



TCOMM911 AHJ ERCES PROCESS OVERVIEW

1 Introduction

TCOMM911 holds the licenses from the FCC for the frequencies used to operate the public safety radio system in Thurston County.

Note the following process steps for in-building ERCES design and approval:

- TCOMM911 has a design review process for ERCES installations to ensure compliance with the currently published technical criteria available on the TCOMM911 website. Approval of a submitted design by TCOMM911 does not guarantee compliance with any local building codes.
- TCOMM911 will issue a re-broadcast agreement to the property owner, copied to the vendor, and the AHJ fire marshal on the successful completion of an Uplink Validation test by TCOMM911 radio technicians.
- If during an Uplink Validation test, TCOMM911 radio technicians determine that there is sufficient signal strength in the building with the ERCES turned off, TCOMM911 will not issue a re-broadcast agreement and will inform the property owner and the AHJ fire marshal (see details in section 3.2)

2 AHJ Process Overview

2.1 Authority for ERCES Requirement

The Washington State Fire Code and Thurston County building codes outline the requirements for in-building emergency responder communication enhancement systems (ERCES). Per NFPA 1221, AHJ fire marshals are the final authority for ERCES requirements for any property.

If the AHJ fire marshal determines that an ERCES is required, the fire marshal will advise TCOMM911 by email at RadioHelpDesk@tcomm911.org with:

- 1) Property owner name, phone number and email
- 2) Civic address for the property
- 3) ERCES vendor name and contact details (if known)

2.2 Maintenance of Property Records

When TCOMM911 is advised by the AHJ fire marshal of a property requiring an ERCES installation, a property record will be created by TCOMM911 and copied to the fire marshal.

2.3 Issuing of Re-Broadcast Agreements

On successful completion of uplink validation testing by TCOMM911, a re-broadcast agreement will be issued to the property owner, copied to the vendor, and the AHJ fire marshal. This agreement signifies that the installed ERCES meets the technical requirements to re-broadcast TCOMM911 frequencies. This re-broadcast agreement does not replace or ensure compliance to the Washington State Fire Code or building codes in Thurston County.



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3 AHJ Coordination for ERCES Installations

3.1 Determining the need for an ERCES

3.1.1 Existing Building

If the AHJ fire marshal determines that an existing building should be retrofitted with an ERCES, the property owner should contract with a reputable ERCES vendor to perform a coverage test of their building to validate existing coverage. Section 5.10.5.4 of the Washington State Fire Code details the testing requirements.

3.1.2 New Building

- New buildings that are designed to LEED certified standards with low-E glass typically will not have good public safety radio coverage. These buildings are good candidates for ERCES.
- ERCES requirements for other types of construction should be evaluated by a qualified RF Engineer.

3.2 Uplink Validation Testing by TCOMM911 Radio Technicians

The first part of the uplink validation test performed by TCOMM911 radio technicians is to verify coverage conditions in the worst areas of the building with the ERCES turned off. These areas are identified in advance by the ERCES vendor. Coverage in these areas needs to meet a minimum standard of DAQ 3.0 (Speech understandable with slight effort. Requires occasional repetition due to noise or distortion)

- If this test shows areas of poor coverage, TCOMM911 will perform uplink validation testing on the property.
- In the rare case that the test shows good radio coverage (meets DAQ3.0) with the ERCES turned off, TCOMM will not issue a re-broadcast agreement and the ERCES will not be connected to the TCOMM911 radio network.
 - If deemed necessary by the AHJ fire marshal, the property owner will need to engage with an ERCES vendor to document coverage according to Section 5.10.5.4 of the Washington State Fire Code.

3.3 Ongoing Monitoring

The requirement for annual testing of all in-service ERCES is defined in Washington State Fire Code section 510.6.1 Testing and proof of compliance.



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4 Complete ERCES Design Review and Approval Process Flow

