RADIO COMMUNICATIONS

Communications Equipment Requirements:

Trains
- As of July 1, 1999, large railroads (defined as 400,000 or more annual employee hours) must equip each train with both a working radio in the occupied controlling locomotive and a means of working wireless communications. The radio equipment must be capable of reaching the railroads control center or a portable radio to monitor local transmissions from trains. There are two exceptions to the requirement for radio coverage of all territories: (a) tunnels or other localized places of extreme topography; and (b) temporary lapses of coverage due to atmospheric or topographic conditions.

- As of July 1, 2000, small railroads (those with fewer than 400,000 annual employee hours) are required to have:
  
  * a working radio in the occupied controlling locomotive and a means of working wireless communications on any train that carries passengers; or
  
  * a working radio in the occupied controlling locomotive on any train that:
    
    - operates at greater than 25 miles per hour (mph),
    
    - engages in joint operations on track where the maximum authorized speed for freight trains exceeds 25 mph, or
    
    - engages in joint operations on track adjacent to (within 30 feet) of another track on which the maximum authorized speed for passenger trains exceeds 40 mph; or
    
    - a means of working wireless communications in the occupied controlling locomotive on any train that:

- engages in joint operations where the maximum authorized speed of the track is 25 mph or less, or transports hazardous material.

Roadway workers
- As of July 1, 1999, large railroads must provide:

  * a working radio for at least one unit of maintenance-of-way (MOW) equipment operating without locomotive assistance between work locations when multiple MOW units are traveling under the same movement authority, and intra-group communications capability for each MOW group upon arrival at the work site.
• AS of July 1, 1999, railroads must equip each employee designated by the employer to provide on-track safety for a roadway work group(s), and each lone worker with:
  * immediate access to a working radio; or
  * (for small railroads only), immediate access to working wireless communications.

• The communication equipment requirements for roadway workers do not apply to:
  * small railroads that do not operate trains in excess of 25 mph; or
  * work locations which are:
    - physically inaccessible to trains, or
    - have no through traffic or traffic on adjacent rails when roadway workers will be present.

• Railroad employees are required to:
  * test radio and wireless communications equipment as soon as practicable (to ensure that the equipment functions as intended before beginning their work assignment),
  * remove inoperative equipment as soon as practicable,
    and
  * report emergencies (e.g., derailments, collisions, storms) using the quickest means of communication available. An initial emergency radio transmission shall be preceded by the word “emergency” three times.
    - Ending a transmission with “Over” or “Out” is not required for yard switching operations, but it is for all other operations.

The final rule does not promulgate non-radio wireless communications procedures, but it does add provisions addressing the testing and failure of non-radio wireless communications equipment.

Any radio or wireless device not functioning properly, when tested shall be removed from service and the dispatcher or other railroad designated employee notified as soon as practicable. If the radio on wireless device on the controlling locomotive fails en route, the train may continue until the earlier of the next calendar day inspection, or the nearest forward point where it can be repaired.
Operational Requirements:

Each railroad shall designate its territory where radio base stations are installed, where a wayside station can be contacted, and designate appropriate radio channels by publishing them in a timetable or special instructions.

Each employee authorized to use a radio shall be provided with a copy of the railroad's operating rule governing the use of radio communication and instructed in the proper use of radio communication. The rules set forth methods of identification of the wayside, base or yard station and the method for initiating a transmission or receiving one.

When radio communication is used instead of hand signals in switching, backing or pushing, the employee shall give complete instructions for keeping continuous radio contact with the other employees. When backing or switching a train, the distance of the movement must be specified and the movement must be stopped in one-half the remaining distance unless additional instructions are received. If instructions are not understood or continuous radio contact is not maintained, the movement shall be stopped immediately until contact has been restored.

No information may be given by radio to a train or engine crew about the position or aspect displayed by a fixed signal, except to communicate to other members of the same crew.

The procedures for transmitting train directives by radio are as follows: (a) the dispatcher or operator shall call the addressees of the train order and state his intentions to transmit the directive; (b) Before the order is transmitted, the employee to receive and copy the train order shall identify himself, his location, and readiness to receive and copy. Train orders may not be received and copied by an employee operating the controls on an engine of a moving train. Train orders may not be transmitted to the crew if they cannot be received and copied without impairing the safe operation of the train. After the train order has been received and copied, it shall be immediately repeated in its entirety. After verifying the accuracy, the dispatcher shall then state the time and name of the employee designated by the railroad who is authorized to issue mandatory directives; (c) Before a train order is acted upon, the conductor and engineer each must have a written copy of the train order and make certain that it is read and understood by the other crew members, copying and retention of all mandatory directives until the end of the work assignment is required for engineers, conductors and employees responsible for on-track safety; (d) A train order which is not complete and which does not comply with the railroad's operating rules may not be acted upon.

49 C.F.R. §§ 220.1-220.61
49 C.F.R. Parts 214 and 217