED AS THE AIR ACTION AGAINST HOSTILE TARGETS WHICH ARE NEAR FRIENDLY FORCES. WHEN CLOSE AIR SUPPORT OPERATIONS ARE REQUIRED, THE ABILITY OF AIR AND GROUND UNITS TO EFFECTIVELY COMMUNICATE CAN GREATLY ENHANCE OPERATIONS. ACCORDING TO A FORMER DEPUTY DIRECTOR OF DOD'S TACTICAL WARFARE PROGRAM, CLOSE AIR SUPPORT DELIVERED AS NEEDED, QUICKLY, AND IN THE RIGHT AMOUNT AND KIND IS THE PRINCIPLE MEANS OF REDUCING LOSSES ON THE GROUND. IN VIETNAM, THE AIR FORCE COULD NOT PROVIDE ADEQUATE AND RESPONSIVE AIR SUPPORT TO ARMY GROUND FORCES BECAUSE THEIR RADIOS WERE NOT COMPATIBLE. THE AIR FORCE USED UHF/AM RADIOS WHILE THE ARMY USED VHF/FM RADIOS.

IN GRENADA, AIR SUPPORT OPERATIONS WERE AGAIN HAMPERED. ARMY GROUND FORCES AND THE MARINES COULD NOT TALK DIRECTLY TO EACH OTHER BECAUSE EACH SERVICE HAD INCOMPATIBLE RADIOS. FURTHERMORE, ARMY GROUND FORCES COULD NOT TALK TO NAVY SHIPS BECAUSE THE SERVICES HAD DIFFERENT PROCEDURES FOR REQUESTING AIR SUPPORT AND ARMY UNITS COULD NOT AUTHENTICATE AIR AND FIRE SUPPORT REQUESTS BECAUSE THEY DID NOT HAVE NAVY CODES.

THE ABSENCE OF SECURE COMMUNICATIONS IN VIETNAM SEVERELY IMPAIRED OPERATIONS. FOR EXAMPLE, A 1972 HOUSE ARMED SERVICES SUBCOMMITTEE THAT REVIEWED DOD'S WORLDWIDE COMMUNICATIONS FOUND THAT

". . . ENEMY INTERCEPTION OF UNENCRYPTED VOICE COMMUNICATIONS GAVE NOTICE OF PLANNED ASSAULTS, AMBUSHES, AIR STRIKES, AND ARTILLERY BARRAGES, AND PERMITTED THE ENEMY TO TAKE COUNTERMEASURES TO EVADE OR DEFEAT THOSE ACTIONS."

IN THE YEARS FOLLOWING VIETNAM, EACH SERVICE MADE SIGNIFICANT PROGRESS IN DEVELOPING AND ACQUIRING SECURE VOICE COMMUNICATION SYSTEMS. HOWEVER, DURING GRENADA, THE SERVICES WERE UNABLE TO COMMUNICATE WITH EACH OTHER IN A SECURE MANNER BECAUSE EACH SERVICE ARRIVED IN GRENADA WITH A VARIETY OF DIFFERENT RADIOS, SATELLITE COMMUNICATIONS AND ENCRYPTION DEVICES, ALL OF WHICH WERE INCOMPATIBLE.

INTEROPERABILITY PROBLEMS HAVE BEEN CONSISTENTLY IDENTIFIED IN JOINT EXERCISES. WE REVIEWED INFORMATION PERTAINING TO 24 JOINT EXERCISES CONDUCTED FROM 1979 TO 1985. THIS INFORMATION SHOWED 80 EXAMPLES OF INTEROPERABILITY PROBLEMS RELATING TO EQUIPMENT, PROCEDURES, DOCTRINE, AND TRAINING. FOR EXAMPLE, TWO EXERCISES CONDUCTED IN THE EARLY 1980S SHOWED THAT AIR DEFENSE OPERATIONS WERE NOT EFFECTIVE BECAUSE THE SERVICES USED INCOMPATIBLE ENCRYPTION DEVICES.

CURRENT COMMUNICATION INTEROPERABILITY PROBLEMS

WE RECENTLY COMPLETED AN AUDIT IN THE PACIFIC THEATER WHICH INDICATES THAT THE SERVICES STILL DO NOT HAVE INTEROPERABLE COMMUNICATIONS.

