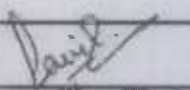
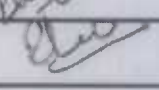


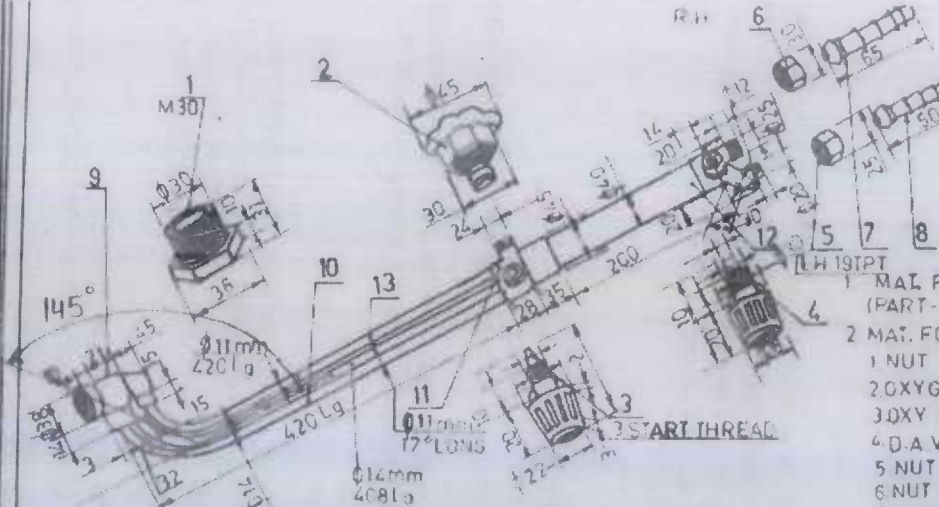
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डिजाइन एवं ड्राइंग DESIGN & DRAWING		संस्थान क्रय विनिर्देश (सी.एफ.एफ.पी. - हरिद्वार) PLANT PURCHASE SPECIFICATION (CFFP - HARDWAR)	FF06053 Rev00 पृष्ठ का Page 1 of 7																												
स्टोरेज एवं इन्वेंटरी STORAGE & INVENTORY	स्टोरेज एवं इन्वेंटरी STORAGE & INVENTORY	RLNG CUTTING TORCH AND NOZZLE																													
कॉपीराइट और कॉन्फिडेंशियल The information on this document is the property of Bharat Heavy Electrical Limited. It must not be used directly or indirectly in any way which is detrimental to the interest of the company.	स्वतंत्रता और गोपनीयता This document is the property of Bharat Heavy Electrical Limited. It must not be used directly or indirectly in any way which is detrimental to the interest of the company.	1. General This specification governs the requirements of High Pressure Type Gas Cutting torch and corresponding nozzles for use with Re-liquefied Natural Gas (RLNG). The torch and nozzle shall be procured from same source when both the items are indented together. When nozzles are procured separately, vendor is to submit sample of the nozzle the fitment and use of which will be ascertained in the shop floor before technical acceptance of offer.																													
		2. Application The cutting torch alongwith fitting nozzle shall be used for cutting of risers, runners and any extra material like padding in steel castings with or without use of iron powder. The riser sizes are upto maximum of 1000 mm. The material to be cut can be plain C, 1.5% Mn steel, Cr-Mo-V steels, Stainless steel, 9Cr1Mo steels, etc. The natural gas and oxygen available in foundry is through gas pipeline.																													
		3. Compliance with national standard This specification is generally based on IS:7653																													
स्वतंत्रता और गोपनीयता This document is the property of Bharat Heavy Electrical Limited. It must not be used directly or indirectly in any way which is detrimental to the interest of the company.	स्वतंत्रता और गोपनीयता This document is the property of Bharat Heavy Electrical Limited. It must not be used directly or indirectly in any way which is detrimental to the interest of the company.	4. Details 4.1 A sketch for Blow pipe and nozzle for gas cutting is enclosed where material and approximate sizes are mentioned. However, this sketch is only a guideline for the supplier. Supplier may offer its own gas cutting torch and nozzles subject to its approval by CFFP after shop trials. 4.2 Material: The tubes of the torch should conform to IS1545. The knobs and handle should be also be made of brass for longer life and better grip. The material used for the blowpipes shall have adequate resistance to chemical and thermal attacks of the gases used and the environmental conditions (dust and fumes) of a foundry. The external surface shall be resistant to sparks and to other external influences. The outer casing of Nozzle should be of Tellurium-Copper Alloy and inner component should be of brass alloy.																													
