

MILITARY COMMUNICATIONS-ELECTRONICS BOARD

MCEB



**FREQUENCY RESOURCE RECORD SYSTEM
ORGANIZATION, MISSION AND FUNCTIONS
MANUAL**



MCEB PUB 5
30 November 2007

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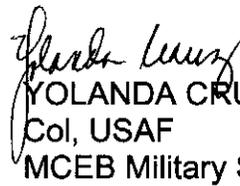
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Purpose: This document establishes the organization, mission, and functions of the Frequency Resource Record System (FRRS).

Authority: This document is issued under the authority of DOD Directive 5100.35, Military Communications-Electronics Board (MCEB) and supersedes the previous MCEB Pub 5 dated 01 April 2001.

Amendments and Review: This document will be reviewed by the Spectrum Operations Permanent Working Group of the Frequency Panel (FP) every five years and amendments will be issued by the Military Secretary, MCEB, when appropriate.

FOR THE CHAIRMAN:


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FREQUENCY RESOURCE RECORD SYSTEM (FRRS) ORGANIZATION, MISSION, AND FUNCTIONS

1. **Background.** Spectrum Managers have a requirement for current and accurate electromagnetic spectrum data to ensure electromagnetic compatibility (EMC) in the use of a limited natural resource.

a. Spectrum Managers of the Combatant Commands (COCOMs), Military Departments/Services (MILDEPs/Services), and DoD Agencies, in exercising their mission responsibilities, have significantly advanced EMC techniques through the years. The rapid expansion of spectrum use by both military and civil users, and the loss of spectrum to the civil sector, has demanded improved database capabilities serving the DoD. This requirement is particularly evident when joint military operations are conducted. In these operations, the need to exchange comprehensive spectrum data between components and services/agencies is critical.

b. Recognizing these needs, the Joint Chiefs of Staff (JCS) through the references (paragraph 1c below), implemented the FRRS as the single, consolidated DoD frequency record keeping system. The FRRS provides common record structures and procedures, centralized record maintenance, decentralized databases and sophisticated data retrieval capabilities. It also provides data required for operational, research and development (R&D), and EMC analysis efforts by DoD Spectrum Managers worldwide. Other DoD personnel make use of the data as required.

c. References:

(1) DoD Directive 4650.1, Subject: Policy for Management and Use of the Electromagnetic Spectrum

(2) DoD Directive 3222.3, Subject: Department of Defense Electromagnetic Environmental Effects (E3) Program

(3) USMCEB-CM 19-76, 19 July 1976, Subject: Designee/Management Functions-DoD Electromagnetic Compatibility Program, ECAC, and FRRS

(4) USMCEB M090-82(H), 23 March 1982, Subject: FRRS Remote Access

(5) MCEB Pub 7, Frequency Resource Record System (FRRS) Standard Frequency Action Format (SFAF)

(6) SM-57-73, 6 February 1973, Subject: Frequency Resource Record System

Development Report and 5-Year Plan.

(7) J6M 296-74, 24 April 1974, Subject: Review of Frequency Resource Record System Enhancement in Light of Office of Telecommunications Policy Plans (*Office of Telecommunications Policy is now the National Telecommunications and Information Administration (NTIA)*)

(8) USMCEB M-259-86(C), 12 December 1986, Subject: Enhanced FRRS Program

(9) ACP 190 US SUPP-1(C), Subject: Guide to Frequency Planning.

(10) MCEB-M-001-03, 12 February 2003, DoD Frequency Assignment and Equipment Certification Security Classification guide

(11) Joint Staff (C4) Memo, 29 Jul 2005, Subject: Designation of Spectrum XXI as the Joint Standard Frequency Assignment System

d. Summary of Tasking

(1) The JCS exercises responsibility for providing overall guidance on joint and inter-service military frequency engineering and management matters, and management of the FRRS (reference 1).

(2) The JCS (reference 2):

(a) Delegated FRRS management responsibilities to the Chairman, MCEB. Accordingly, the MCEB develops and provides policies and procedures for the proper management of the frequency spectrum, including remote access and EMC management.

(b) Tasked the Joint Spectrum Center (JSC) with development and maintenance of the FRRS central database.

(c) Directed all DoD components participate in the FRRS.

(3) The Office of the Military Secretary, MCEB, is designated as the action office for executing the management functions for the FRRS (reference 3).

(4) The Military Secretary, MCEB, directed the JSC provide remote access to the FRRS (reference 4).

