ORDER

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

1830.6B

8/20/98

SUBJ: TELECOMMUNICATIONS ASSET MANAGEMENT

1. **PURPOSE**. This order establishes procedures, assigns responsibilities, and provides guidance regarding the assignment, engineering, and implementation of the Federal Aviation Administration (FAA) telecommunications assets. This order addresses the utilization of leased guidance regarding the assignment, engineering, and implementation of the Federal Aviation services and equipment as well as FAA-owned systems and equipment.

2. **DISTRIBUTION**. This order is distributed to the division level in Washington headquarters, to the division level in the regions, except to the branch level in the regional Airway Facilities and Air Traffic Divisions, to the division level in the Aeronautical Center and the Technical Center, and to all field offices with a limited distribution.

3. **CANCELLATION**. Order 1830.6A Telecommunications Asset Management, dated September 17, 1996, is canceled.

4. **EXPLANATION OF CHANGES**. This revision:

a. Establishes the role of the Telecommunications Integrated Product Team (TIPT) as it relates to telecommunications assets.

b. Revises the list of Telecommunications Assets managed nationally, regionally and non-Telecommunications Management and Operations (TM&O) assets.

c. Includes the role of Command and Control Communication Assets (non-TM&O).

5. **BACKGROUND**.

a. For many years, the United States telecommunications industry consisted of closely allied, regulated telephone companies. The FAA depended on these companies to provide telecommunications circuits and equipment and end-to-end telecommunications services. During this period, no FAA organization was assigned overall responsibility for telecommunications management; therefore, the functions were assigned to several organizations.

b. The early and mid-1980's brought a change in national telecommunications policy and numerous changes to the telecommunications industry. Most equipment, circuits, and services were deregulated and competition developed. This action led to rapid technology changes with many new telecommunications products and services being made available. These events resulted in all telecommunications users being required to assume a larger role in the management and operations of their services and systems and to make decisions that were not previously required.

c. The TIPT is responsible for providing management and operational oversight of all agency operational and administrative telecommunications and telecommunications resources, including the planning, network operations engineering, technical information, financial management functions, and project oversight.

d. The growth of Air Traffic Control (ATC) requirements and the implementation of the Telecommunications Strategic Plan and the Capital Investment Plan (CIP) have caused rapid expansion and sophistication of FAA-owned and leased telecommunications systems, equipment, and services. With this expansion, new and more effective management capabilities are required. The primary contribution to meeting this requirement was the establishment of the TIPT in 1997 and a core team representative from each region was designated. As a first step toward fully integrating telecommunications functions within the FAA, the TIPT is an empowered, multi-functional team responsible and accountable for managing FAA-owned and leased telecommunications assets. The TIPT has a responsibility of streamlining telecommunications programs and making assets management decisions, and conducting business throughout the lifecycle in a more effective and productive manner.

(1) The TIPT core team is composed of the following functional organizations: the Telecommunications Network Planning and Engineering Division, AOP-400; the Telecommunications Leased Communications Program Division, AOP-500; the Telecommunications Support and International Communications Division, AOP-600; the Voice and Data Communications Division, AND-340; the Facilities and Technology Services, ASU-340; the Architecture and System Engineering Division, ASD-100; and Terminal/FSS Services Division, ATO-120.

(2) The extended team represents regional interest, specific IPT functions, and other subject matters (such as legal and technical) as needed. It is composed of Regional TM&O Representatives; Regional Associate Program Managers (RAPMs); TM&O Representatives of William J. Hughes Technical Center and Mike Monroney Aeronautical Center; NAS Transition Integration Division, ANS-700; Chief Counsel, AGC-500; Internal Security Division, ACO-400; Defense Information Technology Contracting Office (DITCO); Volpe Liaison; and Union (PASS) Liaison.

(3) The AOP-400, AOP-500, AOP-600, AND-340 functional managers and the TIPT Lead form the TIPT Integration Team. The AOP first line managers report to the TIPT Lead.

