

**South Jersey Ice and Cold Storage  
Vineland, Cumberland County, NJ**

**EPA Emergency Response  
June – August 2016**

**Dwayne Harrington**

**USEPA Region 2  
Response and Prevention Branch**

Request from VFD on 6/22/16 for EPA to respond to investigate conditions at the facility



## Anhydrous Ammonia:

EHS, RMP/PSM regulated, DHS/DOJ Schedule 1 TIM

Facility registered for 4,700 lbs;

below RMP and NJDEP-TCPA regulatory thresholds





3 stories plus basement

> 5 million lbs frozen product, mostly seafood

One 1-pallet freight elevator

Facility owner developing closure plan



**Circa 1922; current operator 1998**







































A photograph of an industrial refrigeration facility. The scene is dimly lit, with light coming from windows and overhead fixtures. In the foreground, there are large blue industrial units, possibly compressors or condensers. A person is partially visible behind one of these units. To the right, a tall metal ladder is leaning against the equipment. The background shows more complex piping and structural elements of the facility.

## Facility owner NJ Licensed Refrigeration Operator

### EPA GDC Inspection 8/2/16:

No process safety program

No process safety information

- system charge calcs
- equipment volumes and pressures
- P&IDs
- Pressure relief systems

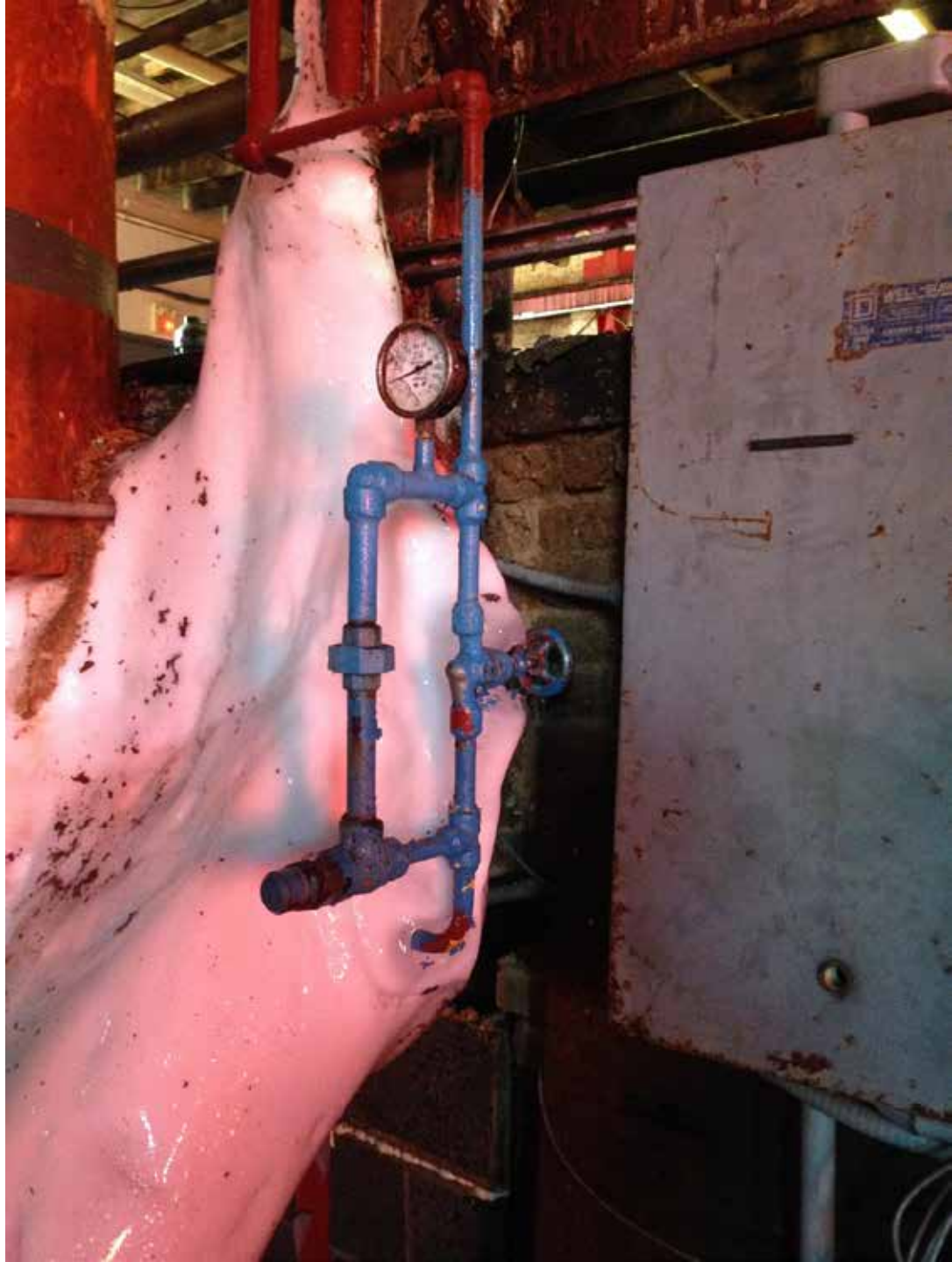
No preventative maintenance, NDT, or records;  
breakdown maintenance only

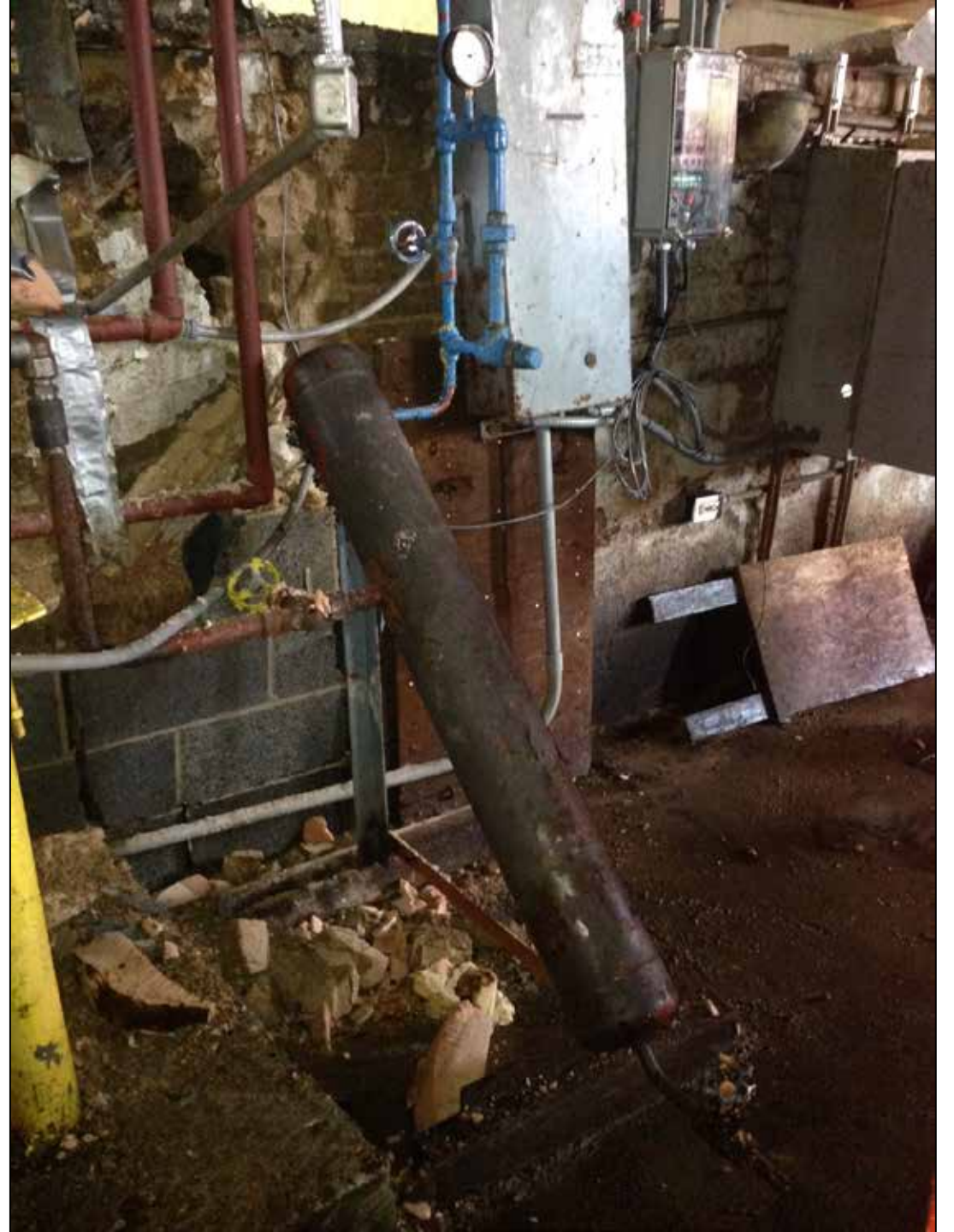
No employee Hazcom or operations/safety training







