

Approved:

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STATEWIDE RADIO COMMUNICATIONS SYSTEM SITE OR EQUIPMENT MODIFICATION

PURPOSE

The purpose of this procedure is to coordinate and control the configuration of all Florida Department of Transportation (FDOT) statewide mobile radio systems and prevent uncoordinated modification of these systems. In order to provide a succinct document, the definition of district herein shall include all elements of the Department, including the seven districts, the Florida Turnpike Enterprise and the Office of Motor Carrier Compliance (OMCC).

AUTHORITY

Sections 334.044 and 282.102, Florida Statutes.
Federal Communications Commission Private Land Mobile Radio Services, Part 90 (47 CFR, Part 90).

SCOPE

Offices affected by this procedure are Intelligent Transportation Systems, District Traffic Operations, District Maintenance, and OMCC.

GENERAL

The original FDOT mobile radio system was not designed to provide contiguous statewide communications. The early radio equipment technology had limited performance. The mission of communications at that time was focused on district coverage rather than both district and statewide coverage.

With the advent of high performance, state-of-the-art communications technology, the ability to provide statewide coverage became possible. This possibility led FDOT to request that the Department of Management Services, Division of Communications (DIVCOM) evaluate the current FDOT radio system and make recommendations to upgrade that system to state-of-the-art technology.

The system study and report included an analysis of each radio tower site and its performance both within the district and as a part of a statewide system of FDOT communication towers. Each tower site was engineered to provide contiguous coverage support throughout the state.

A new statewide plan was adopted and a budget issue submitted to implement the procurement of the necessary equipment to upgrade the district and statewide radio communications capabilities required by the DIVCOM report. Both the equipment performance and the fixed tower site characteristics determined the overall statewide system performance.

Although the DIVCOM Study was intended to incorporate all components of the FDOT communications system, the OMCC, and Florida Turnpike Enterprise communications were not included at that time. However, this procedure will provide a bridge to bring the communications systems of all districts and offices of the FDOT together into a cohesive, if not integrated, system through the district, OMCC, and Central Office Communications personnel. The intent of this procedure is to coordinate the statewide communications system; therefore, independent systems operated by OMCC and Florida Turnpike Enterprise may not require coordination through this procedure, but notification of modifications will be helpful in establishing a complete system with accurate information available at a central location.

DEFINITIONS

American Association of State and Highway Transportation Officials (AASHTO)

Frequency Coordination: AASHTO is the Federal Communications Commission (FCC) recognized "Single Point of Contact" FCC Frequency Coordinator for all Highway Maintenance Radio Service frequencies in the United States. The FCC will not process a license application submitted directly by an applicant unless AASHTO has first reviewed the application and concurs with the request. The AASHTO approved Frequency Coordinator for Florida is FDOT. Within the FDOT, the Intelligent Transportation Systems (ITS) Office has been assigned the AASHTO Frequency Coordinator responsibility and position.

Federal Aviation Administration (FAA): The FAA is the federal authority for all aviation obstruction authorizations in the United States. The FAA reviews all FCC licenses when the transmitting antenna(s) listed on the license application may be or may become a hazard to aviation. A FAA form is required for all structures above a certain height determined by the location of the structure relative to any FAA listed airfield or if the tower height exceeds 200 feet. This form is available through the ITS Office.

Federal Communications Commission (FCC) Radio License: The FCC is the federal authority that licenses all radio transmitters used by non-federal government agencies in the United States. The radio licenses authorized by the FCC for FDOT use in Florida are signed by and submitted through the FDOT ITS Office in Tallahassee. Frequency coordination and FCC/FAA liaison is a function of the FDOT ITS Office. The ITS Office is also responsible for maintaining the FDOT FCC license database. All FCC required Highway Maintenance Frequency Coordination should be conducted through AASHTO and an electronic FCC license database manager contracted by AASHTO.

ITS Telecommunications Administrator: The ITS Telecommunications Administrator is a Central Office position. The FDOT ITS Telecommunications Administrator is responsible for AASHTO Frequency Coordination, STO liaison, FAA liaison, all FDOT-FCC radio licenses, and coordination of all elements of the FDOT mobile radio system that affect statewide communications performance.