(5) The MCEB published the SFAF for use by all DoD activities (reference 5).

(6) The JCS directed all frequency assignments be included in the FRRS and

established the terms by which JSC services will be provided (reference 6).

(7) The JCS directed the JSC to coordinate with the National Telecommunications and Information Administration (NTIA) to ensure compatibility with the GMF (reference 7)

(8) The MCEB tasked the JSC with development and implementation of the distributed FRRS capability (reference 8).

(9) The JCS has consolidated much of the above historical perspective in the direction contained in reference 9.

(10) The MCEB implemented security classification instructions pertaining to the use and distribution of FRRS frequency assignment records (reference 10).

(11) The Joint Staff designated SPECTRUM XXI as the Joint Standard Frequency Assignment System (reference 11)

2. **Objectives.** The FRRS is designed to accept, preserve, and make available DoD frequency management data. Specific objectives are:

a. Provide DoD users a current database of DoD frequency assignments, pertinent non-DoD frequency assignments, equipment spectrum supportability data, and documents containing national and international spectrum allocation rules and regulations.

b. Support the spectrum management and EMC analysis processes for the services, Unified Commands and DoD agencies as well as those Government agencies processing frequency assignments through NTIA.

c. Provide within the FRRS, a capability to assist warfighting organizations in effectively transitioning spectrum management activities between peacetime and contingency/hostile operations.

d. Assure FRRS system survivability in the event of natural disaster.

e. Provide rapid retrieval of records which are selected and formatted to ensure outputs are in accordance with user requirements.

f. Establish a developmental program to meet users' new or modified needs.

g. Provide documentation describing the FRRS and its operation to familiarize DoD personnel with its content and capabilities.

h. Provide DoD users with Equipment Spectrum Supportability host nation

comments by frequency band and nation.

3. **Description.** The FRRS includes SPECTRUM XXI Central and Regional Servers, SPECTRUM XXI Client Personal Computer (PC) capabilities, procedures, computer support, and DoD FRRS participants. The FRRS is an automated system that consolidates and maintains frequency assignment and equipment spectrum supportability data required for spectrum management and EMC analysis activities. The data is processed into the central repository and provided in the most usable form to FRRS participants. The integral parts of the FRRS are:

a. **FRRS Central Data Repository.** The FRRS Central Data Repository and SPECTRUM XXI Servers are a data processing capability with a military communications interface capability. The FRRS central data repository consists of three elements:

(1) DoD Frequency Assignment Database. The frequency assignment database is an automated database with software programs designed to enter, manipulate, and retrieve frequency assignment data.

(2) Equipment Spectrum Supportability Database. The Equipment Spectrum Supportability database contains two automated data files (Spectrum Certification System (SCS) and Host Nation Spectrum Worldwide Database (HNSWD)) with software programs designed to enter data listed on DD Form 1494, Note-to-Holders, MCEB Comments, host nation equipment spectrum supportability comments, and to manipulate and retrieve equipment spectrum supportability data.

(3) Supporting Databases. In addition to the DoD frequency assignment database and the equipment spectrum supportability database, other databases are also maintained in the FRRS central data repository for use by the FRRS participants in performing their spectrum management functions. These databases are:

- (a) Government Master File (GMF)
- (b) International Telecommunication Union (ITU)
- (c) North Atlantic Treaty Organization (NATO) Spectrum Management Information Repository (SMIR)
- (d) Federal Communications Commission (FCC)
- (e) Canadian Technical and Administrative Frequency List (TAFL)
- (f) Joint Equipment Tactical and Space (JETS)

(g) National and International Spectrum Tables of Allocation (TOA)

b. **SPECTRUM XXI.** SPECTRUM XXI is an automated client/server system that combines the capabilities of legacy frequency management systems. It has a database for permanent and temporary frequency assignments, as well as tools for preparing, validating, and coordinating frequency assignment proposals and other related spectrum management functions. SPECTRUM XXI extends connectivity to all Spectrum Management Offices. The distributed databases are kept current by submitting data transactions to the Central Server and receiving updated master records from the Central Server. SPECTRUM XXI is designed to enable DoD users to transfer data on a SECRET (at a minimum) network (Secret Internet Protocol Router Network or SIPRNET) SPECTRUM XXI is the designated DoD standard frequency management operating system and should be used for all DoD frequency management transactions.

c. **PC Capabilities.** PC based SPECTRUM XXI spectrum management capabilities provide DoD participants with a stand alone computer processing system that can maintain a local database, perform spectrum management functions and interconnect with other spectrum managers to transfer data within the FRRS.

d. **Procedures.**

(1) FRRS operational procedures evolved concurrently with the development and expansion of FRRS requirements to attain an accurate, standardized, responsive spectrum management information system. FRRS participants must support long range planning and coordination of day to day operations. This includes participation in national, NATO, CCEB, and MCEB forums and exercise of software configuration control through applicable Configuration Control Boards (CCB).