ENCRYPTION EQUIPMENT

WE FOUND THE INCONSISTENT AVAILABILITY OF ENCRYPTION EQUIPMENT THAT EXISTS IN THE PACIFIC THEATER IS SIMILAR TO THAT WHICH EXISTED IN GRENADA AND PAST EXERCISES.

CRYPTOGRAPHIC EQUIPMENT "SCRAMBLES" RADIO TRANSMISSIONS TO ACHIEVE COMMUNICATIONS SECURITY. THE TWO PRINCIPAL TACTICAL VOICE ENCRYPTION DEVICES USED BY THE MILITARY SERVICES DO NOT INTEROPERATE. ALTHOUGH EACH SERVICE IS MOVING TO A NEWER ENCRYPTION DEVICE, U.S. FORCES IN THE PACIFIC THEATER ARE AT

DIFFERENT STAGES OF CONVERTING TO THE NEWER DEVICE. BECAUSE EACH SERVICE HAS DIFFERENT FUNDING PRIORITIES, THE AMOUNTS OF EQUIPMENT PURCHASED AND THE FIELDING SCHEDULES VARY BY SERVICE AND EVEN WITHIN A SERVICE. UNCOORDINATED FIELDING OF THE NEWER DEVICE HAS LED TO JOINT AND INTRASERVICE INTEROPERABILITY PROBLEMS.

IN THE PACIFIC THEATER, THE ARMY HAS COMPLETED MOST OF ITS PLANNED CONVERSION TO THE NEWER ENCRYPTION DEVICE BUT HAS HAD TO RETAIN SOME OF THE OLDER EQUIPMENT TO INTEROPERATE WITH THE OTHER SERVICES.

ALTHOUGH THE NAVY IS CONVERTING ITS AIRCRAFT AND SHIPS, THE CONVERSION MAY TAKE 5 YEARS TO COMPLETE BECAUSE IT INSTALLS THE NEWER ENCRYPTION EQUIPMENT WHILE SHIPS ARE IN DRYDOCK FOR MAINTENANCE.

PACIFIC AIR FORCE CONVERSION TO THE NEWER EQUIPMENT IS PROCEEDING SLOWLY BECAUSE THE AIR FORCE PREFERS TO CONVERT A SQUADRON AT A TIME AND WILL NOT USE THE NEW EQUIPMENT UNTIL ALL PACIFIC AIRCRAFT AND GROUND FACILITIES ARE CONVERTED. AS A RESULT, F-16S, WHICH COME OFF THE ASSEMBLY LINE DESIGNED FOR THE NEW EQUIPMENT, HAVE HAD TO BE MODIFIED TO ACCOMMODATE THE OLD EQUIPMENT. PACIFIC AIR FORCE OFFICIALS WERE UNCERTAIN WHEN THE NEW EQUIPMENT WOULD BE INSTALLED IN FIXED FACILITIES.

HAVE QUICK RADIOS

HAVE QUICK IS AN AIR FORCE RADIO SYSTEM THAT WAS RECOMMENDED BY THE JCS AND DOD FOR JOINT PROCUREMENT BY EACH SERVICE TO COUNTER A SOVIET JAMMING THREAT. MOST PACIFIC AIR FORCE AIRCRAFT ARE EQUIPPED WITH THESE RADIOS. HOWEVER, BECAUSE OF TECHNICAL PROBLEMS THE GROUND VERSION IS NOT EXPECTED TO BE FIELDDED UNTIL AFTER FISCAL YEAR 1988. UNTIL GROUND HAVE QUICK RADIOS ARE FIELDDED, AIR FORCE GROUND UNITS' COMMUNICATIONS WITH AIRCRAFT WILL NOT BE JAM RESISTANT. AS AN INTERIM MEASURE, HOWEVER, SOME GROUND UNITS ARE USING AIRBORNE HAVE QUICK RADIOS TO GET JAM RESISTANT COMMUNICATIONS.

U.S. ARMY COMMANDS IN HAWAII AND KOREA DO NOT HAVE QUICK RADIOS ALTHOUGH THEY BELIEVE THEY ARE NEEDED FOR JAM RESISTANT GROUND-TO-AIR COMMUNICATIONS WITH THE AIR FORCE. ARMY OFFICIALS HAVE NOT ACQUIRED HAVE QUICK RADIOS BECAUSE THEY INTENDED TO ACHIEVE JAM RESISTANT GROUND-TO-AIR COMMUNICATIONS WITH THE SINGLE CHANNEL GROUND-TO-AIR RADIO SYSTEM (SINGARS) BETWEEN FISCAL YEARS 1987 AND 1988. THE ARMY HAS EXPERIENCED SOME DEVELOPMENT PROBLEMS WITH SINGARS AND ORIGINAL FIELDING SCHEDULES ARE LIKELY TO SLIP.

