

Process Safety Management (PSM) Procedure

Pre-startup Safety Review (PSSR)***PSSR Policy***

A pre-startup safety review will be performed before the startup of a new or significantly modified facility is authorized. How to determine when a PSSR is required follows:

- A pre-startup safety review **IS** required if the modifications to a facility are significant enough to require a change in the process safety information.
- A pre-startup safety review **IS NOT** required for facilities that have been modified so slightly that process safety information does not change.

MOC Connection

However, for all modified facilities, management of change (MOC) requirements must be satisfied before startup.

New Facilities

For new facilities, a process hazard analysis must be performed before startup. The process hazard analysis recommendations must be resolved or implemented prior to startup.

Form Selection

A pre-startup safety review short form or long form will be signed to indicate completion of the review and resolution of any issues in accordance with Anychem Co. policy.

PSSR Team Description in accordance with Anychem Co. Policy

The PSSR team will be formed as a part of new facility construction or when any change modifies the process safety information for a process. The team will have at least one member besides the PSSR team leader. The MOC coordinator for the modification or new facility will serve as (or designate) the PSSR team leader. This person is normally a process engineer.

When using the PSSR long form, the PSSR team will normally consist of a facility engineer, an area superintendent, and operations personnel with appropriate knowledge and skills. A mechanical representative and safety representative may also be included on the team.

The PSSR team leader should ensure the personnel and expertise is available for the team to review new facilities and major modifications thoroughly as an Anychem Co. best practice.

Release of Final Authority in accordance with Anychem Co. Policy

If a PSSR is **NOT** required, the area manager's approval signature on the MOC form is final authority that all requirements from previous sections of the MOC form are completed to his or her satisfaction and startup may occur.

If a PSSR **IS** required, the area manager's signature on the MOC form is STILL final authority that all management of change requirements are met and startup may occur. Since the MOC process indicates a PSSR is required due to changes in the process safety information, we enforce a check on that final authority.

The PSSR team's review and signatures are a mechanism to release the area manager's final authority after the PSSR team has double-checked specific requirements and, in the case of physical changes, obtained field verification the work was done.

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PSSR Form Usage in accordance with Anychem Co. Policy

The PSSR team leader will evaluate the extent of the modification or new facility and determine which of the PSSR forms to use. These forms are described below:

- **PSSR Short Form** – This form is to be used for simple modifications where a PSSR is required due to minor changes in process safety information. A guideline for when to use this form is if a MOC for the modification's hazard review was able to be completed without using a process hazard analysis.
- **PSSR Long Form** – This form is to be used for new units or major process modifications. The PSSR team will establish specific target areas for the new facility or modification project and define the expected state of readiness for each target. The PSSR team may modify and customize the form or develop and attach additional items specific to the process under consideration.

When using either the long or the short form, the PSSR team will confirm that the following requirements have been met before highly hazardous chemicals or energy sources are introduced into the new or modified facility.

- **Construction and equipment meet the designed specifications.**

In accordance with Anychem Co. policy, design specifications for construction and equipment shall be validated by obtaining field verification and performing document review for the new or modified process. If a change is not physical (such as a set point for an interlock shutdown), the method for the change and its anticipated effects shall be reviewed.

- **Safety, operating, maintenance and emergency procedures are in place and adequate.**

In accordance with Anychem Co. policy, entries in the MOC form will indicate any operating, maintenance or emergency procedures that were developed or revised for a modification. The MOC package and referenced documents must be reviewed. Existing site safety procedures must be checked to ensure they exist and are adequate.

- **A PHA has been performed for new facilities.**

In accordance with Anychem Co. policy, the MOC packages and referenced documents indicate when a process hazard analysis (in accordance with PSM-ADM-04 - *Process Hazard Analysis*) has been performed for the modification or new facility. The PSSR team must verify that all of the PHA recommendations required before startup have been implemented or resolved before the facility can be judged safe to operate.

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- **Training of each employee involved in the operating process is complete.**

In accordance with Anychem Co. policy, a completed MOC form indicates when training of each employee involved in the startup of a new or modified process is complete. Training of employees not directly involved with startup is described in PSM-ADM-06 - *PSM Training Program*. When the MOC is signed, the PSSR team may consider training complete for introduction of highly hazardous chemicals or energy into the new facility or modification.

Change Management

In accordance with Anychem Co. policy, an overall review of the MOC package must be performed for modified facilities to ensure all:

- priority 1 – (required before startup), and
- priority 2 – (allowed after startup)

update items (including material safety data sheets) have been addressed and that priority 1 items are complete.

Conduct the PSSR

In accordance with Anychem Co. policy, the PSSR team leader will:

- Schedule and conduct PSSR team meetings and field inspections as required by the complexity of the change
- Verify that all applicable sections of the selected PSSR form have been considered
- Identify issues which **MUST** be corrected **BEFORE** startup and issues which **WILL** be corrected **AFTER** startup.

In accordance with Anychem Co. policy, decisions for categorizing the issues for PSM compliance should be based upon the following:

BEFORE- A deficiency that could cause, or result in, actual or potential release of hazardous chemicals to environment. The process cannot be safely started or operated until the issue is corrected.

- A priority 1 requirement from the MOC package is not satisfied.
- An apparent unsafe condition exists

AFTER - An issue that does not impact safe startup or operation but, if corrected, enhances process safety.

- A priority 2 requirement from the MOC package is not satisfied.
- Process safety information needs to be permanently updated (for example, piping and instrumentation diagrams are marked up and logged for change but not necessarily reissued).

Progress Audits

In accordance with Anychem Co. policy, for extensive modification or construction, periodic PSSR audits will be conducted to measure the progress in each target area to achieve the expected state of readiness goals.

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Completing the PSSR Form

The PSSR team will establish a timetable to ensure the periodic audit schedule is completed and that recommendations are published to effect corrective action.

The PSSR long form may be used as a guide to perform the periodic audits and track the completion of the critical items.

In accordance with Anychem Co. policy, the PSSR team will perform a physical review of the facility just before startup to confirm that all related requirements have been met before highly hazardous chemicals are introduced.

All members of the PSSR team will review and sign the PSSR form to confirm the facility is safe for startup.

When using the PSSR long form, the PSSR team leader will assign responsibility for each item. Any items that do not apply to the specific review should be marked *not applicable* in the responsibility box.

PSSR Short Form Issues & Recommendations

In accordance with Anychem Co. policy, on the PSSR short form, a date in the *date resolved* box and initials in the *initials* box indicates that an item is satisfactory or that the issue has been corrected or resolved or a recommendation is closed.

PSSR Long Form Issues & Recommendations

In accordance with Anychem Co. policy, a date in the *completion date* box and initials in the Initials box adjacent to an item on the PSSR long form indicates that an item is satisfactory or that the issue has been corrected or resolved. A follow-up inspection will be performed if required. The first page has a space for special recommendations and, as with the short form, a date in the *date resolved* box and initials in the *initials* box indicates that an item is satisfactory or that the issue has been corrected or resolved or a recommendation is closed.

Closure In Accordance with Anychem Co. Policy

The responsible PSSR team leader will verify that all recommendations and issues have been satisfactorily resolved.

The completed PSSR form will be sent to the PSM administrator and maintained as a part of a MOC project closure file.

END