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PDII Tech Issues and Solutions

WRR 10 Boston Molasses Disaster

1)

Provide one technical and one non-technical explanation for the disaster.

One technical explanation for the Boston molasses disaster was the metal used for the tank construction. It was far too thin, contained too little manganese, and had far too few rivest and welds holding it together. These factors combined, alongside the cold Boston winter making the metal brittle and repeated stresses causing slow permanent damage are what led to eventual catastrophic failure.

One non-technical reason for the Boston molasses disaster was the lack of safety concern from the United States Industrial Alcohol company. They put profits first, cutting costs on the tank's construction and ignoring warning signs when they appeared and their employees complained. They did bare minimal maintenance and covered up signs of the tank's issues without actually addressing them.

2)

In your opinion why did a "seemingly benign substance" (molasses) cause so much havoc and death?

I believe molasses was able to cause so much harm because of the sheer quantity of it that was handled so irresponsibly. Many things can be considered benign, but when you recklessly stack them 50ft tall and let them collapse onto people, it's bound to cause death and destruction. As to why this was "stacked" 50 feet tall so recklessly, the reasons mostly come down to greed. The tank was built and maintained with profits as the number one priority and safety second.

3)

What changes were made after the disaster to prevent a similar occurrence in the future?

After the flood, there were many many changes in regulations, and the culture of responsibility in engineering as a whole. After this disaster zoning laws began to separate these industrial facilities from peoples homes so that in case of similar disaster, it would only affect an industrial area.. Arguably more importantly, engineers and architechts started needing to actually document and sign their work before having it approved for construction, and all construction must be

closely inspected before being put into use. These laws became common practice across the country, expanded to be more rigorous, and continue to expand still today.