6. **DEFINITIONS.**

a. **Telecommunications, General.** Telecommunications is the inclusive transmission of a signal from end-use activity to end-use activity. As used in this definition, "end-use" refers to an end or automated system and includes signal interface equipment, switching, and transmission functions and systems. End-use does not include spectrum, radios, or signal content, interpretation, or translation for end-user presentation. Thus, in the case of a controller talking to an aircraft in flight, telecommunications would include all equipment and systems from the point at which the headset jack interfaces with the tower switch to the point where the transmission system interfaces with the air-ground radio. Telecommunications would not include the radio, the controller headset, or any equipment or systems on the aircraft.

b. **Telecommunications Within the Purview of TM&O.** Telecommunications that are within the purview of the FAA Telecommunications Management and Operations (TM&O) offices are more limited than those defined by the Code of Federal Regulations and includes the transmission path and switching equipment required to send or receive voice, data, or video information between facilities. The transmission paths include leased services and FAA-owned services. The management of telecommunications responsibilities is from the user facility's interfacility demarcation point, through and including the modems, in the case of selected multiplexed services. Where the interfacility services terminate in switching systems, such as private branch exchanges, these switches are also considered telecommunications responsibility even though these switches are after the demarcation point. Specifically excluded from this definition are those air-to-ground navigational aids and systems predominantly employing radio frequency media (radar and air-to-ground radios) to satisfy the FAA's Air Traffic Services (ATS) mission of air traffic control. All references to telecommunications contained in the body of this order should be interpreted according to this more limited definition of telecommunications. Where there are issues that do not appear to be covered, these should be dealt with on a case-by-case basis, under memorandums of understanding, and among the parties involved at the regional level.

c. **ATC Telecommunications.** ATC telecommunications are defined as those telecommunications equipment and services associated with the regulation and protection of air traffic including national security commitments. Included are services and related equipment that provide either voice or data communications and support en route, terminal, flight service and weather, and other ATC use. ATC telecommunications also encompass those telecommunications services necessary to support national emergency operations such as fire alarm monitor circuits and elevator emergency telephone circuits.

d. **Agency Telecommunications.** Agency telecommunications are FAA telecommunications, which are not ATC telecommunications. Agency Telecommunications encompasses all administrative telecommunications needs for all FAA organizations. Examples of agency telecommunications are office telephones and associated telephone switching systems, computer data communications supporting payroll and personnel data management systems, access to database management systems, and electronic mail. Networks that provide primary agency telecommunications include the Federal Telecommunications System (FTS) and the Agency Data Telecommunications Network (ADTN).

e. **Secure Telecommunications.** Secure telecommunications are those FAA telecommunications to which protective measures have been taken to deny unauthorized persons information derived from telecommunications of the United States Government related to national security and to ensure the authenticity, integrity, and availability of such telecommunications. Such protection results from the application of security measures (including crypto security, transmission security, and emissions security) to electrical systems generating, handling, processing, or using national security or national security-related information. For more information on secure telecommunications, see the latest edition of Order 1600.66, Telecommunications and Information Systems Security Policy.

f. **Command and Control Communications.** Command and control communications, which are integral parts of the FAA National Command and Control System, include the facilities, equipment, communications, procedures, and personnel essential to support FAA leadership and the conduct of essential operations under routine and emergency conditions including national security emergencies.

7. **SCOPE.**

a. This order provides guidelines for the management of telecommunications assets used for operational ATC purposes within the National Airspace System (NAS) and the management of telecommunications assets used to support FAA functions. This order applies to the day-to-day NAS operations and maintenance activities or to the engineering and acquisition activities associated with major CIP projects when the program office responsibilities are assigned to the TIPT.

b. For the purpose of this order, references to "regions" shall apply also to the TM&O offices at the FAA Technical Center and the Aeronautical Center.

8. **TELECOMMUNICATIONS ASSETS.** In this order, FAA telecommunications assets are telecommunications systems, service, and equipment, leased or owned, that support both ATC and agency functions. Management of these assets includes, but is not limited to, assignment of channels, ports, and circuits and is performed at the national level or at the regional level

(TM&O offices) depending generally on the scope of the specific asset. FAA telecommunications assets are managed as follows:

a. **Telecommunications Assets Managed Nationally**. The telecommunications assets designated to be under primary national management include, but are not limited to:

(1) Radio Communications Link (RCL) Network.