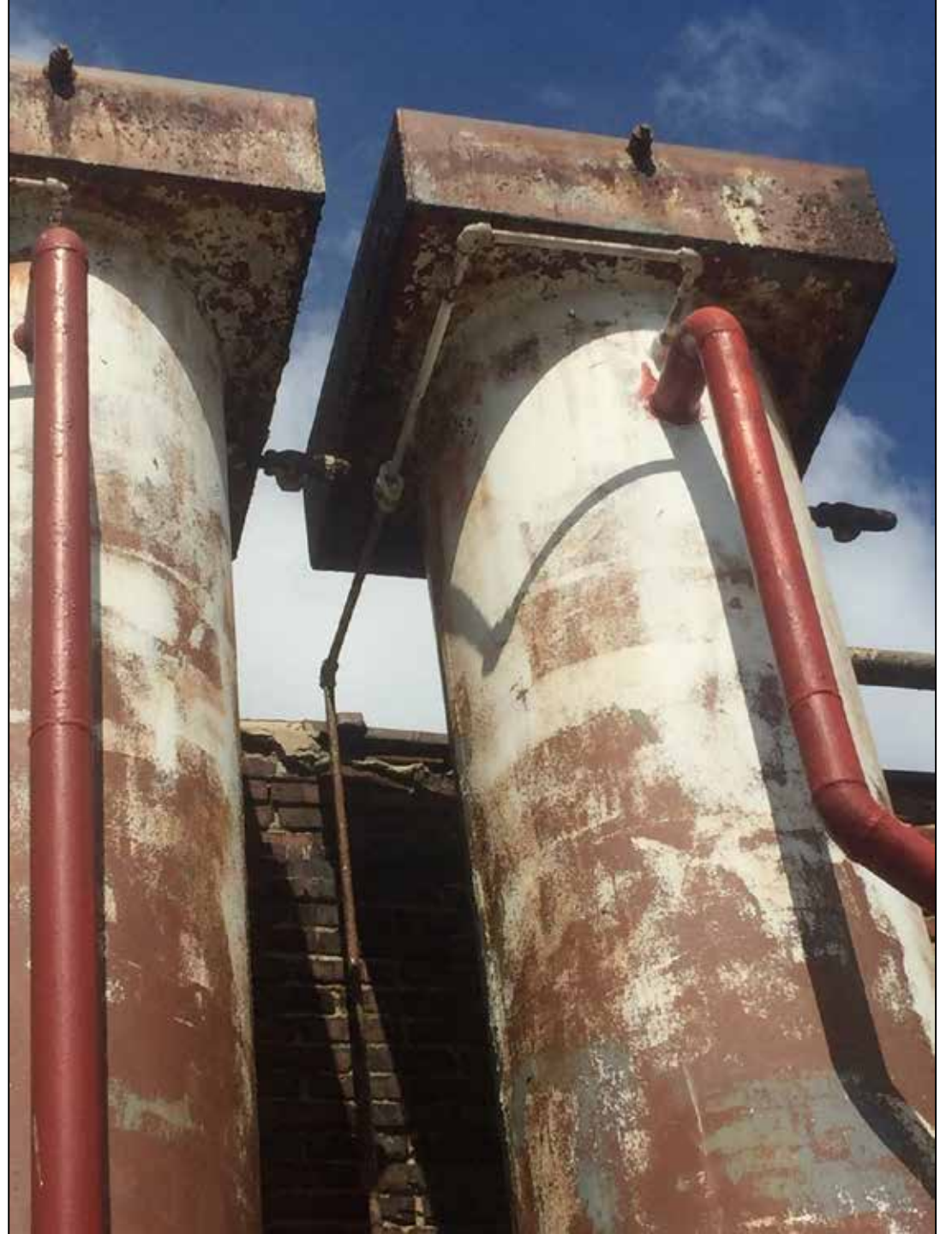








Condenser Silos, 1922















June 28

Initial assessment by EPA and facility owner refrigeration engineering contractors identify numerous serious deficiencies in the system and the need to remove the ammonia and repair the system as soon as possible.

