

MOC Hazard Review Level Determination

Degree of Hazard:

Yes	No	Degree of Hazard
		Will the changed process system contain any materials known or suspected to be thermally, chemically or physically unstable?
		Can the change result in an increase of toxic, flammable or reactive materials? (e.g. raw materials, intermediates, additives, catalysts, products and by-products...) If so, by what percentage?
		Can the change increase the likelihood of a process incident occurring that could result in a LOPC that could present a health, Safety or Environmental impact?
		Can the change introduce or make a significant change to chemical, Mechanical, thermal or electrical energy?
		Can the change significantly increase the potential for personnel exposure to a hazardous material or does it create a new hazard?

Hazard => Two or more “yes” answers would constitute a high hazard level

Degree of Hazard is High Low

Significance of Change:

Yes	No	Significance of Change
		Could the change take the process or system outside the design or safe operating limits?
		Does the change introduce new chemicals that are toxic, flammable or reactive materials?
		Does the change alter process flow?
		Does the change significantly increase the material and energy balance?
		Does the change alter a safety device? (PSV, SIS, Emergency Alarm, Critical Control...)
		Will the change result in significant or unique training? (Operators, Maintenance, Technical Personnel...)
		Does the change reduce or eliminate a layer(s) of protection?
		Does the impacted process currently handle incompatible materials in the same equipment?

Significance => Two or more “yes” answers would constitute a high Significance level

Significance is High Low

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		Significance of Change	
		Low	High
Degree of Hazard	Low	Level 1	Level 2
	High	Level 2	Level 3

Example Definition for the type of hazard analysis

Level I (Minor)

This type of change would include changes that would not have any significant impact on the process design and/or operation such as simple procedural changes or changes in non-PSM areas where there are no reactive or corrosive materials. A discussion review to identify potential hazards would be appropriate. The discussion could include a “What if” check list if necessary.

Develop a basic “what if” check list for reference.

Level II (Significant)

This type of change would include changes in non-PSM areas where there are reactive or corrosive chemicals in the process being changed. It could also include PSM covered areas where the likelihood release of a covered (highly hazardous) chemical is low. The review would include a “What If” check list completed by a minimum number of people.

Develop a detailed “what if” checklist.

Level III (Major)

This type of change could potentially have a significant impact to the process design and/or operations. These changes will require further “What If” analysis to validate and document the change. The team should review the change and determine if a “What IF” analysis is adequate or if a full PHA would be required.

Must be conducted by a trained PHA leader.