



BHARAT HEAVY ELECTRICALS LIMITED

HEEP HARIDWAR INDIA-PIN 249403

FAX NO: 0091 1334 226462

PHONE NO: 01334 285076

REQUIREMENT OF TI FORGING:

The Heavy Electricals Equipment Plant (HEEP) located in Haridwar, India is one of the major manufacturing plants of Bharat Heavy Electricals Ltd. The core business of HEEP includes design and manufacture of large steam and gas turbines, turbo generators, Defense Items and so on.

Details of items details as below:

Sl. No.	MAT CODE	ITEM DISCREPTION	Quantity	UOM	Delivery DAYS
1	W93078299163	FORGING AS PER DRAWING 2-78299-51580(OTO FORGING DRG. NO. 1576-99-158) SIZE: P/N 157699158 GRADE: TI6AL4V	126	NOS	150 DAYS
2	W93078299155	FORGING AS PER DRAWING 2-78299-51590(OTO FORGING DRG. NO.1576-99-159 SIZE: P/N 157699159 GRADE: TI6AL4V	121	NOS	150 DAYS

1. ALL VENDORS TO PROVIDE POINT WISE REPLY/CONFIRMATION ALONG WITH RELEVANT SUPPORTING DOCUMENTS TO EACH AND EVERY POINT OF **PRE-QUALIFICATION REQUIREMENT/PQR** FOR ALL ENQUIRY ITEMS. NONCOMPLIANCE OF THESE MAY LEAD TO REJECTION OF OFFER AS THESE ARE ESSENTIAL CONDITION FOR PARTICIPATING IN TENDER ENQUIRY.
2. VENDOR TO SUBMIT DULY FILLED, SIGNED & STAMPED **PQR SHEETS** ALONG WITH SUPPORTING DOCUMENTS REQUIRED AS PER CLAUSES ALONG WITH OFFER.
3. VENDOR TO SUBMIT DULY FILLED, SIGNED & STAMPED **COMMERICAL & QUALITY CHECKLIST** SHEET ALONG WITH SUPPORTING DOCUMENTS ALONG WITH OFFER.
4. VENDOR TO SUBMIT DULY SIGNED & STAMPED **DRAWINGS** ALONG WITH OFFER.
5. EARLY DELIVERY IS ACCEPTABLE.
6. **QUALITY REQUIREMENTS:**
 - VENDORS TO CONFIRM FOR INSPECTION BY BHEL/BHEL TPIA M/S. QUEST AS PER BHEL APPROVED QP. VENDORS TO SUBMIT QP FOR BHEL APPROVAL AS PER BHEL FORMAT.

VENDOR' S SIGN & STAMP

PRE-QUALIFICATION REQUIREMENTS (PQR) FOR TITANIUM FORGING (Grade- Ti6AL4V).**Only those bidders should quote who :**

Sl.	PQR	Action	Vendor Response (Confirmed / No)
1.	Can manufacture or supply TITANIUM FORGING (GRADE: TI6AL4V) as per drawing 27829951580 and specification MIL-T-9047/AMS4928/AMS4930	Vendor to confirm	
2.	Have read and understood the technical requirements, dimensional aspects, delivery conditions etc. of forging drawings 27829951580 and specification MIL-T-9047/AMS4928/AMS4930	Vendor to confirm	
3.	Confirm to provide Material Test Report from any reputed Lab stating dimension, chemical and physical properties of the supplied item.	Vendor to confirm	
4.	Can provide Certificate of Conformance (COC) (<i>also known as Certificate of Conformity or Certificate of Compliance</i>)	Vendor to confirm	
5.	Point numbers 1 to 4 are Mandatory Qualification Requirements. Offers of Bidders not meeting these requirements will NOT be considered.	Vendor to confirm	

(AGM-DPE)

TECHNICAL PARAMETERS CHECK LIST
DATA VALUES TO BE FILLED AND CONFIRMED BY VENDOR

NOTE: Vendor to input parameters based on the specification of the quoted item.

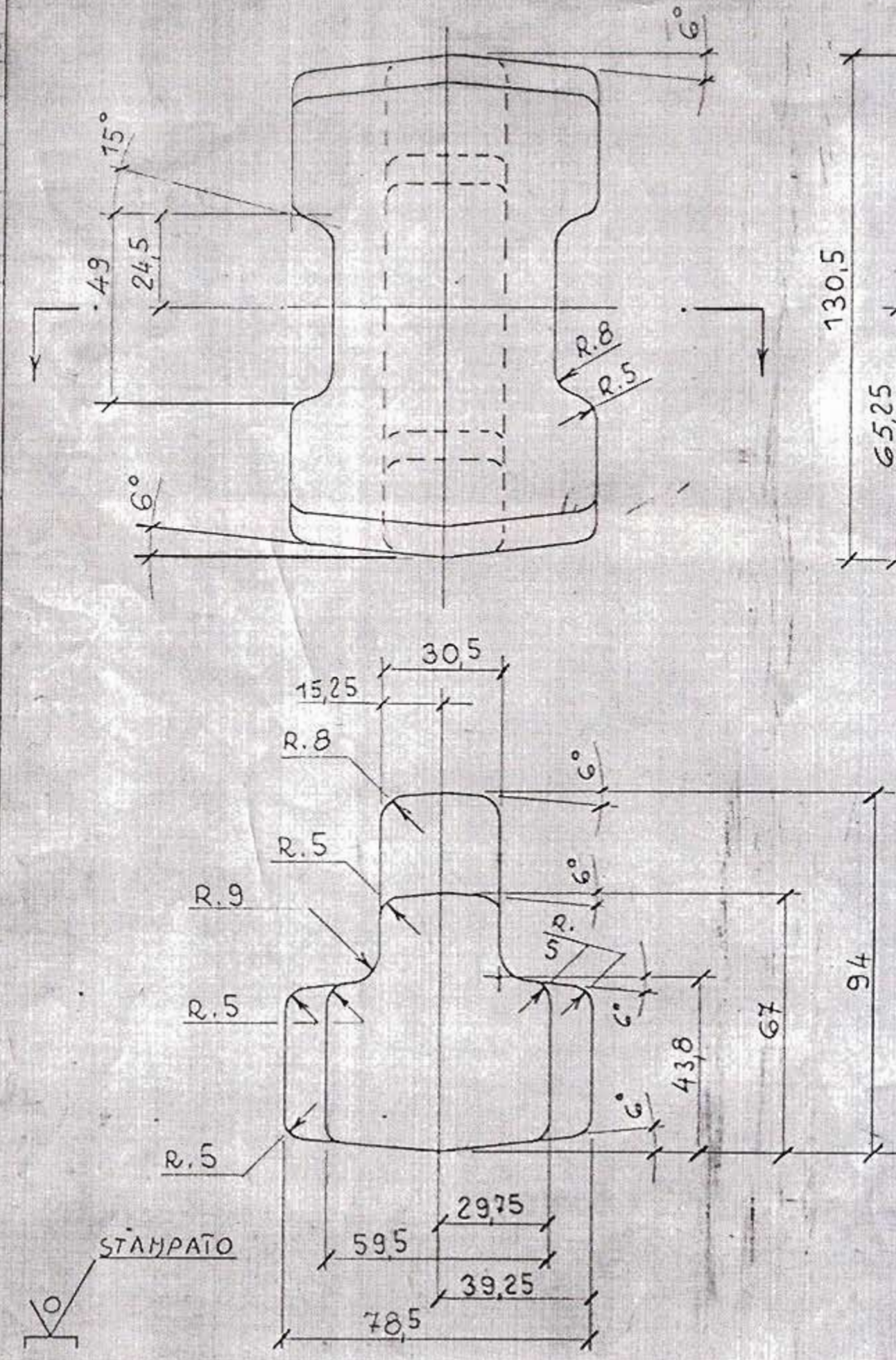
SN.	PARAMETERS	VALUES	VALUES	UNIT	RESPONSE TYPE	VENDOR RESPONSE
1	MATERIAL CODE	W93078299155	W93078299163	-	-	-
2	MATERIAL SPECIFICATION	MIL-T-9047/ AMS4928 / AMS4930	MIL-T-9047/ AMS4928 / AMS4930	-	Specify Spec. →	
3	MATERIAL GRADE	Ti6AL4V	Ti6AL4V	-	To confirm →	
4	SUPPLY CONDITION	DESCALED AND HEAT TREATED	DESCALED AND HEAT TREATED	-	Input Value →	
5	SHAPE AND SIZE	AS PER DRAWING	AS PER DRAWING	-	To confirm →	
6	CHEMICAL PROPERTIES	AS PER SPECIFICATION MIL-T-9047/ AMS4928/ AMS4930	AS PER SPECIFICATION MIL-T-9047/ AMS4928/ AMS4930	-	To confirm →	
7	MECHANICAL PROPERTIES	AS PER SPECIFICATION MIL-T-9047/ AMS4928/ AMS4930	AS PER SPECIFICATION MIL-T-9047/ AMS4928/ AMS4930	Y	To confirm →	
8	TESTING	AS PER GOVERNING STANDARD	AS PER GOVERNING STANDARD	Y	To confirm →	
9	CERTIFICATION	Certificate of Conformance / Compliance (COC)	Certificate of Conformance / Compliance (COC)	Y	confirm to supply →	
10	VENDOR REMARKS					

COMMERCIAL & QUALITY CHECKLIST

SL. NO.	TERMS & CONDITION	VENDOR'S CONFIRMATION /REMARKS / REPLY
TENDER DETAILS		
1	COMPANY / FIRM NAME OF BIDDER	
2	GEM BID NO	
QUALITY REQUIREMENTS		
3	VENDORS TO CONFIRM FOR INSPECTION BY BHEL/BHEL TPIA M/S. QUEST AS PER BHEL APPROVED QP. VENDORS TO SUBMIT QP FOR BHEL APPROVAL AS PER BHEL FORMAT	
COMMERICAL REMARKS		
4	BREACH OF CONTRACT CLAUSE: VENDOR TO AGREE AS PER CLAUSE NO 14 OF ATC	
5	VENDOR TO SUBMIT MAKE IN INDIA CERTIFICATE AS PER ATTCHED FORMAT ONLY	
6	CONFLICT OF INTEREST AMONG BIDDERS/ AGENTS: VENDOR TO AGREE AS PER CLAUSE NO 32 OF ATC	
7	ACTION AGAINST BIDDERS / VENDOR / SUPPLIER / CONTRACTOR IN CASE OF DEFAULT SHALL BE AS PER CLAUSE 27 OF ATC	
8	Vendor to confirm regarding Declaration regarding compliance to Restrictions under Rule 144 (xi) of GFR 2017 as below: I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India. I certify that OUR COMPANY / FIRM is not from such a country/ has been registered with the Competent Authority (attach valid registration by the Competent Authority, i.e., the Registration Committee constituted by the Dept. for Promotion of Industry and Internal Trade (DPIIT).	
9	Vendor to confirm the following: We hereby confirm that we have not changed/ modified/materially altered any of the tender documents as downloaded from the website/ issued by BHEL and in case of such observance at any stage, it shall be treated as null and void.	
10	Vendor to confirm the following: We further confirm our unqualified acceptance to all Terms and Conditions, unqualified compliance to Tender Conditions	
11	REST TERMS AND CONDITIONS SHALL BE as per GEM (Latest Version- applicable at the time of issuance of enquiry) and Enquiry ATC (ADDITIONAL TERMS & CONDITIONS)	

VENDOR' S SIGN & STAMP

TOLLERANZE GENERALI DI LAVORAZIONE (TOLL. GEN. PER I PEZZI GREZZI FUSI)
 QUOTE LIN. (COMP.) SINQ A 18 ± 0.15
 DIAMETRI E LUNGH. ± (0.5% + 1MM)
 SP. ± 0.1 (MIN ± 0.5 MM)
 ANGOLI ± 30'



No PART.	DENOMINAZIONE	No PEZZI	MATERIALE	TRATTAMENTO	PROTEZIONE	NORMALE
	CARRELLO STAMPATO		Ti6AL4V			
	SOSTITUITO DA	SOSTITUISCE IL	GREZZO Kg	FINITO Kg		
INDICE E DESCRIZIONE DELLE MODIFICHE						
1						
2						
3						
4						
5						
6						
7						
8						

S. P. X	TITOLO (COSTR. 76.V)	SCALA	ORIGINE 1576-23-736
OTO-MELARA	CARRELLO	1:1	TAVOLA
LA SPEZIA			
No DWS 1576-99-159-00			

QUOTE IN TOLLERANZA	
QUOTA E SIMBOLO	LIMITI

NOTES -
 1. MATERIAL SPECIFICATION Ti6 AL-4V.
 AS PER AMS 4930

change
 Proprietary Data
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 MEANS, ELECTRONIC OR MECHANICAL,
 INCLUDING PHOTOCOPYING, RECORDING,
 OR BY ANY INFORMATION STORAGE AND
 RETRIEVAL SYSTEM, WITHOUT THE
 WRITTEN PERMISSION OF THE
 PROPRIETOR.