(2) Low density RCL (LDRCL) systems that cross regional boundaries, egress U.S. borders, or connect to the RCL.

(3) Radar Microwave Link (RML) that were fielded as a national program.

(4) Television Microwave Link (TML) that were fielded as a national program.

(5) Data Multiplexing Network (DMN) Phase I/II (Paradyne Network).

(6) DMN Phase III (CODEX Network).

(7) Statistical multiplexing network (STATMUX).

(8) National Airspace Data Interchange Network (NADIN IA).

(9) NADIN I.

(10) NADIN II.

(11) Bandwidth Manager (BWM).

(12) Agency Data Telecommunications Network (ADTN).

(13) FAA Telecommunications Satellite (FAATSAT).

(14) Mejoras al Enlace de Voz del ATS (MEVA).

(15) Aeronautical Information System (AIS).

(16) Digital Weather Facsimile (DIFAX).

(17) Electronic TANDEM Network (ETN).

(18) Autovon associated with the Voice Telecommunications System (VTS) and Operational Support Telephone System (OSTS).

(19) Automatic Digital Network (Autodin)/Defense Message System (DMS).

(20) Leased Interfacility NAS Communications System (LINCS).

(21) FTS voice, data, and video.

(22) Network management and control equipment (NMCE).

(23) FAA Integrated Communications System for the 21st Century (FICS-21).

(24) International ATS Voice Communication Network.

b. **Telecommunications Assets Managed Regionally**. The telecommunications assets designated to be under regional TM&O management include, but are not limited to:

(1) Alaskan NAS Interfacility Communications Systems (ANICS).

(2) Voice Telecommunications System (VTS).

(3) Leased full-period private lines.

(4) Exchange services (services using the public switched network).

(5) Telecommunications Demarcation Systems including the Master Demarcation System (MDS) and the Mini Telecommunications Demarcation System (MTDS).

(6) Operational ATC switches and key systems.

(7) Administrative Private Branch Exchanges (PBXs) and key systems.

(8) Network Terminating Equipment (NTE) used with the RCL and the LDRCL.

(9) Circuit-related Customer Premise Equipment (CPE).

(10) Automated Line Test Equipment (ALTE).

(11) LDRCL systems within regional boundaries and not connected to the RCL or egressing U.S. borders.

(12) Voice mail and telephone answering machines, except those directly associated with the VTS PBXs and other owned-leased, large-size PBXs, at the discretion of Regional TM&O.

(13) Building paging systems when interfaced with PBX systems.

(14) Telecommunications Devices for the Deaf (TDDs).

(15) Computer Equipment and Modems when used as maintenance tools for PBX systems.

(16) Government Emergency Telecommunications Service (GETS) (cards only).

(17) ATS Voice Communication Network with Russia/Far East.

c. **Non-TM&O Assets**. The telecommunications assets used in general office services are non-TM&O assets. These non-TM&O assets are not assigned to TM&O organizations for management, and therefore, shall be justified, funded, and managed by the users organizations. The regional TM&O office or Headquarters (AAD-50) will coordinate the necessary interfaces to existing ATC or agency telecommunications assets. The requiring or using organization will consult with the TM&O office to validate that an item is funded and technically valid to fulfill its justified purpose and to establish service and connectivity. After the TM&O technical validation, the requiring or using organization will be procured through their respective operating organizations, utilizing applicable procurement equipment such as:

(1) Personal computer equipment and modems, LAN, Internet, hardware and associated software, only when not a requirement of a national telecommunications approved asset network; i.e., Telecommunications Information Management System, NAS Infrastructure Management System, etc.

(2) Facsimile machines (except weather DIFAX and others specifically approved and required to meet operational air traffic requirements).

(3) Pagers and paging services.

(4) Mobile radios (frequency must be approved by ASR-100 prior to purchase).

(5) Cellular telephone equipment and services.

(6) Specialized telephone instruments such as portable and cordless telephones; headsets for use on a PBX.

(7) Secure telephone equipment and devices.

(8) Airport distribution systems, such as cable and fiber optic loop systems.

(9) Telephone listings and subscriptions not associated with basic telephone services.

(10) Consumables supporting telecommunications equipment or services (paper and ribbons).

(11) Television studio equipment (except as available under the FTS contract).

