Ethanolamines/Glycol Ethers
Tier 3 Procedure

Section No.	:1809		
Issue No.	:4		
Origination Date	:01-12-95	**Author:**	Ron Pepitone/Michael R. Viator
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Title	:Management of Change		
References	:Glossary of Equipment Identification (Text#114)		
	:USA2 Safety Standard		
	:QSP03 Document Control		
	:QSP06 Manufacturing and Process Control		
	:QSP13 Quality Records		
	:MOC Checklist		

1809. Management Of Change

1.0 Objective:

1.1 To ensure management of change in the various plant processes as mandated by the USA-2 safety standard and various quality system requirements.

2.0 Responsibility:

2.1 It is the responsibility of this plant's management to ensure that this procedure is complied with by all personnel.

2.2 It is the responsibility of all plant personnel to recognize what constitutes a change and ensure that the proper paperwork and approval is completed as per procedure.

2.3 It is the responsibility of all Dow employees having the authorization to implement changes to communicate those changes to personnel who will be affected by the change.

2.4 The Document Manager will have the responsibility of ensuring that the MOC binder is kept up to date and meets all of the records management guidelines, and that all affected individuals receive training that is appropriate for the change to be made.

2.5 Plant management is responsible for ensuring that their people understand the requirements for training prior to operation of new or altered processes, and that the employees for which they are responsible understand and recognize a change as defined in the MOC standard.

2.6 Each individual will be responsible for ensuring that they have read the change documentation, and that they have an understanding of that documentation prior to operating an altered process.

2.7 Each person that initiates a change in the plant is responsible for ensuring that it is communicated/documented using this procedure and that the scope of the change, technical basis and possible effects are well defined.

2.8 The document manager will be responsible for ensuring that all audits and yearly requirements are met within the standard.

3.0 Definitions:

3.1 Preliminary Approval - Appropriate level approval signature applied to the MOC prior to the actual change being implemented signifying that approval of the change has been given for the change to take place.

3.2 Final Approval - Appropriate level approval signature applied to the MOC indicating that training and appropriate audits have been completed and that all documentation has been updated.

4.0 Special Notations:

4.1 None

5.0 Notification of Change:

5.1 The MOC standard requires that individuals that will be operating or supervising the operation of the process shall be trained **BEFORE** they operate an altered process. For this reason, an MOC checklist with signoff sheet must be signed by all affected personnel (signoff sheet is on the rear of the MOC form). This is the documentation that ensures that the affected personnel have received training on the change. Affected personnel may include contract or other Dow personnel assigned to the block. These need to be identified as required by the originator of the change.

5.2 The person initiating the change must highlight, on the signoff page, the names of those persons affected by the change. Those persons affected must review the material provided, then initial and date the signoff sheet. If an individual feels the training material or communication is unclear, he/she must contact the originator for clarification.

5.3 Once a new procedure has been established or a change initiated, the MOC originator will log the MOC information into the index in front of the MOC book in the control room and assign an identification number to that item.

5.3.1 Description of Numbering (the example is for date (2-12-95):

5.3.1.1 For communications (C2-12-95-1) and for MOC'S (M2-12-95-1).

5.4 Once the appropriate level of approval has been obtained for the changes and the MOC has been initialed, any changes needed will be made to the needed controlled documents in the Document Manager System, and the MOC originator will place the original in the MOC binder in the control room with the new/revised documents for review.

5.5 After all affected personnel have signed off on an MOC, the original will be removed from the binder and will be filed. This file will be used to conduct audits, track temporary MOC's and will be retained for records retention purposes.

6.0 Implementing a Change:

6.1 When a change is to be implemented, the individual requesting the change (originator) shall fill out an MOC checklist. Once the information on the top section of the form is complete, the checklist must be completed in consultation with the appropriate individuals. A list of these individuals can be found in the **"Authorized Reviewers List"**.

6.2 If there is any doubt as to whether any section(s) are applicable, the MOC should be reviewed with plant management.

6.3 After all data has been gathered and the checklist fully completed, the MOC will be reviewed by a first reviewer. The first reviewer will ensure that all material is in order and then sign the MOC.

6.4 Changes **MUST NOT** be implemented until:

6.4.1 Preliminary Approval is obtained. (Changes to procedures, check sheets, piping, alarms, computers, etc. **MAY NOT** be initiated until preliminary approval has been given)

6.4.2 All items on the MOC checklists are complete.

6.4.2.1 Functions identified as applicable on the MOC check sheet items, if consulted, should initial the checklist. If the function is not available to initial the MOC form, the originator may initial the item, but the function should **E-Mail** or **FAX** their approval, and the approval will be attached to the MOC document.

6.4.2.2 Documentation such as pre-startup reviews will be attached to the MOC. Other information will be kept in equipment or project files as necessary and must be retrievable in a reasonable amount of time.

6.4.3 The MOC form is placed in the MOC binder in the control room.

6.4.4 All affected personnel have signed the communications sheet.

7.0 Authorized Reviewers List:

7.1 Reactive Chemicals testing and review required: Division Reactive Chemicals Committee or Reactive Chemicals Focal Point

7.2 Consulted with Engineering on piping and equipment specifications: Area Engineer or Qualified individual

7.3 Consult Process Engineering: Assigned Process Engineer

7.4 Evaluate relief system: Process Engineering Contact

7.5 Consult Process Safety for impact on F&EI and CEI, Fire Protection: Area Engineer

7.6 Consult Safety Function for compliance with S&LP requirements: Safety Superintendent, Safety Contact, Area Engineer, Plant Superintendent Division S&LP Consultant

