

NTPC	LMI	LARA
TITLE	Deaerator Storage Vessels Weld Joints & Repairs; Re-inspection and Monitoring Requirements	
REF. NO.	LMI 01/R0/TMD/OGN/OPS/012	

**LARA SUPER THERMAL POWER PROJECT
LOCAL MANAGEMENT INSTRUCTION**

LMI 01/R0/TMD/OGN/OPS/012

**Deaerator Storage Vessels Weld Joints & Repairs; Re-inspection
and Monitoring Requirements**



Approved for Implementation by

HOP (LARA)

Date :

12/11/18

**CONTROLLED
COPY**

NTPC	LMI	LARA
TITLE	Deaerator Storage Vessels Weld Joints & Repairs; Re-inspection and Monitoring Requirements	
REF. NO.	LMI 01/R0/TMD/OGN/OPS/012	

1	TITLE OF LMI	Deaerator Storage Vessels Weld Joints & Repairs; Re-inspection and Monitoring
2	DOCUMENT CODE	LMI 01/R0/TMD/OGN/OPS/012
3	REVISION NO/DATE	
4	ORIGINAL/REF. DOCUMENT	OGN/OPS/MECH/012, Issue No. : 1 Date: 21/11/1996
5	PREPARED BY	Name: Yogesh Bansal Designation: DGM (TMD) Signature: <i>Yogesh Bansal</i> 30/04/2018
6	CHECKED BY	Name: E B P Royan <i>E B P Royan</i> 30/5/18 Alok Kumar Designation: AGM(MM) AGM (FQA) <i>Alok Kumar</i> Signature: Signature:
6	CHECKED BY	Name: Sunil Kumar Designation: GM (Maint.) Signature: <i>Sunil Kumar</i> 11-6-18
7	REVIEWED BY	Name: R K Rout Designation: GM(O&M) Signature: <i>R K Rout</i> 12/6/18
8	APPROVED BY	Name: Designation: HOP- Lara <i>Lara</i> Signature: <i>Lara</i> 13/6/18
9	DATE OF ISSUE	
10	CONTENTS LIST	ENCLOSED
11	DISTRIBUTION LIST	ENCLOSED

CONTROLLED
COPY

NTPC	LMI	LARA
TITLE	Deaerator Storage Vessels Weld Joints & Repairs; Re-inspection and Monitoring Requirements	
REF. NO.	LMI 01/R0/TMD/OGN/OPS/012	

Deaerator Storage Vessels Weld Joints & Repairs; Re-inspection and Monitoring Requirements

SUMMARY

Deaerator Storage Vessels Weld Joints & Repairs; Re-inspection and Monitoring Requirements is designed to provide reliable operation and includes integral features which protect the equipment from damage and permanent failure. An initial inspection of all vessels is required and should be monitored by periodic re-inspection to ensure that cracking does not develop after long service. Based on the nature of defects found during initial inspection detailed re-inspection is planned in addition to the normal visual inspections carried out at each statutory inspection.

Orman

NTPC	LMI	LARA
TITLE	Deaerator Storage Vessels Weld Joints & Repairs; Re-inspection and Monitoring Requirements	
REF. NO.	LMI 01/R0/TMD/OGN/OPS/012	

CONTENT		
Sl. No.	DESCRIPTION	PAGE NO.
	Introduction	5
	Reference Document	5
	Superseded Documents	5
	Scope	5
	Requirement	6
	Implementation	7
	Review	8
	Distribution list	8
	LMI Review Records	8
	Do's and Don'ts	8

omd.

NTPC	LMI	LARA
TITLE	Deaerator Storage Vessels Weld Joints & Repairs; Re-inspection and Monitoring Requirements	
REF. NO.	LMI 01/R0/TMD/OGN/OPS/012	

Deaerator Storage Vessels Weld Joints & Repairs; Re-inspection and Monitoring Requirements

1.0 INTRODUCTION

Following failures of Deaerator Storage Vessels overseas, utilities have commenced re-inspection to identify any significant defects during a vessels service life. This has become more significant in super-critical plants with elevated operating parameter and operation of power plants in Oxygenated treatment regime. Most of the defects found were manufacturing faults usually associated with welds. Deaerator storage vessel should be monitored by periodic re-inspection to ensure that cracking does not develop after long service. There should also be re-inspection of vessels where defects of a more serious nature have been found and the vessel left in service, or found and the defect ground out, or repaired. This re-inspection is in addition to the normal visual inspections carried out at each statutory inspection.

2.0 REFERENCE DOCUMENT

OGN/OPS/MECH/012, Issue No.: 1 date: 21/11/1996

3.0 SUPERSEDED DOCUMENTS NIL

4.0 SCOPE

This LMI stresses periodic re-inspection of known defects or repairs, and those requiring monitoring. It also defines the extent and frequency of inspection, the inspection techniques to be used, the methods of recording defects, the reporting of defects and responsibilities for assessment.

