

**AMMONIA REFRIGERATION
PROCESS SAFETY /
RISK MANAGEMENT PROGRAM
MANAGEMENT OF CHANGE FORM (MCF)**

MOC Number: _____ **Anticipated Start-up Date:** _____

Description: _____

This information is completed by the Maintenance Manager.

PHASE 1: INITIATION OF MANAGEMENT OF CHANGE FORM

Phase 1 is to be completed by individual originating the MCF and forwarded to the Maintenance Manager.

ORIGINATED BY: _____ **DATE:** _____

PRIORITY OF REQUEST: (CHECK ONE)

- CRITICAL.** Affected portion of system should be shutdown until safety issue(s) are resolved.
- URGENT.** Affected portion of system should operated short term with caution until safety issue(s) resolved.
- IMPORTANT.** Affected portion of system should be operated with caution until safety issue(s) resolved.
- ROUTINE.** Affected portion of system should be noted and work to resolve minor safety issue(s) scheduled.

REASON FOR REQUEST: (CHECK ONE)

- | | |
|--|--|
| <input type="checkbox"/> Incident Investigation Rec. | <input type="checkbox"/> Change in Refrigeration Requirements (Upgrade) |
| <input type="checkbox"/> Mechanical Integrity Audit Rec. | <input type="checkbox"/> Process Hazard Analysis or Safety and Health Review |
| <input type="checkbox"/> Pre-start Safety Review Rec. | <input type="checkbox"/> Expansion or Renovation of Facility or Systems |
| <input type="checkbox"/> Routine Maintenance | <input type="checkbox"/> Repair Activities |
- Other (Explain) _____
- Reference Number(s): _____

DESCRIPTION OF TECHNICAL BASIS FOR CHANGE (PURPOSE, ALTERNATIVES, REFERENCE SKETCHES OR DRAWINGS): *(use additional pages if necessary)*

Phase 2: INITIAL SCREENING

Section 2 is to be completed by the **Maintenance Manager** or Designate and forwarded to the **Plant Manager**.

ASSESS TECHNICAL BASIS OF CHANGE	
<p>1. Type of Change?</p> <p><input type="checkbox"/> Change is not subject to the Management of Change Program.</p> <p><input type="checkbox"/> Replacement in kind</p> <p><input type="checkbox"/> Change is not a replacement in kind</p>	<p>No further action is needed, a work order may be issued for the repair. The Management of Change form should be signed below and filed.</p> <p><u>REVIEWED</u> BY: _____ DATE: _____</p> <p><u>STOP: If the change is not subject to the Management of Change Program, STOP HERE!</u> <u>Continue</u></p>
<p>2. Is the change temporary or permanent?</p> <p><input type="checkbox"/> Change is permanent</p> <p><input type="checkbox"/> Change is temporary</p>	<p>Do not complete the sections outlined in pink below.</p> <p>The sections outlined in pink below must be completed <u>in addition to the remainder of this form.</u></p>
<p>3. How significant is the change?</p> <p><input type="checkbox"/> Modification is a sub-minor change</p> <p><input type="checkbox"/> Modification is a minor change</p> <p><input type="checkbox"/> Modification is a major change</p>	<p>The sections outlined in green below must be completed, the Process Safety Information updated and the MOC form files. (Meets the design specifications and only requires a change to the Refrigeration System Documentation.)</p> <p>An Engineering Review Checklist and Safety Review Checklist must be completed. <i>The Maintenance Manager may elect to perform a Process Hazard Analysis in lieu of the Safety and Health Review. (Modified or Added; Process or Equipment must meet the criteria outlined for minor changes in the written program.)</i></p> <p>An Engineering Review Checklist and Process hazards analysis is required.</p>
<p>4. Is the change necessary, consistent with company policy, and an acceptable course of action?</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>	<p>Change should be forwarded for preliminary engineering.</p> <p>Change should not be implemented and an explanation should be attached.</p>

EXCEPTIONS / COMMENTS: (use additional pages if necessary)

REVIEWED BY: _____ **DATE:** _____
 (Maintenance Manager or Designee. The Originator cannot sign here.)

IF THIS CHANGE IS A REPAIR OR REPLACEMENT IN KIND, PAGES 1-2 ARE TO BE FILED; PAGES 3-6 ARE TO BE DISCARDED.

