

## PSERN Testing Overview

This document provides an overview and status of the extensive testing that the Puget Sound Emergency Radio Network (PSERN) Project is conducting to ensure that PSERN meets the system requirements for radio end-user agencies.

### ✓ Backhaul System Factory Acceptance Test

- Joint staging event of factory acceptance testing for Aviat microwave radio and Nokia Multiprotocol Label Switching (MPLS) equipment at the Aviat staging facility in Austin, TX.
- Status: Complete

### ✓ Land Mobile Radio (LMR) System Factory Acceptance Test

- Testing of the operation of LMR, Dispatch Console and MPLS equipment and software features and functions to ensure they meet the contract standards. Test conducted at Motorola's Customer Center for Solutions Integration (CCSI) facility.
- Status: Complete

### ✓ Dispatch Center Equipment and Software Field Test

- Testing the step-by-step operation and functionality of new Motorola MCC7500 Dispatch Operator console sub-system sites in the field following completion of installation, inspection, and integration of each site into the PSERN system Master Sites.
- Status: Complete

### ✓ Inter-Subsystem Interface (ISSI) Installation Test

- Ensures ISSI between the new PSERN and surrounding ISS-equipped safety entities meets basic requirements for them to facilitate interoperable communication across entities.
- Involves ISSI-equipped safety entities: Snohomish County (SNO911), City of Tacoma, Port of Seattle.
- Status: In Progress

### ✓ Coverage Testing

- Testing of Bit Error Rate (BER) channel performance (e.g. measured signal quality) and Delivered Audio Quality (DAQ) (e.g. Can you hear me now?) throughout King County Primary Bounded Area land and major waterways.
- Status: Complete (final results pending)

### □ Operational and Functional System Test

- Demonstrates that the Land Mobile Radio (LMR), microwave radio and MPLS, and DC Power systems have been properly configured, optimized, and will operate fully and properly without failure.
- Status: Scheduled to be completed in November 2021.

### □ Pilot Test

- Operational test of 100 radio end-users in normal operational areas, over 30 consecutive days, on the PSERN system prior to full user migration. No public safety activities will be performed over PSERN during test.
- Status: Scheduled to be completed in January 2022.

- Backhaul System Field Test
  - Individual Station as well as per hop of the Aviat microwave system at PSERN sites prior to the arrival of the MPLS equipment and then testing of both the Aviat microwave and MPLS networking equipment.
  - Status: Primary Bounded Area complete; Highways in progress
  
- Land Mobile Radio (LMR) System Field Installation, Inspection, and Test
  - Ensures that the LMR Infrastructure equipment and software at each PSERN site has been properly installed, configured, tested, and is ready for commissioning.
  - Status: Primary Bounded Area complete; Highway in progress
  
- Tunnel Systems Integration Test
  - Interface testing with the Sound Transit Downtown Seattle Transit Tunnel (DSTT) communication system, including a sixteen channel Motorola ASTRO Repeater (ASR) radio site.
  - Status: Pending
  
- Inter-Subsystem Interface (ISSI) Integration Test
  - Verification of proper connectivity and call processing between PSERN and the other ISSI-linked systems with P25 operations.
  - Involves ISS-equipped safety entities: Snohomish County (SNO911), City of Tacoma, Port of Seattle.
  - Status: In Progress
  
- Full System Acceptance Test
  - Consists of a 60-calendar day operational test period to verify PSERN meets the availability requirements during which time Motorola will monitor PSERN on a 24/7 basis, meet the availability requirements in the PSERN Availability Test Plan, and provide successful resolution of all failures.
  - Status: Scheduled to be completed by March 2023