01 TROLLEY		W93078299155		2100	
VAR. 00	REMARKS	ITEM NO.	DESCRIPTION	DRAWING NO.	UNIT WEIGHT
				2-78299-51590	
CARD TYPE 3 28		CARD TYPE-1		CARD TYPE-2	
GMS NO./GR. SP. NO.		STATUS OF DRG.		TYPE OF PRODUCT	
				OR	
				NAME OF CUSTOMER / PROJECT 76/62 SRGM	
REVISED	ALTERED	DEPT. DFP	SCALE	WEIGHT (kg)	REF. TO ASSY. DRG.
CHECKED		CODE 6580	1:1	2.00	
TITLE			DRAWING NO.		
TROLLEY (FORGING)			2-78299-51590		
			SHEET NO. 01 / NO. OF SHEETS 01		
SIZE A3					

A TERMINI DI LEGGE È VIETATO RIPRODURRE O COMUNICARE A TERZI IL CONTENUTO DEL PRESENTE DISEGNO

MIL-T-9047G
15 December 1978
SUPERSEDING
MIL-T-009047F(USA)
25 March 1971 and
MIL-T-9047E
15 June 1970

MILITARY SPECIFICATION

TITANIUM AND TITANIUM ALLOY BARS (ROLLED OR FORGED) AND
REFORGING STOCK, AIRCRAFT QUALITY

This specification is approved for use by all Departments
and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers aircraft quality, commercially pure titanium and alpha, alpha-beta and beta titanium alloy rolled or forged bar and reforging stock products.

1.2 Classification. Products shall be of the following compositions, as specified (see 6.2 and Table IX).

Commercially pure titanium

Ti-CP-70

Alpha titanium alloys

Ti-5Al-2.5Sn
Ti-5Al-2.5Sn (ELI)
6Al-2Cb-1Ta-0.8Mo
8Al-1Mo-1V

Alpha-Beta titanium alloy

Ti-3Al-2.5V
Ti-6Al-4V
Ti-6Al-4V (ELI)
Ti-6Al-6V-2Sn
Ti-6Al-2Sn-4Zr-2Mo
Ti-6Al-2Sn-4Zr-6Mo
Ti-7Al-4Mo

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to the Air Force Materials Laboratory, MXA, WPAFB, Ohio 45433 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

Beta titanium alloy

T1-8Mo-8V-2Fe-3Al
T1-11.5Mo-6Zr-4.5Sn
T1-3Al-8V-6Cr-4Mo-4Zr
T1-13V-11Cr-3Al

1.3 Condition.

1.3.1 Bars (see 6.1.1). Products shall be hot-worked, with or without subsequent cold finishing, and shall be supplied in one of the following heat treated conditions in accordance with Tables II, III and IV, as specified (see 6.2).

Condition A - Annealed
Condition DA - Duplex annealed.
Condition ST - Solution treated.
Condition STA - Solution treated and aged. (When multiple STA conditions are specified for a given alloy, as in Table IV, the applicable aging temperature shall be added in parenthesis as a suffix).

1.3.2 Heat treatment. Heat treatments shall be accomplished in accordance with MIL-H-81200. Requirements for heat treatments not listed in this specification shall be as agreed upon by the user and contractor or producer.

1.3.3 Reforging stock (see 6.1.2). Products shall be furnished in the condition ordered by the forging manufacturer (see 6.2).

1.4 Finish. Products shall be furnished in the following surface finishes, as ordered (see 6.2). When no surface finish is specified, Surface Finish I shall apply. When permitted by purchaser, product to be machined all over may have an oxygen rich layer, provided such layer is removable within the machining allowance for the part.

1.4.1 Surface Finish I. Ground, machined or otherwise descaled and pickled free of alpha case and other harmful surface contamination, and suitable for ultrasonic inspection.

1.4.2 Surface Finish II. Centerless ground, machined or otherwise specially prepared surface free of alpha case and other harmful surface contamination, and suitable for ultrasonic inspection by the immersion method.

2. APPLICABLE DOCUMENTS

2.1 Issues of documents. The following documents of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein.

SPECIFICATIONS

MILITARY

MIL-H-81200	Heat Treatment of Titanium and Titanium Alloys
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STANDARDS

FEDERAL

FED-STD-151	Metals; Test Methods
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MILITARY

MIL-STD-105	Sampling Procedures and Tables
MIL-STD-129	Marking for Shipment and Storage
MIL-STD-163	Steel Mill Products Preparation For Shipment and Storage

(Copies of specifications, standards, drawings, and publications required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise indicated, the effect on date of invitation for bids or request for proposal shall apply.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM E8	Tension Testing of Metallic Materials
ASTM E120	Chemical Analysis of Titanium and Titanium-Base Alloys
ASTM E146	Chemical Analysis of Zirconium and Zirconium-Base Alloys

(Application for copies should be addressed to the American Society for Testing and Materials, 1915 Race Street, Philadelphia, PA 19103.)

MIL-T-9047G

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI B46.1 Surface Texture

(Application for copies should be addressed to the American National Standards Institute, Incorporated, 1430 Broadway, New York, NY 10018.)

SOCIETY OF AUTOMOTIVE ENGINEERS (SAE)

AMS 2241 Tolerances - Corrosion and Heat Resistant
Steel, Bar and Wire
and Titanium and Titanium Alloy Bars and
Wire

AMS 2249 Chemical Check Analysis Limits - Titanium
and Titanium Alloys

AMS 2631 Ultrasonic Inspection of Titanium Alloys

AMS 2643 Structural Examination of Titanium Alloys,
Chemical Etch, Inspection Procedure

ARP 982 Minimizing Stress-Corrosion in Wrought
Titanium Alloy Products

(Application for copies should be addressed to the Society of Automotive Engineers, Incorporated, 400 Commonwealth Drive, Warrendale, PA 15096.)

3. REQUIREMENTS

3.1 Material. Unless otherwise specified (see 6.2), material for products supplied in accordance with this specification shall be produced by multiple melting using consumable electrode practice. The last melting cycle shall be under vacuum.

3.2 Chemical composition. The chemical composition, as determined by heat or lot analysis, shall be as specified in Table I.

3.2.1 Check analysis. Chemical composition variations shall meet the requirements of AMS 2249.

3.3 Tensile properties.

3.3.1 Bars.

3.3.1.1 Commercially pure and alpha-titanium alloys. Tensile properties shall conform to Table II.

TABLE I. Chemical composition, percent by weight. 1/ & 2/

ELEMENTS															
Composition	Al	Sn	Zr	Cb	Ta	Mo	V	Cr	Fe 3/	C (max)	N (max)	H (max) 4/	O (max)	Cu or Si as noted	Total Other Elements (max) 5/
COMMERCIAL PURE TITANIUM															
CP-70	-	-	-	-	-	-	-	-	0.50	0.08	0.05	0.0125	0.40	-	0.30
ALPHA TITANIUM ALLOY															
3Al-2.5V	2.50 -3.50	-	-	-	-	-	2.00 -3.00	-	0.30	0.05	0.02	0.015	0.12	-	0.40
5Al-2.5Sn	4.50 -5.75	2.00 -3.00	-	-	-	-	-	-	0.50	0.08	0.05	0.020	0.20	-	0.40
5Al-2.5Sn (ELI)	4.50 -5.75	2.00 -3.00	-	-	-	-	-	-	0.25 6/	0.05	0.035	0.0125	0.12 6/	-	0.30 7/
6Al-2Cb- 1Ta-0.8Mo	5.50 -6.50	-	-	1.50 -2.50	0.50 -1.50	0.50 -1.00	-	-	0.25	0.05	0.03	0.0125	0.10	-	0.40
8Al-1Mo- 1V	7.35 8.35	-	-	-	-	0.75- 1.25	0.75- 1.25	-	0.30	0.08	0.05	0.015	0.15	-	0.40

TABLE I. Chemical composition, percent by weight. 1/ & 2/ - (Continued)

ELEMENTS															
Composition	Al	Sn	Zr	Cb	Ta	Mo	V	Cr	Fe 3/	C (max)	N (max)	H (max) 4/	O (max)	Cu or Si as noted	Total Other Elements (max) 5/
ALPHA-BETA TITANIUM ALLOY															
6Al-4V	5.50 -6.75	-	-	-	-	-	3.50 -4.50	-	0.30	0.08	0.05	0.015	0.20	-	0.40
6Al-4V (ELI)	5.50 -6.50	-	-	-	-	-	3.50 -4.50	-	0.25	0.08	0.05	0.0125	0.13	-	0.30
6Al-6V- 2Sn	5.00 -6.00	1.50 -2.50	-	-	-	-	5.00 -6.00	-	0.35- 1.00	0.05	0.04	0.015	0.20	8/	0.30
6Al-2Sn- 4Zr-2Mo	5.50 -6.50	1.80 -2.20	3.60 -4.40	-	-	1.80 -2.20	-	-	0.25	0.05	0.04	0.015	0.15	9/	0.30
6Al-2Sn- 4Zr-6Mo	5.50 -6.50	1.75 2.25	3.60 -4.40	-	-	5.50 -6.50	-	-	0.15	0.04	0.04	0.0125	0.15	-	0.40
7Al-4Mo	6.50 -7.30	-	-	-	-	3.50 -4.50	-	-	0.30	0.10	0.05	0.013	0.20	-	0.40
BETA TITANIUM ALLOY															
8Mo-8V- 2Fe-3Al	2.60 -3.40	-	-	-	-	7.50 -8.50	7.50 -8.50	-	1.60 -2.40	0.05	0.05	0.015	0.16	-	0.40
11.5Mo-6Zr- 4.5Sn	-	3.75- 5.25	4.50 -7.50	-	-	10.00 -13.00	-	-	0.35	0.10	0.05	0.020	0.18	-	0.40
3Al-8V-6 Cr-4Mo-4Zr	3.00 -4.00	-	3.50 -4.50	-	-	3.50 -4.50	7.50 -8.50	5.50 -6.50	0.30	0.05	0.03	0.020	0.12	-	0.40
13V-11Cr 3Al	2.50 -3.50	-	-	-	-	-	12.50 -14.50	10.00 -12.00	0.35 max.	0.05	0.05	0.025	0.17	-	0.40

TABLE I. Chemical composition, percent by weight. - Continued

NOTES:

- 1/ Balance is titanium.
- 2/ Yttrium shall not exceed 0.005 (50 ppm).
- 3/ Maximum, unless otherwise specified.
- 4/ Hydrogen shall be determined on each lot of the product as shipped.
- 5/ Need not be determined. Material shall meet this requirement when analyzed. Unless otherwise noted, other elements each shall be 0.10 percent maximum.
- 6/ Iron plus oxygen shall not exceed 0.32 percent.
- 7/ Other elements each shall be 0.05 percent maximum.
- 8/ 0.35 - 1.00 Cu.
- 9/ 0.13 (max) S₁

TABLE II. Commercially pure and alpha titanium minimum tensile properties.

Alloy	Thickness, Diameter or Distance Between Flats Inch <u>3/</u>	MINIMUM TENSILE PROPERTIES <u>1/</u>				Reduction of area Percent <u>4/</u>
		Tensile Strength ksi (MPa)	Yield Strength at 0.2 Percent Offset ksi (MPa)	Elongation Percent in 4D <u>4/</u>		
COMMERCIALY PURE TITANIUM						
CP-70	4.00 & under (101.60 & under)	80 (551)	70 (482)	15		30
ALPHA TITANIUM ALLOYS						
5Al-2.5Sn	4.00 & under (101.60 & under)	115 (792)	110 (758)	10 [8]		25 [20]
5Al-2.5Sn (ELI)	3.00 & under (76.20 & under)	100 (689)	90 (620)	10 [8]		25 [20]
	3.00 to 4.00 (76.20 to 101.60)	100 (689)	90 (620)	10 [8]		20 [15]
6Al-2Cb- 1Ta-0.8Mo	4.00 & under (101.60 & under)	103 (710)	95 (655)	10 [8]		20 [15]
	2.50 & under (63.50 & under)	130 (896)	120 (827)	10		20
8Al-1Mo-1V	2.50 to 4.00 (63.50 to 101.60)	120 (827)	110 (758)	10 [8]		20 [15]

1/ Apply to products with a cross-sectional area of 16 sq.in. or less. Properties apply in any grain direction.
2/ Unless otherwise noted, properties apply to the annealed condition.
3/ Thickness given as X.XXX shall be read as "Over--to--", inclusive."
4/ Values in brackets [] apply to the short transverse direction for short transverse dimensions of 3.0 inches or greater.
5/ Duplex Annealed (Condition DA) only.

3.3.1.2 Alpha-beta titanium alloys. Tensile properties shall conform to Table III for the condition ordered. If requested, the products shall have the following heat treat response: Products supplied in the annealed condition shall meet the solution treated and aged (STA) properties specified in Table III when heat treated to this condition in accordance with MIL-H-81200, except that composition 6Al-2Sn-4Zr-2Mo shall meet the duplex annealed (DA) properties specified in Table III when heat treated to this condition in accordance with MIL-H-81200.

3.3.1.3 Beta titanium alloys. Tensile properties shall conform to Table IV for the condition ordered. In addition, the products shall have the following heat treat response: Products supplied in the solution treated (ST) condition shall meet the solution treated and aged (STA) properties specified in Table IV when aged to this condition in accordance with MIL-H-81200.

3.3.2 Reforging stock. Tensile properties shall be as ordered by the forging manufacturer (see 6.2).

3.4 Heat treatment. Products supplied in accordance with this specification shall be heat treated in accordance with MIL-H-81200.

3.5 Ultrasonic quality.

3.5.1 Commercially pure, alpha and alpha-beta titanium products. The ultrasonic quality of products 0.500 inch or greater in diameter, thickness or distance between flats shall conform to Table V, as applicable.

3.5.1.1 In addition to meeting the requirements of Table V, products furnished with Surface Finish I shall be capable of meeting the requirements specified herein for Surface Finish II when surface finished in accordance with 1.4.2.