THE NAVY PLANS TO ACQUIRE ONLY ENOUGH HAVE QUICK RADIOS TO MEET MINIMUM INTEROPERABILITY REQUIREMENTS. CURRENTLY, THE NAVY HAS A FEW IT USES DURING EXERCISES FOR INTEROPERABILITY WITH THE AIR FORCE. THE NAVY DELAYED ACQUIRING THE RADIOS BECAUSE IT WAS DEVELOPING ITS OWN SYSTEM. WHEN DEVELOPMENTAL PROBLEMS AROSE WITH ITS SYSTEM, THE NAVY DECIDED TO BUY SOME HAVE-QUICK RADIOS AS AN INTERIM CAPABILITY.

SATELLITE TERMINALS

THE ARMY AND AIR FORCE CANNOT COMMUNICATE VIA SATELLITES IN ONE PACIFIC THEATER COUNTRY BECAUSE THEIR SATELLITE TERMINALS USE DIFFERENT MULTIPLEXORS. THE ARMY AND AIR FORCE ARE AWARE OF THE PROBLEM AND PLAN TO ACHIEVE INTEROPERABILITY BY 1989 BY INSTALLING SIMILAR MULTIPLEXORS:

IMPEDIMENTS TO ACHIEVING INTEROPERABILITY

A NUMBER OF REASONS HAVE BEEN CITED FOR CONTRIBUTING TO INTEROPERABILITY PROBLEMS. THREE REASONS FREQUENTLY CITED BY PAST STUDIES AND BY AGENCY OFFICIALS INCLUDE DOD'S DECENTRALIZED MANAGEMENT STRUCTURE, LACK OF CLEARLY DEFINED JOINT REQUIREMENTS, AND THE ABSENCE OF AN EFFECTIVE CENTRAL ENFORCEMENT AUTHORITY.

MANAGEMENT STRUCTURE

AS IN A NUMBER OF PRIOR STUDIES, A NAVY ADVISORY PANEL ON C3 INTEROPERABILITY REPORTED IN 1985 THAT DOD'S INABILITY TO ACHIEVE INTEROPERABILITY IS PRIMARILY RELATED TO ITS DECENTRALIZED MANAGEMENT STRUCTURE WHICH PERMITS EACH SERVICE A LARGE DEGREE OF AUTONOMY OVER ITS PROGRAMS. ACCORDING TO THE PANEL, THE ASSIGNMENT OF RESPONSIBILITIES IS DIFFUSE, PERMITTING THE SERVICES TO "REINTERPRET" ORDERS TO FURTHER SERVICE PAROCHIAL INTERESTS BY DELAYING OR PREVENTING INTERSERVICE AGREEMENTS.

THE FIELDING OF THE REGENCY NET SYSTEM IN THE PACIFIC THEATER ILLUSTRATES HOW PAROCHIAL INTEREST CAN IMPEDE INTEROPERABILITY GOALS. REGENCY NET IS INTENDED TO BE A SECURE, JAM RESISTANT, HIGH FREQUENCY RADIO SYSTEM FOR CRITICAL THEATER COMMUNICATIONS. ALTHOUGH BOTH JCS AND THE OFFICE OF THE SECRETARY OF DEFENSE (OSD) VALIDATED THE NEED FOR THE SYSTEM TO OVERCOME EXISTING OPERATIONAL DEFICIENCIES, THE NAVY, RATHER THAN USE THE REGENCY NET RADIO FOR ITS FORCES AFLOAT, WANTS TO DEVELOP AND USE ITS OWN HIGH FREQUENCY RADIO. ALTHOUGH THE NAVY'S HIGH FREQUENCY RADIO IS PLANNED TO BE INTEROPERABLE WITH REGENCY NET, USING IT IN LIEU OF THE APPROVED SYSTEM COULD MEAN A DELAY OF ABOUT 5 YEARS BEFORE THE SYSTEM IS FULLY OPERATIONAL.