Dangerous ice buildup on refrigeration coils – increased load beyond breakpoint

Serious concerns about ice buildup stress on building integrity

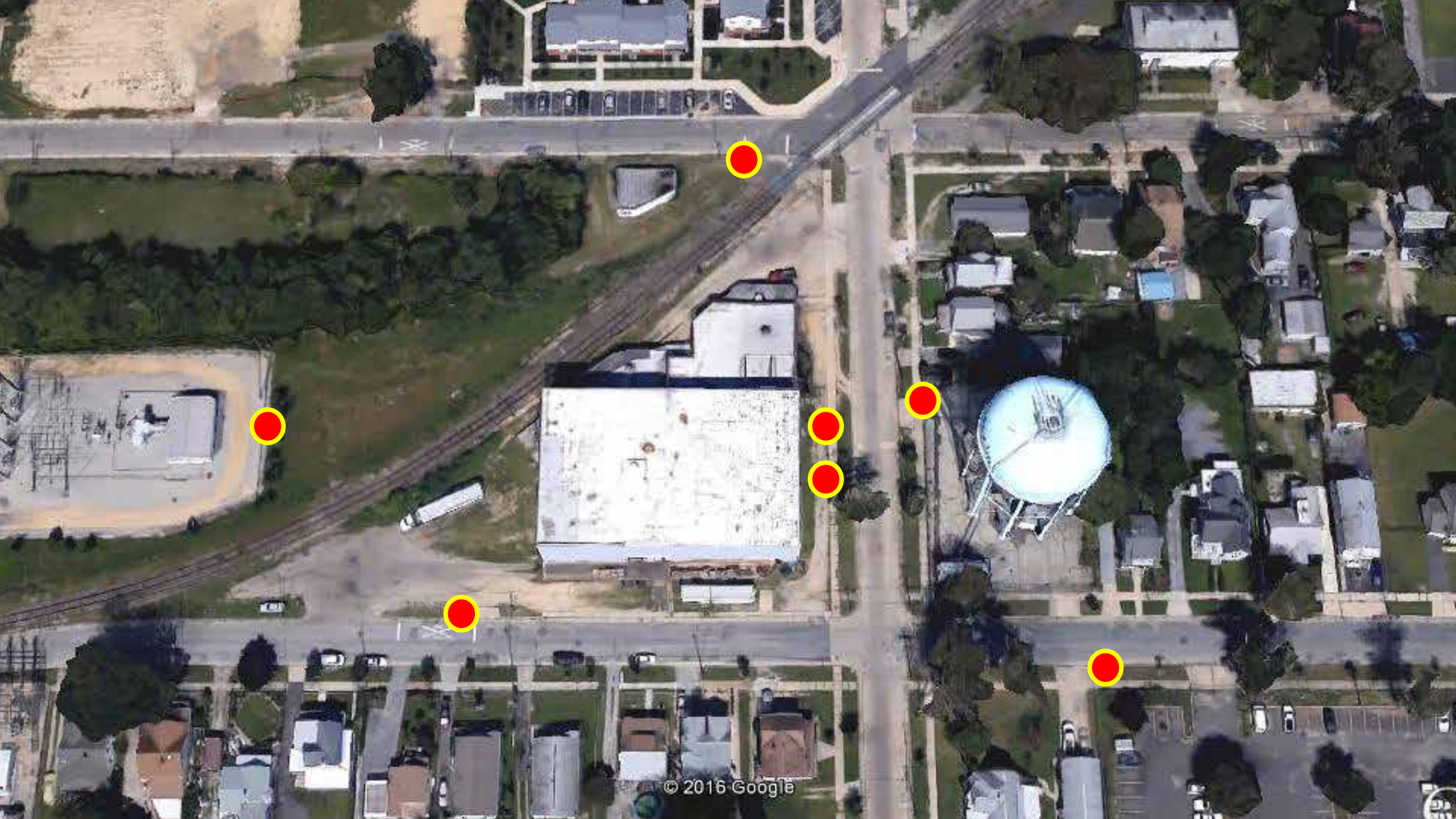
*“I have been in the refrigeration business for 52 years of my life and this is the worst building I have ever been in. It is a disaster waiting to happen.”*

