Question 50: What is the proper firefighting media to use when putting out a fire when both spent sulfuric acid and heavy hydrocarbon are present (e.g., in a spent acid tank or a diked area that has a layer of hydrocarbon floating on the spent acid)?

Including the volume involved, is it contained or not contained? Is the hydrocarbon contained or not contained on top of the acid? What other exposures are involved or potentially involved? And then based on this assessment, be aware that the best approach may be to let the fire burn out, depending on how much hydrocarbon is involved and how much containment is possible in these other issues.

One thing that was brought home pretty clearly to me was that the best approach is actually to minimize the hydrocarbon inventory. It's a kind of a housekeeping sequence where frequent skimming minimizes the amount of hydrocarbon that's on top of the acid. Also, you want to avoid uneven cooling of the tank rim, as it's very difficult to get that cooled evenly at all, and it can lead to splitting of the rim.

I should mention that we did have one experience, late in a fire, where they were able to use carbon dioxide to extinguish the remaining fire. That would be considered part of the arsenal in future fires.

HAZEL (Tesoro)

This response is based on what I've gleaned from our folks that do have sulfuric acid units. That's a difficult fire to tackle, you know—kind of walking through the process. The water and acid will interact, which makes water a poor choice. Most of the foams of which we are aware are mostly water. A dry chemical will also react to the acid. So, as always, when you get into a fire situation, there's some initial assessment that's required of the fire.

HAZLE (NPRA)

LOWE (Pasadena Refining)

When I first asked for help on this question, the person's initial response was that he would use alcohol-resistant acquiesce film-forming foam. And then in discussions in the panel, as Clever was referring to, there was some experience with this. In this situation, this foam didn't work very well. They had a lot of breakthroughs in the foam blanket and light-offs after breakthroughs.

So I went back and asked some other people for some help on it and they recommended that maybe 6% foam would have resisted it better, as far as the breakthrough goes. And then they recommended CO2 also; as Clever mentioned, that they had used it successfully. And then I reached way back to someone whom I knew had a lot of experience, and he told me that there is a new class of foam being used in Europe specifically for fuming acid blanketing. He said that it would probably hold up to the acidic situation experience in this type of fire. He also told me that the Coast Guard is running some tests on this foam, but it is being used in Europe right now

HAZLE (NPRA)

Those are the panel responses. Questions from the floor? Other recommendations about film for this kind of situation? Going on, then, to Question #51. First response: Pedro.

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Submitter

Operator