

Safety Bulletin

Management of Change



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Introduction

Management of Change refers to a set of procedures followed to ensure a proper review of changes to systems or processes in order to identify any risks associated with the change being made.

Who... is required to have an active MOC program

- OSHA PSM covered processes
- EPA RMP Program 3 facilities
- Other State agency requirements (i.e. CalARP Program 3 and 4, Nevada Chemical Accident Prevention Program (CAPP))³
- Facilities storing and handling combustible dust and hazardous materials as required by the Fire Code

When... Shall a MOC be performed:

Any time a change is made to a system or process that impacts any of the following aspects of the process⁵:

1. Chemistry
2. Technology
3. Equipment
4. Procedures
5. Facility

Unless it is a replacement in kind.

Replacement in Kind

“An item (equipment, chemical, procedure, etc.) that meets the design specification of the item it is replacing. This can be an identical replacement or any other alternative specifically provided for in the design specification, as long as the alternative does not in any way adversely affect the use of the item or associated items.”

In This Issue

This Safety Bulletin provides an overview of the management of change process and associated requirements.

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<https://www.NebulaSafety.com>

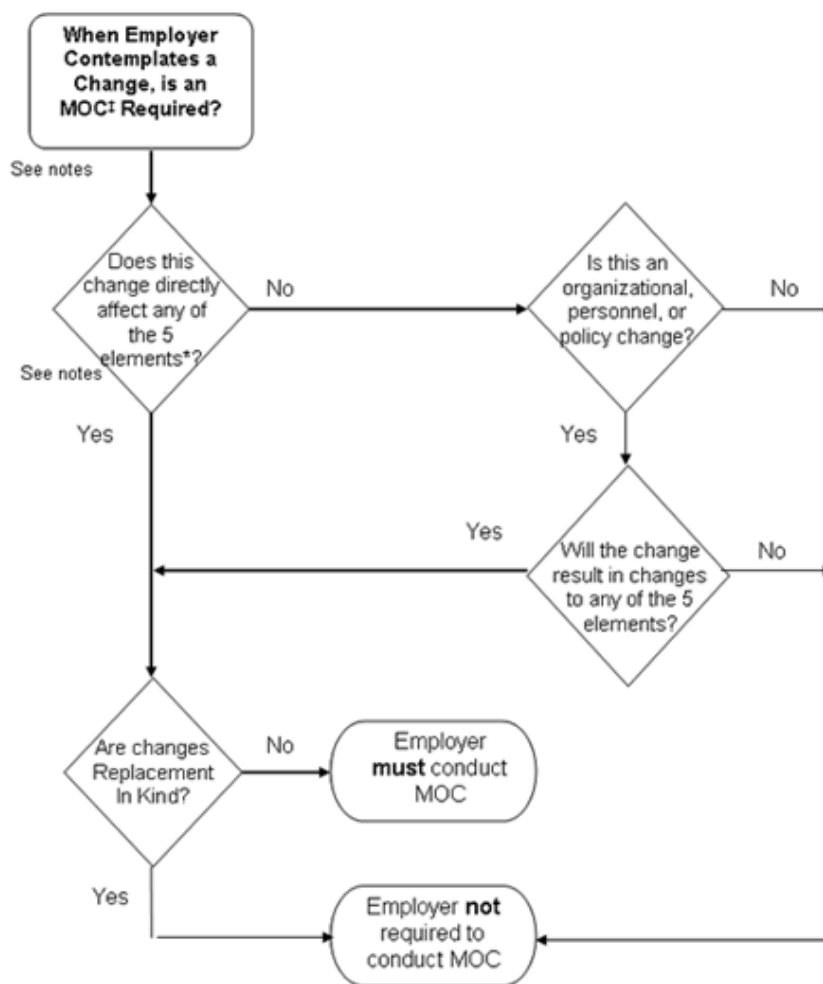


Figure 1: MOC Decision Flow Diagram⁴

What... must be addressed during the MOC Process/must the MOC program include?

The MOC Procedure must ensure that the following are addressed prior to a change taking place :

- Technical basis for the change being made
- Health and Safety Impact of the change
- Modifications to operating procedures
- Duration of change
- Authorization requirements for the proposed change
- Communication to and training of employees impacted by the change
- Updates must be made to relevant process safety information (PSI) and operating procedures

Why... is the MOC Process important?

When changes are made to a process, it is important that an MOC be performed to ensure any changes which could impact safety are properly assessed.

In a 2017 study, 9.1 % of Chemical Process Industry incidents analyzed were linked to MOC deficiencies or failures. The study included incidents investigated by the US Chemical Safety Board (US-CSB), the European Major Accident Reporting System (EMARS), Failure Knowledge Database (JST), and Central Major Accident Reporting System (ZEMA).²

MOC Standards

- Management of Change in Chemical Plants: Learning from Case Histories, Center for Chemical Process Safety of the American Institute of Chemical Engineers 1993.
- Plant Guidelines for Technical Management of Chemical Process Safety, Center for Chemical Process Safety of the American Institute of Chemical Engineers 1992.
- Management of Process Hazards (RP 750), American Petroleum Institute.²

Common MOC Deficiencies

Some common deficiencies of MOC procedures that lead to inadequate risk analysis:

- Inadequate time limits or tracking to allow follow-up on temporary changes
- Failure to review with employees and contractors
- Failure to consider personnel or organizational changes
- Inadequate updates to operating procedures, PSI, or other documentation
- Inadequate communication of changes to all impacted employees including updates to documentation, training, and PSI¹

Avoiding Deficiencies

It is important that all employees and contractors are trained in the MOC process in order to ensure all personnel are familiar with the process. While there is generally one or two individuals who oversee the MOC program, it is beneficial for everyone to be aware of their role and responsibilities in the MOC process.

References:

1. <https://www.aidic.it/cet/13/31/093.pdf>
2. <https://www.aidic.it/cet/17/56/228.pdf#:~:text=A%20study%20has%20found%20that%2080%20%25%20of,and%20disruption%20of%20the%20manufacturing%20operations%20%28CCPS%2C%202008%29>
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5. https://www.osha.gov/sites/default/files/2019-03/07_Detailed_MOC_Guidelines.pdf
6. <https://www.rmppcorp.com/rmppsm-series/>