Radio Communications Coordinator (RCC): Each district has personnel responsible for radio communications. Some are supervisors who are responsible for microwave maintenance and have the word microwave included in their supervisor title and job description. The RCC is the district liaison with the ITS Telecommunications Administrator in the ITS Office in Tallahassee. The ITS Telecommunications Administrator provides the communications engineering support for all the district communications services and is the STO, FCC, and FAA liaison person within the FDOT.

Radio Tower Site. A radio tower site is any structure that supports a radio antenna (used by FDOT), regardless of whether the tower is owned by FDOT, another state agency, or owned by a private organization or person.

Statewide Mobile Radio System. The statewide mobile radio system operates on FCC assigned VHF Low Band (30-50 MHz) frequencies installed in base stations, portable radio's and mobile radios, including fixed tower sites throughout the State. In addition, this system includes ancillary facilities such as dedicated telephone lines, microwave facilities and a communications maintenance computer management system.

State Technology Office (STO): STO is the agency created by **Section 282.102 (2), F.S.**

1. RADIO COMMUNICATIONS SYSTEM SITE OR EQUIPMENT MODIFICATION

1.1 It is recognized that, from time to time, growth-driven changes to the FDOT communications system will be necessary and will necessitate some modification to the FDOT communications system.

1.2 Changes to any element of the FDOT Statewide Mobile Radio Communications System require STO approval (by Florida Statute) and may require FCC radio license modification (Federal law), FAA approval (for towers or structures only), and AASHTO frequency coordination (also Federal law). Therefore, district personnel shall observe the following procedure:

1.2.1 All changes or requirements must be conveyed to the RCC.

1.2.2 The RCC will then determine if the change(s) or requirement(s) will, in any way, affect the performance of the radio system or only affect district operations. A change that affects system performance shall be defined as, but not limited to, any change in tower location, tower height, antenna height, antenna type or quantity, wind loading, effective radiated power, or equipment compatibility.

1.2.3 If the RCC determines that the change(s) or requirement(s) will, in any way, affect radio system performance, the RCC shall contact the Central ITS Office and request, in writing, that the FDOT ITS Telecommunications Administrator review the district request and concur or recommend a solution.

1.2.4 The response from the FDOT ITS Telecommunications Administrator will either be in the form of a written concurrence or an alternate solution such as a recommended procedure supported by such activities as license application support, FAA coordination, STO liaison, and/or bid specifications for the district to implement.

1.2.5 In the event that the requirement is for the shared use of an FDOT radio tower, the RCC shall submit a written request for assistance to the Central ITS Office, including a written request from the requesting agency (if applicable). A structural analysis and intermodulation (intermod) analysis will also be required and can either be supplied by the district or the Central ITS Office will request the information as part of the ITS Telecommunication Administrator's responsibility.

1.2.6 In the event that any request for the use of an FDOT tower is acceptable to the FDOT, the district shall implement the FDOT's ***Tower Use Agreement, Form No. 750-040-01*** prepared by the Central ITS Office. This Agreement requires the signature approval of the District Secretary or his/her designee, the Central Office of General Counsel, and the Central ITS Office and an executive level official from the requesting agency. It is estimated that a minimum of 6 to 10 weeks will be required to implement a Tower Use Agreement, including a structural analysis, intermod analysis, and subsequent reviews and approvals.

1.2.7 It is the responsibility of the districts to plan ahead for all specific district radio communications needs. Any system change can require a minimum of three months for FCC licensing. Any major system design change, tower specifications development, or FAA application for obstruction clearance or tower lighting requirements may require as much as a 6-month lead time for planning and development.

2. TRAINING

None required.

3. FORMS

Tower Use Agreement Form No. 750-040-01 is available in the Forms Library.

This form is also available by contacting the ITS Communications Administrator at Suncom 210-5600 or on the Infonet at: <http://ombnet.dot.state.fl.us/forms/formsbynum.asp> or on the Internet at: <http://www2.dot.state.fl.us/proceduraldocuments/internet/FormsbyNum.asp>