Killeen Air Force Station, home of the 814th AC&W Radar Squadron located in the south Texas hill country, was a unique radar station and an unusual assignment. Its arrival and departure on the Air Defense Command's scheme of radar stations was like a 4th of July bottle rocket. A brief flare into existence and then gone from sight (or is it, that site was gone from sight?). But it did have one *burning* moment, and I do mean burning. I doubt a similar event occurred in the history of ADC Radar stations.

This tale of woe started when a routine preventive maintenance instruction was scheduled to be performed on a midnight shift. A radar maintenance technician was tasked to accomplish a ten minute PMI on the AN/FPS-20A search radar antenna drive system. It was a simple maintenance check, one that had been completed countless times without any problems. The main antenna drive gear, or bull gear, rotated in a bath of oil, while a special oil filter, the interior of which resembled a cone shaped cooking sieve filtered the oil of contaminations. Rotating a Tee-handle on the bottom of the Cuno oil filter caused any contamination to be scraped from the filter. A petcock on the gear housing had to be opened to drain any moisture from the bull gear oil bath. The third part of the routine was checking the oil level and adding any make up oil as needed. In the normal course of events one would rotate the Cuno oil filter handle a few times, open the petcock to drain the moisture, check the oil level and, close the petcock. Sounds easy right? But our intrepid airman forgot one little simple thing-close the #@%& petcock! You've heard the story; for want of a nail a battle was lost, well that single mistake would cause devastating problems.

A few hours the maintenance event the radar alarm bell sounded. The antenna drive had shut down, where upon the two shift workers dashed to the radome pressure chamber and scrambled up the ladder to the radome, threw up the deck hatch door and discovered a small sea of oil spreading over the radome floor. Yuck! What a mess! A massive clean up was required; lots of solvent and cleaning rags were used to clean the deck plates. A lot of radar down time was needed to return the radome floor to a safe operating area.

To fully understand the next course of events, one needs to know that the radome was constructed of rubberized fabric and kept inflated by one to three large blower motors (the amount of pressure being dictated by ambient wind speed). The radome flooring, or deck plates, was a sandwich of plywood with metal edging and the surfaced covered with a non-skid coating .At their adjoining corners a small gap would often occur, although there would be some radome air pressure leakage, the loss was considered negligible. Inside the radome, lighting was available from three portable 15 inch diameter flood lamps. But much better lighting (and heat) was supplied by a horizontal rack of infrared heat lamps. The electrical load was approximately 15KVA. There were three banks of heat lamps, which were intended for deicing the exterior of the radome.

OK, the stage is now set, the oil spill is history, it's another midnight shift, another 10 minute PMI antenna gear check. The radar repairman decides to add some more lighting

to the scene (after all he doesn't want to make a mistake on his shift), so he turns on one of the heat banks. Wow! That lit up the place. Also it took a little chill away form the cool Texas night air. He finishes his work task and exits the radome. All is well, or is it? Oops. He forgot to turn off the heat bank. The heat bank has metal legs; one is sitting on top of a corner flange of the deck plates. Those deck plates that had been covered with oil and cleaning solvents, which had become saturated as fluids seeped into panel wood cores. Sparking begins to occur at the point where the heat bank support leg is sitting; sparking that is soon fanned into a flame by radome pressure whistling thru the gap where the deck plates meet (later it would be found that that the heat bank was improperly grounded).The radome air pressure force feeds the flame and the fire quickly spreads thru several cores of the deck plates. Maintenance men on the tower lower floor are alerted by greasy thick smoke spewing downward from the radome floor. They begin attempts to quell the fire and quickly exhaust the available hand held fire extinguishers.

Now they face a dilemma, if they shut off the radome inflation blowers the radome will began to collapse and could be burned, on the other hand, if they don't shut off the blowers the escaping air will continue to feed the fire. In the meantime fire fighters from nearby Gray AFB have been alerted to the situation and soon arrive on the scene. They are confronted with a fire located on the top floor of an arctic tower that is about 50 feet above ground level. They pull fire hoses up the tower stairs and begin to spray water on the underside of the furiously burning deck plates. The radar maintenance men have had the presence of mind to turn off all electrical power to the radar tower. As luck would have it the radome fabric had settled gently onto the radar antenna and just missed being burned.

The good news, the fire was out, the bad news was the water, foam and other fire fighting chemicals that had extinguished the blaze had cascaded down through the floor and inundated the radar equipment. A massive clean-up now had to be undertaken to remove the stinking mess and dry out the myriad electronic components. Cabinets were stained and streaked from the soot and chemicals. A lot of rags, mops and, fans were applied and in a few days the equipment was back in working order. The radome floor was repaired with sheets of plywood and once more held air pressure. A lot of hard work was expended and an odor of charred wood/smoke lingered on, to serve as a reminder of the radome fire.

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