

	BHEL, Tiruchirappalli – 14. Quality Assurance
	Technical Delivery Conditions
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Specification for "DIN EN 10216-2 Grade 1.5415"- 16Mo3 Pipes

(W.O: D157 - D160 – 700MWe SG)

NPCIL Project: GHAVP-1&2

(NPCIL PO No: CMM/FTP/10-33-1-1158/e-PO/22549 dtd 08/03/2018)

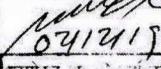
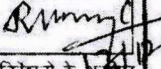
Date	Prepared	Reviewed			Approved
		Engg/ATP	MP/ATP	QA	
30.01.2019	Nithin.O.R	M.Lakshminarasimhan	A.Venkatesan	S.Lakshmi	
17.05.2019	Nithin.O.R	M.Lakshminarasimhan	A.Venkatesan	S.Lakshmi	
06.11.2019	QA Nithin.O.R	QA S.Lakshmi	Engg/ATP M.Lakshminarasimhan	MP/ATP R.A. Krishnan	QA JVJ Arunakumar

Rev 00 (Date:30.01.2019): First Issue

Rev 01 (Date:17.05.2019): Clause 12.1 added Clauses 9.0 and 12 modified.

Clause 8.1 modified based on the feedback from NDTL/BHEL

Rev 02(Date:06.11.2019): Clause 8.1 Heading is retained as 'Non-destructive Testing' since UT & Flux Leakage tests are mentioned. Ultrasonic Testing –Detection of Longitudinal Imperfections only retained.

न्यूक्लियर पावर कॉर्पोरेशन ऑफ इंडिया लिमिटेड NUCLEAR POWER CORPORATION OF INDIA LTD.		
☒ अनुमोदित / APPROVED ☐ दिक्कती के अनुसार अनुमोदित / APPROVED AS NOTED ☐ परिवर्धन को आगे बढ़ाए / रोके । PROCEED WITH / HOLD FABRICATION ☐ अंतिम ट्रांसपेरेंसी एवं प्रिंट्स भेजे । SEND FINAL TRANSPARENCIES & PRINTS ☐ संशोधन करें एवं अनुमोदन के लिए पुनः प्रस्तुत करें। REVISE AND RESUBMIT FOR APPROVAL		
जाँचकर्ता CHECKED BY 	समीक्षकर्ता REVIEWED BY 	अनुमोदन कर्ता APPROVED BY 
किए जा रहे कार्य के अनुमोदन अंतिम को विनिर्देशन के अनुसार आपूर्ति के उत्तरदायित्व से मुक्त नहीं करता । (R.K. Lunkar) The Approval of the work to be done does not relieve the supplier of responsibility of supply according to specifications.		

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10.0 Finish and Repair

Inside and outside surfaces shall be free from scales and defects like laps, seams, folds, cracks, pitting etc. Repairs by welding are prohibited. Surface defects can be removed mechanically, ensuring smooth curved surface and maintaining specified minimum thickness without affecting the workmanlike finish.

11.0 Dimensional Tolerances and Check:

Each Pipe shall be visually examined and checked for dimensional requirements. Dimensions are as per relevant P.O and/or drawings. Tolerances on dimensions, Straightness shall be as per Material specification.

12.0 Documentation

12.1 Following documents shall be submitted to the purchaser for review and approval.

- a) Quality Plan, Manufacturing Process Plan, Heat Treatment Plan, NDE Procedure & Technique sheets and Leak Tightness Test Procedure.

12.2 Reports

Three set of following test report/certificates shall be submitted to the purchaser for review and approval.

- a) Chemical analysis-both ladle & product.
- b) Mechanical test Report-Tensile(RT,350°), Flattening/Ring Tensile Test, Drift Expanding/Ring Expanding Test .
- c) Non-destructive examination reports.
- d) Heat treatment details (Heat treatment chart shall form part of the Test Certificate)
- e) Leak Tightness Test Report
- f) Visual and dimensional control report.
- g) Material Mix-up Report

13.0 Marking, Packing & Shipment

13.1 All the pipes shall be marked with the following information.

- a) Material designation.
- b) Heat no.
- c) Serial Number
- d) Manufacturer's identification.
- e) Inspection agency stamps
- f) P.O Number

13.2 Before shipment, suitable easily removable rust preventive coating shall be applied on the product.

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