





# CITY OF APPLETON

## FIRE DEPARTMENT

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## MEMORANDUM

January 18, 2023

To: Safety & Licensing Committee and Common Council  
From: Jeremy Hansen, Fire Chief  
Cc: Doug Vrechek, Battalion Chief of Resource Development & Special Operations  
Re: Request to Purchase Red Wave Threat ID Spectrometer

The Appleton Fire Department Hazardous Materials Team operates jointly with Green Bay and Oshkosh Fire Departments as the Northeast Regional Hazardous Material Response Team. Over the past 20 years, the Appleton Fire Department has attained specialized equipment and training to provide enhanced capability in classifying and identifying unknown chemicals. This capability allows for a rapid threat assessment and a prudent action plan to be developed as well as pinpointing the source of spills. This allows for the responsible party to be held accountable for any financial and environmental impacts.

Some potential examples include:

- Postal operations resume after a suspicious white powder was identified.
- A fuel spill located in the Fox River was accurately traced back to a leaking underground storage tank.
- An unknown substance found in a roadway gutter accurately identified as a paint product and traced back to its source.
- Gasoline used in an arson fire was accurately identified and matched with gasoline in a suspect's gas can, adding essential physical evidence in an arrest.

These are just a few examples of the capabilities that Appleton Fire Department Hazardous Materials Team has been able to provide with the use of FTIR spectroscopy.

Our current technology is over fifteen years old, is no longer supported by the manufacturer, and needs replacement. Additionally, the Hazardous Materials Team has not had the capability to use this type of technology on unknown gases and vapors for over fifteen years. A spectrometer has been located that provides the ability to accurately identify over 22,000 powders and liquids and 5,500 gases and vapors. This device will allow our team to have up-to-date capabilities and ensure we can continue to provide efficient and effective response for the region.

The department sought quotes for this spectrometer as follows:

Vendor	Item	Cost
All Safe Industries	Red Wave Threat ID Full Spectrum FTIR Spectrometer	\$75,172.95
FarrWest	Red Wave Threat ID Full Spectrum FTIR Spectrometer	\$74,850.00
Red Wave Technology	Red Wave Threat ID Full Spectrum FTIR Spectrometer	\$72,190.50

Based on the submittals, ***the Appleton Fire Department requests to purchase the RedWave Threat ID Full Spectrum FTIR Spectrometer from Red Wave Technology for \$72,190.50.***

If you have any questions or concerns, please do not hesitate to contact me at (920) 832-5810. Thank you for your consideration.