



Dow U.S.A.

The Dow Chemical Company
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November 4, 1991

*Please Complete a
response & return to
me.
Carl*

Carl Mercer
5301 Bldg.

cc: Tom Perriloux, 3701
Art Royals, 3502W

REACTIVE CHEMICALS REVIEW - OCTOBER 31, 1991

Project: Glycol 2-- New Superintendent Review

Attendees: John Monroe, Steve Milligan, Brian Witt, Tom Perriloux, Dan Slezak, Tracy Downing, Buck Bailey, Don Jones, Steve Cook, Hal Martin, Wally Bounds, Romon Lopez, Mark Mitchell, Henry Vadnais, David Steele, Gerald Wagener

The Reactive Chemicals Committee is very appreciative of the effort you and your staff gave to this reactive chemicals review. Obviously there was a tremendous amount of work which went into the preparation. It was obvious to the Committee members that you are very knowledgeable of the Reactive Chemicals hazards and lines of defense which exist in your Plant.

Concerns:

TRACEY

1. Concerning the Tri-Tetra reactor: There is still a concern that the reactor operating temperature is too close to the decomposition temperature as measured by ARC analysis. Two exotherms were observed by ARC and the concern is whether or not the first exotherm could (under some set of credible conditions) lead to the second exotherm (decomposition). Reactive system relief design calculations should be performed to determine the extent of hazard. Credible worse case scenarios should be identified. John Monroe said he would be available to assist if needed.

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2. The reactive chemicals hazards of using aluminum in the Ethyl Chloride area should be re-emphasized to Glycol 2 personnel as well as to maintenance/contract folks. This could perhaps be done in the HAZCOM training sessions. Placards could be strategically placed throughout the area to emphasize this hazard.

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3. Concerning the R-10 Acetylene Hydrogenation reactor there were several suggestions:

--Since the strainers will be opened soon it would be appropriate (because of the recent Poly B hydrogenation strainer incident) to consult with Poly B personnel on how to avoid the problem they experienced. In addition, Mike Holbrook in R&D, a hydrogenation catalyst expert, should be contacted if technical expertise is needed in this area

--There was discussion of the effect of a worse case "slug" of ethylene from LHC. Perhaps a process analyzer should be installed to monitor the ethylene in this stream. Another possibility would be to transmit the output signal from instrumentation at LHC to Glycol 2 to warn of an impending slug of ethylene.

--Credible worse case scenarios should be established for this reactor system and the the current trip logic should be evaluated to insure that the lines of defense are appropriate.

--A system should be established for early warning of catalyst selectivity/efficiency problems.

--Procedures for de-activating and de-commissioning spent catalyst need to be established.

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4. As an attempt to eliminate EO reactor incidents there has been several downward adjustments to the oxygen concentration in the inlet feed. The current practice is to limit the inlet oxygen at a level 0.75% below the calculated MAOC. The equation which is used for calculating the MAOC is based on extrapolated test data. It would be appropriate to validate this equation by conducting flammability tests on the actual composition of the inlet feed to the EO reactors. Bruce Powers and Dan O'Shaughnessey are the contacts in Midland for getting this work done.

STEVE C

5. CO2 Removal: The Reactive Chemicals Committee agrees with the need for an oxygen analyzer on T-300 OH.

Please respond in writing to the committee chairman within one month as to action taken or planned in regard to these concerns.

Gerald Wagener

Gerald Wagener, Chairman
Reactive Chemicals Committee

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