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### **Danvers Explosion Investigation Findings Released**

State Fire Marshal Stephen D. Coan and Danvers Fire Chief James P. Tutko announced today that their joint investigation into the November 22, 2006 explosion at 128 Rear Water Street, Danvers, Massachusetts has concluded that the most probable cause was a high order chemical vapor explosion of Heptane used in the company's manufacturing process.

"Partnerships among the Department of Fire Services and local fire departments sprang to action when this devastating explosion shook the North Shore. Those state and local resources helped assist homeowners and secure this site last Thanksgiving and to probe the cause of this blast. The Patrick Administration learned from this disaster, and will expand those partnerships to protect the public not only during the initial recovery and investigation, but going forward. The Department of Fire Services, local fire departments and the Department of Environmental Protection will work together ensuring that small companies storing and handling chemicals in our neighborhoods do so in a safe manner," said Public Safety Secretary Kevin Burke.

In order to prevent future incidents like the Danvers explosion, smaller companies that produce or use hazardous materials will now be targeted for scrutiny under a new program that pairs fire and hazardous waste inspectors on the lookout for mishandling of dangerous chemicals.

"It is a priority for Governor Patrick to prevent tragedies like this from taking place in the future," said Secretary of Energy and Environmental Affairs Ian Bowles. "Both new and waste chemicals can be dangerous, so the Safe Neighborhoods Chemical Initiative will have the Massachusetts Department of Environmental Protection working side by side with the state Fire Marshal's Office and local fire departments to inspect small chemical manufacturing facilities, to make sure they are storing and handling all these materials safely."

State Fire Marshal Coan said, “Thousands of hours of investigative time have been spent by many agencies these past five months, using long standing protocols for forensic fire and explosion investigations, which have allowed us to conclude the most probable cause of this devastating explosion.”

Danvers Fire Chief Tutko said, “As fire chief, I continue to be astonished and grateful that there was no loss of life as a direct result of this incident.” He added, “ I know this has been a long trying five months for the residents and business of this neighborhood as they pick up the pieces of their lives. I hope the results of this rigorous, systematic, forensic investigation will give some measure of comfort by providing some answers as to how this catastrophe occurred.”

The most probable cause of the explosion at this chemical processing facility was a high order chemical vapor explosion of Heptane vapors, caused by the inadvertent overheating of the chemicals in mixing vessel # 4. Due to the catastrophic damage to the building, the specific ignition source cannot be determined. However, there were a number of potential ignition sources that existed in the building including: refrigerator and vending machine motors and condensers, space heaters, electrical exhaust fans, and the furnace.

Investigators believe the accumulation of Heptane vapors within the facility, set the stage for one of these ignition sources to have triggered the explosion. At that unknown ignition source, the chain reaction chemical explosion was initiated and traveled back to the area where the greatest accumulation of chemical vapors had occurred. This then resulted in a high order explosion, complete detonation of those vapors, and complete destruction of the building.

The explosion was jointly investigated by the Department of Fire Services, which includes State Police assigned to the Office of the State Fire Marshal, members of the Danvers Fire and Police Departments, representatives from the Essex District Attorney’s Office, and the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF). In addition, the team worked closely with the U.S. Department of Environmental Protection, which oversaw mitigation of the site, the Massachusetts Department of Fire Services’ Hazardous Materials Response division and Code Compliance Unit of the Office of the State Fire Marshal, the State Police Crime Lab, and the Massachusetts Department of Public Safety’s Division of Inspections.