



Naval Facilities Engineering Command, Mid-Atlantic **Safety Lessons Learned Accident Abstract**

Accident Type: FIRE
Injury: NONE
Damage: NONE (BLDG
BEING
DEMOLISHED)
Type of Work: DEMOLISHING
WWII ERA
HANGAR
Equipment: EXCAVATORS



DESCRIPTION OF THE ACCIDENT:

- ◆ A 3 story wooden WWII era Aircraft Maintenance Hangar was in the process of being demolished, with the east side and 2 quadrants of the roof previously removed. The demolition subcontractor was actively separating structural steel from the dropped roof section when the excavator operator discovered smoke rising from the debris. Unsure if it was smoke or dust, the excavator operator lifted some of the debris with his excavator to investigate and the fire flared up. One of his co-workers to spray with the charged fire hose that he was using for dust suppression. The excavator operator then noticed that the fire had also flared up in the original debris location. Contractor attempts to extinguish the fire with the fire hose and with a 4A:80B:C fire extinguisher was futile. There was no damage to Government property since the facility had already been turned over to the contractor for demolition and disposal.

DIRECT CAUSE:

- ◆ The fire department performed an investigation of the suspected fire origin area. However, it was impossible to conduct any type of forensic investigation to determine the exact point of origin or any type of potential evidence. Therefore, based on witness statements, interviews, and site investigations, the fire department has listed the official cause of the fire to be “UNDETERMINED – NOT SUSPICIOUS”.

INDIRECT CAUSE:

- ◆ The building’s wooden timbers and rubber membrane roof proved to be very flammable.

- ◆ Since it was somewhat windy that day, it's likely that the weather conditions contributed to making the fire burn as quickly as it did.

ROOT CAUSE:

- ◆ **Unknown.** There is speculation that metal on metal contact or heat generated from bending metal during the demolition operation may have inadvertently created a spark that smoldered in the debris until the excavator exposed the spot to the air and it flared up. However, this is only speculation.

LESSONS LEARNED:

- ◆ The Accident Prevention Plan and the Activity Hazard Analysis should have been more specific to anticipate the flammability of the hangar building, particularly the wooden timbers that had not been exposed to water for over 65 years.
- ◆ Although the demolition contractor was spraying the debris with water for dust suppression and fire prevention, the water was primarily wetting only the surface of the debris. The rubber membrane roof in the debris limited the water from reaching the debris below it.
- ◆ In hindsight, the wooden building timbers could have been sprayed with water from the inside of the building prior demolition. However, this likely would not have changed the outcome since it would only have dampened the outside of the wood and the inside of the timbers would have remained bone dry.
- ◆ The charged fire hose used by the contractor for dust suppression and fire prevention was difficult to move with just one individual. The site superintendent helped the hose operator move the hose, but it was too late to have any meaningful effect on the fire.