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Fire Alarm Expert

By Greg Kessinger, SET, CFPS

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SET, CFPS



A DAY IN THE LIFE OF A FIRE ALARM TECH

Fire alarm service calls are usually referred to in degrees of bad. I have a good understanding of what winter service calls can be like but my own winter complaining was forever silenced after my experience last month with a group of fire alarm technicians at a military base in Greenland.

I've provided fire alarm training seminars for other U.S. military bases in the past but none have had the technical and logistical issues that the fire alarm technicians at Thule Air Base in Greenland have to deal with.

I arrived at Thule Air Base after a six-and-a-half hour military flight from Baltimore Washington International airport, ready for a week's stay. The fire alarm technicians employed by Greenland Contractors, the construction company hired to provide all the services to the base, are the "cream of the crop", as they put it, a necessity in order to work at Thule. Like all Danish school kids, the fire alarm technicians have been taught English starting at age 12 and have all been factory trained in the U.S. They admit lacking knowledge of our NFPA standards, which is why I was there. As it turned out, Denmark doesn't commonly use conduit so the whole (bend radius, support, box/conduit-fill capacity, plastic bushing) EMT concept was also new to them.

There have been several large fires at Thule; the last one destroyed a residential barracks about 15 years ago and another destroyed a radar facility. Firefighting is brutal as Thule is where some of the highest wind speeds on earth have been recorded, which will drive a fire from one end of a building

to another in less than three minutes. Evacuation time is critical. Yes, they evacuate to outdoors, but are required to gather in a pre-assigned building for head counting. The base has a full time Danish fire department that also provides medical and emergency rescue services. Fire hoses are left on the ground after a fire where the next day they are picked up and taken into a hanger to thaw. There is a system of hydrants throughout the base that can be turned on when there's a fire but most of the water is kept indoors and shuffled to the fire using several tanker trucks. All the manual fire alarm pull boxes on Thule are said to be very special. They are said to issue airplane tickets, in other words, pulling one when there is no fire, gets you a seat on the next flight home.

All the buildings on the base have walls from one-and-a-half to three feet thick, and you enter through air locks. The newer doors are insulated, gasket walk-in freezer doors whereas the circa 1951 doors are wood covered by sheet metal. The exterior door handles are large levers which must be pulled up to open the door. This is to confound the polar bears which tend to push them downward. Almost all the buildings are covered with sheet aluminum to protect them from debris. Believe it or not, wet pipe sprinkler systems are used in their well-heated buildings. Their main remote radar site is outfitted with fire pumps and deluge sprinkler systems and contains the largest water storage tank I've ever seen—indoors or out. Fire hose reels are dry until a marked manual pull box is operated

that is wired to start a fire pump. Optical flame detectors and foam generators are installed in the aircraft hangers.

The air there has negative humidity during the winter so static electricity is the worst I've ever encountered. The fire alarm technicians said they have to remember to drink plenty of liquids even though they don't feel hot. Very special care must be taken with all circuit boards to avoid zapping them with your constant static build-up. I was shown how brittle their nylon cable ties become in less than a year of use. Even the ones still in the bag aren't any good after a year or so. Several brands have been used, all with the same result. Long EMT conduit runs have also been tried in the past, but the drastic expansion and contraction causes conductor failure. When cold, it contracts and the conduit comes apart. The tubing then expands during the "summer" weeks when the air temperature during the day can get up to almost 58 degrees Fahrenheit. Since the conduit is not aligned properly, the expansion causes the wire to become caught between the end of the conduit and its coupling, cutting the insulation of the wiring and causing a short. Grounding equipment has always been a problem since the dry frozen earth there is not suitable for ground rods. Instead, the entire base is grounded through a single cable system that has been run out to the re-supply pier.

When making their fire alarm service calls to the remote sites, each tech must radio in to their Hilltop dispatch center that they are leaving the base and where they are going. Ferocious snow and wind storms can come up suddenly and anyone caught driving between sites may only be able to see four-to-six feet in front of the truck. Half-inch conduit poles have been placed every 12 feet along these gravel roads, where seven storm shelters have been strategically placed every 1/2 mile. Two reflectors placed on poles 4 feet apart indicate you are next to one of these shelters. These visual cues are life saving measures. The shelters are one-room, 8-foot by 10-foot shacks containing two cots, clothes, magazines and candles.

The "electrical power" is lying on the ground behind the structure, but the shelters themselves do not have electricity. The base's weather channel constantly displays the current conditions around the base and at all the remote sites.

The truth is, although our days are becoming warmer and summer is nearly here, the conditions that fire alarm tech-

nicians in the U.S. face do not even compare to the conditions the fire fighters and fire alarm techs deal with at Thule Air Base in Greenland year-round.

Greg Kessinger, SET, CFPS, is the chair of the NBFAA's Fire & Life Safety Committee. He can be reached at Greg@firealarm.org.

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