*President, Arctic Refrigeration*



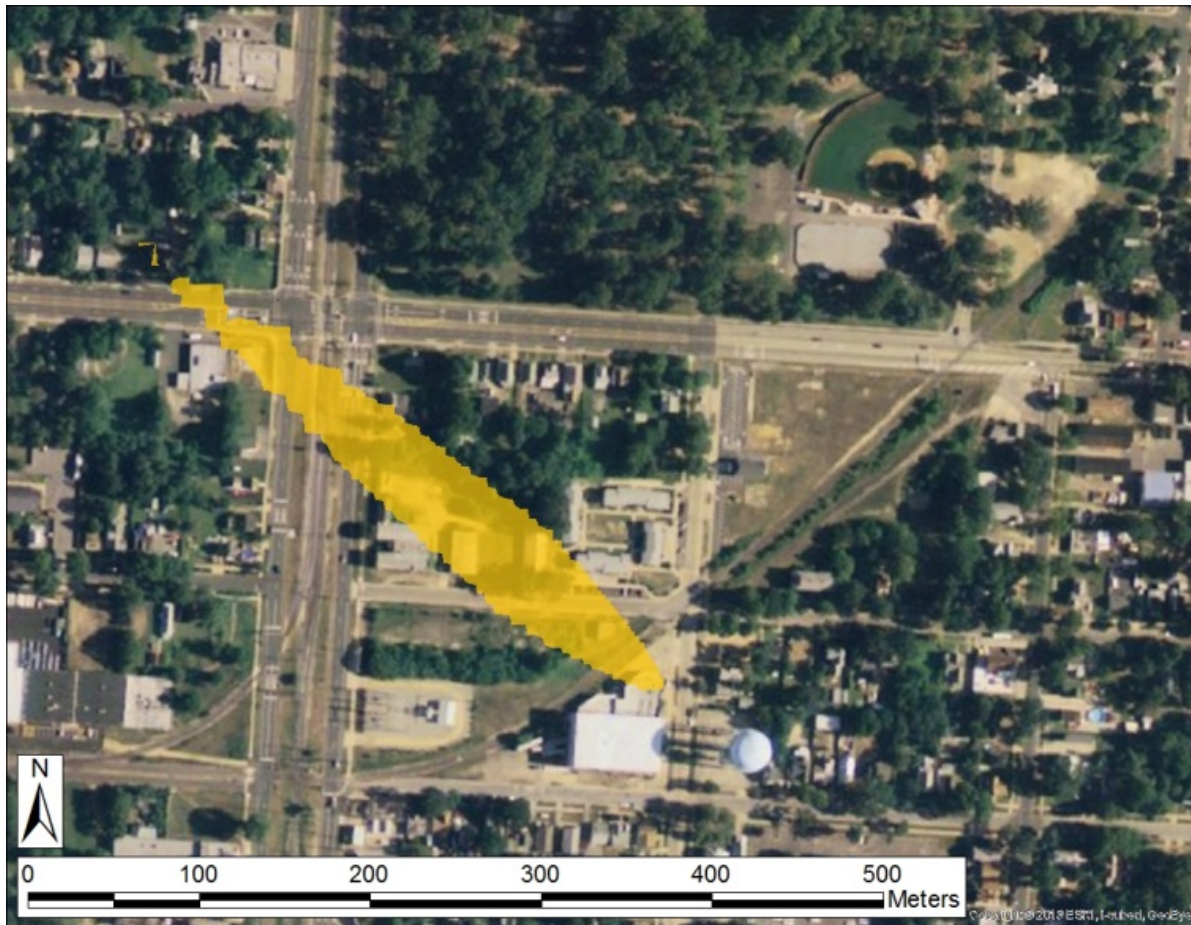
EPA response initiated July 2, 2016



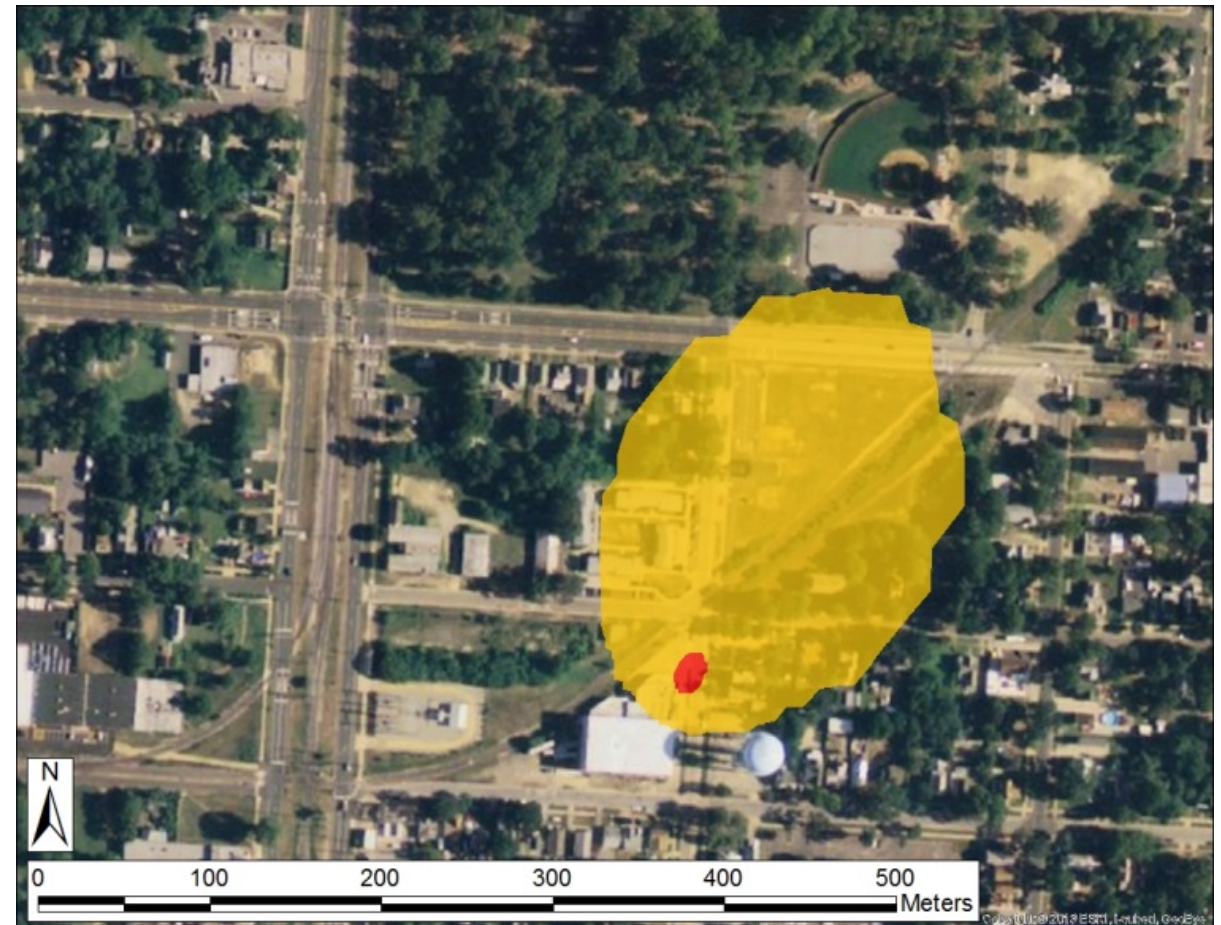








Minimum Population Affected – 42

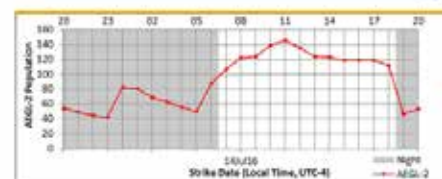


Maximum Population Affected – 146

Value
AEGL-3
AEGL-2

FACTS
Vineland, NJ
Location: 39.48969°N/79.02334°W
Beginning Incident Time: 0000 EST 14JUL2016
Hazard: Ammonia (NH <sub>3</sub> )
Amount: 4,700 lb
Incident: Continuous release
Weather: 12 km NAM
Model: HIRAC 6.3
Static Population Estimates: LandScan 2014