Sample

DURATION OF CHANGE (This section should be completed for temporary changes only)

Scheduled start date: _____

Scheduled date to return unit to original service: _____ (this date can be no more than 7 days after the scheduled start date).

No temporary change should be granted more than five, one week extensions or be allowed to extend beyond a total of six weeks including any extensions.

SCHEDULE FOR TEMPORARY CHANGES

	Initiation Date	Expiration Date	Authorization
Initial request			
Extension #1			
Extension #2			
Extension #3			
Extension #4			
Extension #5			

PHASE 3 UPDATING PSM ELEMENTS (PROCESS SAFETY INFORMATION, PROCEDURES, AND DOCUMENTATION)

Identify the information which needs to be revised as a result of this change. Please list the items requiring update or development. Alternately a copy of the master document list with the proposed changes outlined or a letter of transmittal may be attached.

- | | |
|---|--|
| <input type="checkbox"/> Ammonia Inventory Calculation | <input type="checkbox"/> Refrigeration Valve List |
| <input type="checkbox"/> Engine room Ventilation Calculation | <input type="checkbox"/> Safety Relief Valve List |
| <input type="checkbox"/> Relief System Design Calculation | <input type="checkbox"/> Hydrostatic Relief Valve List |
| <input type="checkbox"/> Risk Management Plan / Release Scenarios | <input type="checkbox"/> Block Flow Diagram |
| <input type="checkbox"/> Master Document List | <input type="checkbox"/> Daily Rounds Log |
| <input type="checkbox"/> Process Safety Information Manual (Section# _____) | |
| <input type="checkbox"/> Mechanical Integrity Guidelines / Equipment List (Section # _____) | |
| <input type="checkbox"/> P&ID Drawings (# _____) | |
| <input type="checkbox"/> Flow Schematics (# _____) | |
| <input type="checkbox"/> Refrigeration Plan Views (# _____) | |
| <input type="checkbox"/> Standard Operating Procedures (Procedure # _____) | |
| <input type="checkbox"/> Operation and Maintenance Information (Tab # _____) | |
| <input type="checkbox"/> Indexes (Tab # _____) | |
| <input type="checkbox"/> Emergency Action/Response Plan Docs. (Tab # _____) | |

Other items:

PRELIMINARY ENGINEERING

For Sub-minor changes, does the proposed change meet the design specifications?

Yes / No (Circle one)

For minor and major changes detailed engineering must be performed detailing the proposed change and construction specifications. The Engineering Review form should be utilized and attached to this Management of Change form as well as any supporting documents.

Please list any additional notes which may require follow-up:

*Following the completion of the Engineering Review the form should be forwarded to the **Safety Manager** or his designee, for completion of the Safety and Health Review or the Process Hazard Analysis.*

SAFETY AND HEALTH REVIEW / PROCESS HAZARD ANALYSIS

Type of Review: (Circle one)

Safety and Health Review / Process Hazard Analysis (Circle one)

Date the Review (Safety and Health Review or PHA) was completed _____

Did the review address the impact of change on safety and health?

Yes / No (Circle one)

Please list any additional notes which may require follow-up:

If a Safety and Health Review was performed, please attach the Safety Review Checklist to this Management of Change Form.

*Following the completion of the Safety and Health review or the Process Hazard Analysis this form should be forwarded to the **Maintenance Manager** or his designee.*

STARTUP AUTHORIZATION

Before Ammonia Refrigeration Equipment is decommissioned and removed from the site, a Decommissioning Checklist must be completed

Decommissioning Description	DC Number	Removal from the site Authorized by:	Date Decommissioning Completed

Before ammonia is added to the modified system (or into the equipment that has been modified) a Pre- Charging Checklist must be completed PRIOR to the introduction of ammonia.

Charging Description	PCC Number	Charging Authorized by:	Date Charging Completed

If startup of the modification is to occur in phases, a Pre-startup Safety Review must be completed for each startup date.

Phase Description	PSSR Form Number	Startup Authorized by:	Startup Date

SECTION 9: PROJECT COMPLETION

Have all applicable drawings, procedures, and documentation noted in Section 2 been revised electronically and distributed accordingly (replacing redlines if redlines were used?)

(Check One) Yes No

Project is verified complete by:

Maintenance Manager: _____ **Date:** _____