THE FUTURE OF FIRE ALARM SIGNAL TRANSMISSION: PHASING OUT THE DACT

Introduction
The Federal Communications Commission (FCC) recently announced a plan to discontinue the use of land line telephones (plain old telephone service or POTS) sometime in the next few years. This change will have an impact on fire alarm systems across Minnesota that utilize POTS phone lines with digital alarm communicator transmitter (DACTs) technology to monitor their fire alarm system. In December 2009, AT&T formally petitioned the FCC for permission to start transitioning away from traditional copper phone systems to broadband, fiber-optic, internet, and wireless technology. Since many fire alarm systems throughout Minnesota utilize DACT technology to monitor their fire alarm system, it is advantageous for business owners and fire officials to start considering alternatives if POTS phones lines are being used to provide the telephone service to the DACT. There currently is no deadline imposed by the FCC to discontinue POTS phone service and there is no mandate at this time to discontinue the use of DACT technology. It is recommended that all stakeholders plan appropriately to prepare for this change and transition to another technology. This document is a guide for code officials and business owners and gives options to business owners, contractors and code officials. The 2016 edition of NFPA 72, which is not currently adopted in Minnesota, will require the second transmission channel on a DACT be cell, internet or radio technology for new installations not retroactive to existing systems. Two telephone lines will no longer be permitted.

Background and the Digital Alarm Communicator Transmitter
The National Fire Protection Association (NFPA) Standard 72 – National Fire Alarm and Signaling Code gives the requirements for monitoring of fire alarm systems in chapter 26. The State of Minnesota adopts the 2010 edition NFPA 72. For many years, NFPA 72 has allowed the use of digital alarm communicator transmitters, also known as DACTs, to monitor fire alarm systems. A DACT uses one or more telephone lines to monitor and transmit the signal to a supervising station. When the fire alarm activates the DACT dials a preselected telephone number to transmit the alarm signal to the supervising station. With the advent of internet and other wireless technology, phone companies are no longer able to maintain the aging infrastructure for the POTS network. The anticipated elimination of the POTS phone lines will require the numerous fire alarm systems utilizing DACT technology to transition to another NFPA 72 approved alternate technology.

Alternatives for Monitoring Fire Alarm Systems
NFPA 72 lists several alternatives to DACT technology, including:
- Radio
  - One-way
  - Two-way
  - Mesh
Internet Protocol (IP-Based Technology)

Cellular communicators

Fire alarm systems currently utilizing DACTs to monitor their fire alarm system will, over time, need to transition to one of the alternative options listed above. Unlike DACT technology, radio, internet and cellular are all considered by NFPA 72 to be approved single transmission technologies. This means there is no need for a primary line and a backup line used with a DACT.

**Recommendations and Questions**

Fire alarm industry and fire officials should begin preparing business owners and other affected parties for this transition. There is no fire code mandate at this time to transition away from the use of DACTs. For new fire alarm system installations, it is highly encouraged for fire alarm industry professionals to discourage the installation or future use of DACT technology to monitor fire alarm systems.

For questions regarding this transition please contact the Minnesota State Fire Marshal Division at 651-201-7221 or by email at fire.code@state.mn.us.