REQUIREMENTS

IN A STUDY OF TACTICAL COMMUNICATIONS COMPLETED IN MARCH 1983, THE INSTITUTE FOR DEFENSE ANALYSIS (IDA) CONCLUDED THAT A "MAJOR PROBLEM IS A LACK OF ADEQUATE JOINT USER NEEDS AND REQUIREMENTS . . ."

THE NAVAL ADVISORY PANEL, IN A 1985 STUDY, FOUND THAT NEITHER THE ASSISTANT SECRETARY OF DEFENSE FOR C3 NOR THE JCS HAS ESTABLISHED MINIMUM ESSENTIAL INTEROPERABILITY REQUIREMENTS. THE LACK OF THESE REQUIREMENTS ALLOWS EACH SERVICE TO DETERMINE ITS OWN REQUIREMENTS, OFTEN WITH LITTLE, IF ANY, CONCERN FOR INTERSERVICE NEEDS. CONSEQUENTLY, MANY SYSTEMS ARE FIELDDED WHICH ARE NOT INTEROPERABLE.

JOINT REQUIREMENTS WERE NOT AGREED TO WHEN THE AIR FORCE AND NAVY BEGAN TO DEVELOP THE JOINT TACTICAL INFORMATION DISTRIBUTION SYSTEM (JTIDS). AS A RESULT, THE TWO SERVICES, WHEN DEVELOPING THE SYSTEM, ADOPTED DIFFERENT TECHNOLOGIES THAT WERE NOT INTEROPERABLE. IN 1982 WE REPORTED THAT, "THE USE OF TWO DIFFERENT TECHNOLOGIES WITH THE ASSOCIATED INCREASED COSTS AND INTEROPERABILITY PROBLEMS MAY NOT BE APPROPRIATE." FINALLY, IN 1985 THE CONGRESS TOLD DOD THAT IT WOULD FUND ONE PROGRAM ONLY BECAUSE IT WAS CONCERNED ABOUT THE ABILITY OF THE TWO SERVICES TO INTEROPERATE. THE SECRETARY OF THE NAVY SUBSEQUENTLY CANCELLED THE PROGRAM ON WHICH THE NAVY HAD SPENT OVER \$100 MILLION.

A NUMBER OF STUDIES HAVE CONCLUDED THAT IT IS NOT ONLY IMPORTANT TO ESTABLISH JOINT REQUIREMENTS BUT THERE IS A NEED TO ESTABLISH THEM EARLY IN THE ACQUISITION CYCLE. THIS IS BECAUSE IT IS USUALLY TOO DIFFICULT AND COSTLY TO MODIFY SYSTEMS ONCE THEY HAVE BEEN DEVELOPED AND FIELDDED.

DOD ENFORCEMENT AUTHORITY
FOR INTEROPERABILITY

A COMMON THEME IN A NUMBER OF PAST STUDIES WAS THAT NO DOD ORGANIZATION HAS OR IS WILLING TO EXERCISE ITS AUTHORITY TO ENFORCE INTEROPERABILITY STANDARDS ESPECIALLY FOR EXISTING SYSTEMS. THESE STUDIES HAVE SUGGESTED THAT CLEARER MECHANISMS ARE NEEDED TO RESOLVE CONFLICTING SERVICE DEMANDS.

ONE EXAMPLE THAT ILLUSTRATES THIS POINT PERTAINS TO DOD'S ATTEMPT TO REVISE ITS BASIC DIRECTIVE (DOD DIRECTIVE 4630.5) DEALING WITH INTEROPERABILITY. THE ASSISTANT SECRETARY OF DEFENSE FOR COMMAND, CONTROL, COMMUNICATIONS, AND INTELLIGENCE TESTIFIED BEFORE THE SENATE ARMED SERVICES COMMITTEE IN MARCH 1985 ON THE DIFFICULTIES HE ENCOUNTERED AS FOLLOWS.

". . . STARTING IN THE SEVENTIES AND AGAIN IN 1980 AND AGAIN IN 1983 WE TRIED TO GET A NEW DIRECTIVE THROUGH THE PENTAGON BUREAUCRACY . . . FRANKLY, WE HAVE NOT BEEN SUCCESSFUL IN DOING THAT BECAUSE OF THE DIFFERENT VIEWS ON WHAT SHOULD BE SAID IN SUCH A DOCUMENT."

