"TRITIUM DETECTION AND/OR AUTOMATED SURVEY DEVICE" VCU #13-009

Applications

- Real time measurement of tritium activity
- Locating tritium leakage

Advantages

- Eliminates the need for the collection of samples and off site lab analysis
- Will aid in locating underground water pipes that leak tritium
- Enables automated real time, on-site tritium tests to be conducted

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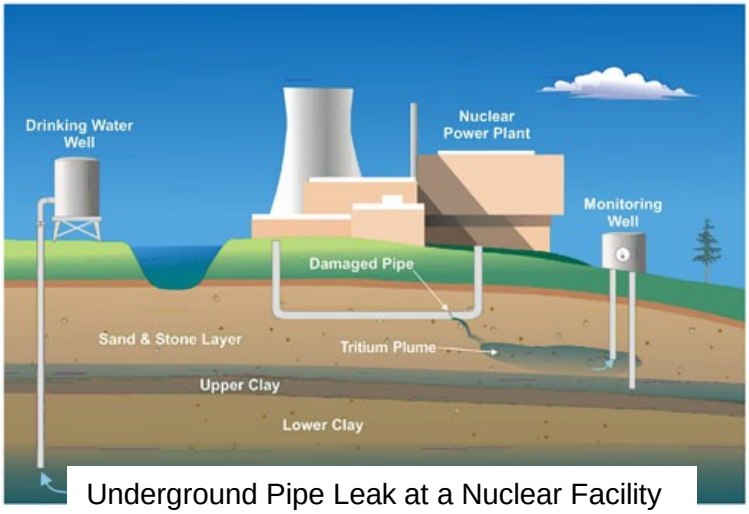
Market Need

High amounts of tritium can be found near nuclear research facilities, commercial reactors and government weapons facility. Exposure to tritium can be harmful and increases the risk of cancer.
Currently the testing of tritium relies heavily on the collection of samples from lakes, rivers and ground water that are then tested to measure tritium activity. At times the results need to be tested further and are sent to an offsite lab for analysis, making the process time consuming and expensive.

Technology Summary

The purpose of this device is to measure activity of tritium in the air above underground water pipes at industrial facilities or wherever possible leaks may have occurred. The testing of tritium with this device can be done in real time. It can also monitor for any radionuclide with a focus on beta emitters that become airborne and associate with air/humidity. It also collects data relevant to activity, location, temperature and humidity which are needed to determine concentration at various locations of tritium in the air.



Underground Pipe Leak at a Nuclear Facility

Technology Status

Rough prototype developed

U.S and foreign rights are available

This technology is available for licensing to industry for further development and commercialization.