Ammonia – Estimated AEGL-2 Populations



Day Night

Exposure to high concentrations of ammonia in air caused immediate burning of the nose, throat and respiratory tract. This can cause bronchial and alveolar edema, and airway destruction resulting in respiratory distress or failure. Inhalation of lower concentrations can cause coughing, and nose and throat irritation.

	Strike Date / Time (Day/Night)	Estimated AEGL-2 Population
Min	14JUL2016 / 03:00 EST (Night)	42
Max	14JUL2016 / 15:00 EST (Day)	145



7 Residences Relocated for ~ 6 Weeks



## 7 Residences Relocated for ~ 6 Weeks

- Families
- Special needs
- Lack of bank accounts



## Community emergency notification and response plan

- Bi-lingual
- Community outreach
- Emergency notification



**EPA and VFD Hazmat facility response plan**



**Unified Command:**

**EPA Region 2**

- Response and Prevention Branch
- Public Affairs Division
- Office of Regional Council

**South Jersey Ice**

**OSHA - information sharing w/ EPA**

**City of Vineland**

- Fire Department & OEM
- Health Department
- Public Housing Authority
- Public Works
- Human Services

**NJDEP-BER**

**NJDOL**



ERV Scrubber Installation 7/9/16

Neighborhood shelter in place advisory during scrubber installation









**EPA and VFD Hazmat standby  
for response operations**



MI - 52 (H - 4 - 12)