3.5.2 Beta titanium alloy products. When specified (see 6.2), the ultrasonic quality of beta titanium alloy products shall be as agreed upon by the procuring activity and producer.

3.6 Microstructure. Bars shall have a uniform and sound wrought metal structure throughout the entire product and, in addition, the non-beta titanium products other than 6Al-2Cb-1Ta-0.8Mo shall have a microstructure essentially free of prior beta grain boundaries or other evidence of processing above the beta transus. Unless the products show definite non-conformance to these requirements or to micrograph standards agreed upon by the procuring activity and the producer, microstructure shall not be cause for rejection.

TABLE III. Alpha-Beta titanium alloys minimum tensile properties.

Alloy	Condition	Thickness or Diameter or Distance Be- tween Flats Inch (mm) $\frac{2}{\underline{\quad}}$	Width (In.) or Cross-Sect. Area Sq. In. 10^{-4} ($m^2 \times 10^{-4}$) $\frac{2}{\underline{\quad}}$	MINIMUM TENSILE PROPERTIES 1/			Reduction of Area, Percent
				Tensile Strength ksi (MPa)	Yield Strength at 0.2 Percent Offset ksi (MPa)	Elongation Percent in 4D $\frac{3}{\underline{\quad}}$	
6Al-4V	A	4.00 & under (101.50 & under)	48 max. (309.70)	130 (896)	120 (827)	10	25
		4.00 - 6.00 (101.40 - 152.40)		130 (896)	120 (827)	10 [8]	20 [15]
	STA (Rounds, Squares, Hexagons)	0.500 & under (12.70 & under)	Not Applicable	165 (1137)	155 (1068)	10	20
		0.500 - 1.00 (12.70 - 25.40)		160 (1103)	150 (1034)	10	20
		1.00 - 1.50 (25.40 - 38.10)		155 (1068)	145 (999)	10	20
		1.50 - 2.00 (38.10 - 50.40)		150 (1034)	140 (965)	10	20
		2.00 - 3.00 (50.80 - 76.20)		140 (965)	130 (896)	10	20
		0.500 & under (12.70 & under)		150 (1103)	160 (1034)	10	25
		0.500 - 1.000 (12.70 - 25.40)		155 (1068)	145 (999)	10	20
		1.00 - 1.50 (25.40 - 38.10)		150 (1034)	140 (965)	10	20
	STA Rectangles)	4.00 - 8.00 (3.23 - 51.62)		150 (1103)	160 (1034)	10	25
		1.00 - 4.00 (6.45 - 25.81)		155 (1068)	145 (999)	10	20
		4.00 - 8.00 (25.81 - 51.62)		150 (1034)	140 (965)	10	20
		1.00 - 1.50 (25.40 - 38.10)		145 (999)	135 (930)	10	20

TABLE III. Alpha-Beta titanium alloys minimum tensile properties. - Continued

Alloy	Condition	Thickness or Diameter or Distance Between Flats In. $\frac{2}{\underline{\quad}}$ (mm)	Width (In.) or Cross-Sect. Area Sq. In. $\frac{-4}{\underline{\quad}}$ ($\text{m}^2 \times 10^{-4}$)	MINIMUM TENSILE PROPERTIES 1/			Reduction of Area, Percent
				Tensile Strength ks ₁ (MPa)	Yield Strength at 0.2 Percent Offset ks ₁ (MPa)	Elongation Percent in 4D $\frac{3}{\underline{\quad}}$	
6Al-4V	STA (Rectangles)	1.500 - 2.000 (38.10 - 50.80)	2.00 - 4.00 (12.90 - 25.81) 4.00 - 8.00 (25.81 - 51.62)	145 (999)	135 (930)	10	20
				140 (965)	130 (896)	10	20
				135 (930)	125 (861)	10	20
6Al-4V (ELI)	A	3.000 - 4.000 (76.20 - 101.60)	4.00 - 8.00 (25.81 - 51.62)	130 (896)	120 (827)	8 [6]	15 [10]
				130 (896)	120 (827)	10	25
				125 (861)	115 (793)	10	20
3Al-2.5V	A	1.00 & under (25.40 & under)	Not Applicable	90 (620)	75 (517)	15	30
				148 (1020)	137 $\frac{4}{\underline{\quad}}$ (944)	10	20
6Al-6V-2Sn	A	1.50 & under (42.60 & under)	32 max. (204.46 max.)	143 (986)	131 $\frac{4}{\underline{\quad}}$ (903)	10	20
				137 (944)	129 $\frac{4}{\underline{\quad}}$ (889)	10 [8]	20 [15]
				137 (944)	129 $\frac{4}{\underline{\quad}}$ (889)	10 [8]	20 [15]

TABLE III. Alpha-Beta titanium alloys minimum tensile properties. - Continued

Alloy	Condition	Thickness or Diameter or Distance Between Flats In. (mm) 2/	Width (In.) or Cross-Sect. Area Sq. In. 10^{-4} ($m^2 \times 10^{-4}$) 2/	MINIMUM TENSILE PROPERTIES 1/			
				Tensile Strength ksi (MPa)	Yield Strength at 0.2 Percent Offset ksi (MPa)	Elongation Percent in 4D 3/	Reduction of Area, Percent 3/
6Al-6V-2Sn	STA	1.00 & under (42.40 & under)	32 max. (206.46 max.)	175 (1206)	160 (1103)	8	20
		1.00 - 2.00 (25.40 - 50.80)		170 (1172)	155 (1068)	8	20
		2.00 - 3.00 (50.80 - 76.20)		155 (1068)	145 (999)	8	20
		3.00 - 4.00 (76.20 - 101.60)		150 (1034)	140 (965)	8 [6]	20 [15]
		3.00 & under (76.20 & under)	10 max. (64.52 max.)	130 (896)	120 (827)	10	25
		2.00 & under (50.80 & under)	32 max. (206.46 max.)	160 (1103)	150 (1034)	10	25
6Al-2Sn-4Zr-6Mo	DA	2.00 - 4.00 (50.80 - 101.60)		150 (1034)	140 (965)	8 [6]	20 [15]
		2.50 & under (63.50 & under)	32 max. (206.46 max.)	170 (1172)	160 (1103)	10	20
		2.50 - 3.00 (63.50 - 76.20)		165 (1138)	155 (1068)	8 [6]	15 [12]
7Al-4Mo	A	3.00 - 4.00 (76.20 - 101.60)		160 (1103)	150 (1034)	8 [6]	15 [12]
		1.00 & under (25.40 & under)	48 max. (309.70 max.)	145 (999)	135 (930)	10	20
		1.00 - 2.00 (25.40 - 50.80)		140 (965)	130 (896)	10	20
		3.00 - 6.00 (76.20 - 152.40)		140 (965)	130 (896)	10 [8]	20 [15]

TABLE III. Alpha-Beta titanium alloys minimum tensile properties. - Continued

Alloy	Condition	Thickness or Diameter or Distance Between Flats In. (mm) <u>2/</u>	Width (In.) or Cross-Sect. Area Sq. In. ⁻⁴ (m ² X 10 ⁻⁴)	MINIMUM TENSILE PROPERTIES <u>1/</u>			
				Tensile Strength ksi (MPa)	Yield Strength at 0.2 Percent Offset ksi (MPa)	Elongation Percent in 4D <u>3/</u>	Reduction of Area, Percent <u>3/</u>
7Al-4Mo	STA	1.00 & under (25.40 & under)	48 max. (309.70 max.)	170 (1172)	160 (1103)	8	15
		1.00 - 2.00 (25.40 - 50.80)		160 (1103)	150 (1034)	8	15
		2.00 - 4.00 (50.80 - 101.60)		150 (1034)	140 (965)	8 [6]	15 [12]

1/ Unless otherwise noted, properties apply in any grain direction.

2/ Thicknesses given as X.XXX - X.XXX shall be read as "Over--to--inches, inclusive".

3/ Values in brackets [] apply to the short transverse direction for short transverse dimensions of 3.0 inches or greater.

4/ Maximum yield strength shall not exceed the minimum yield strength by more than 25 ksi.

TABLE IV. Beta titanium alloys minimum tensile properties.

Alloy	Condition	Thickness, Diameter or Distance Between Flats $\frac{1}{2}$ Inches (mm)	MINIMUM TENSILE PROPERTIES $\frac{2}{3}$			
			Tensile Strength ksi (MPa)	Yield Strength at 0.2 Percent Offset ksi (MPa)	Elongation Percent in 4D $\frac{3}{4}$	Reduction of Area, Percent $\frac{3}{4}$
8Mo-8V-2Fe-3Al	ST	2.00 & under (50.80 & under)	130 (896)	120 (827)	10	24
		2.00 - 4.00 (50.80 - 101.60)	125 (861)	120 (827)	8 [6]	16 [12]
11.5Mo-6Zr-4.5Sn	STA	2.00 & under (50.80 & under)	180 (1241)	170 (1172)	8	16
		2.00 - 4.00 (50.80 - 101.60)	180 (1241)	170 (1172)	6 [4]	12 [10]
	ST	1.625 & under (41.27 & under)	110 (756)	90 (620)	15	50
		1.625 - 3.00 (41.27 - 76.20)	100 (689)	90 (620)	15	50
3Al-8V-6Cr-4Mo-4Zr	STA	3.00 - 4.00 (76.20 - 101.60)	100 (689)	90 (620)	10	35
		3.00 & under (76.20 & under)	135 (930)	130 (896)	12	40
3Al-8V-6Cr-4Mo-4Zr	STA	1.625 & under (41.27 & under)	180 (1241)	175 (1206)	8	22
		1.625 - 3.00 (41.27 - 76.20)	180 (1241)	175 (1206)	6	10
3Al-8V-6Cr-4Mo-4Zr	ST	1.50 & under (38.10 & under)	125 (861)	120 (827)	10	30
		1.50 - 4.00 (38.10 - 101.60)	120 (827)	115 (793)	10 [8]	25 [20]

TABLE IV. Beta titanium alloys minimum tensile properties. - Continued

Alloy	Condition	Thickness, Diameter or Distance Be- tween Flats <u>1/</u> Inches (mm)	MINIMUM TENSILE PROPERTIES <u>2/</u>				Reduction of Area, Percent <u>3/</u>
			Tensile Strength ks ₁ (MPa)	Yield Strength at 0.2 Percent Offset ks _{0.2} (MPa)	Elongation Percent in 4D <u>3/</u>		
3Al-8V- 6Cr-4Mo- 4Zr	STA	1.50 & under (38.10 & under)	190 (1310)	180 (1241)	8	15	
		1.50 - 3.00 (38.10 - 76.20)	180 (1241)	170 (1172)	8 [6]	15 [5]	
		3.00 - 4.00 (76.20 - 101.60)	170 (1172)	160 (1103)	8 [3]	15 [5]	
13V-11Cr- 3Al	ST	7.00 & under (177.80 & under)	125 (861)	120 (827)	10	25	
	STA	4.00 & under (101.60 & under)	170 (1172)	160 (1103)	6 [2]	10 [5]	

1/ Thicknesses given as X.XXX - X.XXX shall be read as "over---to---inches, inclusive".

2/ Apply to products with a cross-sectional area of 16 square inches or less. Unless otherwise noted, properties apply in any grain direction.

3/ Value in brackets [] apply to short transverse direction for products with a short transverse dimension of 3.000 inches or greater.

TABLE V. Minimum ultrasonic quality levels.

Product Thickness, Diameter or Distance Between Flats Inches (Millimeters) <u>2/</u>	Ultrasonic Classification <u>1/</u>	
	Surface Finish I (see 1.4 and 6.2)	Surface Finish II (see 1.4 and 6.2)
0.500 - 2.500, Incl. (12.70 - 38.10, Incl.)	A1	A
Over 1.500 - 6,000, Incl. (Over 38.10 - 152.40, Incl.)	A	A1
Over 6.000 - 14,000, Incl. (Over 152.40 - 355.60, Incl.)	B	A

1/ Acceptance classes shall be in accordance with AMS 2631 as specified for Grade 1 material.

2/ Surface area to be scanned shall be as specified in AMS 2631, except that the minimum size for round and flat-faced products shall be 0.500 inch in diameter or distance between flats.

3.6.1 Reforging stock shall have a microstructure as ordered by the forging manufacturer (see 6.2).

3.7 Dimensional tolerances.

3.7.1 Rolled Bar. Tolerances shall conform to AMS 2241.

3.7.2 Forged Bar and Reforging stock. Tolerances shall conform to Table VI.

3.8 Identification of product.

3.8.1 Bars. Each bar 0.5 inch and greater in diameter or least width of flat surface shall be marked in a row of characters recurring at intervals not greater than three feet. Marking shall include the basic number and revision letter of this specification, producer's name or trademark, mill heat or lot number, composition (1.2), heat treat condition (1.3), and finish (1.4). The characters shall be of such size and clarity as to be legible with unaided normal vision and shall be applied using a suitable marking fluid, whose residue shall contain not more than traces of halogen bearing compounds and which shall be capable of being removed in hot alkaline cleaning solution without rubbing. The markings shall have no deleterious effect on the product or the performance of parts, and shall be sufficiently stable to withstand normal handling.

3.8.1.1 Bars smaller in size than specified in 3.8.1 shall be securely bundled or containerized (crated, boxed, etc.,) for shipping. Each bundle or container shall be marked at both ends with the following identification: the number and revision letter of this specification, producer's name or trademark, heat and lot numbers, composition (1.2), heat treat condition (1.3), and finish (1.4). This identification shall be marked on the container or on durable tags securely attached to the bundle or container.

