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SUBJECT:
Stavis Seafoods Facility – Critical Actions List
7 Channel Street
Boston, MA 02210

PURPOSE:

The purpose of this report is to provide a list of items that are critical right now to provide safe operation and protect the neighborhood and facility employees working or living near the Stavis Seafoods facility located in Boston, MA.

There are many critical areas of concern that must be addressed immediately.

I (Larry Aleksandrich) have listed the critical items below:

a. Conduct non-destructive testing of ammonia refrigeration system piping and vessels. The testing should include ultrasonic testing or another equivalent test method to evaluate the fitness-for-service of each component on the system. Additionally, the nipple weld on the pilot receiver where the line break occurred should be penetrant tested.

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b. Re-rate pressure vessels in ammonia refrigeration system, including the vessels listed below, or otherwise provide design and testing documentation that the vessels are fit for service:
    i. Pressure Control Receiver – RVS-83017
    ii. Pilot Receiver- RVS-83016
    iii. Transfer (Dump) Tank – RVS-83005
    iv. Low Temperature Accumulator – No RVS number
    v. Compressor Oil Separators
    vi. Oil pots
c. Verify and certify that all small bore (2" diameter and less) anhydrous ammonia piping are Schedule 80.
d. Provide vessel relief calculations for all vessels including the icemakers.
e. Provide relief header calculations.
f. Provide ventilation calculations for the Ammonia Machinery Room.
g. Replace the relief valves on the Pilot Receiver.
h. Pressure test (150psig low side and 250psig high side) the entire system prior to charging ammonia for 48 hours.
i. Vacuum test (1000 microns) for 24 hours prior to charging ammonia.
j. Install relief valves on compressor oil separator pots (OS-1 through OS-5) that are missing relief valves.
k. Replace and calibrate the ammonia detectors in the Ammonia Machinery Room.
l. Install and verify safety interlocks to shut down the gas-fired heaters on the loading dock when the presence of ammonia is detected.
m. Install and verify safety interlocks to shut down refrigeration equipment (e.g., compressors) in Ammonia Machinery Room during emergency shutdowns or when remote emergency stop is triggered.
n. Install and verify safety interlocks to shut down ancillary electrical equipment (e.g., air compressors, portable lights, etc.) in Ammonia Machinery Room during emergency shutdowns or when remote emergency stop is triggered.
o. Modify M&M control system to prevent ammonia detectors being put in bypass for more than an hour during maintenance.

p. Install/repair ammonia detection system and install audio/visual ammonia detection alarms outside of each room containing ammonia piping and equipment.
q. Re-Install fire/smoke and Carbon Monoxide detection system in Ammonia Machinery Room.
r. Provide proper relief header discharge height for the Ice maker relief piping.
s. Provide proper relief header discharge height for the main relief header.
t. Remove the Armaflex insulation on the dock piping and evaluate the condition of the piping.
u. Provide two means of egress off of the roof.
v. Provide two means of egress from Ammonia Machinery Room (second floor) and provide barriers or means of fall protection for the two sets of double doors located on the second floor in the Ammonia Machinery Room.
w. Protect and secure storm drains in and around Ammonia Machinery Room from inadvertent releases of process chemicals to the storm drain system and navigable waters.
x. Remove remaining oil residue from accident from overhead piping in Ammonia Machinery Room.
y. Paint, insulate, and label all process piping, vessels, equipment, and valves according to industry standards and code.
z. Conduct a hazard review on the ammonia refrigeration system.

Therefore, in my professional opinion, due to the potential exposure to employees, the refrigeration contractor employees, and the general public, I would recommend that the ammonia refrigeration system be shut down and pumped out (including water scrubbing of the remaining vapor) until the critical items are addressed.

I would recommend that a qualified ammonia contractor and the facility personnel develop a schedule to address the critical items immediately. Any delays would put the employees and the general public at extreme risk. I believe that the repairs would exceed thirty days to complete and possibly up to three months to complete.

Please let me know if there are any questions concerning this report.

Thanks,

Larry Aleksandrich