स्टोरेज एवं इन्वेंटरी STORAGE & INVENTORY	स्टोरेज एवं इन्वेंटरी STORAGE & INVENTORY	<table border="1"> <tr> <td>SF</td> <td>Rajesh Kumar</td> <td>TRANSLATED BY</td> <td></td> </tr> <tr> <td>LF</td> <td>M Javed</td> <td>WORKED BY</td> <td>L AGRAWAL</td> </tr> <tr> <td>CHAIRMAN CPSC</td> <td>VK AGARWAL</td> <td>CHECKED BY</td> <td>R LAKRA</td> </tr> <tr> <td>APPROVED</td> <td>NAME</td> <td>APPROVED BY</td> <td>TUSHAR DAVE</td> </tr> <tr> <td>DATE & SIGNATURE</td> <td></td> <td colspan="2"> संस्थान मानक समिति APPROVED : PLANT STANDARDS COMMITTEE </td> </tr> <tr> <td>PREPARED</td> <td>FOUNDRY TECH</td> <td>ISSUED</td> <td>FOUNDRY TECHNOLOGY</td> </tr> <tr> <td>DATE</td> <td>18.2.16</td> <td></td> <td></td> </tr> </table>		SF	Rajesh Kumar	TRANSLATED BY		LF	M Javed	WORKED BY	L AGRAWAL	CHAIRMAN CPSC	VK AGARWAL	CHECKED BY	R LAKRA	APPROVED	NAME	APPROVED BY	TUSHAR DAVE	DATE & SIGNATURE		संस्थान मानक समिति APPROVED : PLANT STANDARDS COMMITTEE		PREPARED	FOUNDRY TECH	ISSUED	FOUNDRY TECHNOLOGY	DATE	18.2.16		
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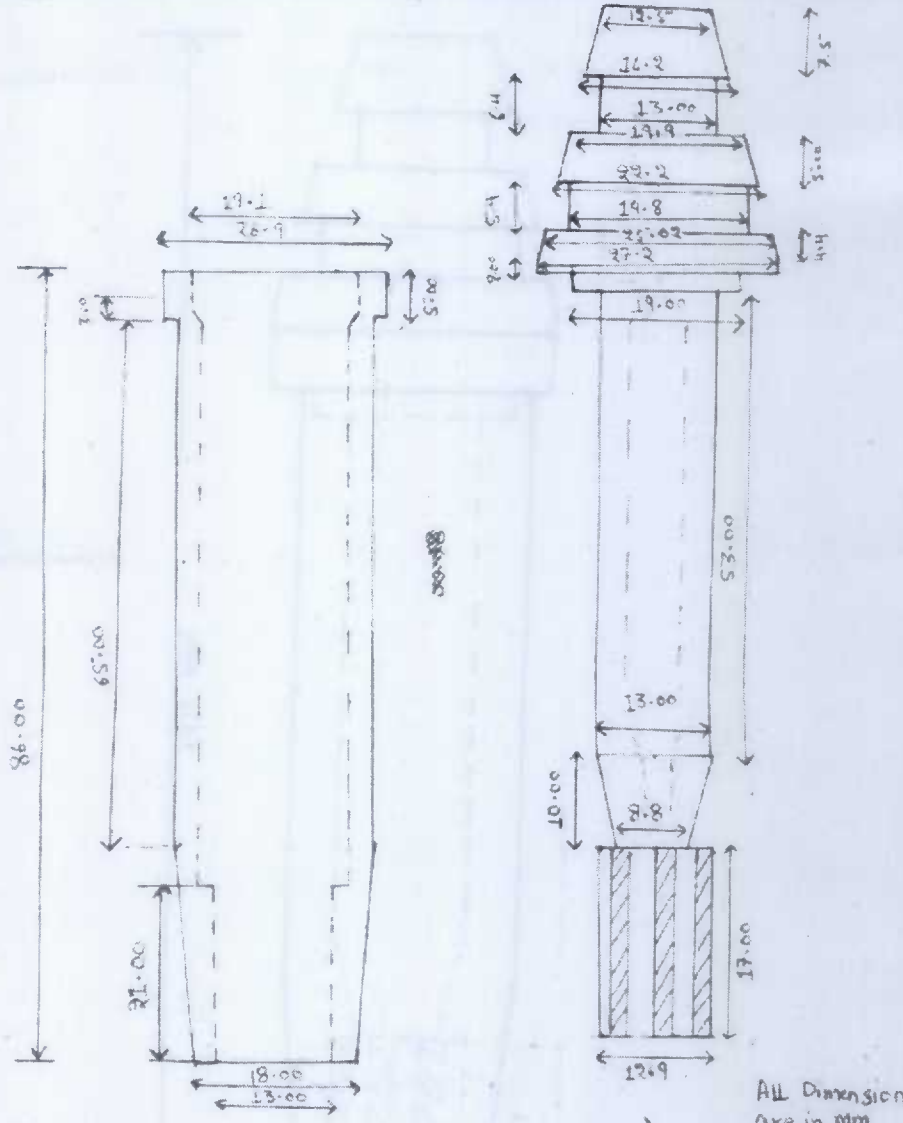
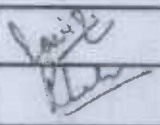
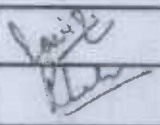
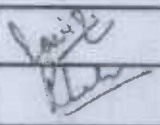
डिजाइन एवं स्वीकृत SIGN & DATE			संस्थान क्रय विनिर्देश (सी.एफ.एफ.पी - हरिद्वार) PLANT PURCHASE SPECIFICATION (CFFP - HARDWARE)	FF06053 Rev 00 पृष्ठ का Page 2 of 7
सार्वजनिक सूची संख्या को अधिकृत किया	SUPERVISOR INVENTORY NO	4.3 There should be no leakage from valves, seats for nipples and cutting nozzles while the blow-pipe is in use. 4.4 The blowpipe should be equipped with flash-back arrestor system made of same material as that of torch. The location and weight of the flash-back arrestor should be such that it should not hinder the holding of the torch and the cutting process 4.5 The oxygen and natural gas connection with main pipeline shall done using 10 mm rubber hoses. 4.6 The input pressure of the gas shall be 10 kg/sqcm for oxygen and 4.4 kg/sqcm for natural gas. 4.7 The equipment should be amenable for continuous working for 4-5 hours.		