3.8.2 Reforging stock. Identification shall be as specified by the forging manufacturer (see 6.2).

3.9 Workmanship. Products shall be uniform in quality and condition, free of alpha-case and other harmful surface contamination, clean, sound, and free from foreign materials and from internal imperfections detrimental to fabrication or performance of parts.

TABLE VI. Forged bar and rebar stock dimensional tolerances.

Size, Millimeters	Dimensional Tolerance, Inches (mm), (Except Width and Straightness) ^{1/}								Width Tolerance Millimeters
	Over	Over	Over	Over	Over	Over	Over	Over	
Thickness Range	0.250-1.000 (6.35-25.40) Incl.	1.000-2.000 (25.40-50.80) Incl.	2.000-4.000 (50.80-101.60) Incl.	4.000-10.000 (101.50-254.00) Incl.	10.000-12.000 (254.00-304.80) Incl.				
Over 1.000-2.000 (25.40-50.80) Incl.	+3/64, -0 (+1.19, -0)	+1/16, -0 (+1.59, -0)	+1/4, -0 (+6.35, -0)	+1/4, -0 (+6.35, -0)	+3/8, -0 (+9.53, -0)				+1/8, -0 (+3.17, -0)
Over 2.000-4.000 (50.80-101.60) Incl.	+1/16, -0 (+1.59, -0)	+1/4, -0 (+6.35, -0)	+1/4, -0 (+6.35, -0)	+1/4, -0 (+6.35, -0)	+3/8, -0 (+9.53, -0)				+1/4, -0 (+6.35, -0)
Over 4.000-6.000 (101.60-152.40) Incl.	-	+1/4, -0 (+6.35, -0)	+1/4, -0 (+6.35, -0)	+1/4, -0 (+6.35, -0)	+3/8, -0 (+9.53, -0)				+3/8, -0 (+9.53, -0)
Over 6.000-10.000 (152.60-254.00) Incl.	-	+3/8, -0 (+9.53, -0)	+3/8, -0 (+9.53, -0)	+3/8, -0 (+9.53, -0)	+3/8, -0 (+9.53, -0)				+1/2, -0 (+12.70, -0)
Over 10.000-12.000 (254.00-304.80) Incl.	-	-	+3/8, -0 (+9.53, -0)	+3/8, -0 (+9.53, -0)	+3/8, -0 (+9.53, -0)	+1/2, -0 (+12.70, -0)			+5/8, -0 (+15.87, -0)

^{1/} Straightness Tolerance: Maximum deviation from straightness (bow) up to 60 inches (1.524 X 10³ mm) in length shall not exceed 1/8-inch (3.175 mm) and for lengths greater than 60 inches (1.524 X 10³ mm) shall not exceed L/480 inch (L/1.2192 X 10⁴ mm), where 'L' denotes length in inches (mm).

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in this specification where such inspections are deemed necessary to assure products and services conform to prescribed requirements. The word "inspections" in this case refers to the inspection and tests specified in Table VII.

4.2 Lot. A lot shall consist of products of the same mill heat, size and shape processed at the same time.

4.3 Sampling.

4.3.1 Bar. Sampling shall be accomplished in accordance with Table VII.

4.3.2 Reforging Stock. Sampling shall be as specified by the forging manufacturer.

4.4 Quality conformance examination. Bar products shall be examined in accordance with the following provisions. Reforging stock shall be examined as specified by the forging manufacturer (see 6.2).

4.4.1 Visual examination. Samples selected in accordance with Table VII shall be visually examined for conformance to the surface finish (1.4), identification (3.8), and workmanship (3.9) requirements. Surface roughness measurement shall be in accordance with ANSI B46.1.

4.4.2 Metallographic examination.

4.4.2.1 Macrostructure. A specimen at least 0.5 inch long by full cross-section from each end of each sample selected in accordance with Table VII shall be macrostructurally examined for conformance to the workmanship requirements of 3.9. Unless otherwise specified or approved by the procuring activity (see 6.2), macrostructural examination shall be performed in accordance with AMS 2643.

4.4.2.2 Microstructure. In addition to the macrostructure examination required by AMS 2643, conformance to the microstructure (3.6) and workmanship (3.9), requirements shall be determined by examining at least one polished and etched specimen from each sample selected in accordance with Table VII. Examination of microstructure and for alpha-case shall be made at an approximate magnification of 250X and 100X, respectively. Other magnifications shall be used as required to ensure acceptable quality.

TABLE VII. Bar products quality conformance sampling.

Inspection or Test	Samples			
	Heat <u>1/</u>	Lot <u>2/</u>		
Visual Examination	<u>3/</u>	Random samples per MIL-STD-105, Inspection Level II, AOL of 1.5.		
Dimensional Inspection				
Chemical Analysis	Each Ingot <u>4/ 5/</u>	Random samples per MIL-STD-105, Inspection Level S-3, Acceptance No. of Zero. <u>4/</u>		
Tensile Test and Metallographic Examination	<u>3/</u>	Lot Quantity (Bars)	Sample Quantity per Lot (Random Bars)	
			Tensile Tests	Metallographic Examination
			2	1
			4	2
			6	3
151-500	8	5		
Over 500	<u>6/</u>	<u>7/</u>		
Ultrasonic Inspection	<u>3/</u>	per 4.5.2		

1/ Unit of sample is ingot.

2/ Unit of sample is bar of as processed (rolled or forged and heat treated) length.

3/ Not applicable.

4/ Either heat or lot analysis is acceptable, except that hydrogen shall be determined on each lot.

5/ Complete ingot analysis shall be available to the procuring activity.

6/ Eight bars plus additional bars as required above for equivalent quantities over 500.

7/ Four bars plus additional bars as required above for equivalent quantities over 500.

4.5 Quality conformance inspection.

4.5.1 Dimensional inspection. Samples selected in accordance with Table VII for dimensional inspection shall be measured for conformance to the applicable dimensional tolerance.

4.5.2 Ultrasonic inspection. When required (see 3.5 through 3.5.2), all products 0.500 inch or greater in diameter, thickness or distance between flats shall be inspected in accordance with AMS 2631 for conformance to the applicable ultrasonic quality requirements. Ultrasonically inspected material shall be identified as agreed upon by the procuring activity and producer (see 6.2).

4.5.3 Packing. Each shipment shall be inspected for conformance to the packing and marking requirements specified in 3.8.1.1 and Section 5.

4.6 Quality conformance tests.

4.6.1 Chemical analysis. Conformance to the chemical composition requirements shall be determined either by heat or lot analysis of samples selected in accordance with Table VII using ASTM E120 methods of chemical analysis or FED-STD-151, Method 112.2 of spectrochemical analysis. Hydrogen analysis shall be in accordance with ASTM E146 and shall be determined on each lot of material as shipped. Other analytical methods may be used with the written approval of the procuring activity.

4.6.1.1 In case of dispute, the results of chemical analysis by the ASTM E120 and E146 methods shall govern.

4.6.2 Tension tests. Conformance to the tensile properties requirement shall be determined by sampling each lot in accordance with Table VII and testing tensile specimens excised from each sample in accordance with Table VIII. The products shall be tested in the heat treat condition ordered (see 6.2). If requested, alpha-beta titanium products supplied in the annealed condition (A) or duplex annealed condition (DA), as applicable, and beta titanium products supplied in the solution treated condition (ST) shall be tested for heat treat response to condition STA tensile properties, and the test results shall be reported. Tension tests shall be accomplished in accordance with ASTM E8, except that the rate of strain will be 0.003 to 0.007 inch per inch per minute through the yield strength and then is increased so as to produce failure in approximately one additional minute. In case of dispute over the tensile test results, a referee test shall be performed on a tensile machine having a strain pacer and using a strain rate of 0.005 inch per inch per minute through the yield strength and a minimum cross-head speed of 0.10 inch per minute above the yield strength.

TABLE VIII. Tension specimen requirements.

Product	Size, Inch (Millimeters)		Tension Specimen	
	Thickness, Diameter or Distance Between Flats	Width	Configuration <u>2/</u> <u>3/</u>	Test Direction and Location
Round Square and Hexagonal Bar	0.375-1.500 Incl. (9.52-38.10) Incl.	<u>1/</u>	R1, R2 or R3	Longitudinal from center of cross section.
	Over 1.500 (Over 38.10)	<u>1/</u>	R1, R2 or R3	Longitudinal from between mid-radius and center of cross-section
Rectangular Bar	0.375-0.500, Incl. (9.52-12.70 Incl.)	3.000 and under (76.20 & under)	F2 or R3	Longitudinal from center of cross-section
	Over 0.500 (Over 12.70)	Over 3.000 (Over 76.20)	R1, R2 R3	Longitudinal and transverse from between mid-radius and center of cross-section. <u>4/</u>

1/ Not applicable.

2/ R1, R2 and R3 designates specimens corresponding to round tension specimens as specified in ASTM E8 for 0.500, 0.350 and 0.250 inch nominal diameters in the reduced test section, respectively. In case of dispute, the results obtained from testing the largest possible of these three specimen sizes shall govern.

3/ F2 designates standard sheet-type specimens with a 1/2 inch width reduced test section as specified in ASTM E8 for rectangular tension specimens.

4/ Transverse specimen shall be in the short transverse dimension for products with short transverse dimension of 3.000 inches and greater.

4.7 Rejection and retests.

4.7.1 Rejection. Failure of the test samples to meet the requirements of this specification shall be cause for rejection of the represented lot, except that retesting in accordance with 4.7.2 shall be permitted in the case of non-conformance to the tensile property requirements.

4.7.2 Retests. Duplicate tensile specimens shall be tested from each failed bar in the original sampling. Retest specimens shall be taken from the area adjacent to the failed tensile specimen. Failure of any retest specimens to meet the tensile property requirements shall be cause for: (a) rejection of the sample bars represented by failed tensile specimens and (b) 100 percent tensile testing of the entire lot. Only bars which meet the requirements of this specification shall be accepted.

4.7.3 Replacement of test specimens. Replacement of test specimens for reasons other than inferior or defective material shall be in accordance with FED-STD-151.

5. PACKAGING

5.1 Application. The requirements of Section 5 apply only to direct purchases by or direct shipments to the Government.

5.2 Unless otherwise specified, products shall be separated by size, heat number and heat treat condition when packed for shipment.

5.3 Packing.

5.3.1 Level A - For domestic shipment and storage and overseas shipment. Products shall be packed in accordance with the requirements of MIL-STD-163, as referenced for stainless steel.

5.3.2 Level C - Minimum military pack (for domestic shipment) with immediate use at initial destination. Packages which require over-packing for acceptance by the carrier shall be packed in exterior-type shipping containers in a manner that will assure safe transportation at the lowest rate to the point of delivery. Container shall meet, as a minimum, the requirements of rules and regulations applicable to the mode of transportation.

5.4 Marking of shipments. In addition to any special marking required by the contract or order (see 6.2), shipping containers shall be marked in accordance with MIL-STD-129. The identification shall be composed of the following information listed in the order shown.

- (a) Stock No. or other identification number as specified in the purchase document 1/
- (b) TITANIUM OR TITANIUM ALLOY BAR, as applicable
- (c) Heat No. _____ Length _____ (inches)
- (d) Width (inches) Thickness or Diameter (inches)
- (e) Number and revision letter of this Specification
- (f) Composition _____
- (g) Heat Treatment Condition _____
- (h) Gross Weight _____
- (i) Manufacturer's Name or Trademark _____

1/ NOTE: The contractor shall enter the Federal Stock No. specified in the purchase document or as furnished by the procuring activity. When the Federal Stock No. is not provided or available from the procuring activity, leave space therefore and enter the Stock No. or other identification when provided by the procuring activity.

6. NOTES

6.1 Intended use.

6.1.1 Bar is a finished mill product intended for structural applications in airborne vehicles and equipment.

6.1.2 Reforging stock is a semi-finished mill product which requires further hot reduction and appropriate thermal treatment to meet the tensile properties and microstructure requirements of this specification or applicable forging specifications prior to structural use.

6.2 Ordering data. Procurement documents shall state the following as applicable:

- (a) Title, number, revision letter and amendment number (if any) of this specification.

- (b) Composition (1.2).
- (c) Heat treat condition (1.3).
- (d) Finish (1.4)
- (e) Melting practice if other than specified in 3.1.
- (f) Reforging stock tensile properties (3.3.2).
- (g) Ultrasonic quality of titanium alloys, when required (3.5.2 and 4.5.2).
- (h) Microstructure standards, when required (3.6 and 3.6.1).
- (i) Reforging stock identification (3.8.2) and sampling for quality conformance examination, inspection and tests (4.3.2).
- (j) Macrostructure examination of other than specified (4.4.2.1).
- (k) Identification of ultrasonic inspected products (4.5.2).
- (l) Packing level (5.3).

6.3 Stress corrosion. Certain processing procedures and service conditions may cause these titanium products to be subject to stress corrosion cracking. ARP 982 recommends practices to minimize the susceptibility to such stress corrosion cracking.

6.4 Cross-reference. Table IX shows the correlation between the composition classifications used in this specification and those used in earlier revisions of MIL-T-9047.

Custodians:

Air Force - 11
DSA-IS

Preparing activity:

Air Force - 11

(Project Number: 9530-0174)

Review activities:

Air Force - 99
Army - MR
Navy - AS

TABLE IX. Cross-reference composition classifications.

