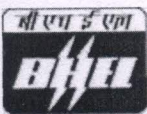
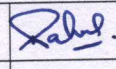


|                                                                    |                                                   |                                                                                                                                                                                |                                                                                                                                                                                                                         |                                                                          |                                     |                                                                                                                                                  |             |
|--------------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| सापेक्ष सूची संख्या<br>INVENTORY NO.                               | दिनांक एवं हस्ताक्षर<br>SIGN & DATE               | स्थापित एवं गोपनीय<br>इस दस्तावेज में दी गई<br>सूचना भारत की पतंजलि की गोपनीय है, इसका प्रकाश एवं<br>प्रकाश रूप में किसी भी तरह प्रयोग को कि कंपनी के हित में हानिकारक हो न कि | COPYRIGHT AND CONFIDENTIAL<br>The information on this documents is the property of Bharat Heavy Electrical Limited.<br>It must not be used directly or indirectly in any way detrimental to the interest of the company | भारतीय सूची संख्या को<br>अधिकृतित करना है<br>SUPERSEDES<br>INVENTORY NO. | दिनांक एवं हस्ताक्षर<br>SIGN & DATE | उत्पाद क्रय विनिर्देश<br> <b>PRODUCT PURCHASE SPECIFICATION</b> | HXE/SK/2268 |
|                                                                    |                                                   |                                                                                                                                                                                |                                                                                                                                                                                                                         |                                                                          |                                     | Page 1 of 3                                                                                                                                      |             |
| <h1>THERMO- HYDRAULIC DESIGN SOFTWARE OF AIR COOLED CONDENSER</h1> |                                                   |                                                                                                                                                                                |                                                                                                                                                                                                                         |                                                                          |                                     |                                                                                                                                                  |             |
| Rev. No.01,<br>Dt: 17.04.2021<br>Ram Manoj Chhipa                  | निर्माणकर्ता<br>WORKED BY<br>RAHUL KR.<br>CHANDRA | जांचकर्ता<br>CHECKED BY<br>DEEPAK KR.<br>YADAV                                                                                                                                 | 05.05.2021                                                                                                                                                                                                              | 05.05.2021                                                               |                                     |                                                                                                                                                  |             |



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                  |  |                           |                                                                                                            |            |
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| SUPERSEDES<br>INVENTORY NO.<br>भारतीय प्रौद्योगिकी संस्थान<br>SIGN & DATE                                                                                                                                                                                                                                                                                                                                                                                                                                                             | उत्पाद क्रय विनिर्देश<br> <b>PRODUCT PURCHASE SPECIFICATION</b> |  | HXE/SK/2268               |                                                                                                            |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                  |  | Page 2 of 3               |                                                                                                            |            |
| COPYRIGHT AND CONFIDENTIAL<br>The information on this document is the property of Bharat Heavy Electrical Limited.<br>It must not be used directly or indirectly in any way detrimental to the interest of the company.                                                                                                                                                                                                                                                                                                               | <b><u>THERMO- HYDRAULIC DESIGN SOFTWARE OF AIR COOLED CONDENSER</u></b>                                                                          |  |                           |                                                                                                            |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>1.0 General:</b><br>The specification is for the purchase of commercial software for thermo-hydraulic design of ACC.                          |  |                           |                                                                                                            |            |
| <b>2.0 Application:</b><br>The software shall be used for the thermo-hydraulic design/calculation of ACC for direct air cooled forced cooling, Single Row Tube / Tube Bundle                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                  |  |                           |                                                                                                            |            |
| <b>3.0 Software / Platform:</b> <ol style="list-style-type: none"> <li>Software Type: One (01) license with multi-user (min.2 users) facility.</li> <li>Software may be either standalone (with key) or web based.</li> <li>Software may be with perpetual license with AMC or subscription based, as per bidder standard practice.</li> <li>Apart from software (and key if applicable), any additional hardware/software if required, will be in the scope of the bidder. Bidder to take care the same in software cost.</li> </ol> |                                                                                                                                                  |  |                           |                                                                                                            |            |
| <b>4.0 Standards:</b><br>Software should incorporate the guidelines/recommendations of the following national/international codes: <ol style="list-style-type: none"> <li>HEI for ACC</li> <li>PTC 30.1 (for performance curves)</li> </ol>                                                                                                                                                                                                                                                                                           |                                                                                                                                                  |  |                           |                                                                                                            |            |
| <b>5.0 Deliverables:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                  |  |                           |                                                                                                            |            |
| <b>5.1</b> Software must have the feature of thermo –hydraulic design/ calculation of ACC and should provide the output but not limited to as per Annexure-III                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                  |  |                           |                                                                                                            |            |
| <b>5.2 Additional Requirements:</b> <ol style="list-style-type: none"> <li>Bidder to provide online/ offline training for software familiarization for at least three (3) days. The number of participants shall be around five (05) per day.</li> <li>Bidder to provide vetting and design optimization of thermo-hydraulic calculation from the software for one project of the owner/client choice. The one project may be of 2/3 units of either 660 MW/800 MW.</li> </ol>                                                        |                                                                                                                                                  |  |                           |                                                                                                            |            |
| <b>6.0 Technical Requirement:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                  |  |                           |                                                                                                            |            |
| <b>6.1 General Technical Requirement:</b><br>Software should comply with the following technical requirements:                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                  |  |                           |                                                                                                            |            |
| भारतीय प्रौद्योगिकी संस्थान<br>INVENTORY NO.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Rev. No.01,<br>Dt: 17.04.2021                                                                                                                    |  | निर्माणकर्ता<br>WORKED BY | RAHUL KR. CHANDRA<br> | 05.05.2021 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Ram Manoj Chhipa                                                                                                                                 |  | जांचकर्ता<br>CHECKED BY   | DEEPAK KR. YADAV                                                                                           | 05.05.2021 |



