



Indow 2-25-93

Dow U.S.A.

The Dow Chemical Company
P.O. Box 400
Plaquemine, Louisiana 70765-0400

Building 2511
February 26, 1993

Barry Guillory
Bldg. 2601

cc: Rick Thornhill, 2601
Roger Hudson, 3601
Tom Austin, 3701
Mike Sticklen, 3701

REACTIVE CHEMICALS SUPPORT LETTER

R12 Refrigerant Replacement Project (Chlorine 1 and Chlor-Alkali 2)

Review date: February 25, 1993

**Committee present: Mark Mitchell, John Gross, Joe Schell, Buck Bailey,
Don Jones and Gerald Wagener**

Scope: R-12 refrigerant which is currently used in the liquefaction and purification areas of Chlorine 1 and Chlor-Alkali 2 will be replaced with chlorine. A total of seven large R-12 refrigeration units will be affected at the two plants. The two liquefaction plants at Chlorine 1 and Chlor-Alkali 2 will be combined into a single liquefaction plant which will be located at Chlorine 1. The Chlor-Alkali 2 liquefaction train will be decommissioned. The two Chlorine 1 liquefaction trains will be expanded to process the additional flow.

This project was reviewed by the Reactive Chemicals Committee on February 25, 1993 and there are no significant reactive chemicals concerns which will prevent this project from being implemented. As a result, the Reactive Chemicals Committee Supports this capital authorization. The concerns which are listed below should be addressed before start-up:

- 1. Another reactive chemicals review of this project should be conducted before demolition and construction begin. Items such as cleaning procedures for equipment going back into chlorine service should be reviewed to assure that all R-12 refrigeration oil will be removed. Demolition procedures for titanium equipment should also be reviewed since there are significant concerns associated with titanium hot work.**

DO A 045972
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2. The operation and configuration of the C-550 seals should be re-reviewed to make sure that the risk of backing up chlorine into the lubrication oil will not be increased.
3. For equipment which will be placed in chlorine service, consider limiting the high temperature trip setting to 145 deg C.
4. It appears that a tube leak on E-205 will result in R-123 entering the chlorine. In the past this has been a problem for the user plants, specifically the Chlorinated Methanes Plant. Evaluate this possibility and if valid, on-line monitoring and trip logic may be required.

Gerald Wagener

Gerald Wagener, Chairman
Reactive Chemicals Committee