(2) The SPECTRUM XXI help software, ACP 190 US Supp-1, and MCEB Pub 7 describe the system and document procedures in accordance with governing directives. Guidance and approval of policy documentation are provided by the MCEB.

(3) An annual review of proposed development for the FRRS by the JSC shall be approved by the MCEB at least three months before each fiscal year commences. The COCOMs, MILDEPs/Services and DoD Agencies must provide their input in accordance with paragraphs 5b(7) and 5d(6) below.

e. **Participants.** The FRRS participants are:

- (1) The Military Secretary, MCEB (Manager)
- (2) The Military Departments/Services (MILDEPs/Services)
- (3) The US Coast Guard

- (4) The Unified Commands
- (5) The CONUS DoD Area Frequency Coordinators (AFCs)
- (6) The National Security Agency (NSA)
- (7) The Joint Spectrum Center (JSC)

4. **Relationships.** Different relationships exist for processing data into each of the three elements of the FRRS central database.

a. **DoD Frequency Assignment Database.** Data flow in the frequency management community is shown in Figure 1-1. Proposals for frequency assignments start at the operating units, installations, intermediate organizations and field commands, and are forwarded in accordance with the policies of references (2), (5) and (6) supplemented by COCOM, MILDEP/Service and DoD Agency internal instructions for inclusion in the FRRS Central Server database. As depicted by the arrows in figure 1-1, transactions are forwarded through the COCOMs, MILDEPs/Services, and DoD Agencies. Those assignments requiring national level approval are forwarded through the cognizant MILDEPs to NTIA for action by the Frequency Assignment Subcommittee (FAS). Following FAS approval they are then included in FRRS databases. Outputs from FRRS databases are provided in accordance with existing policy to DoD activities.

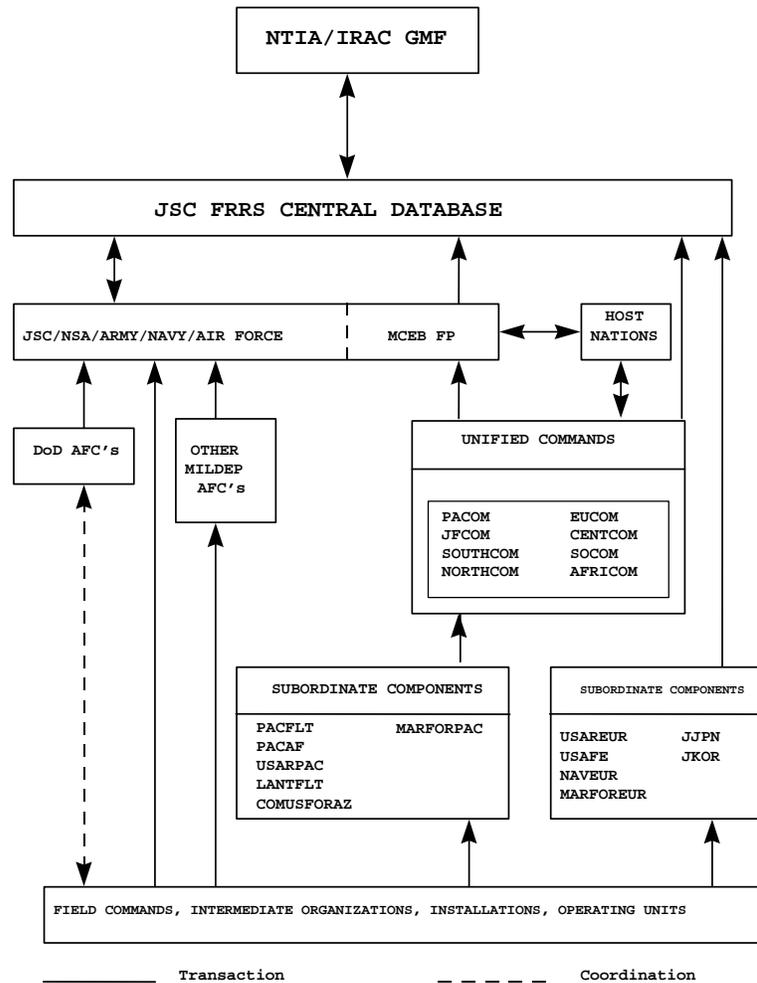


Figure 1-1. FRRS Participant Frequency Transaction Data Input Relationships.