MIL-T-9047D	MIL-T-9047E and MIL-T-009047F	MIL-T-9047G
Type I commercially pure Ti Comp. A - unalloyed	Alpha Alloys Comp. 1 - unalloyed	Commercially Pure Ti CP-B
Type II Alpha Titanium Alloys <u>1/</u> Comp. A - 5Al-2.5Sn Comp. B - 5Al-2.5Sn (ELI) Comp. C - 5Al-5Zr-5Sn Comp. D - 8Al-1Mo-1V <u>1/</u>	Alpha Alloys <u>1/</u> Comp. 2 - 5Al-2.5Sn Comp. 3 - 5Al-2.5Sn (ELI) <u>2/</u> Comp. 5 - 8Al-1Mo-1V <u>1/</u>	Alpha Titanium Alloys 3Al-2.5V 5Al-2.5Sn 5Al-2.5Sn (ELI) <u>2/</u> 8Al-1Mo-1V 6Al-2Cb-1Ta-0.8Mo
Type III Alpha-Beta Ti Alloy Comp. A - 6Al-4V Comp. B - 6Al-4V (ELI) Comp. C - 6Al-6V-2Sn Comp. D - 7Al-4Mo Comp. E - 4Al-4Mn Comp. F - 5Al-1.5Fe-1.5Cr-1.5Mo Comp. G - 11Sn-5Zr-2Al-1Mo Comp. H - 4Al-3Mo-1V Comp. I - 6Al-2Sn-4Zr-2Mo <u>1/</u>	Alpha-Beta Alloys Comp. 6 - 6Al-4V Comp. 7 - 6Al-4V (ELI) Comp. 8 - 6Al-6V-2Sn Comp. 9 - 7Al-4Mo <u>2/</u> <u>2/</u> Comp. 10 - 11Sn-5Zr-2Al-1Mo <u>2/</u> Comp. 11 - 6Al-2Sn-4Zr-2Mo Comp. 14 - 6Al-2Sn-4Zr-6Mo	Alpha-Beta Ti Alloys 6Al-4V 6Al-4V (ELI) 6Al-6V-2Sn 7Al-4Mo <u>2/</u> <u>2/</u> <u>2/</u> <u>2/</u> 6Al-2Sn-4Zr-2Mo 6Al-2Sn-4Zr-6Mo
Type IV Beta Ti Alloys Comp. A - 13V-11Cr-3Al <u>1/</u> <u>1/</u> <u>1/</u>	Beta Alloys Comp. 12 - 13V-11Cr-3Al Comp. 13 - 11.5Mo-6Zr-4.5Sn <u>1/</u> <u>1/</u>	Beta Titanium Alloys 13V-11Cr-3Al 11.5Mo-6Zr-4.5Sn 8Mo-8V-2Fe-3Al 3Al-8V-6Cr-4Mo-4Zr

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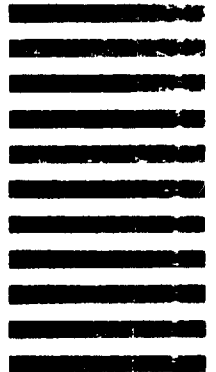
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(See Instructions - Reverse Side)

1 DOCUMENT NUMBER		2 DOCUMENT TITLE	
3a. NAME OF SUBMITTING ORGANIZATION		4 TYPE OF ORGANIZATION (Mark one)	
b ADDRESS (Street, City, State, ZIP Code)		<input type="checkbox"/> VENDOR	
		<input type="checkbox"/> USER	
		<input type="checkbox"/> MANUFACTURER	
		<input type="checkbox"/> OTHER (Specify) _____	
5 PROBLEM AREAS			
a Paragraph Number and Wording			
b Recommended Wording			
c Reason/Rationale for Recommendation			
6 REMARKS			
7a NAME OF SUBMITTER (Last First MI) - Optional		b WORK TELEPHONE NUMBER (Include Area Code) - Optional	
c MAILING ADDRESS (Street, City State ZIP Code) - Optional		8 DATE OF SUBMISSION (YYMMDD)	

(TO DETACH THIS FORM, CUT ALONG THIS LINE)

Buyer Added Bid Specific Additional Terms & Conditions (ATC)

1.	PRE QUALIFICATION CRITERIA: AS PER ENCLOSED PQR CHECKLIST
2.	SCOPE OF SUPPLY: AS PER ANNEXURE - A
3.	PRICE BASIS: Price in INR should be quoted for FOR BHEL HEEP HARIDWAR basis
4.	<p>TAXES & DUTIES:</p> <p>4.1 The Supplier/Vendor shall pay all (save the specific exclusions as enumerated in this clause) taxes, fees, license, charges, deposits, duties, tools, royalty, commissions, other charges, etc. which may be levied on the input goods & services consumed and output goods & services delivered in course of his operations in executing the contract. In case BHEL is forced to pay any of such taxes/duties, BHEL shall have the right to recover the same from his bills or otherwise as deemed fit along with the applicable overheads @5% and interest on the total value (i. e. amount paid by BHEL + overhead)</p> <p>However, provisions regarding GST on output supply (goods/service) and TDS/TCS as per Income Tax Act shall be as per following clauses.</p> <p>4.2 GST (Goods and Services Tax)</p> <p>4.2.1 Reimbursement of GST is subject to compliance of following terms and conditions. BHEL shall have the right to deny payment of GST and to recover any loss to BHEL on account of tax, interest, penalty etc. for non-compliance of any of the following condition.</p> <p>4.2.2 The admissibility of GST, taxes and duties referred in this chapter or elsewhere in the contract shall be limited to direct transactions between BHEL & its Supplier/Vendor. BHEL shall not consider GST on any transaction other than the direct transaction between BHEL & its Supplier/Vendor.</p> <p>4.2.3 Supplier/Vendor shall obtain prior written consent of BHEL before billing the amount towards such taxes. Where the GST laws permit more than one option or methodology for discharging the liability of tax/levy/duty, BHEL shall have the right to adopt the appropriate one considering the amount of tax liability on BHEL/Client as well as procedural simplicity with regard to assessment of the liability. The option chosen by BHEL shall be binding on the Contractor for discharging the obligation of BHEL in respect of the tax liability to the Supplier/Vendor.</p> <p>4.2.4 Supplier/Vendor has to submit GST registration certificate of the concerned state. Supplier/Vendor also needs to ensure that the submitted GST registration certificate should be in active status during the entire contract period.</p> <p>4.2.5 Supplier/Vendor has to issue Invoice/Debit Note/Credit Note indicating HSN/SAC code, Description, Value, Rate, applicable tax and other particulars in compliance with the provisions of relevant GST Act and Rules made thereunder.</p> <p>4.2.6 Supplier/Vendor has to submit GST compliant invoice within the due date of invoice as per GST Law. In case of delay, BHEL reserves the right of denial of GST payment if there occurs any hardship to BHEL in claiming the input thereof. In case of goods, Supplier/Vendor has to provide scan copy of invoice & GR/LR/RR to BHEL before movement of goods starts to enable BHEL to meet its GST related compliances. Special care should be taken in case of month end transactions.</p>

4.2.7 Supplier/Vendor has to ensure that invoice in respect of such services which have been provided/completed on or before end of the month should not bear the date later than last working day of the month in which services are performed.

4.2.8 Subject to other provisions of the contract, GST amount claimed in the invoice shall be released on fulfilment of all the following conditions by the Supplier/Vendor: -

- a) Supply of goods and/or services have been received by BHEL.
- b) Original Tax Invoice has been submitted to BHEL.
- c) Supplier/Vendor has submitted all the documents required for processing of bill as per contract/ purchase order/ work order.
- d) In cases where e-invoicing provision is applicable, Supplier/Vendor is required to submit invoice in compliance with e-invoicing provisions of GST Act and Rules made thereunder.
- e) Supplier/Vendor has filed all the relevant GST return (e.g. GSTR-1, GSTR-3B, etc.) pertaining to the invoice submitted and submit the proof of such return along with immediate subsequent invoice. In case of final invoice/ bill, contractor has to submit proof of such return within fifteen days from the due date of relevant return.
- f) Respective invoice has appeared in BHEL's GSTR - 2A for the month corresponding to the month of invoice and in GSTR-2B of the month in which such invoices has been reported by the contractor along with status of ITC availability as "YES" in GSTR-2B. Alternatively, BG of appropriate value may be furnished which shall be valid at least one month beyond the due date of confirmation of relevant payment of GST on GSTN portal or sufficient security is available to adjust the financial impact in case of any default by the Supplier/Vendor.
- g) Supplier/Vendor has to submit an undertaking confirming the payment of all due GST in respect of invoices pertaining to BHEL.

4.2.9 Any financial loss arises to BHEL on account of failure or delay in submission of any document as per contract/purchase order/work order at the time of submission of Tax invoice to BHEL, shall be deducted from Supplier/Vendor's bill or otherwise as deemed fit.

4.2.10 TDS as applicable under GST law shall be deducted from Supplier/Vendor's bill.

4.2.11 Supplier/Vendor shall comply with the provisions of e-way bill wherever applicable. Further wherever provisions of GST Act permits, all the e-way bills, road permits etc. required for transportation of goods needs to be arranged by the contractor.

4.2.12 Supplier/Vendor shall be solely responsible for discharging his GST liability according to the provisions of GST Law and BHEL will not entertain any claim of GST/interest/penalty or any other liability on account of failure of Supplier/Vendor in complying the provisions of GST Law or discharging the GST liability in a manner laid down thereunder.

4.2.13 In case declaration of any invoice is delayed by the vendor in his GST return or any invoice is subsequently amended/alterd/deleted on GSTN portal which results in any adverse financial implication on BHEL, the financial impact thereof including interest/penalty shall be recovered from the Supplier/Vendor's due payment.

4.2.14 Any denial of input credit to BHEL or arising of any tax liability on BHEL due to noncompliance of GST Law by the Supplier/Vendor in any manner, will be recovered along with liability on account of interest and penalty (if any) from the payments due to the Supplier/Vendor.

	<p>4.2.15 In the event of any ambiguity in GST law with respect to availability of input credit of GST charged on the invoice raised by the contractor or with respect to any other matter having impact on BHEL, BHEL's decision shall be final and binding on the Supplier/Vendor.</p> <p>4.2.16 Variation in Taxes & Duties: Any upward variation in GST shall be considered for reimbursement provided supply of goods and services are made within schedule date stipulated in the contract or approved extended schedule for the reason solely attributable to BHEL. However downward variation shall be subject to adjustment as per actual GST applicability. In case the Government imposes any new levy/tax on the output service/goods after price bid opening, the same shall be reimbursed by BHEL at actual. The reimbursement under this clause is restricted to the direct transaction between BHEL and its Supplier/Vendor only and within the contractual delivery period only.</p> <p>a) In case any new tax/levy/duty etc. becomes applicable after the date of Bidder's offer but before opening of the price Bid, the Bidder/ Supplier/Vendor must convey its impact on his price duly substantiated by documentary evidence in support of the same before opening of price bid. Claim for any such impact after opening the price bid will not be considered by BHEL for reimbursement of tax or reassessment of offer.</p> <p>4.3 Income Tax: TDS/TCS as applicable under Income Tax Act, 1961 or rules made thereunder shall be deducted/collected from Supplier/Vendor's bill.</p>
5.	MATERIAL DISPATCH CLEARANCE CERTIFICATE: AS PER ENQUIRY
6.	INSPECTION / INSPECTION & TESTING AT SUPPLIERS WORKS: AS PER APPROVED QAP.
7.	DELIVERY PERIOD: AS PER ANNEXURE - A
8.	TRANSIT INSURANCE: Transit Insurance of material is in Supplier/Vendor's scope. Supplier/Vendor shall insure the material at their cost for transportation.
9.	<p>a) PAYMENT TERMS:</p> <p>i. FOR NON-MSME BIDDERS: 100% PAYMENT ALONG WITH TAXES, FREIGHT & INSURANCE WILL BE MADE AFTER RECEIPT AND ACCEPTANCE OF MATERIAL AND WITHIN 90 DAYS FROM THE DATE OF RECEIPT SUBJECT TO SUBMISSION OF NON-DISCREPANT DOCUMENTS. (MSME MEANS MICRO, SMALL & MEDIUM ENTERPRISES) (THIS IS IN SUPERSESSION OF 10 DAYS' TIME AS PROVIDED IN CLAUSE 12 OF GEM GTC).</p> <p>ii. FOR MSE BIDDER: FOR MSES (COVERED UNDER MSME ACT), 100% PAYMENT ALONG WITH TAXES, FREIGHT & INSURANCE WILL BE MADE AFTER RECEIPT AND ACCEPTANCE OF MATERIAL AND WITHIN 45 DAYS FROM THE DATE OF RECEIPT SUBJECT TO SUBMISSION OF NON-DISCREPANT DOCUMENTS OR AS PRESCRIBED IN THE RELEVANT ACT. BENEFITS OF MSE (SUCH AS EMD WAIVER, TENDER FEE EXEMPTION, PRICE PREFERENCE, PAYMENT PREFERENCE ETC.) WILL BE GIVEN ONLY TO THOSE MSE VENDORS WHO ARE MANUFACTURERS OF OFFERED ITEMS AGAINST THE NIT. NO MSE BENEFITS SHALL BE PROVIDED TO AGENTS / STOCKISTS /DEALERS / TRADERS ETC. FOR THE ITEMS OFFERED BUT NOT MANUFACTURED BY THEMSELVES."</p> <p>iii. FOR MEDIUM ENTERPRISES: 100% PAYMENT ALONG WITH TAXES, FREIGHT & INSURANCE WILL BE MADE AFTER RECEIPT AND ACCEPTANCE OF MATERIAL AND WITHIN 60 DAYS FROM THE DATE OF RECEIPT SUBJECT TO SUBMISSION OF NON-DISCREPANT DOCUMENTS AS PER TERMS AND CONDITIONS OF PURCHASE ORDER.</p>