PACIFIC COMMAND C3 OFFICIALS RECENTLY TOLD US THAT THE LACK OF A SINGLE ENTITY IN DOD WITH THE RESPONSIBILITY AND AUTHORITY TO SET AND ENFORCE INTEROPERABILITY STANDARDS IS ONE REASON FOR INTEROPERABILITY PROBLEMS IN THEATER.

THE INSTITUTE FOR DEFENSE ANALYSIS, IN ITS 1983 STUDY, CONCLUDED THAT

"SECURE, JAM RESISTANT NET RADIOS AND DATA DISTRIBUTION SYSTEMS . . . ENCOMPASS SUCH DIVERSE REQUIREMENTS AND APPROACHES AMONG THE THREE SERVICES THAT DUPLICATION AND LACK OF INTEROPERABILITY ARE ALMOST INEVITABLE UNLESS SOME CENTRAL CONTROL AUTHORITY CAN OVERSEE THE DEVELOPMENTS TAKING PLACE IN THE INDIVIDUAL SERVICES."

IN OUR 1983 REPORT ON JOINT SYSTEM ACQUISITIONS, WE REPORTED THAT NO ORGANIZATION OR MANAGEMENT LEVEL HAS THE FINAL WORD OR THE SUSTAINED CLOUT TO GAIN ACCEPTANCE AND IMPLEMENTATION OF ITS DECISIONS. THE SECRETARY OF DEFENSE HAS NO SUBSTANTIAL MILITARY STAFF. THE OFFICE OF THE JOINT CHIEFS OF STAFF COULD FILL THIS VACUUM, BUT AS MANY OBSERVERS HAVE POINTED OUT, THE JCS IS NOT SET UP OR SO DETACHED FROM THE SERVICES AS TO BE ABLE TO RESOLVE SUCH CONFLICTS, OR TO CHOOSE THE SYSTEM OF ONE SERVICE OVER THE SYSTEM OF ANOTHER. ALTHOUGH BOTH THE SECRETARY OF DEFENSE AND THE JCS HAVE THE AUTHORITY TO MAKE SUCH CHOICES, NEITHER HAS EXERCISED IT TO ANY GREAT DEGREE.

THE JOINT TACTICAL COMMAND,
CONTROL, AND COMMUNICATIONS AGENCY

OVER THE YEARS, DOD HAS TAKEN STEPS TO IMPROVE INTEROPERABILITY AMONG THE SERVICES. THESE EFFORTS WERE PARTIAL STEPS AIMED AT SELECTED EQUIPMENT AND STANDARD FORMATS. THE JOINT TACTICAL COMMAND, CONTROL, AND COMMUNICATIONS AGENCY, WHICH WAS ESTABLISHED IN 1984, WAS GIVEN MUCH BROADER RESPONSIBILITIES. THE AGENCY IS RESPONSIBLE FOR FINDING AND PREVENTING PROBLEMS IN THE JOINT AND COMBINED C3 INTEROPERABILITY ARENA. SIMPLY PUT, THE AGENCY WAS ESTABLISHED TO BE THE INTEROPERABILITY ADVOCATE IN DOD, TO ADDRESS JOINT INTEROPERABILITY NEEDS, TO DEVELOP INTEROPERABILITY STANDARDS, AND TO ACT AS THE "HONEST BROKER" FOR INTEROPERABILITY.

MORE SPECIFICALLY, A JULY 5, 1984 DOD DIRECTIVE 5154.28, WHICH ESTABLISHED THE AGENCY, CHARGED IT WITH ENSURING INTEROPERABILITY OF TACTICAL C3 SYSTEMS BY DEVELOPING AND MAINTAINING THE REQUIRED C3 ARCHITECTURE AND SPECIFICATIONS, AND BY DEVELOPING AND CONDUCTING AN INTEROPERABILITY TESTING AND CERTIFICATION PROGRAM TO ENSURE PROPER IMPLEMENTATION AND MAINTENANCE OF APPROPRIATE STANDARDS FOR USE IN JOINT AND COMBINED OPERATIONS.

FURTHERMORE, THE REVISED 1985 DOD DIRECTIVE 4630.5 ALSO CHARGED THE AGENCY TO REVIEW FOR INTEROPERABILITY IMPLICATIONS, ALL APPROVED SERVICE AND UNIFIED COMMAND REQUIREMENTS DOCUMENTS AND TO VERIFY THAT THESE REQUIREMENTS ARE IN ACCORDANCE WITH ESTABLISHED PLANS.

