

HISTORICAL FIRE: 1991 Imperial Foods Processing Plant, Hamlet, N.C.

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The following article is consists of excerpts from the U.S. Fire Administration/Technical Report Series, USFA-TR-057. The complete report can be viewed [HERE](#).

Overview: The morning work shift of employees at the Imperial Foods Processing Plant in Hamlet, North Carolina had just begun when a fire occurred at approximately 8:15 a.m., on September 3, 1991. The rapid spread of heavy smoke throughout the structure ultimately resulted in 25 fatalities and 54 people being injured in varying degrees.

The Building: Poultry processing plant of 30,000 square feet with open work areas, sealed concrete slab floor, ceramic tile walls, and ceilings of formica-type finish. Interior kept cool.

Origin and Cause: The conveyor to a cooker had a hydraulic line repaired which burst when brought up to full pressure. Hydraulic fluid expelled at 800 to 1,500 psi, ignited by heating gas plumes from a cooking vat.

The Fire

The ignition of the fuel caused an immediate and very rapid spreading of heavy black smoke throughout the building. Seven workers were trapped between the area of origin and any escapable routes.

Witness reports indicate much of the plan was enveloped in under two minutes. Workers throughout the plant found their visibility eliminated and oxygen quickly consumed. Hydrocarbon-charged smoke, particularly as heavy as this, is extremely debilitating to the human body and can disable a person with one or two breaths. This was confirmed as autopsies on all of the fatalities found that virtually all died of smoke inhalation as opposed to direct flame injury.

Survivors indicate there was no real organization in the plant's evacuation, and this was confirmed by the location of the bodies. Several employees in the central part of the structure moved to the trash compactor/loading dock area near the southeast corner of the building. Here they found one of the personnel exit doors to the outside locked. A trailer was backed into the loading dock area cutting off all exit through this area. One woman became trapped between the compactor seal and the building wall while trying to squeeze through an opening. A number of remaining people in this area went into a large cooler adjacent to the loading dock, but failed to pull the sealed door shut, thus allowing smoke infiltration into the cooler. The cooler area had the largest single fatality count, with 12 deceased being removed from this room along with five injured people. The second largest fatality area was the



A view of the cooker vat where the fire started.

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processing room between the fire and the only escape route where seven people were trapped. Three additional bodies were found in the trim room area, one of whom was a route salesman who had been filling food machines in the break room. The exterior door in the break room was also locked from the outside.

Response

The initial equipment left the station at 8:24 a.m. and was on scene three minutes later. Firefighters immediately began a search and rescue operation but were met with considerable heat and fire coming from the

processing area. They had to withdraw and reposition to initiate their attack on the fire through the equipment room which was next to the processing room. The fire was brought under control at approximately 10:00 a.m.

Search and rescue efforts continued during the fire suppression with injured people and fatalities being located from the first entry at approximately 8:25 a.m., and the final victim was located shortly after 12:00 noon. Concern for the integrity of the roof structure prevented earlier discovery of victims in the processing room area.

Code Enforcement History

Much discussion has taken place about the lack of inspections conducted by the North Carolina Department of Occupational Safety and Health Administration (OSHA) at the Imperial Food Processing Plant. In fact, during the 11-year operation of the plant, North Carolina OSHA had never inspected the facility.

Lessons Learned

1. Life safety codes must be enforced.
2. Cooking areas must be separately partitioned from other employee work areas.
3. Building exits in wet type operations should have double emergency lighting, one positioned above the door and one low to the floor.
4. High pressure equipment maintenance and repairs must be limited to factory trained personnel and specifications.
5. High pressure equipment in probable incident areas should have built-in catastrophic shut down valves.
6. Negative air flow systems in these facilities could enhance safety by being modified to also accomplish smoke evacuation.
7. State and Federal inspectors from various departments should be cross-trained.
8. Establish a “worry free” line of communication for industry employees.
9. The number of OSHA safety inspectors must be increased.
10. Emergency exit drills must be incorporated into industry policies.



View of the south end, the southeast corner, and the front of the Imperial Foods building.