(12) Stand-alone building paging systems.

(13) Special feature telephone sets (non-standard); e.g., desktop telephone answering machines, recording devices, speaker phone, and caller identification.

(14) Headsets and handsets used in conjunction with operational ATC switches, voice switching and control system; e.g., VSCS, ICSS, STVS, RDVS, ETVS, and other key systems, ICSS Phase 1B, STVS, and key systems.

(15) Pay telephone equipment and services.

9. **Command and Control Communications Assets (Non-TM&O).** To meet command and control communications requirements, the FAA maintains a variety of fixed position, portable, and transferable communications systems to support FAA leadership and the conduct of essential operations under routine and emergency conditions, including national security emergencies. The, ADA-20 Manager, Emergency Operations Staff is the program manager for the FAA National Command and Control System and manages these assets. The FAA National Command and Control System consists of the following communications systems:

a. **Emergency Voice Communications System (EVCS).** EVCS is an FAA-leased dedicated telephone network designed to meet FAA requirements to communicate among key

facilities and personnel. Key facilities having EVCS service include the Washington Operations Center, the Air Traffic Control System Command Center, Regional Operations Centers, Air Route Traffic Control Centers, selected Air Traffic Control Towers, key regional and Washington headquarters officials, and major civil air carriers.

b. **Defense Switching Network (DSN).** DSN (formerly AUTOVON) is a worldwide switched voice telephone system which provides dedicated voice service to the Department of Defense (DoD) and certain other departments and agencies. DSN is primarily a military system which includes a precedence system for different urgency levels. DSN circuits are located in FAA headquarters, regional operations centers, Air Route Traffic Control Centers, and certain FAA International Area Offices.

c. **Automatic Digital Network (AUTODIN).** AUTODIN is a secure record teletype communications network used by the FAA to exchange classified information with the DoD and other government departments and agencies.

d. **Secure Telephone Unit (STU-III).** The STU-III telephone provides the capability to transmit classified information, including top secret, by voice or by data. This system connects FAA facilities with other Federal departments and agencies, both civil and military. STU-III telephones are assigned to members that have responsibilities involving sensitive and classified information and to key officials throughout the FAA. Sensitive and classified information may also be transmitted via facsimile between locations that have STU-III telephones and associated secure facsimile equipment.

e. **Fixed Site Satellite Communications.** Fixed site satellite telephones are provided to major FAA facilities as a secondary means of communication to the conventional telephone network. Satellite telephones are to be employed for emergency command and control communications of the Public Switched Telephone Network (PSTN) will be disrupted or is unavailable due to saturation.

f. **National Radio Communications System (NARACS).** The FAA maintains two radio communications networks under NARACS. The first, a high frequency (HF) radio system, provides long-distance voice and data communications for bypassing disrupted telephone circuits. The HF/SSB system is designed and configured to be inter-operable with similar systems employed by other Federal agencies, in accordance with national security policy. NARACS HF radios are provided to major FAA facilities as a tertiary means of communications to the conventional telephone network and fixed site satellite communications. The second NARACS system is a very high frequency/frequency modulated (VHF/FM) radio network. It supports short-range mobile, handheld, and base station communications for routine operations and emergencies.

g. **Communications Support Team (CST).** The Communications Support Team program supports FAA requirements at disaster sites, special events, or other locations worldwide. CST also supports the FAA's National Security Emergency Preparedness (NSEP) mission. CST provides communications for minimum essential command and control functions at locations where normal common carrier communications are disrupted or at remote sites where no communications capabilities exists.

h. **Portable Satellite Telephones.** Portable satellite telephones are located at major FAA facilities, to include the Washington Operations Center, regional operations centers, Air Route Traffic Control Centers, the FAA Aeronautical Center, the FAA Technical Center, and other locations. Portable satellite telephones are intended to be used as primary communications in the event fixed site units fail or the facility is not available for whatever reason.

i. **Government Emergency Telecommunications Service (GETS).** GETS is an emergency communications capability provided by the National Communications System (NCS). GETS provides dial-tone priority landline and cellular telephone services over the Public Switched Network through the use of enhanced routing schemes and priority features. GETS users are provided dial-tone priority during overload and blockage situations through the use of a GETS card, which contains a Personal Identification Number.