(COPYRIGHT AND CONFIDENTIAL) The information on this document is the property of Bharat Heavy Electrical Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company.		5. Acceptance Tests 5.1 For established supplier, who has supplied RLNG Torch for gas cutting for continuously 2 years giving troublefree service, the item can be accepted on the basis of TC & GC given by supplier. 5.2 For new suppliers, a sample of cutting torch alongwith nozzle will have to be submitted for carrying out trials in CFFP. The trial shall be done on actual casting where the risers (minimum width/diameter 500 mm) shall be cut using the torch. Following parameters shall be the basis in shop trial:		
स्वतंत्रताधिकार एवं गोपनीयता इस दस्तावेज़ में दी गई सूचना भारत की सुरक्षा के लिए गोपनीय है। इसका उपयोग केवल उन्हीं अधिकारियों द्वारा ही किया जा सकता है जो कि सुरक्षा के लिए आवश्यक हो।	5.2.1 Flame and its adjustment 5.2.2 Cutting performance 5.2.3 Nozzle setting with head 5.2.4 Leakages 5.2.5 Flashback.			
डिजाइन एवं स्वीकृत SIGN & DATE		निर्माणकर्ता WORKED BY	L AGRAWAL	
सार्वजनिक सूची संख्या		जांचकर्ता CHECKED BY	R LAKRA	



संस्थान क्रय विनिर्देश (सी.एफ.एफ.पी - हरिद्वार)		FF06053 Rev 00	
PLANT PURCHASE SPECIFICATION (CFFP - HARDWAR)		पृष्ठ 3	का 7
6. Inspection, Deviation and Replacement			
6.1 BHEL reserves the right to inspect material at site before despatch. The supplier shall intimate in advance enclosing a copy of test certificate of the material offered for inspection. However, inspection at BHEL shall be final. The supplier shall offer BHEL representative all reasonable test facilities without charge to satisfy the latter that the material is being furnished in accordance with this specification. The supplier shall prepare and provide necessary test specimens for testing to be carried out at his premises. If facilities are not available at his works, the supplier shall make necessary arrangements for carrying out the prescribed test elsewhere.			
6.2 If the material received is not found in accordance with the requirements, it shall be rejected and the supplier will have to replace it free of cost at the earliest.			
6.3 For any deviation from the specification demanded by the supplier prior approval of BHEL must be obtained in writing.			
