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FR6 GAS TURBINE STAGE 1 BUCKET CASTING WITH COOLING HOLES DRILLED

1. <u>DESCRIPTION</u>: The specification defines the scope of supply of Fr-6 Gas turbine Stage#1 Bucket casting with cooling holes drilled.

2. **SCOPE**:

- 2.1. Scope of supply includes supply of bucket castings with cooling holes drilled (as per BHEL drawing mentioned in variant table). In the case of conflict between complementary documents, part drawing takes precedence with ranking in the following order:
 - a) Casting drawing & Cooling holes drilling drawings as per variant table
 - **b)** Acceptance requirement specification GT11247
 - c) Stem drilling Specification GT10273
 - d) Process specification GT10099
 - e) Material Specification GT53379

It shall be responsibility of the supplier to thoroughly understand the work scope and all documentation needed to complete the work. Prior to initiation of any manufacturing activity, applicable drawing shall be jointly reviewed by GT Engineering, BHEL Hyderabad and supplier to document any discrepancies in the drawing.

<u>Note</u>: All buckets shall be HIP (Hot Isostatic Pressing) densified as per specification GT10323.

- 2.2. Supplier to supply castings (Qty and variant as per PO) meeting specification, drawings as per variant table. This quantity excludes the castings required for process development and FPQ. Applicability and details of FPQ as per GT10099.
- 2.3. Supplier to provide MPP, QP and other related documents in line with GT10099. Upon review and mutually agreed by BHEL and supplier, the QP will be frozen and the same shall be used for all manufacturing.
- 2.4. It shall be the responsibility of the supplier to thoroughly understand the work scope and all documentation needed to develop the required part. Prior to initiation of any manufacturing activity, the applicable drawing & specifications shall be jointly reviewed by GT Engineering, BHEL Hyderabad and supplier to document any discrepancies.

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Revisions:	Prepared by:	Approved by:	Date:
Refer to record of revisions	Shridhar Tripathi	Kamaldeep Gupta	15.03.2024

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2.5. The tooling manufactured as part of 1st time development activities will be property of BHEL at vendor premises. Same tooling will be utilised for manufacturing of buckets for BHEL's future requirements.

3. PACKING:

The castings shall be packed suitably in solid packages for long distance transport (using several means of transport), repeated handling and long term storage period (min 12 months). Proper moisture, rust, mold and corrosion resisting measures shall be adopted to ensure receipt of components at BHEL without corrosion and damage. Details of packing shall be enclosed along with the offer. Suitable batons shall be provided to arrest movement & goods inside the package during transportation. Packaging, packager shall be upended to check any movement.

4. QUALITY ASSURANCE:

Vendor should conform to additional engineering requirements as outlined in BHEL specification GT10099. A certificate of conformance shall be submitted stating that buckets were processed in accordance with this specification and all applicable documents

5. DOCUMENTS TO BE SUBMITTED BY SUPPLIER:

- a) Manufacturing Process Plan, Inspection and Quality Plan
- b) Tooling details
- c) Dimensional inspection report.
- d) Material Test certificates
- e) Heat Treatment reports
- f) FPQ documentation

6. VARIANT TABLE:

Var No	Material Code	Description	BHEL Drawing No
01	GT9753024010	FR6B Stg#1 bucket with cooling holes drilled	 Casting as per 03530667022-01 Cooling holes drilling as per 03530661036-01 Note: The complementary documents mentioned in part drawing/ specification are integral part of the work scope.

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		Rev. No.	Date	Revision Details	Revised By	Approved By	
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