10. **ADVANCED PLANNING FOR TELECOMMUNICATIONS SERVICES.**

a. **Identification and Collection of Requirements.** The TIPT offices in headquarters and the TM&O regional offices shall be responsible for the collection of all telecommunications requirements for the current fiscal year and the following five fiscal years the responsibilities are as follows:

(1) The TIPT (AOP-3) shall maintain accurate records of all existing (embedded) telecommunications requirements and shall collect new ATC and agency telecommunications requirements as identified by other headquarters offices.

(a) **National ATC Requirements.** The telecommunications requirements of all NAS/CIP projects and all other ATC telecommunications requirements determined by, Requirements Development Directorate, ARR-1, (such as emergency communications, international communications, and certain experimental/prototype systems) shall be collected by the TIPT in coordination with the responsible program or project managers. These requirements shall be summarized annually and published by the TIPT in the Future NAS Telecommunications (Fuchsia Book). Once these systems become operational and commissioned, the baseline system and services will be summarized annually and published by the TIPT in the current FAA Telecommunications Systems and Facility Description Manual (Currant Book).

(b) **National Agency Requirements**. All agency telecommunications requirements shall be collected by the TIPT in coordination with the responsible program or project managers, the Office of Information Technology (AIT), as well as other offices requiring services. These requirements shall be summarized annually and published by the TIPT in the Future FAA Telecommunications Plan (Fuchsia Book). Once these systems become operational, the baseline system and services will be summarized annually and published by the TIPT in the Current FAA Telecommunications Systems and Facility Description Manual (Currant Book).

(2) The regional TM&O offices shall maintain accurate records of existing (embedded) requirements and shall collect new ATC and agency telecommunications requirements as identified by other regional elements:

(a) **Regional ATC Requirements**. The telecommunications requirements of all F&E projects, local projects, other initiatives and/or as identified in the Fuchsia Book, as applicable within the individual region, shall be entered into the telecommunications modules of the Regional Tracking Program (RTP) for review and validation by the appropriate program office. Responsible program and project managers in coordination with regional TM&Os shall ensure that RTP telecommunications information is complete and accurate. With ANI's increasing involvement in the investment analysis phase of program development, regional telecommunications organizations may not have the information available to enter into RTP. ANI would build these requirements into the program plan and request support from AOP in executing the estimation process. These requirements shall be entered by ANI into the telecommunications module of the Regional Tracking Program (RTP) after coordination with the TM&O organization.

(b) **Regional Agency Requirements**. All agency telecommunications requirements shall be collected by the regional TM&O offices in coordination with the region responsible for review and validation by the TIPT.

(3) TIPT is responsible for consolidating and correlating all telecommunications requirements collected in headquarters and the regional offices.

b. **Asset Allocation Practices**. Airway Facilities (AF-1) is responsible for establishing policy regarding the proper allocation of transmission assets thereby establishing the specific rules of asset allocation. This policy provides direction in matching user telecommunications requirements to available FAA telecommunications assets. The TIPT will define, document, publish, and periodically update detailed guidance, criteria, and procedures governing this practice.

c. **Advanced Allocation of New Requirements to Assets**. TIPT will project a tentative allocation of telecommunications assets to each new requirement set forth in the Fuchsia and

Current Books. For example, a future requirement to connect flight data input and output (FDIO) processors located at towers to other FDIO computers at air route traffic control centers might be allocated to the DMN. These advance allocations will be included in the project chapters of the Fuchsia and Current Books.

d. **Periodic Reallocation for Existing (Embedded) Requirements to Telecommunications Assets.** The TIPT shall review annually the existing configuration of telecommunications services and shall initiate changes when beneficial.

e. **Advanced Assignment of Specific Telecommunications Assets.** When feasible, TIPT may assign specific telecommunications assets; e.g., RCL channels and NADIN ports, to specifically identify future telecommunications requirements. These assets shall then be considered reserved for this future application.

f. **Advanced Planning.** Based upon all known current and future telecommunications requirements and upon the allocation of these requirements to telecommunications assets, TIPT shall project the overall requirements for national telecommunications assets for the current fiscal year and throughout the next 5 fiscal years. This report shall include the specific changes and new total configuration of each affected asset; e.g., RCL systems, segments, or drop-insert points; additional or moved modems, together with the months and years in which the changes must be effective. The TIPT shall coordinate with all affected regions before finalizing this report.