7. Test Certificates			
7.1 Unless otherwise specified, one original and three copies of original manufacturer's test certificates shall be supplied with each consignment bearing the following information. In order to facilitate quick clearance of material, the supplier shall ensure to send a copy of test certificate along with despatch document. a. BHEL PO No. with Date b. Specification No. c. Supplier reference d. Identification No. / Batch No. e. Properties as per Clause 4 f. Any other specific information which the supplier would like to convey.			
7.2 Suppliers other than the original manufacturer shall ensure providing original manufacturer's test certificates with linkage to supplier's invoice stating the batch No., lot No, etc. of the supply.			
8. Packing and Marking			
Packing shall be done in such a way that there is no damage/loss of the item in transit and storage. Packing shall be that of the original manufacturer. Each consignment should bear the following information (a) BHEL PO reference. (b) Supplier's trademark, if any (c) Supplier's TC and GC (d) 3 copies of operating manual and catalogue to be provided alongwith supply. (e) List of spares to be provided alongwith supply.			
संस्थान (सी.एफ.एफ.पी) SIGN & DATE	निर्माणकर्ता WORKED BY	L AGRAWAL	
संस्थान (सी.एफ.एफ.पी) SIGN & DATE	जाँचकर्ता CHECKED BY	R LAKRA	

सामग्री सूची संख्या	आवक एवं दिनांक SIGN & DATE	स्वत्वाधिकार एवं गोपनीयता इस प्रलेख में दी गई सूचना भारत की संरक्षितता की सम्पत्ति है इसका प्रयोग एवं प्रकाशन इस से किसी भी प्रकार प्रयोग, जो कि कंपनी से हिस में प्रतिस्पर्धा हो न किया जाय।	COPYRIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electrical Limited It must not be used directly or indirectly in any way detrimental to the interest of the company	सामग्री सूची संख्या को संश्लेषित करना	SUPERSTOCK INVENTORY NO	दिनांक एवं आवक SIGN & DATE
 संस्थान क्रय विनिर्देश (सी.एक.एक.पी - हरिद्वार) PLANT PURCHASE SPECIFICATION (ICFP - HARDWARE)  1 MAT. FOR BRASS TUBES-AS PER SP. BS 2871 (PART-3/72 CZ-11) IS:1545/82 2 MAT. FOR NOZZLE HEAD ALLUMINUM BRONZE 1 NUT M 30 FOR NOZZLE TIGHTENING 2 OXYGEN HEATING VALVE 3 OXY VALVE (3 START THREAD) 4 O.A VALVE 5 NUT L H 19 TPT 6 NUT FOR OXY NIPPLE (R.H.) 7 NIPPLE FOR OXYGEN 8 NIPPLE FOR O.A 9 HEAD 15° TAPPER SUITABLE FOR NOZZLE 10 BRASS TUBE APROX 17" LONG ϕ 11mm 11 PIECE INTERMEDIATE ARE 12 PIECE ARRIEVE 13 OXY TUBE ϕ 14mm Bend between main pipe & extension piece to be $\approx 145^\circ$ as shown. विवरणकर्ता WORKED BY जांचकर्ता CHECKED BY LAGRAWAL RLAKRA FF06053 Rev 00 पृष्ठ का Page 4 of 7						

2

Design and Drawing SIGN & DATE		संस्थान क्रय विनिर्देश (सी.एफ.एफ.पी - हरिद्वार) PLANT PURCHASE SPECIFICATION (CFFP - HARDWARE)	FF06053 Rev 00 पृष्ठ का Page 5 of 7						
सहाय्यी सूची संख्या की अधिकतम संख्या	SUPERSEDES INVENTORY NO	 Details of Part A Material- Bell-Copper Details of Part B Material- Brass Alloy All Dimension are in mm							
COPYRIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company.									