REMOVAL BY ANYONE OTHER THAN AN INSPECTOR OF THE BUREAU OF BOILER AND PRESSURE VESSEL COMPLIANCE IS UNLAWFUL

**PROHIBITED FOR USE  
AT ANY PRESSURE**

AFTER THE FOLLOWING DATE: *7-23-2016*  
BY INSPECTOR: *DANIEL Nemsdate*

CALL (609) 292-2921 IF EQUIPMENT IS OPERATING AFTER THE DATE ABOVE

INSPECTOR IS REQUIRED TO POST WHEN UNSAFE CONDITIONS ARE FOUND

PURSUANT TO N.J.S.A. 34:7-21

STATE OF NEW JERSEY  
DEPARTMENT OF LABOR AND  
WORKFORCE DEVELOPMENT

NJDOL Boiler  
and Pressure Vessel  
Red Tag 7/23/16





EPA Access Order 7/18/16  
EPA assumes facility operations to remove ammonia



> 5 million lbs frozen seafood

One 1-pallet freight elevator

~3 weeks to unload



Product Removal Completed 8/20/16



~ 3 weeks to pump down and remove ammonia

7/21/16: 6080 lbs

7/27/16 : 1820 lbs

~ 8,000 lbs



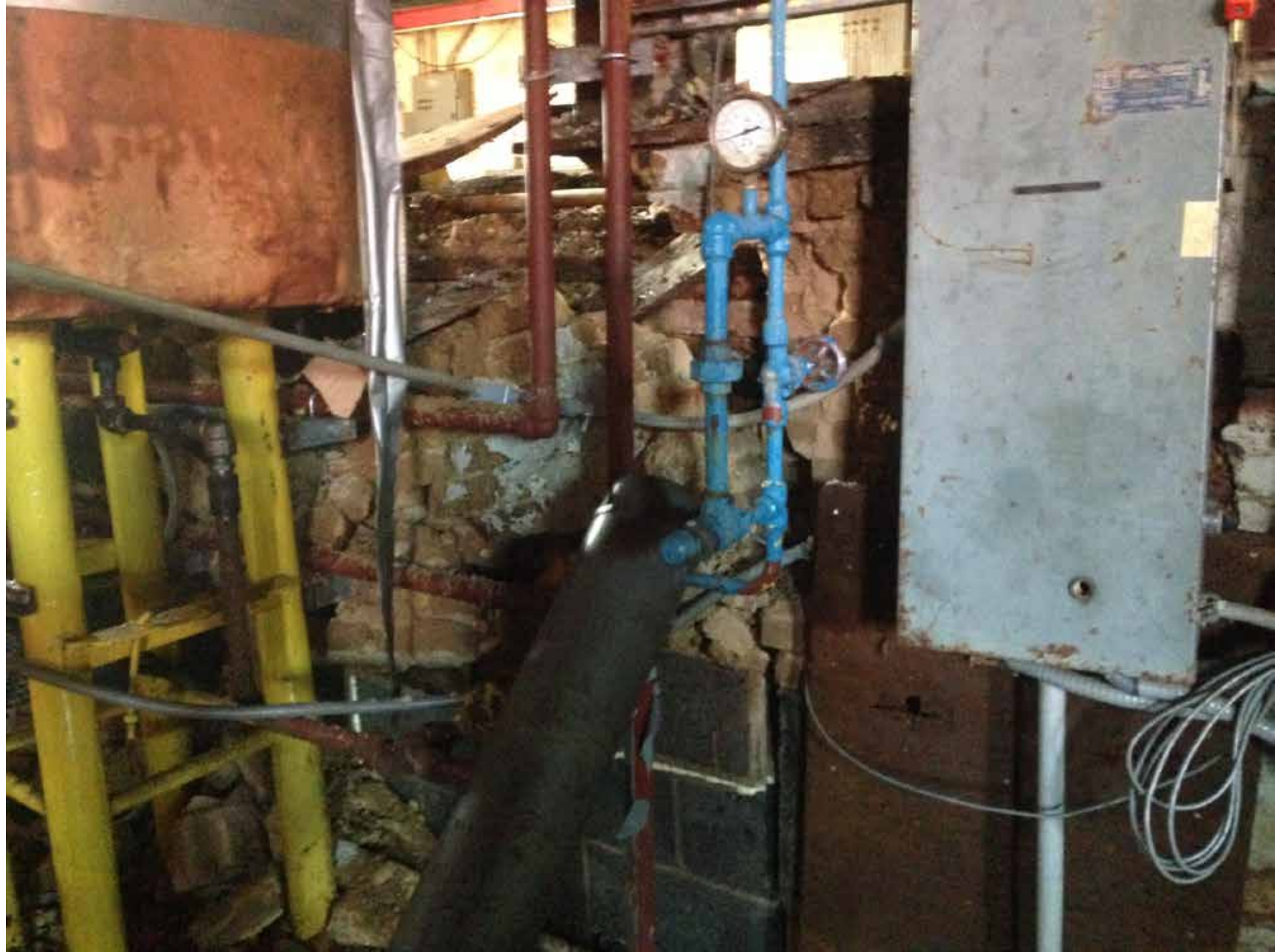
# Neighborhood evacuation by VFD during ammonia removal





Emergency removal of 33k gals brine solution







Building ventilation and meltwater removal














Response Completed 8/18/16

~8,000 lbs Anhydrous Ammonia Removed

# Oversight of facility transferred to City of Vineland for final closure and disposition



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- An aerial photograph showing a residential neighborhood with houses, trees, and a large white industrial building. A prominent water tower is visible on the right side of the image. The text is overlaid in yellow on the left and center of the image.
- Need to better identify facility non-compliance and coordinate between regulatory agencies
  - Process safety management relative to response limitations of mechanical engineering contractors
  - Release prevention relative to public protection

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- An aerial photograph of a suburban neighborhood. In the center, there is a large, white, rectangular industrial or commercial building. To its right, a tall, blue water tower stands prominently. The surrounding area includes residential houses with green lawns, trees, and paved roads. A parking lot with several cars is visible in the lower right corner. The overall scene is a mix of residential and commercial infrastructure.
- Need to better identify facility non-compliance and coordinate between regulatory agencies
  - Process safety management relative to response limitations of mechanical engineering contractors
  - Release prevention relative to public protection

## Questions and Discussion