b. Equipment Spectrum Supportability Database. Selected equipment spectrum supportability parameter data for communications-electronics (C-E) equipment is preserved and maintained in the Spectrum Certification System (SCS) database or Equipment-Location Certification Information Database (EL-CID) and Host Nation Spectrum Worldwide Database-Online (HNSWD-O) for use by the spectrum management and R&D communities. The data flow is depicted in Figure 1-2. The solid line indicates the actual flow of data. The dashed lines indicate coordination, the result of which is reflected in the supportability database.

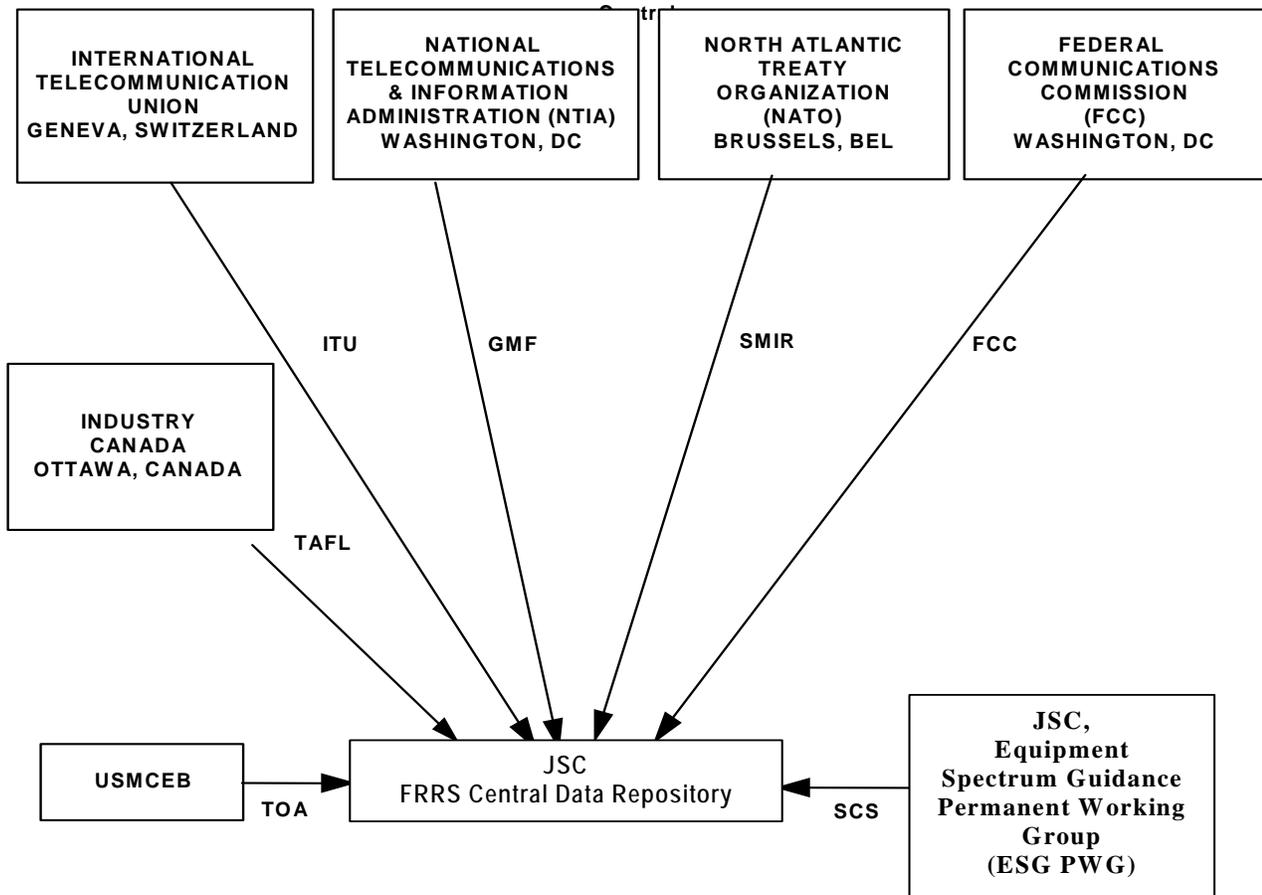


Figure 1-3. Supporting Databases Data Flow.

