

METRO REGION
800 MHz Trunked Regional Public Safety Radio System
Standards, Protocols, Procedures

Document Section:	2—Configuration & Allocation	Radio TOC Recommended
Sub-Section:	2.9.1	Date: June 24, 2015
Procedure Title:	Radio Site Access Permissions - SUBSYSTEM ROAMING	
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1. Purpose or Objective

The network infrastructure and subscriber units are configured to permit managed access to various “sites” throughout various parts of the system. This managed site access provides the ability for users to achieve wide area coverage where necessary for mission critical operations, enhanced in-building portable coverage and a degree of system level backup in the event of certain types of major network failures. ROAMING FOR NON-ESSENTIAL OPERATIONS IS SUBJECT TO BEING RESTRICTED IN ORDER TO MAINTAIN AN ACCEPTABLE GRADE OF SERVICE FOR MISSION CRITICAL OPERATIONS. Roaming inside of the Metro Region requires the local subsystem administrators consent and the approval of the MESB Radio TOC. Roaming from regions or systems outside of the Metro Region, into the Metro Region systems, other than regional or statewide talkgroups, must be approved by the local subsystem administrator and the Metropolitan Emergency Services Board (MESB) Radio Technical Operations Committee (RTOC).

2. Technical Background:

Infrastructure programming settings that control site access for talk/multigroups

There are settings in the system infrastructure to control the “*Site Access Denial Type*” parameter, which controls how site access is handled for the radio users of the system. Radio users & talkgroups have independent access lists programmed into the system infrastructure which enables the site access for each respectively, however how the access is permitted depends on the “Site Access Denial Type” settings:

Individual Only: Indicates the radio is rejected if the individual radio user does not have access to the site.

- TalkGroup Only: Indicates the radio is rejected if its current selected talkgroup does not have access to the site.
- Both: Indicates the radio is rejected if neither the talkgroup nor the radio has access to the site. "Logical OR"
- Either: Indicates the radio is rejected if either the talkgroup or the radio does not have access to the site. "Logical AND"

Infrastructure programming settings that control site access for Interconnect/Private Call

The site access privileges for Private & Interconnect Calls are based on the site access settings for the "Radio User", they are not based on the system "Site Access Denial Type" settings, and are independent of talkgroup site access settings.

Radio programming settings that control site access

The subscribers' radios themselves contain "Site Preference" selections in the RSS programming.

Radios can be programmed with multiple unique personalities, which will allow unique Site Preference Selections for each talkgroup in the radio.

- Least Preferred: The site will be avoided unless it is the only usable site for operation.
- No Preference: The site is given no preference. If the site is not listed here, the radio automatically assigns it no preference.
- *Preferred: The site will be used over all non-preferred sites with similar signal strength.
- *Always Preferred: The site will be used over all non-preferred sites with similar signal strength even if the site loses communication with the Zone Controller & enters site trunking.

**Note Always Preferred & Preferred are operationally identical, if the radio sites have communication with the system and are operating in wide area mode.*

▪ **Constraints**

Using the "Both" site access denial setting to facilitate unique individual needs will allow those individuals full access to all of their talkgroups at sites that they have "Radio User" permission for.

Using the “Either” site access denial setting to facilitate unique individual needs may block those individuals from site access, even in emergency conditions.

3. Operational Context:

Normally, only those talk groups in Priority 3 (Mutual Aid) or above will be permitted access at ALL sites.

Talkgroups would generally be permitted access at all those sites necessary to support the “normal day to day” business operations of the users of that talkgroup.

If it is necessary that a talkgroup have redundancy protection in the event of a site failure, the attempt shall be made to use one adjacent or overlapping non-owned site for the talkgroups protection. Factors determining the best protection site include coverage of the site, or even function of the talkgroups per site.

Custom talkgroup site access configuration profiles can be created consistent with this standard.

Dispatchers would be able to use the Wide-Area, “Roaming,” “Common” or “Pool” talkgroups described in *Infrastructure Configuration* (below) for patching to their local area talkgroups to facilitate temporary wide area access for emergent events.

4. Recommended Protocol/ Standard:

Subscriber Unit Configuration:

In the Subscriber Radio RSS Programming, the radio would normally be enabled for all sites of the system, the operational site access would then be managed at the system level.

While there may be some variation due to user operating profiles, the user’s home site will normally be selected as “ALWAYS PREFERRED.” The user’s secondary site(s) will normally be selected as “NO PREFERENCE” as shall be other sites owned by that user (i.e. regional edge sites for regional users, Hennepin West for Hennepin users, etc.) and the regional dominant site for non-regional users. All other sites will normally be selected as “LEAST PREFERRED” (i.e. local subsystem sites for regional users, regional edge sites for local users, etc.).

Radios with no site preference tables, or with all sites set to the default “NO PREFERENCE” will not be allowed on the system because they will indiscriminately roam among all sites where the selected talkgroup is allowed. Roaming inside of the Metro Region requires the local subsystem administrators consent and the approval of the MESB Radio TOC.

Roaming requests from any user or regions outside of the Metro Region and their site preference tables must be approved by the affected Metro Region local system administrators and the MESB Radio TOC, before their radios are allowed on any Metro Region area systems.

Infrastructure Configuration: Radio user profiles themselves would generally not have special site access permissions granted. Site access for wide-area operations will primarily be managed at the talkgroup level. System Managers may accomplish this by designating site access throughout the system to a limited number of special wide-area talk groups. These special talkgroups would not be main dispatch or tactical talk groups with high volumes of radio traffic, but may be special Wide-Area, "Roaming," "Common" or "Pool" talkgroups.

The "Site Access Denial Type" for the system is set to "TALKGROUP," meaning that a radio will receive an out of range indicator on a selected talk group at a site if both the talkgroup and the radio user privileges are denied at the site. The use of "Critical User" and "Critical Site" in the system is generally discouraged and must be authorized by the MESB Radio TOC.

5. Recommended Procedure:

The defined standard will be implemented & maintained by system administrators.

6. Management

The MESB Radio TOC is responsible for oversight and ensuring that the standard is followed.