	<p>iv. PLEASE NOTE THAT VENDOR TO ADHERE TO THE PAYMENT TERMS AS PER ABOVE. NO DEVIATION IN PAYMENT TERMS SHALL BE ACCEPTED. VENDOR TO SUBMIT THEIR OFFER ACCORDINGLY.</p> <p>v. However, GST amount shall be reimbursed in line with compliance to Cl. No. 4 (Taxes & Duties) above.</p> <p>vi. IT MAY BE NOTED THAT STANDARD PAYMENT TIMELINE/TERMS AS MENTIONED/PRINTED IN THE GEM BID SHALL NOT BE APPLICABLE. PAYMENT TERMS SHALL BE AS PER ABOVE ONLY.</p> <p>b) NO INTEREST PAYABLE TO CONTRACTOR: No interest shall be payable on the security deposit or any other money due to the contractor”.</p>
<p>10.</p>	<p><u>DOCUMENTS REQUIRED ALONG WITH DISPATCH OF MATERIAL/BILLING DOCUMENTS:</u></p> <p>The following documents are required to be sent with material dispatch/Billing Documents:</p> <ul style="list-style-type: none"> • Original Tax Invoice (As per Cl. No. 4 above). • Copy of LR. • GST COMPLIANCE CERTIFICATE • Warranty / Guarantee Certificate. • Certificate of compliance • TEST CERTIFICATES/ OEM COC/AD COC AS PER ENQUIRY
<p>11.</p>	<p><u>BANK DETAILS FOR EMD & PERFORMANCE SECURITY SUBMISSION: NO APPLICABLE</u></p>
<p>12.</p>	<p><u>EMD:</u> Applicable / Not Applicable.</p>
<p>13.</p>	<p><u>PERFORMANCE SECURITY:</u> Applicable / Not Applicable.</p>
<p>14.</p>	<p><u>BREACH OF CONTRACT, REMEDIES AND TERMINATION:</u></p> <p>14.1 The following shall amount to breach of contract:</p> <ol style="list-style-type: none"> I. Non-supply of material/ non-completion of work by the Supplier/Vendor within scheduled delivery/ completion period as per contract or as extended from time to time. II. The Supplier/Vendor fails to perform as per the activity schedule and there are sufficient reasons even before expiry of the delivery/ completion period to justify that supplies shall be inordinately delayed beyond contractual delivery/ completion period. III. The Supplier/Vendor delivers equipment/ material not of the contracted quality. IV. The Supplier/Vendor fails to replace the defective equipment/ material/ component as per guarantee clause. V. Withdrawal from or abandonment of the work by the Supplier/Vendor before completion as per contract. VI. Assignment, transfer, subletting of Contract by the Supplier/Vendor without BHEL’s written permission resulting in termination of Contract or part thereof by BHEL. VII. Non-compliance to any contractual condition or any other default attributable to Supplier/Vendor. VIII. Any other reason(s) attributable to Vendor towards failure of performance of contract. In case of breach of contract, BHEL shall have the right to terminate the Purchase Order/ Contract either in whole or in part thereof without any compensation to the Supplier/Vendor. IX. Any of the declarations furnished by the contractor at the time of bidding and/ or entering into the contract for supply are found untruthful and such declarations were

of a nature that could have resulted in non-award of contract to the contractor or could expose BHEL and/ or Owner to adverse consequences, financial or otherwise.

- X. Supplier/Vendor is convicted of any offence involving corrupt business practices, antinational activities or any such offence that compromises the business ethics of BHEL, in violation of the Integrity Pact entered into with BHEL has the potential to harm the overall business of BHEL/ Owner.

Note- Once BHEL considers that a breach of contract has occurred on the part of Supplier/Vendor, BHEL shall notify the Supplier/Vendor by way of notice in this regard. Contractor shall be given an opportunity to rectify the reasons causing the breach of contract within a period of 14 days.

In case the contractor fails to remedy the breach, as mentioned in the notice, to the satisfaction of BHEL, BHEL shall have the right to take recourse to any of the remedial actions available to it under the relevant provisions of contract.

14.2 Remedies in case of Breach of Contract.

- i Wherein the period as stipulated in the notice issued under clause 14.1 has expired and Supplier/Vendor has failed to remedy the breach, BHEL will have the right to terminate the contract on the ground of "Breach of Contract" without any further notice to contractor.
- ii Upon termination of contract, BHEL shall be entitled to recover an amount equivalent to 10% of the Contract Value for the damages on account of breach of contract committed by the Supplier/Vendor. This amount shall be recovered by way of encasing the security instruments like performance bank guarantee etc. available with BHEL against the said contract. In case the value of the security instruments available is less than 10% of the contract value, the balance amount shall be recovered from other financial remedies (i.e. available bills of the Supplier/Vendor, retention amount, from the money due to the Supplier/Vendor etc. with BHEL) or the other legal remedies shall be pursued.
- iii wherever the value of security instruments like performance bank guarantee available with BHEL against the said contract is 10% of the contract value or more, such security instruments to the extent of 10% contract value will be encashed. In case no security instruments are available or the value of the security instruments available is less than 10% of the contract value, the 10% of the contract value or the balance amount, as the case may be, will be recovered in all or any of the following manners:
- iv In case the amount recovered under sub clause (a) above is not sufficient to fulfil the amount recoverable then; a demand notice to deposit the balance amount within 30 days shall be issued to Supplier/Vendor.
- v) If Supplier/Vendor fails to deposit the balance amount within the period as prescribed in demand notice, following action shall be taken for recovery of the balance amount:
 - a) from dues available in the form of Bills payable to defaulted Supplier/Vendor against the same contract.
 - b) If it is not possible to recover the dues available from the same contract or dues are insufficient to meet the recoverable amount, balance amount shall be recovered from any money(s) payable to Supplier/Vendor under any contract with other Units of BHEL including recovery from security deposits or any other deposit available in the form of security instruments of any kind against Security deposit or EMD.

- vi) In-case recoveries are not possible with any of the above available options, Legal action shall be initiated for recovery against defaulted supplier/Vendor.
- vii) It is an agreed term of contract that this amount shall be a genuine pre-estimate of damages that BHEL would incur in completion of balance contractual obligation of the contract through any other agency and BHEL will not be required to furnish any other evidence to the Supplier/Vendor for the purpose of estimation of damages.
- viii) In addition to the above, imposition of liquidated damages, debarment, termination, de-scoping, short-closure, etc., shall be applied as per provisions of the contract.

Note:

- 1) The defaulting Supplier/Vendor shall not be eligible for participation in any of the future enquiries floated by BHEL to complete the balance work. The defaulting contractor shall mean and include:
 - (a) In case defaulted Supplier/Vendor is the Sole Proprietorship Firm, any Sole Proprietorship Firm owned by same Sole Proprietor.
 - (b) In case defaulted Supplier/Vendor is The Partnership Firm, any firm comprising of same partners/ some of the same partners; or sole proprietorship firm owned by any partner(s) as a sole proprietor.

LD against delay in executed supply in case of Termination of Contract:

LD against delay in executed supply shall be calculated in line with LD clause no. 18.0 below, for the delay attributable to Supplier/Vendor. For limiting the maximum value of LD, contract value shall be taken as Executed Value of supply till termination of contract.

Method for calculation of "LD against delay in executed supply in case of termination of contract" is given below.

- i. Let the time period from scheduled date of start of supply till termination of contract excluding the period of Hold (if any) not attributable to contractor = T1
- ii. Let the value of executed supply till the time of termination of contract = X
- iii. Let the Total Executable Value of supply for which inputs/fronts were made available to Supplier/Vendor and were planned for execution till termination of contract = Y
- iv. Delay in executed supply attributable to Supplier/Vendor i.e. $T2 = [1 - (X/Y)] \times T1$
- v. LD shall be calculated in line with LD clause (clause 18.0) of the Contract for the delay attributable to Supplier/Vendor taking "X" as Contract Value and "T2" as period of delay attributable to Supplier/Vendor.

15. BILL TO/ SHIP TO ADDRESS:

<u>Shipping Address as below:</u>	<u>Billing address as below:</u>
Shipping Section, Central Plant Stores, HEEP, BHEL, Haridwar-249403 Uttarakhand, HARIDWAR, UTTARAKHAND-249403, India	HEAVY ELECTRICALS EQUIPMENT PLANT, BHEL, RANIPUR, HARIDWAR, Haridwar, Uttarakhand, 249403 GST No.: 05AAACB4146P1ZL

16. GUARANTEE/WARRANTY: Standard Guarantee / Warrantee period of 1 year is applicable from the date of receipt of material at BHEL Haridwar as per Gem GTC

17.	<p>MICRO AND SMALL ENTERPRISES (MSE): Any Bidder falling under MSE category shall furnish the following details & submit documentary evidence/ Govt. Certificate etc. in support of the same along with their techno-commercial offer.</p> <table border="1" data-bbox="293 268 1500 478"> <thead> <tr> <th>Type under MSE</th> <th>SC/ST owned</th> <th>Women owned</th> <th>Others (excluding SC/ ST & Women Owned)</th> </tr> </thead> <tbody> <tr> <td>Micro</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Small</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>Note: If the bidder does not furnish the above, offer shall be processed construing that the bidder is not falling under MSE category.</p> <p>a) MSE suppliers can avail the intended benefits in respect of the procurements related to the Goods and Services only (Definition of Goods and Services as enumerated by Govt. of India vide Office Memorandum F. No. 21(8)/2011-MA dtd. 09/11/2016 office of AS & DC, MSME) only if they submit along with the offer, attested copies of either UDYAM Registration. Date to be reckoned for determining the deemed validity will be the last date of Technical Bid submission. Non-submission of supporting document in GeM portal will lead to consideration of their bids at par with other bidders. No benefits shall be applicable for this enquiry if the above required documents are not uploaded at the time of bid submission. Documents submitted by the bidder shall be verified by BHEL for rendering the applicable benefits.</p> <p><u>DIVISION BETWEEN MSE AND NON MSE L1 WILL BE AS BELOW:</u> If price quoted by MSE vendor is within the price band of L1+15%, then 25% quantity of the respective item (rounded off to nearest number) shall be offered to MSE vendor subject to matching the L1 prices. if the quantity required is 1 number (as such non-divisible), MSE quoting with in price preference of L1+15% shall be offered 100% quantity subject to matching the L1 prices.</p> <p>MSE/MII: the supplier needs to submit/update MSE/MII credentials on gem portal during profile updation / offer submission stage. the MSE data submitted is cross verified by gem with govt. of INDIA UDYAM/NSIC database through API integration on real time basis and for mii, a self-declaration is being given and authenticated by AADHAR OTP. if the seller fails to claim MSE/MII provision on gem portal at profile updation / bid submission stage, the said seller will become ineligible for getting the MSE/MII benefits for that bid automatically. the vendor can always</p>	Type under MSE	SC/ST owned	Women owned	Others (excluding SC/ ST & Women Owned)	Micro				Small			
Type under MSE	SC/ST owned	Women owned	Others (excluding SC/ ST & Women Owned)										
Micro													
Small													
18.	<p><u>LIQUIDATED DAMAGE:</u> If the Seller/Service Provider fails to deliver any or all of the Goods/Services within the original/re-fixed delivery period(s) specified in the contract/PO, the Buyer/BHEL will be entitled to deduct/recover the Liquidated Damages for the delay, unless covered under Force Majeure conditions aforesaid, @ 0.5% of the contract value of delayed quantity per week or part of the week of delayed period as pre-estimated damages not exceeding 10% of the contract value of delayed quantity without any controversy/dispute of any sort whatsoever.</p>												
19.	<p><u>INTEGRITY PACT (IP):</u> Applicable/ Not Applicable</p>												

20. PREFERENCE TO MAKE IN INDIA: Applicable

For this procurement, the local content to categorize a Supplier/Vendor as a Class I local supplier/ Class II local Supplier/Non-Local Supplier and purchase preferences to Class I local supplier, is as defined in Public Procurement (Preference to Make in India), Order 2017" Dt. 19.07.2024 issued vide Order No. P-45021/2/2017-PP(BE-II)-Part(4)Vol.II. In case of subsequent orders issued by the nodal ministry, changing the definition of local content for the items of the GeM Bid, the same shall be applicable even if issued after issue of this GeM Bid, but before opening of Part-II bids against this GeM Bid.

Suppliers who have qualified and received incentive under PLI scheme will be deemed CLASS-II local suppliers unless they are already CLASS I local suppliers) to encourage indigenization.

Kindly submit MAKE IN INDIA certificate as per attached format only

PENAL PROVISIONS FOR FALSE SELF DECLARATION OF MII, IN CASE OF CONTRACT MORE THAN RS 10 CRS.

For contracts valuing more than Rs. 10 crores, local content (in cases of self-certification submitted by bidders at the time of tendering) will be re-verified during execution of contract by cost/ chartered accountant, and in case of defaults, penalty upto 10% of the contract value shall be imposed.

For this procurement, the local content to categorize a supplier as a CLASS I local supplier/ CLASS II local supplier/ non-local supplier and purchase preference to class i local supplier, is as defined in public procurement (preference to MAKE IN INDIA), order 2017 dated 19.07.2024 issued by DPIIT. in case of subsequent orders issued by the nodal ministry, changing the definition of local content for the items of the nit, the same shall be applicable even if issued after issue of this NIT, but before opening of PART-II bids against this NIT.