a. **MCEB.** The Military Secretary, MCEB is responsible for overall management and policy guidance for the FRRS. That responsibility is exercised through the Frequency Panel (FP) and associated working groups. Responsibilities include:

- (1) Developing and implementing policy and procedures to ensure the efficient utilization of the FRRS.
- (2) Establishing FRRS data input requirements and format, specified by reference (5), and insuring compliance with established procedures for appropriate inputs to the FRRS from the services, defense agencies, and Unified Commands.

(3) Continuing development of the combined frequency management and EMC databases.

(4) Providing for remote access to FRRS databases as feasible.

(5) Ensuring that participant level ADP systems and the FRRS central and distributed databases, and PC based systems are compatible and preclude duplication of ADP development efforts.

(6) Ensuring liaison with NTIA to maintain FRRS compatibility with the national level spectrum management policies and procedures.

(7) Ensuring compatible interfaces between the FRRS and tactical spectrum management systems.

b. **JSC.** The Commander, Joint Spectrum Center (JSC), is responsible for:

(1) Implementation of FRRS policies and procedures approved by the MCEB which are applicable to the JSC.

(2) Operation, maintenance, and management of the FRRS database on a daily basis.

(3) Accepting and maintaining all DoD frequency assignments, national and international rules and regulations, and spectrum certification data; and providing, upon request by authorized agencies, subsets of that data.

(4) Exchanging information with NTIA and updating the FRRS central and distributed databases.

(5) Coordination with the FRRS participants, to perform file improvement and data standardization actions which are submitted by the participants.

(6) Coordinating the development of long range planning for the maintenance and enhancement of the FRRS.

(7) Developing, with assistance from the other FRRS participants, a detailed annual fiscal program for the following fiscal year.

(8) Development of FRRS central and distributed databases in support of participant requirements and as directed by the MCEB. Developments include improvement, expansion, consolidation, and standardization of data elements, records, files and subfiles, and use of remote access to FRRS databases.

(9) Preparation of system documentation.

(10) Combining EMC analysis and spectrum management database requirements where feasible.

(11) Coordinating FRRS central and regional server improvement, as appropriate, with the NTIA to ensure compatibility with the GMF.

(12) Providing liaison and training. This includes assistance to FRRS participants as requested to assist in the optimum functioning of the system.

(13) Acquiring and maintaining supporting files as directed.

(14) Coordination with the MCEB and other FRRS participants to provide remote access to the FRRS by the participants as required.

c. The **MILDEPs/Services/DoD Agencies** are responsible for:

(1) Providing automated equipment spectrum supportability data in a format compatible with the Equipment Location-Certification Information Database (EL-CID), SCS, or any approved MCEB data format.

(2) Ensuring that subjects brought up in the IRAC or subcommittees of that committee, which affect the SCS Database, are addressed by the FP for determination of cost impact and efficiency.

d. **COCOMs, MILDEPs/Services, DoD Agencies, and DoD AFC** participants are responsible for management of the FRRS elements under their cognizance which includes:

(1) Implementation of MCEB policies and procedures related to the FRRS.

(2) Prompt submission to the JSC of all frequency assignment transactions in accordance with references (5) and (9).

(3) Periodic review of each frequency assignment and equipment spectrum supportability record in accordance with reference (9) to ensure that the assignment is required and that the data content of the record is accurate and current.

(4) Recommending essential file improvement actions.

(5) Notification to the JSC of all FRRS requirements to be considered for inclusion in long range planning and the annual fiscal program by the end of the first quarter of each fiscal year.

(6) Adherence to all mutually agreed FRRS procedures as set forth in

applicable directives and associated FRRS handbooks.

(7) Providing foreign national level spectrum allocations rules and regulations to the MCEB for inclusion in the TOA element of the database.

e. All **Organizations Participating in the FRRS**. All organizations shall participate in the automation of as many of the FRRS functions and procedures as cost makes effectively practical. It is emphasized that all automated proposal transfers, database updates, E-mail traffic, and other mission related proposal actions are considered as official correspondence. Such information should be acted upon just as if an action had come through the Defense Message System (DMS) or the postal system under official signature.

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