

# Seattle Fire Prevention Division

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## PSERN Transition: Information for In-Building Emergency Responder Radio Coverage Systems (Distributed Antenna Systems/DAS) as of April 2022

### What is happening?

The aging public safety radio system in King County will be replaced by a new digital system called the Puget Sound Emergency Radio Network (PSERN). The new system was funded by a voter-approved levy. However, the levy did not fund upgrades to privately owned Distributed Antenna Systems (DAS) installed in buildings to meet fire code requirements. Properties with public safety DAS will be required to re-tune and recommission their equipment for the new system. The project is being managed by King County. The Seattle Fire Department has prepared this document to aid property owners and DAS designers/vendors.

### Timeline

DAS transition in Seattle is currently expected to occur in **October 2022** but this date is not final. The PSERN Project will be notifying individual properties regarding the exact transition date range as the time approaches.

### What steps should property owners/responsible parties take now?

Property owners should receive bids from qualified vendors and select a vendor to perform this work.

### What work must the vendors perform? Is permitting required?

All public safety DAS will require service when the network transition occurs. The work required will fit into one of three large categories: (1) retune – existing DAS is acceptable to interoperate with the new PSERN system; (2) rip/replace head end electronics or other major retrofit; (3) DAS no longer needed in some or all of building due to improved coverage on the new PSERN system.

**1. Existing DAS that are appropriate for “re-tune”** Some buildings may have DAS that meet the technical criteria to rebroadcast the PSERN signal, and for these DAS, the only work required will be to shut off, retune, then turn back up the bi-directional antenna (BDA). Here is what you can expect:

- **No Permit** No Seattle Dept of Construction & Inspection (SDCI) electrical permit is required for “retunes”.
- **No Plan Review** No SFD plan review is required.
- **No Seattle Fire Department (SFD) or SDCI Inspections**
- **Notify Alarm Monitoring** company that you are taking the DAS offline. All DAS must be turned off before DAS are transitioned to the new network. While off, there will be a trouble or supervisory signal on the fire alarm panel. This is allowed during the period the DAS is turned off under direction from PSERN.
- **Retune** The DAS in your building will need to be turned off on a specific date then retuned and approved.
- **PSERN Approval** involves passing a non-interference test with PSERN, and the vendor will also check that the signal is amplified at least as well after the retune as before. Property owners will also be required to sign a rebroadcast agreement with PSERN. Your vendor will facilitate this.
- **Prepare for Annual Maintenance** DAS must be tested every year by a qualified vendor, and the results of those yearly tests must be provided by the vendor to the Seattle Fire Department. Property owners may wish to discuss a maintenance contract with their vendor if they are satisfied with the services and pricing.

**2. Existing DAS that require more than a “re-tune”** Some DAS will not meet the criteria to rebroadcast the PSERN signal. Your vendor will need to replace the head end electronics in the DAS or perform a major retrofit. In this situation, permitting and inspections are required. Your vendor should take the following steps:

- **Permit** Apply for an [over the counter electrical permit for communication systems](#) from SDCI.
- **Plan Review** No SFD or SDCI plan review is required for over the counter permits.
- **Notify Alarm Monitoring** company that you are taking the DAS offline. All DAS must be turned off before DAS are transitioned to the new network. While off, there will be a trouble or supervisory signal on the fire alarm panel. This is allowed during the period the DAS is turned off under direction from PSERN.
- **Replace and Tune** The DAS in your building will need to be turned off on a specific date to be provided by PSERN, then replaced or other retrofit, tuned.
- **Meet New Code Requirements?** During the PSERN transition, existing previously approved systems shall be allowed to be replaced consistent with their original design including with respect to wiring, power supply, fire alarm monitoring, and waterproof enclosures, assuming they are not creating an electrical hazard and assuming they were installed appropriately to the code in effect at the time of original installation.
- **SDCI Inspection** to close out the electrical permit
- **PSERN Approval** involves passing a non-interference test with PSERN, and the vendor will also check that the signal is amplified at least as well after the retune as before. Property owners will also be required to sign a rebroadcast agreement with PSERN. Your vendor will facilitate this.
- **SFD Inspection** to verify radio function.
- **Provide Report of New System Commissioning to SFD** Submit report of DAS system commissioning/acceptance to SFD in [www.thecomplianceengine.com](http://www.thecomplianceengine.com).
- **Prepare for Annual Maintenance** Upon completion, SFD will reset the annual test date on your behalf for a full 12 months out. All DAS must be tested once each year and maintained when needed. This work will be counted as the annual test for 2022.

**3. Improved Coverage Under PSERN May Make Some BDA/DAS Unnecessary** Before replacing a DAS system, building owners may wish to have their vendor assess whether the in-building signal from the new PSERN system is strong enough to meet fire code requirements without a DAS. This assessment requires a full grid square test on each floor and can only be performed after the new PSERN towers are on line, expected by June 2022. Vendors will use the following form to request an exception to the code requirement based on good coverage in some or all of a building: [Radio Coverage Assessment Form](#).

#### **Receiving a Certificate of Occupancy While DAS Installation Timelines are Impacted by the PSERN Transition**

During the PSERN transition, the PSERN technical team and DAS vendors will require multiple weeks to retune all DAS in the region. This will lead to delays in commissioning of new DAS. Building owners may request a “fire final” approval prior to DAS sign off, if they commit to complete DAS commissioning in the future, if their project is impacted by PSERN. Check back soon for the form that will be required to receive this approval.

#### **Working with the Seattle Fire Department**

SFD sincerely appreciates the time and investment building owners are providing to keep buildings safe and in compliance with the fire code. If you have questions that we can address, please contact us at [SFD\\_FMO\\_SystemsTesting@seattle.gov](mailto:SFD_FMO_SystemsTesting@seattle.gov). When DAS are not restored timely to working order, and when no compliance plan is in place, the system will be in violation of the Seattle Fire Code, which may result in civil or criminal penalties. Please communicate with us so together we can avoid enforcement issues.

#### **Working with the PSERN Project**

To find out if PSERN records indicate your property has a DAS, or for other transition questions, please contact PSERN at [das-psern@kingcounty.gov](mailto:das-psern@kingcounty.gov). Please review this page for more information: <https://psern.org/das-requirements/>.