स्वत्वाधिकार एवं गोपनीयता इस दस्तावेज में दी गई सूचना भारत भारती इलेक्ट्रिकल्स लि. की संपत्ति है। इसका प्रयोग एवं प्रसारण इस से बिना की अनुमति के नहीं किया जा सकता है।									
Author and Date SIGN & DATE									
सहाय्यी सूची संख्या	<table border="1"> <tr> <td>निर्माणकर्ता WORKED BY</td> <td>L. AGRAWAL</td> <td rowspan="2">  </td> </tr> <tr> <td>जांचकर्ता CHECKED BY</td> <td>R. LAKRA</td> </tr> </table>				निर्माणकर्ता WORKED BY	L. AGRAWAL		जांचकर्ता CHECKED BY	R. LAKRA
निर्माणकर्ता WORKED BY	L. AGRAWAL								
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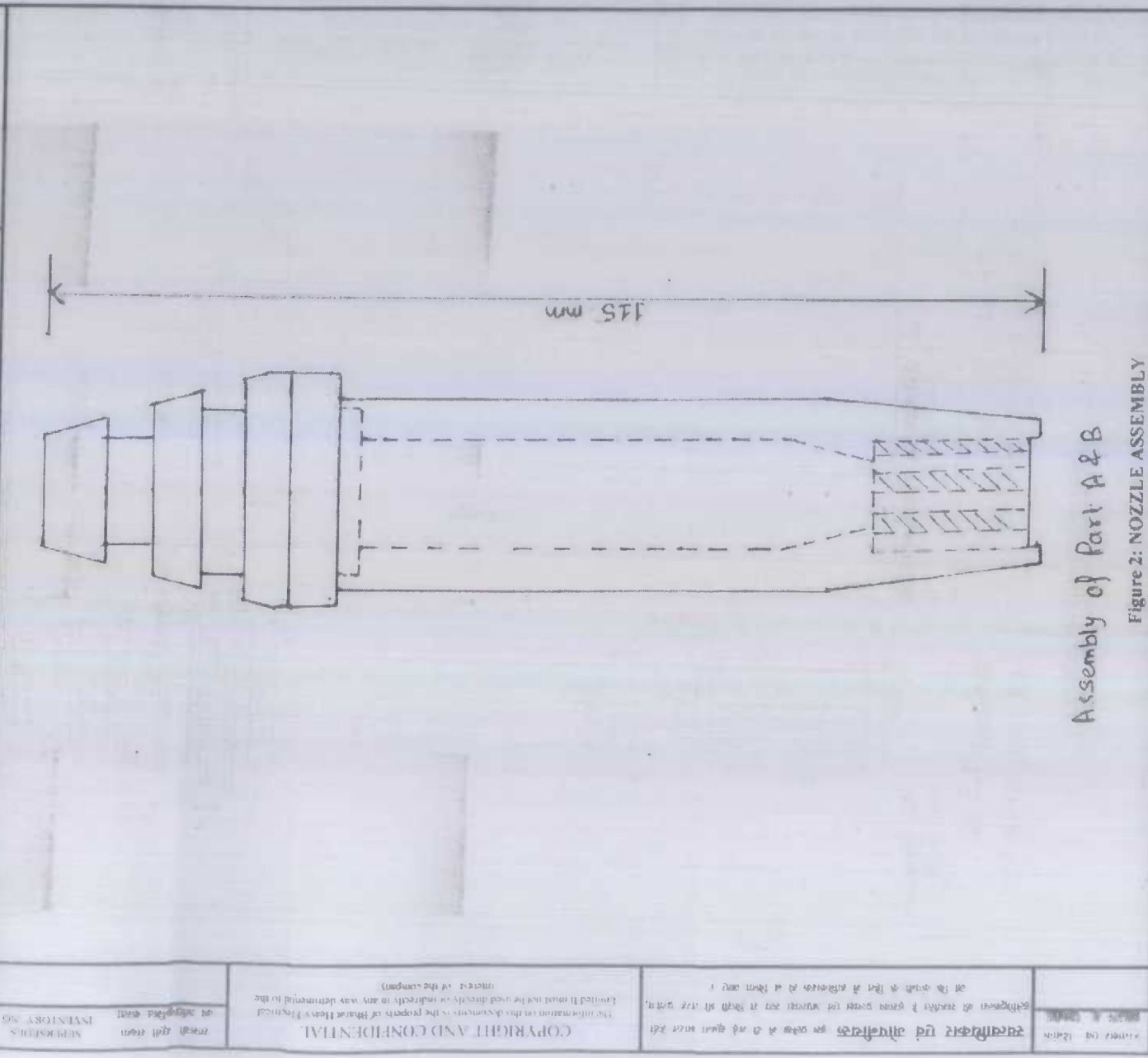


Figure 2: NOZZLE ASSEMBLY

मशीनरी गैर Machine (Non-Mechanical)	निर्माणकर्ता WORKED BY	LAGRAWAL	
मशीनरी गैर Machine (Non-Mechanical)	जांचकर्ता CHECKED BY	R LAKRA	