



## Interoffice Communication

To : Process Engineers  
From : V. E. Messick  
Date : January 27, 1983  
Subject : SAFETY EVALUATION OF PROCESS DESIGNS

~~Item 7~~ 1984  
Conspid - 3/16/83  
Safety Evaluation  
Process Designs  
PVC Safety & Health  
Manual 1984  
abundant

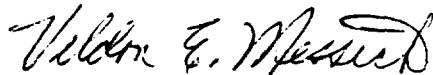
Every process design that is issued should give the utmost consideration to the safety of the design. To insure that proper safety consideration is given to process designs, each process design issued from now on will be evaluated for safety considerations and a summary of the evaluation is to be included in the design. The following is a list of items that should be considered in the evaluation where applicable:

- 1) Properties of any chemicals or additives to be used or added in a process.
  - a) skin or eye irritation problems
  - b) dusting
  - c) flammability
  - d) toxicity
- 2) Any problems with splashing or spilling of liquids.
- 3) Safety problems with pressurized systems.
- 4) Explosion hazards.
- 5) Safety hazards of lifting materials.
- 6) Hot surfaces that could be exposed.
- 7) Any possibilities of fires.
- 8) Adequate facilities to evacuate, clean, or flush VCM contaminated equipment to reduce the possibility of exposure to VCM.
- 9) Problems with pluggage that could cause equipment to exceed their design pressures.
- 10) Interlocks to prevent unsafe operation of equipment.
- 11) Failure mode of equipment and valves.

- 12) Possible hand trap situations.
- 13) Leakage of hot or corrosive materials.
- 14) Safety considerations for maintenance access and entry of equipment.
- 15) Possible problems caused by equipment, valve, or instrumentation failure.
- 16) Potential for static generation due to fluid flow or free fall.
- 17) Handling method V.S. classification of material (i.e. combustible liquids handled at elevated reclassified as flammable).
- 18) Body position requirements that could cause strain or muscle injury.
- 19) Pressured expulsion due to backflow in piping.
- 20) Cross contamination of services due to backflow.
- 21) Safe means of checking equipment performance.

I am sure that there are many items not mentioned that are important to the individual project. The idea is to anticipate safety problems and correct them before the process design is issued.

If you have any other ideas or suggestions on this, please let me know.



Veldon E. Messick  
Senior Process Engineer

bls

c: JF, CRM, CRS, JAD, AHS