RESPONSIBILITY: MM-TMD, FQA

om an.

NTPC	LMI	LARA
TITLE	Deaerator Storage Vessels Weld Joints & Repairs; Re-inspection and Monitoring Requirements	
REF. NO.	LMI 01/R0/TMD/OGN/OPS/012	

5.0 REQUIREMENTS

5.1 REINSPECTION

5.1.1 This LMI illustrates the need for detailed investigation as detailed in subsequent paragraph. First such inspection should be made during first major overhaul of Turbine to establish datum and type of defects in various vessels. Where the vessels have been in service for more than 5 years, this inspection should be carried out during the next overhaul and subsequently in every overhaul. Normal visual inspection should be carried out during each statutory inspection of boiler.

Where large numbers of similar defects are present, it is sufficient to inspect a representative sample.

5.1.2 The technique to be used for re-inspection should be Magnetic particle inspection. Corporate Quality Assurance & FQA site should be contacted for advice on the method of inspection.

5.1.3 As the areas to be inspected will have been ground previously it is anticipated that the required surface finish of 3.2 um Ra will be achieved by means of a flywheel or soft abrasive disc. Wherever possible the use of a hard grinding disc should be avoided as this may result in the removal of existing defects and reveal previously embedded defects making comparisons invalid.

5.1.4 In addition to the re-inspection of known defects or repairs, a visual inspection should be made of the inner surface within 150 mm of the main welds. Evidence of the remnants of any tack welds associated with temporary attachments should be noted.

If any such welds are found they should be ground flush with the inner surface. Remedial measures should be consistent with those applied during the datum inspections.

If datum inspection has not been done at site, the same shall be carried out and the results compared in subsequent inspections.

RESPONSIBILITY: MM-TMD

mm d m

NTPC	LMI	LARA
TITLE	Deaerator Storage Vessels Weld Joints & Repairs; Re-inspection and Monitoring Requirements	
REF. NO.	LMI 01/R0/TMD/OGN/OPS/012	

5.2 Monitoring

- 5.2.1 For newer units, the vessels requiring monitoring for development of defects after long service may be selected on the basis of one per station. If major defects are noticed, then all the units shall be inspected.
- 5.2.2 The inspection should be applied to at least 10% of the main seam welds within the bottom 1/3 of the vessel. A small sample of areas containing stress raisers such as penetrations and internal furniture attachment welds should also be inspected if possible. Wherever possible, the areas inspected should be those examined during the datum inspection.

As most of the areas to be inspected will have been ground previously, it is anticipated that the required surface finish of 3.2 μ m Ra will be achieved by means of soft abrasives. Use of hard grinding discs should be avoided since this may remove small defects, which have initiated recently.

RESPONSIBILITY: MM-TMD

5.3 Identification of Defects:

A sample of the defects left in service should be pop marked to show their location and extent. The defects and pop marks should then be sketched or photographed. The depth of any grinding or regrinding should be accurately recorded.

RESPONSIBILITY: MM-TMD

6.0 IMPLEMENTATION

- 6.1 Inspections of the vessels should be carried out at each 'thorough examination' except where running hours and start are significantly less than 15,000 and 300 respectively. For these low service cases, exemption may be allowed provided that running hours and starts are not expected to exceed more than 25,000 and 500 respectively by the next inspection opportunity.
- 6.2 Monitoring inspections should be carried out at the next and then at convenient outages at intervals of approximately nine years.

RESPONSIBILITY: MM-TMD

mm dm

NTPC	LMI	LARA
TITLE	Deaerator Storage Vessels Weld Joints & Repairs; Re-inspection and Monitoring Requirements	
REF. NO.	LMI 01/R0/TMD/OGN/OPS/012	

7.0 REVIEW

The Head of Station will review this LMI on a 2-yearly basis.

8.0 DISTRIBUTION LIST

SL NO.	DATE OF ISSUE	ISSUED TO
		AGM(MM)
		DGM(EEMG)
		AGM (FQA)
		GM(Maint.)
		GM(O&M)
		HOP(LARA)

9.0 LMI REVIEW RECORDS

	Date	Reviewed By	Signature	Comments

10.0 Do's and Don'ts

Do's

- Inspection of vessel to be done during first major overhaul to establish datum.
- Normal visual inspection to be carried out at each statutory inspection.
- Re-inspection should be done in each major overhaul except where running hours and start are significantly less than 15000 hours and 300 respectively, It can be allowed to be done in next major overhaul provided that running hours and start are not expected to exceed more than 25000 and 500 respectively.

Don'ts

- Wherever possible, the use of hard grinding discs should be avoided.

Comma