7.7 Consult Technology Center or comply with Tech Center guidelines: Tech Center Manager

7.8 Environmental Compliance Checklist or consult Environmental: Environmental Superintendent or Environmental Contact

7.9 Consult with operations: Process operator

7.10 Consult maintenance and/or reliability engineer: Maintenance Group Coordinators

7.11 Consult Inventory Management: Materials Management Representative

7.12 Consult Electrical: Electrical Contacts

7.13 Consult Instruments: Instrument Contact

7.14 Consult Analyzer: Analyzer Contact

7.15 Add material to Toxic Substance Control Acts (TSCA) Inventory: Block or Division IH Personnel

7.16 Consult Industrial Hygiene: Block or Division IH Personnel

7.17 Define plant to train personnel on change: MOC originator

7.18 Complete other required reviews:

7.19 LIMS/Computer codes updated and validated (attach validation): Assigned computer support personnel

7.20 Equipment list/files revised (MSMS, GEMTS, pressure vessel, etc): Material Management Representation

7.21 Diamond/M&EB codes modified for inventory control (switches changed): Area Engineer

7.22 Effect on FDA and ISO evaluated: Area FDA and/or ISO Contact

7.23 Complete or update training program: Training Coordinator

7.24 Procedures written and approved (S/U, S/D, Normal, Emergency): Qualified Individual

7.25 P&ID's, process and flow sheets, and plot plans updated: MOC Originator, Area Engineer

7.26 Personnel trained on changed. Describe method: Document Manager, MOC Originator

7.27 Critical instrument checklist updated: Block I&E Contacts

7.28 Computer code and documentation changed: Computer support personnel for area

7.29 PSM files updated: Area Engineer

7.30 Perform pre-startup audit: MOC Originator

8.0 Emergency Situations/Temporary Changes:

8.1 Actions that are taken to allow for the safe shutdown of the plant do not require the prework required by the MOC standard. Once this action is taken, however, it must be documented if the change remains in place for 24 hours or if the change is to become permanent. If it is not, the change must be amended as soon as is practical.

8.2 Some changes may be taken that will allow the plant to continue to operate and avoid an anticipated shutdown. These changes must also follow the MOC procedure. However, if there is an urgent need for the change and it is anticipated that the situation created by the shutdown could result in personal injury or property damage, the change may be taken with verbal permission from the Plant Superintendent or the Area Engineer. Any action that is taken to reduce the possibility of an environmental incident, personal injury, or equipment damage can be made without following the change procedure. The incident and change, if permanent, must be documented as soon as possible.

8.3 Temporary changes will be audited every thirty days as to status and made permanent after ninety days, with the originator initiating the permanent change or returned to normal mode of operation at the end of the approved period. Long term temporary changes, such as those requiring a plant shutdown to repair (i.e. leak clamps, bearing temperature alarms), will be audited every thirty days, and a communication will be placed in the MOC book when they are corrected.

9.0 Programming and/or Software Changes:

9.1 Any change that is made in the computer logic used to operate the plant must follow the MOC guidelines. All changes must be reviewed by someone from the Technical Support Process Control group and/or the PLC group, a knowledgeable person from operations and/or a plant engineer.

9.2 Any changes that are made to hard wired plant trips will not be allowed until the proper documentation has been reviewed. Under no circumstances will plant trips be removed from service without the Plant Superintendent's knowledge and full approval. Trip bypasses may be activated when the plant is in a startup mode or when the trip device could accidentally be disturbed by workers in the immediate area. This bypass must be removed as soon as is practical. Notification of such bypasses being activated must be made to supervision.

10.0 Levels of Change & Authorized Approvers:

Level 1	First Reviewer: Any Knowledgeable Employee Preliminary Approval: Same Level as Final Final Approval: Engineer or Coach	1. Change of instrument span or calibration. 2. Non-critical alarm limit changes. 3. Force steps, program constants (AP & delay timers) or graphics on MOD 5 systems and MOD 5 static tests. 4. Change which affects the ergonomics of a job system (ongoing to power vs. manual pressure implementing mechanical assist, change equipment height, layout changes, etc.

Level 2	First Reviewer: Any Knowledgeable Employee Preliminary Approval: Coach or Area Engineer Final Approval: Production Supervisor Area Engineer	1. Piping changes within existing piping specs. 2. Changes to plant operating procedures. 3. Process and control computer program changes. 4. Critical alarm limit changes. 5. Mechanical changes not in contact with process chemicals. 6. Warehouse and packaging changes 7. Leak clamps 8. Minor addition/removal of process equipment (such as small filter or pump) 9. Changes to critical operating procedures, limits, or alarms 10. Changes to non-critical mechanical or rotating equipment 11. Change in equipment service 12. Change in material specifications for equipment or parts 13. Any change to safety system (showers, fire protection, gas detectors, etc.). 14. Process change that may effect product performance, initiation of a customer notification communication through the appropriate business personnel must be considered prior to implementing any process change that may affect product performance, raw material changes (supplier, composition, concentration, addition point, physical form, etc.)

Level 3	First Approval: Coach or Area Engineer Preliminary Approval: Same level as final Final Approval: Production Leader or Landlord in the absence of the Production Leader Landlord = Production Supervisor or Area Engineer	1. Piping specification changes. 2. Any change to a pressure vessel or relief device. 3. Electrical classification change. (PHA's) 4. Addition of equipment or removal of equipment from service (other than minor listed in level 2) 5.Raw material change (supplier, composition, concentration, etc.) 6. Changes to safety control devices (interlocks, fail-safe positions, overload protection devices, critical instruments, shutdown procedures, etc.). 7. Changes to environmental control devices. (flare, permitted outfall) 8. Plant policies. 9. Changes from temporary to permanent status.

11.0 Revision Notes:
