



***Racine Fire Department***  
810 Eighth St, Racine WI 53403

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January 7, 2016

Honorable Mayor and  
Common Council

Dear Honorable Mayor and Common Council,

The fire department is requesting permission to apply for the 2016 FEMA Assistance to Fire Fighters Grant (AFG) for purchasing a new hazardous materials monitoring system which is designed for identifying unknown solids, liquids, and explosive material. Grant control number 16-00073.

The fire department currently operates a unit known as the HazMat Sense IR for the identification of unknown chemicals. This unit was acquired by the department over 15 years ago and is well past its useful life. Newer technology has emerged that provides a much broader range of chemical identification.

This grant, if awarded, will allow us to acquire a Thermo Scientific Gemini Analyzer to replace the HazMat Sense IR. The Gemini Analyzer incorporates two different systems for identifying unknown material. Fourier Transform Infrared (FTIR) and Raman spectroscopy technology complement each other in that if one system is unable to identify a substance the other would.

In both FTIR and Raman spectroscopy, the instruments acquire a spectral fingerprint of an unknown substance, and then compare the collected fingerprint against a reference library. Both methods are lab-proven, precise optical technologies offering distinct advantages in specific applications. Used together, FTIR and Raman spectroscopy provide a broader range of unknown substance identification - and better protection for the responder and the community.

This instrument will be used as part of our regional hazardous materials response capability.

**Fiscal Note:** The grant request is for \$130,000 of which the City's hard match is 10% or \$13,000. Funds are available in our HazMat account and no levy dollars are required.

Respectfully submitted,

Steve Hansen, Fire Chief