



Title: Passivation of Equipments and Water System

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Effective Date:		Supersedes No.	Nil
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1.0 OBJECTIVE:

To lay down a Procedure for Passivation of Equipments and Water System.

2.0 SCOPE:

This SOP is applicable for passivation of purified water system at

3.0 RESPONSIBILITY:

Executive/Officer- Engineering

4.0 ACCOUNTABILITY:

Department Head:-Approval, Ensure Training and Implementation of this SOP's.

5.0 DEFINITION:

Passivation is the chemical treatment of a stainless steel with a mild oxidant, such as a nitric acid solution, for the purpose of enhancing the spontaneous formation of the protective passive film.

6.0 PROCEDURE:

Following procedure shall be followed for passivation of purified water system, Equipments and WFI system.

- 6.1 Initial flush:** The system is flushed thoroughly using purified water during the passivation of purified water system and Equipments. System is flushed thoroughly using water for injection during the passivation of WFI system.
- 6.2 Alkalinity flush:** The system is flushed with chemical Solution (1% NaOH w/v) for 1 hour.
- 6.3 Second Flush:** The system is flushed through purified water to remove alkali from the system. Check the pH of outlet and inlet water & ensure both pH should be equal.
- 6.4 Passivation:** Passivation is carried out by filling and circulating Nitric acid solution 5% to 10% for 1 hour.
- 6.5 Final Flushing:** The system is flushed with purified water to remove acid from the system during the passivation of purified water system and equipments. System is flushed thoroughly with WFI during the passivation of WFI system. Check the pH of outlet and Inlet water & ensure both pH should be equal.



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6.6 Acceptance Criteria: Checking the pH of outlet and Inlet water & ensure both pH should be equal.

7.0 ABBREVIATIONS:

No.	Number
PW	Purified Water
QA	Quality Assurance
SOP	Standard Operating Procedure
S. No.	Serial Number
SP	Sampling Point
UP	User Point

8.0 ANNEXURES:

ANNEXURE No.	TITLE OF ANNEXURE	FORMAT No.
Annexure-I	pH of Sample	

9.0 DISTRIBUTION:

- Master Copy Quality Assurance Department.
- Controlled Copy No. 01 Engineering Department.
- Controlled Copy No. 02 Production.
- Controlled Copy No. 03 Quality Control Department.

10.0 REFERENCES:

In-House

11.0 REVISION HISTORY:

Revision No.	Change Control No.	Details of Changes	Reason of Changes	Effective Date	Done By

