DataTrace Applications

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Date: July 29, 2008
Subject: Manufacturer of autoclaves for the sterilization of medical waste

Application:
The sterilization of medical waste by monitoring internal temperature to establish and refine autoclave cycles.

Equipment:
DataTrace: MPRFT4 Rigid Temperature Logger, 4 inch, MPRF Interface with standard antenna.
Facility: Medical Waste Autoclave, Internal Size: Length: 12 feet; Width: 5 feet.

Note:
No Steam or external heat was applied.

Results:
Excellent. The purpose of the MPRF evaluation was to determine the ability of the MPRF to transmit from the sealed autoclave.

Evaluation Procedure:
The MPRF Logger was buried inside a 17 gallon "sharps" container containing ~30 pounds of syringes and tubes (all new and clean with no needles). The sharps container was then loaded into the bottom of a stainless steel cart where a load of extraneous junk was piled on top of the container, filling the cart (pictures 1 & 2).

Picture 1

Picture 2

The cart was then loaded into the rear of the autoclave (picture 3).

DataTrace Technical Note

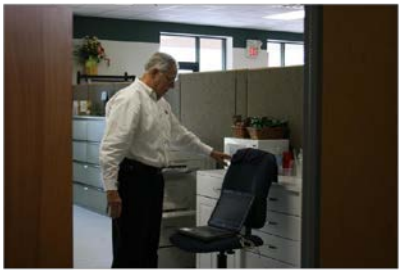
Picture 3

The autoclave was locked and sealed (pictures 4 & 5); controller and MPRF Interface can be seen from the autoclave.

Picture 4

Picture 5

The programmed MPRF Temp Logger (programmed with a 10 second sampling interval) sent its real-time readings flawlessly, without the benefit of a MPRF Repeater or Hi-Gain antenna. The RF transmission over distance and obstacles (cinder block wall) was done by moving the laptop and Interface to the furthest part of the building, about 80 feet from the autoclave (picture 6).



Picture 6

Transmission was unbroken until the Interface was placed behind the laptop (now at the furthest distance) so the antenna would be blocked by the screen. At this point the data stopped being received but back logged and resumed receiving data after moving the In- terface from behind the laptop screen. The evaluation clearly displayed the power of the MPRF loggers in transmitting through difficult conditions of tightly packed medical waste in stainless carts inside a sealed autoclave. Temperature conditions inside the medical waste containers can now be monitored with the use of MPRF data loggers as autoclave cycle refinements are made in real-time.