20.1 Compliance to Restrictions under Rule 144 (xi) of GFR 2017:

- I. Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority. The Competent Authority for the purpose of this Clause shall be the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT).
- II. "Bidder" (including the term 'tenderer', 'consultant' or 'service provider' in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.
- III. "Bidder from a country which shares a land border with India" for the purpose of this Clause means: -

- a. An entity incorporated established or registered in such a country; or
- b. A subsidiary of an entity incorporated established or registered in such a country; or
- c. An entity substantially controlled through entities incorporated, established or registered in such a country; or
- d. An entity whose beneficial owner is situated in such a country; or
- e. An Indian (or other) agent of such an entity; or
- f. A natural person who is a citizen of such a country; or
- g. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above.

IV. The beneficial owner for the purpose of (III) above will be as under:

- 1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together or through one or more juridical person, has a controlling ownership interest or who exercises control through other means.

Explanation

- a. "Controlling ownership interest" means ownership of or entitlement to more than twenty-five per cent of shares or capital or profits of the company.
 - b. "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements.
2. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership.
- In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person has ownership of or entitlement to more than fifteen percent of the property or capital or profits of the such association or body of individuals.
- 4. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;
 - 5. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.

V. An Agent is a person employed to do any act for another, or to represent another in dealings with third person. Note:

- (i) The bidder shall provide undertaking for their compliance to this Clause.

Registration of the bidder with Competent Authority should be valid at the time of submission of bids and at the time of acceptance of the bids.

21. Settlement of Dispute

If any dispute or difference of any kind whatsoever shall arise between BHEL and the Supplier/Vendor, arising out of the contract for the performance of the work whether during the progress of contract termination, abandonment or breach of the contract, it shall in the first place referred to Designated Engineer for amicable resolution by the parties. Designated Engineer (to be nominated by BHEL for settlement of disputes arising out of the contract) who within 60 days after being requested shall give written notice of his decision to the contractor. Save as hereinafter provided, such decision in respect of every matter so referred shall forthwith be given effect to by the Supplier/Vendor who shall proceed with the work with all due diligence, whether he or BHEL desires to resolve the dispute as hereinafter provided or not.

If after the Designated Engineer has given written notice of this decision to the party and no intention to pursue the dispute has been communicated to him by the affected party within 30 days from the receipt of such notice, the said decision shall become final and binding on the parties. In the event the Supplier/Vendor being dissatisfied with any such decision or if amicable settlement cannot be reached then all such disputed issues shall be resolved through conciliation in terms of the BHEL Conciliation Scheme 2018 as per Clause 21.1

21.1 Conciliation:

Any dispute, difference or controversy of whatever nature howsoever arising under or out of or in relation to this Agreement (including its interpretation) between the Parties, and so notified in writing by either Party to the other Party (the "Dispute") shall, in the first instance, be attempted to be resolved amicably in accordance with the conciliation procedure as per BHEL Conciliation Scheme 2018. The proceedings of Conciliation shall broadly be governed by Part III of the Arbitration and Conciliation Act 1996 or any statutory modification thereof and as provided in - "Procedure for conduct of conciliation proceedings" (as available in www.bhel.com)).

Note: Ministry of Finance has issued OM reference No. 1/2/24 dated 03.06.2024 regarding "Guidelines for Arbitration and Mediation in Contracts of Domestic Public Procurement. In the said OM it has been recommended that Government departments/ Entities/agencies are to encourage mediation under the Mediation Act. 2023. The said Act has not yet been notified by the Government. Therefore, the clause "Settlement of Disputes" shall be modified accordingly as and when the Mediation Act 2023 gets notified.

21.2 ARBITRATION:

21.2.1 Except as provided elsewhere in this Contract, in case Parties are unable to reach amicable settlement (whether by Conciliation to be conducted as provided in Clause 21.1 herein above or otherwise) in respect of any dispute or difference; arising out of the formation, breach, termination, validity or execution of the Contract; or, the respective rights and liabilities of the Parties; or, in relation to interpretation of any provision of the Contract; or, in any manner touching upon the Contract (hereinafter referred to as the 'Dispute'), then, either Party may, refer the disputes to Arbitral Institution (to be identified by the contract issuing agency (eg. "IIAC" (India International Arbitration Centre) for Delhi/NCR offices) and such dispute to be

adjudicated by Sole Arbitrator appointed in accordance with the Rules of said Arbitral Institution.

- 21.2.2 A party willing to commence arbitration proceeding shall invoke Arbitration Clause by giving notice to the other party in terms of section 21 of the Arbitration & Conciliation Act, 1996 (hereinafter referred to as the 'Notice') before referring the matter to arbitral institution. The Notice shall be addressed to the Head of the Region, Power Sector/ Unit, BHEL, executing the Contract and shall contain the particulars of all claims to be referred to arbitration with sufficient detail and shall also indicate the monetary amount of such claim including interest, if any.
- 21.2.3 After expiry of 30 days from the date of receipt of aforesaid notice, the party invoking the Arbitration shall submit that dispute to the Arbitral Institutions as identified by the contract issuing agency) and that dispute shall be adjudicated in accordance with their respective Arbitration Rules. The matter shall be adjudicated by a Sole Arbitrator who shall necessarily be a Retd. Judge having considerable experience in commercial matters to be appointed/nominated by the respective institution. The cost/expenses pertaining to the said Arbitration shall also be governed in accordance with the Rules of the respective Arbitral Institution. The decision of the party invoking the Arbitration for reference of dispute to a specific Arbitral institution for adjudication of that dispute shall be final and binding on both the parties and shall not be subject to any change thereafter. The institution once selected at the time of invocation of dispute shall remain unchanged.
- 21.2.4 The fee and expenses shall be borne by the parties as per the Arbitral Institutional rules.
- 21.2.5 The Arbitration proceedings shall be in English language and the seat and venue of Arbitration shall be HARIDWAR.
- 21.2.6 Subject to the above, the provisions of Arbitration & Conciliation Act 1996 and any amendment thereof shall be applicable. All matters relating to this Contract and arising out of invocation of Arbitration clause are subject to the exclusive jurisdiction of the Court(s) situated at HARIDWAR.
- 21.2.7 Notwithstanding any reference to the Designated Engineer or Conciliation or Arbitration herein, a. the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree. Settlement of Dispute clause cannot be invoked by the Contractor, if the Contract has been mutually closed or 'No Demand Certificate' has been furnished by the Contractor or any Settlement Agreement has been signed between the Employer and the Contractor.
- 21.2.8 It is agreed that Mechanism of resolution of disputes through arbitration shall be available only in the cases where the value of the dispute is less than Rs. 10 Crores.
- 21.2.9 In case the disputed amount (Claim, Counter claim including interest is Rs. 10 crores and above, the parties shall be within their rights to take recourse to remedies other than Arbitration, as may be available to them under the applicable laws after prior intimation to the other party. Subject to the aforesaid conditions, provisions of the Arbitration and Conciliation Act, 1996 and any statutory modifications or re-enactment thereof as amended from time to time, shall apply to the arbitration proceedings under this clause.
- 21.2.10 In case, multiple arbitrations are invoked (whether sub-judice or arbitral award passed) by any party to under this contract, then the cumulative value of claims (including interest claimed or awarded) in all such arbitrations shall be taken in account while arriving at the total claim in dispute for the subject contract for the purpose of clause 21.2.9. Disputes having cumulative value of less than 10 crores shall be resolved through

	<p>arbitration and any additional dispute shall be adjudicated by the court of competent jurisdiction.</p> <p>21.3 In case of Contract with Public Sector Enterprise (PSE) or a Government Department, the following shall be applicable:</p> <p>In the event of any dispute or difference relating to the interpretation and application of the provisions of commercial contract(s) between Central Public Sector Enterprises (CPSEs)/ Port Trusts inter se and also between CPSEs and Government Departments/Organizations (excluding disputes concerning Railways, Income Tax, Customs & Excise Departments), such dispute or difference shall be taken up by either party for resolution through AMRCD (Administrative Mechanism for Resolution of CPSEs Disputes) as mentioned in DPE OM No. 05/0003/2019-FTS-10937 dated 14-122022 as amended from time to time.</p>
<p>22.</p>	<p>JURISDICTION</p> <p>Subject to clause 21 of this contract, the Civil Court having original Civil Jurisdiction HARIDWAR shall alone have exclusive jurisdiction in regard to all matters in respect of the Contract.</p> <p>GOVERNING LAWS</p> <p>The contract shall be governed by the Law for the time being in force in the Republic of India.</p>
<p>23.</p>	<p>Force Majeure</p> <p>23.1 "Force Majeure" shall mean circumstance which is:</p> <ul style="list-style-type: none"> a) beyond control of either of the parties to contract, b) either of the parties could not reasonably have provided against the event before entering into the contract, c) having arisen, either of the parties could not reasonably have avoided or overcome, and d) is not substantially attributable to either of the parties <p>And</p> <p>Prevents the performance of the contract,</p> <p>Such circumstances include but shall not be limited to:</p> <ul style="list-style-type: none"> i. War, hostilities, invasion, act of foreign enemies. ii. Rebellion, terrorism, revolution, insurrection, military or usurped power, or civil war. iii. Riot, commotion or disorder by persons other than the contractor's personnel and other employees of the contractor and sub-contractors. iv. Strike or lockout not solely involving the contractor's personnel and other employees of the contractor and sub-contractors. v. Encountering munitions of war, explosive materials, ionizing radiation or contamination by radio-activity, except as may be attributable to the contractor's use of such munitions, explosives, radiation or radio- activity. vi. Natural catastrophes such as earthquake, tsunami, volcanic activity, hurricane or typhoon, flood, fire, cyclones etc. vii. Epidemic, pandemic etc.

	<p>23.2 The following events are explicitly excluded from Force Majeure and are solely the responsibilities of the non-performing party: a) any strike, work-to-rule action, go-slow or similar labour difficulty (b) late delivery of equipment or material (unless caused by Force Majeure event) and (c) economic hardship.</p> <p>23.3 If either party is prevented, hindered or delayed from or in performing any of its obligations under the Contract by an event of Force Majeure, then it shall notify the other in writing of the occurrence of such event and the circumstances thereof within 15 (fifteen) days after the occurrence of such event.</p> <p>23.4 The party who has given such notice shall be excused from the performance or punctual performance of its obligations under the Contract for so long as the relevant event of Force Majeure continues and to the extent that such party's performance is prevented, hindered or delayed. The Time for Completion shall be extended by a period of time equal to period of delay caused due to such Force Majeure event.</p> <p>23.5 Delay or non-performance by either party hereto caused by the occurrence of any event of Force Majeure shall not</p> <ul style="list-style-type: none"> i. Constitute a default or breach of the Contract. ii. Give rise to any claim for damages or additional cost expense occasioned thereby, if and to the extent that such delay or non-performance is caused by the occurrence of an event of Force Majeure. <p>23.6 BHEL at its discretion may consider short closure of contract after 1 year of imposition of Force Majeure in line with extant guidelines. In any case, Supplier/Vendor cannot consider deemed short-closure after 1 year of imposition of Force Majeure.</p>
<p>24.</p>	<p>Non-Disclosure Agreement: Applicable / Not Applicable</p>
<p>25.</p>	<p>Cartel Formation</p> <p>The Bidder declares that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s). This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process. In case, the Bidder is found having indulged in above activities, suitable action shall be taken by BHEL as per extant policies/ guidelines</p>
<p>26.</p>	<p>Fraud Prevention Policy</p> <p>Bidder along with its associate /collaborators /sub-contractors /sub-vendors / consultants / service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website http://www.bhel.com and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice.</p>
<p>27.</p>	<p><u>Suspension of Business Dealings with Suppliers / Contractors:</u></p> <p>The offers of the bidders who are under suspension as also the offers of the bidders, who engage the services of the banned firms / principal / agents, shall be rejected. The list of banned firms is available on BHEL web site www.bhel.com.</p> <p>If any bidder / supplier / contractor during pre-tendering / tendering / post tendering / award / execution / post-execution stage indulges in any act, including but not limited to, malpractices, cheating, bribery, fraud or and other misconduct or formation of cartel so as to influence the bidding process or influence the price or tampers the tendering process or acts or omits in any manner which tantamount to an offence punishable under any provision of the Indian Penal</p>

