M.2.2 A number of possibilities exist for serious personnel exposure to toxic materials during routine maintenance or operating situations. They include:

a) The procedure for unplugging phosgene vaporizer liquid level leads by blowing with temporarily hooked up nitrogen lines while the vaporizers are in operation could result in backflow of phosgene if hose or temporary lines should break loose.

b) Filter cleaning operations are performed without slipblinding process lines. Leaking valves could create serious exposures during this process.

c) Long pressure gauge inlet lines without vents could result in release when the gauges must be replaced, due to inability to evacuate them safely (examples: phosgene tank, phosgene converter outlet).

d) The method of installation of blind flanges on process line valves is such that toxic materials can be trapped between the flange and valve, and released when the flange is removed.

e) Leaking valves reportedly have been fairly common, compounding problems noted in b), c), and d) above. A considerable number of valves were replaced in March 1982, but the problem still exists, though to a lesser degree. Team members observed one case in which an MIC shutoff valve was leaking so severely that even evacuation of the line above the valve was not adequate to prevent MIC release when a blind flange was removed. Valve leakage would appear to continue to be a situation that requires continuing attention and prompt correction.

M.2.3 There is no fixed water spray system for fire protection or vapor cloud dispersal in the MIC operating area. Such systems have proved to be of considerable value in the event of fires or vapor releases in such areas. Installation of such a system for protection of vessels and pumps in the MIC handling areas should be strongly considered.

M.3 UNIT STORAGE AREA

M.3.1 No water spray protection has been provided for fire protection or vapor cloud suppression in the MIC or MMA Storage areas, or in the MMA truck unloading area. Fire water monitors have been provided in the general vicinity, but could be ineffective under adverse wind conditions. Also, wind shifts could make access to monitor locations hazardous.

Recommendation:

Provide water spray protection for the MIC pump area, MMA storage area, and the MMA truck unloading area.