THE AGENCY VIEWS THE DEVELOPMENT OF THE TACTICAL C3 ARCHITECTURE AS ONE OF ITS PRIMARY RESPONSIBILITIES. WHILE THE AGENCY HAS DEFINED AN APPROACH FOR DEVELOPING THE ARCHITECTURE, THE DIRECTOR BELIEVES THAT THIS WILL BE A LONG TERM PROJECT THAT COULD TAKE YEARS TO COMPLETE.

THE AGENCY'S AUTHORITY

THE AGENCY'S ROLE IN ASSURING INTEROPERABILITY IS PRIMARILY AN ADVISORY ONE. THE AGENCY DOES NOT HAVE AUTHORITY TO ALTER A PROGRAM REGARDLESS OF THE INTEROPERABILITY PROBLEM IT MAY IDENTIFY. WHEN THE AGENCY IDENTIFIES AN INTEROPERABILITY PROBLEM, THE DIRECTOR TRIES TO RESOLVE IT BY CONSULTING WITH THE AFFECTED SERVICE OR UNIFIED COMMAND. IF THIS APPROACH FAILS, THE DIRECTOR REPORTS THE PROBLEM TO JCS AND/OR OSD, ALONG WITH HIS RECOMMENDATION. OSD RETAINS THE AUTHORITY TO APPROVE OR DISAPPROVE SERVICE PROGRAMS, AND IT MAY SUSPEND A PROGRAM OR TAKE OTHER APPROPRIATE ACTION IF THERE ARE UNRESOLVED QUESTIONS WARRANTING SUCH ACTION.

SINCE ITS FORMATION, THE AGENCY HAS ISSUED 30 REPORTS TOUCHING ON VARIOUS C3 INTEROPERABILITY AREAS SUCH AS THE PROGRESS OF ITS WORK IN ARCHITECTURE, PROCEDURAL AND TECHNICAL STANDARDS, AND THE ASSISTANCE IT PROVIDES TO THE UNIFIED COMMANDS ON INTEROPERABILITY ISSUES, CONFIGURATION MANAGEMENT, JOINT TESTING, AND INTEROPERABILITY DATA BASES.

ALTHOUGH THE MERE EXISTENCE OF A JOINT TACTICAL C3 AGENCY CANNOT GUARANTEE INTEROPERABILITY, IT SHOULD HELP TO ALLEVIATE SOME INTEROPERABILITY PROBLEMS IN THE SHORT TERM AND RAISE THE AWARENESS OF DOD COMPONENTS ON THE IMPORTANCE OF CONSIDERING INTEROPERABILITY IN THEIR C3 DECISIONS. SOME OF THE AGENCY'S EARLY EFFORTS, SUCH AS ITS ASSESSMENT OF A UNIFIED COMMANDS OPERATIONS PLAN AND RECOMMENDATIONS FOR IMPROVEMENTS, COULD IMPROVE INTEROPERABILITY. IT IS TOO EARLY, HOWEVER TO TELL TO WHAT EXTENT THE AGENCY WILL BE SUCCESSFUL IN ACHIEVING ITS OBJECTIVES.

SUMMARY

IN SUMMARY, THE SERVICES HAVE HAD PROBLEMS EFFECTIVELY COMMUNICATING IN JOINT OPERATIONS AND IN SOME INSTANCES THEY CANNOT EFFECTIVELY COMMUNICATE TODAY. SOLVING THIS PROBLEM IS NO EASY TASK. IT REQUIRES THAT JOINT REQUIREMENTS BE CLEARLY STATED AND ACCEPTED BY THE SERVICES AT THE OUTSET. IT WILL REQUIRE A GREAT DEAL OF COOPERATION AMONG THE SERVICES AND A GENUINE

WILLINGNESS ON THE PART OF EACH SERVICE TO ACCEPT INTEROPERABILITY EVEN WHEN IT CONFLICTS WITH SOME TRADITIONAL SERVICE PRACTICES. IN ADDITION, INTEROPERABILITY NEEDS A STRONG CENTRAL AUTHORITY THAT WILL BE WILLING TO MAKE THE VERY DIFFICULT DECISIONS THAT MUST BE MADE.

MR. CHAIRMAN, THIS CONCLUDES MY PREPARED STATEMENT. I WOULD BE PLEASED TO RESPOND TO ANY QUESTIONS YOU OR MEMBERS OF THE SUBCOMMITTEE MAY HAVE.