11. **ESTABLISHMENT AND MODIFICATION OF NATIONAL TELECOMMUNICATIONS ASSETS.** The Office of Communication, Navigation and Surveillance Systems, AND-1, is responsible for implementing requested changes to national telecommunications assets.

12. **USE OF TELECOMMUNICATIONS ASSETS.**

a. **Regional Telecommunications Assets.** Whenever feasible, regions should conform to any advance allocations of telecommunications assets to requirements which are identified in planning documents such as the Fuchsia and Currant Books. The regional TM&O offices have the authority to determine and to specify the use of any regional telecommunications asset as defined herein. The regional TM&O offices are responsible for all assignments, engineering, and implementation of regional assets. When using regional telecommunications assets, the regions shall comply with established procedures for budgeting, ordering, and configuration management. Networks, systems, or circuits identified as regional telecommunications assets shall be coordinated and implemented by the region which supports the control facility using the service.

b. **National Telecommunications Assets.** Responsibility and authority for the assignment, engineering, and implementation of national telecommunications assets are assigned as follows:

(1) National telecommunications assets, as identified in paragraph 8a, that cross regional boundaries shall be coordinated and implemented as a national asset.

(2) Assignment of Assets; e.g., Channels and Ports.

(a) **Emergency Use.** When the use of an available national telecommunications asset is required on an emergency basis, such as to restore or continue existing functions within the NAS, the FAA facility manager or designee has the authority to assign and use that asset. However, the asset must be returned to its prior status at the conclusion of the emergency condition.

(b) **Temporary Use.** When the use of an available national telecommunications asset is required on a temporary basis defined as 4 weeks or less, the regional TM&O offices have the authority to assign and to direct the use of that asset. Possible temporary uses may include such requirements as air shows, equipment upgrades and cutovers, and special tests. However, the asset must be returned to its prior status at the conclusion of the temporary application.

(c) **International Telecommunications Assets.** International networks, systems, or circuits, where the far end is a foreign asset, shall be coordinated and implemented as a national asset.

(d) **All Other Uses.** Except for emergency or temporary uses (as described herein) no national telecommunications assets may be assigned or used without the expressed authorization of the TIPT. If the TIPT has issued an advance assignment of a specific asset (as described herein), that advance assignment constitutes an authorization to use the asset for the specified requirement. Otherwise, use of a national telecommunications asset must be requested by means of a Communications Service Request (CSR).

(3) **Circuit Engineering.** Any engineering associated with the use of a national telecommunications asset is the responsibility of the TIPT and will be included as part of the advance planning or CSR processes.

(4) **Implementation Engineering and Installation.** Implementation of requirements using national telecommunications assets is a regional TM&O office responsibility. The regional TM&O office shall notify the TIPT within 2 weeks after newly installed services or equipment are operational.

13. **MANAGEMENT OF WASTE, FRAUD, AND ABUSE.** TM&O offices agency wide have the primary responsibility to ensure the most efficient use of the agency's telecommunications assets and that the use of the Government-provided telecommunications services and assets is for the conduct of official business only. Special emphasis shall be placed on eliminating systems, networks, or circuits that are considered duplications and not governed under the latest edition of Order 6000.36, Communications Diversity. Further attention shall be given to ensure telecommunications assets at closed and decommissioned facilities are properly terminated and DITCO charges dropped from the customer cost and obligation report. Leased circuits and equipment at any facility with limited or no use shall be revalidated to justify the requirement for retention or deletion. In addition, we should also discourage program managers from using specific telecommunications facilities or services without clear and supporting requirements.

14. **OTHER ASSET MANAGEMENT PRACTICES.** Asset management practices not specifically addressed in this order, such as a property management, shall be governed by applicable directives.

15. **EXCEPTIONS OR WAIVERS.** Any exceptions or waivers to this order must be approved by the regional Airway Facilities and TM&O Division Managers.

Stanley Rivers

Director of Airway Facilities