	<p>Code, 1860 (Bhartiya Nyaya Samhita 2023) or any other law in force in India, or does anything which is actionable under the Guidelines for Suspension of Business dealings, action may be taken against such bidder / supplier / contractor as per extant guidelines of the company available on www.bhel.com and / or under applicable legal provisions. Guidelines for suspension of business dealings is available in the webpage:</p> <p>https://www.bhel.com/guidelines-suspension-business-dealings-supplierscontractors</p>		
<p>28.</p>	<p>Bid should be free from correction, overwriting, using corrective fluid, etc. Any interlineation, cutting, erasure or overwriting shall be valid only if they are attested under full signature(s) of person(s) signing the bid else bid shall be liable for rejection. In the event of any Technical or Commercial queries, the same may please be addressed to the following BHEL concerned before Part I opening-</p> <table border="1" data-bbox="285 596 1487 737"> <tr> <td data-bbox="285 596 899 737"> <p>Manager/PPX-DABG Email id- akshukla@bhel.in Ph. No. - +91-01334285076</p> </td> <td data-bbox="899 596 1487 737"> <p>Add Engr. II/ PPX-DABG Email id- anupamk@bhel.in Ph. No.- +91- 01334285076</p> </td> </tr> </table>	<p>Manager/PPX-DABG Email id- akshukla@bhel.in Ph. No. - +91-01334285076</p>	<p>Add Engr. II/ PPX-DABG Email id- anupamk@bhel.in Ph. No.- +91- 01334285076</p>
<p>Manager/PPX-DABG Email id- akshukla@bhel.in Ph. No. - +91-01334285076</p>	<p>Add Engr. II/ PPX-DABG Email id- anupamk@bhel.in Ph. No.- +91- 01334285076</p>		
<p>29.</p>	<p>Order of Precedence: In the event of any ambiguity or conflict between the Tender Documents, the order of precedence shall be in the order below:</p> <ol style="list-style-type: none"> a) Amendments/Clarifications/Corrigenda/Errata etc. issued in respect of the tender documents by BHEL. b) Buyer Added Bid Specific ATC c) GeM Bid Technical Conditions of Contract (TCC) d) GeM GTC 		
<p>30.</p>	<p>NOTE:</p> <ol style="list-style-type: none"> 1. In the event of our customer order covering this tender being cancelled /placed on hold /otherwise modified, BHEL would be constrained to accordingly cancel / hold / modify the tender at any stage of execution. 2. BHEL may negotiate the L1 rate, if not meeting our budget / estimated cost. BHEL may re-float the tender opened, if L1 price is not acceptable to BHEL even after negotiation. Any deviation from the conditions specified in tender may lead to rejection of offer. 3. Any change in applicable rates of Tax or any other statutory levies (Direct / Indirect) or any new introduction of any levy by means of statute and its corresponding liability for the deliveries beyond the agreed delivery date for reasons not attributable to BHEL will be to vendors account. BHEL will not reimburse the same and any subsequent claim in this respect will be summarily rejected. 4. BHEL reserves its right to reject an offer due to unsatisfactory past performance by the respective Vendor in the execution of any contract to any BHEL project / Unit. 5. The offers of the bidders who are under suspension and also the offers of the bidders, who engage the services of the banned firms /principal/agents, shall be rejected. The list of banned firms is available on BHEL web site www.bhel.com. 6. Recovery / deduction as applicable as per Direct and Indirect taxes as notified by Govt. Of India from time to time will be made and information/certificate for such deduction/recoveries shall be provided by BHEL to the vendor. 		

	<p>7. Rest Terms and Conditions shall be as per GEM (Latest version- applicable at the time of issuance of enquiry) and enquiry ATC (Additional terms & conditions).</p> <p>8. While generating invoice in GEM portal, the seller must upload scanned copy of GST invoice and the screenshot of GST portal confirming payment of GST.</p> <p>9. THE PRICE QUOTE BY BIDDER SHOULD BE INCLUSIVE OF GST.</p> <p>10. Vendor to upload/submit DIGITILY signed documents to BHEL B2B portal at the time of supply.</p> <p>11. The tender enquiry has been issued on GEM and BHEL portals for wider circulation. however, the offer is to be submitted through GEM portal only. also, all future corrigendum/corrigenda, addendum/addenda, amendments, time extensions, clarifications, etc. against the published gem bid shall be issued on gem portal only. Hence, the bidders are advised to check GEM portal only for latest updates/amendments/communications issued by BHEL against the current tender.</p> <p>12. Vendor to offer best delivery schedule in line with BHEL tender requirement. Delivery is not sacrosanct. However, offer of vendors may not be considered whose quoted delivery does not match with BHEL requirement.</p> <p>13. Data sheet of the product(s) offered in the bid, are to be uploaded along with the bid documents. Buyers can match and verify the data sheet with the product specifications offered. In case of any unexplained mismatch of technical parameters, the bid is liable for rejection.</p> <p>14. In case vendor (The Proprieter, Partner(s), Director(s) of our Company/Firm) have any relation or relatives employed in BHEL, vendor to inform the same specifically in their offer.</p> <p>15. Bidder shall submit the following documents along with their bid for vendor code creation:</p> <ul style="list-style-type: none"> • COPY OF PAN CARD • COPY OF GSTIN • COPY OF MSE CERIFICATE <p>16. The bids received from same IP address shall be outrightly rejected and shall not be considered for further evaluation.</p>
<p>31.</p>	<p>Grievance Redressal Mechanism</p> <p>To promote transparency and ensure fair treatment of all bidders, a structured Grievance Redressal Mechanism is in place to address any concerns or issues arising during the tendering process or in subsequent business dealings with the company.</p> <p>Suppliers/Contractors are requested to follow the below escalation process for grievance resolution:</p> <ol style="list-style-type: none"> 1. First Level: Any grievance should initially be addressed to the designated Dealing Officer, whose contact details are provided in the Notice Inviting Tender (NIT)/Contract. 2. Second Level: If the issue remains unresolved, it may be escalated by lodging a formal grievance through the SUVIDHA Portal: https://suvidha.bhel.in/suvidha/ <p>Responses will be provided in accordance with the defined escalation matrix.”</p>
<p>32.</p>	<p>CONFLICT OF INTEREST AMONG BIDDERS/ AGENTS</p>

"A bidder shall not have conflict of interest with other bidders. Such conflict of interest can lead to anti-competitive practices to the detriment of procuring entity's interests. The bidder found to have a conflict of interest shall be disqualified. A bidder may be considered to have a conflict of interest with one or more parties in this bidding process, if:

- a) They have controlling partner (s) in common; OR
- b) They receive or have received any direct or indirect subsidy/ financial stake from any of them; OR
- c) They have the same legal representative/agent for purposes of this bid; OR
- d) They have relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the bid of another bidder; OR
- e) Bidder participates in more than one bid in this bidding process. participation by a bidder in more than one bid will result in the disqualification of all bids in which the parties are involved. However, this does not limit the inclusion of the components/sub-assembly/ assemblies from one bidding manufacturer in more than one bid; OR
- f) In cases of agents quoting in offshore procurements, on behalf of their principal manufacturers, one agent cannot represent two manufacturers or quote on their behalf in a particular tender enquiry. one manufacturer can also authorise only one agent/dealer. There can be only one bid from the following:
 - 1. The principal manufacturer directly or through one INDIAN agent on his behalf;
AND
 - 2. INDIAN/FOREIGN agent on behalf of only one principal;
OR
- g) A bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the contract that is the subject of the bid; OR
- h) In case of a holding company having more than one independently manufacturing units, or more than one unit having common business ownership/management, only one unit should quote. Similar restrictions would apply to closely related sister companies. Bidders must proactively declare such sister/ common business/ management units in same/ similar line of business."

Treatment of cases regarding conflict of interest:

The bidder notes that a conflict of interest would said to have occurred in the tender process and execution of the resultant contract, in case of any of the following situations:

- i. If its personnel have a close personal, financial, or business relationship with any personnel of BHEL who are directly or indirectly related to the procurement or execution process of the contract, which can affect the decision of BHEL directly or indirectly;
- ii. The bidder (or his allied firm) provided services for the need assessment/ procurement planning of the Tender process in which it is participating;
- iii. Procurement of goods directly from the manufacturers/suppliers shall be preferred. However, if the OEM/ Principal insists on engaging the services of an agent, such agent shall not be allowed to represent more than one manufacturer/ supplier in the same tender. Moreover, either the agent could bid on behalf of the manufacturer/ supplier or the manufacturer/

	<p>supplier could bid directly but not both. In case bids are received from both the manufacturer/ supplier and the agent, bid received from the agent shall be ignored. However, this shall not debar more than one Authorised distributor (with/ or without the OEM) from quoting equipment manufactured by an Original Equipment Manufacturer (OEM) in procurements under a Proprietary Article Certificate.</p> <p>iv. A bidder participates in more than one bid in this tender process. Participation in any capacity by a Bidder (including the participation of a Bidder as a partner/ JV member or sub-contractor in another bid or vice-versa) in more than one bid shall result in the disqualification of all bids in which he is a party. However, this does not limit the participation of an entity as a sub-contractor in more than one bid if he is not bidding independently in his own name or as a member of a JV.</p> <p><u>The Bidder declares that they have read and understood the above aspects, and the bidder confirms that such conflict of interest does not exist and undertakes that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s), in this regard. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.</u> In case, the Bidder is found having indulged in above activities, the same will be considered as a violation of the tender conditions, and suitable action shall be taken by BHEL as per extant policies/ guidelines.</p>
<p>33.</p>	<p>For supply orders placed on Indian Suppliers: Irrespective of the value of the invoice amount, the bidder / vendor should necessarily upload the despatch & invoice details on BHEL SUVIDHA portal at https://suvidha.bhel.in/suvidha/ , prior to despatch. All documents as per PO checklist, along with additional documents (if any), must be uploaded on the portal. It is mandatory that tax invoices with a net amount (including taxes) exceeding Rs five lakhs uploaded on the portal are digitally signed using a Class 3 Digital Signature Certificate (DSC) issued by a licensed Certifying Authority. Submission of invoice document in hard copy is allowed for invoices with a net amount (including taxes) equal to and upto Rs. five lakhs, in case they were not digitally signed and uploaded on the portal.</p> <p>The material will not be accepted inside BHEL in absence of the above. "</p>
<p>34.</p>	<p>Enclosure:</p> <ul style="list-style-type: none"> • Annexure-A: ITEM DETAILS / SCOPE OF SUPPLY • PQR CHECKLIST • COMMERCIAL & QUALITY CHECKLIST • DRAWINGS • TECHNICAL PARAMETER CHECKLIST • MII CERTIFICATE • NO DEVIATION CERTIFICATE

MANUFACTURER'S NAME AND ADDRESS			QUALITY PLAN				TO BE FILLED BY BHEL		TO BE FILLED BY BHEL					
BHEL	VENDOR'S NAME	ITEM			QP NO.									
					REV									
		DRG. NO.	AS PER PO											
		SPEC.	AS PER PO											
	REV						Page 1 of 1							
SL. NO.	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORDS		AGENCY			REMARKS	
1	2	3	4	5	6	7	8	9	D	M	B	N	10	11

MANUFACTURER/SUBCONTRACTOR	LEGEND:	FOR CUSTOMER USE	APPROVED BY
	! RECORDS IDENTIFIED WITH 'TICK' SHALL BE ESSENTIALLY INCLUDED BY CONTRACTOR IN QA DOCUMENTATION.		
	M: MANUFACTURER / SUBCONTRACTOR B: BHEL / NOM. INSPECTION AGENCY N: CUSTOMER INDICATE 'P' PERFORM 'W' WITNESS AND 'V' VERIFICATION ALL 'W' INDICATED IN COLUMN 'N' SHALL BE 'CHP' OF CUSTOMER		

**DECLARATION REGARDING MINIMUM LOCAL CONTENT IN LINE WITH
REVISED PUBLIC PROCUREMENT (PREFERENCE TO MAKE IN INDIA), Order 2017" Dt. 19.07.2024
issued vide Order No. P-45021/2/2017-PP(BE-II)-Part(4)Vol.II AND SUBSEQUENT ORDER(S)
(To be typed and submitted in the Letter Head of the Entity/Firm providing certificate as applicable)**

To,
Manager
PPX-DABG
BHEL-HEEP, HARIDWAR

Dear Sir,

Sub: Declaration reg. minimum local content in line with Public Procurement (Preference to Make in India), Order 2017" Dt. 19.07.2024 issued vide Order No. P-45021/2/2017-PP(BE-II)-Part(4) Vol.II and subsequent order(s).

Ref: 1) GeM Bid Specification No:
2) All other pertinent issues till date

We hereby certify that the items/works/services offered by..... (*specify the name of the organization here*) has a local content of _____ % and this meets the local content requirement for '**Class-I local supplier**' / '**Class II local supplier**' (*Strike out whichever is not applicable*) as defined in Public Procurement (Preference to Make in India), Order 2017-Revision dated 04.06.2020 issued by DPIIT and subsequent order(s).

The details of the location(s) at which the local value addition is made are as follows:

- | | |
|----------|--------------|
| 1. _____ | 2. _____ |
| 3. _____ | 4. _____ ... |

Thanking you,
Yours faithfully,

**(Signature, Date & Seal of
Authorized Signatory of the Bidder)**

Note:

1. Bidders to note that above format, duly filled & signed by authorized signatory, shall be submitted along with the techno-commercial offer.
2. In case the bidder's quoted value is in excess of Rs. 10 crores, the authorized signatory for this declaration shall necessarily be the statutory auditor or cost auditor of the company (in the case of companies) or a practising cost accountant or practicing chartered accountant (in respect of suppliers other than companies).
3. In the event of false declaration, actions as per the above order and as per BHEL Guidelines shall be initiated against the bidder.

CERTIFICATE OF NO DEVIATION

(To be Typed & submitted in the Letter Head of the Company/Firm of Bidder)

To,
MANGER
PPX-DABG
BHEL-HEEP, HARIDWAR

Dear Sir,

Subject: No Deviation Certificate

Ref: 1) GeM Bid No.,.
2) All other pertinent issues till date

We hereby confirm that we have not changed/ modified/materially altered any of the tender documents as downloaded from the website/ issued by BHEL and in case of such observance at any stage, it shall be treated as null and void.

We also hereby confirm that we have neither set any Terms and Conditions and nor have we taken any deviation from the Tender conditions together with other references applicable for the above referred GeM Bid.

We further confirm our unqualified acceptance to all Terms and Conditions, unqualified compliance to Tender Conditions.

We confirm to have submitted offer in accordance with tender instructions and as per aforesaid references.

Thanking you,

Yours faithfully,

(Signature, date & seal of authorized representative of the bidder)

Date:

Place: