

**REQUEST FOR EXPRESSION OF INTEREST FOR THE PROVISION OF WELDING MATERIAL FOR PIPELINE**

**REFERENCE NO.: CPP-PROC-TZ-006-0206-22**

China Petroleum Pipeline Engineering Co., Ltd. (hereinafter abbreviated as CPP) as Pipeline, Feederline & Above Ground Installation Contractor for the East African Crude Oil Pipeline (EACOP) Project invites experienced and reputable Contractors to express their interest in supplying kinds of equipment/materials for EACOP Project.

The EACOP Project involves the development, construction, operation and maintenance of a crude oil export pipeline that originates in Kabaale, Uganda and delivers oil for marine export on the East African coast in the Tanga area in Tanzania.

**BRIEF DESCRIPTION OF THE SCOPE:**

♦ **Supply of WELDING MATERIAL FOR PIPELINE.**

**MINIMUM REQUIREMENTS:**

Companies expressing their interest are invited to document their request with:

1. **Proof of License/Registration Information and Profile of Supplier, including license and TIN certificate.**

2. **Proof of registration/application to Local Supplier Service Provider (LSSP) database at the time of submission of the response to this expression of interest is strongly recommended.**
3. **Fully filled Questionnaire, Key personnel list with CV(Appendix1)and Equipment list of production and inspection(Appendix2) in requested format. (Blank regards as unqualified item.)**
4. **Similar supplying experience within last three years(Appendix3) in requested format.**
5. **Compliance with Petroleum (Local Content) Regulations, 2017 and Local company definition for Tanzania.**
6. **Copy of certificates of ISO 9001, ISO 45001, ISO 14001 or equivalent of them.**
7. **Tax Clearance Certificate for the last three years and Audit report for the last three years.**
8. **The supplier must be manufacturer, Manufacturer's Commitment Letter shall be provided.**
9. **Technical requirements shall meet NO.22-WELDING MATERIAL FOR PIPELINE.**

Interested companies which meet the minimum requirements and have the capacity to provide the WORK (GOODS/SERVICES) listed above should express their interest by sending together with the above listed documents an email to [supplierdata1@cpptz.com](mailto:supplierdata1@cpptz.com) (Max. Email Size: 20 MBs, Wetransfer link is available for huge size documents. & All documents must be submitted in the English language) on or before **24:00** hours East African Time (EAT), on **DATE(6/2/2023)**. Subject of the email should be **"EOI for CPP-PROC-TZ-006-0206-22-COMPANY NAME"**. CPP reserves the right not to consider companies that submit an incorrect email subject and the incorrect format of Questionnaire, Appendix 1, 2 and 3.

The format of the required documents and relevant technical requirements (NO.22-WELDING MATERIAL FOR PIPELINE) which are mentioned in Minimum Requirements should be downloaded from EACOP's website(<https://eacop.com/opportunities-by-main-construction-contractors/china-petroleum-pipeline-engineering-co-ltd/>). Companies satisfactorily meeting the above minimum requirements will receive, subject to the signature of a Non-Disclosure Agreement (NDA), a detailed pre-qualification questionnaire for further evaluation by Company.

**CPP reserves the right not to consider companies that submit an incomplete dossier.**

**Note 1:** Only pre-qualified companies will receive an invitation to submit their bid in furtherance of the Call for Tender process.

## Questionnaire for the Pre-qualification of Procurement-AGI PPL

NOTE: Please provide documents named by serial number according to each item.

CPP reserves the right not to consider companies that submit Questionnaire filled by hand.

Item No.	Category / Question	
0	<b>NC/LC REQUIREMENTS</b>	
0.1	General Requirements	
0.1.1	Is the Applicant fully aware of the local climatic and working conditions of country and the local applicable laws to carry out the project? (Yes or No)	
0.1.2	Applicant to confirm that the full Scope of the Project can be performed. (Yes or No)	
0.2	National Content Requirements for Uganda (Applicable for Uganda)	
0.2.1	Proof of business registration and business license for Uganda.	
0.2.2	Proof of registration with the PAU National Supplier Database (NSD) for Uganda.	
0.2.3	Compliance with the Petroleum Midstream National Content Regulation # 34,2016 for Uganda.	
0.3	Local Content Requirements for Tanzania (Applicable for Tanzania)	
0.3.1	Proof of business registration and business license for Tanzania.	
0.3.2	Proof of registration/application to EWURA Local Supplier Service Provider (LSSP) database.	
0.3.3	Compliance with Petroleum (Local Content) Regulations, 2017 and Local content requirements for Tanzania.	
1	<b>GENERAL INFORMATION</b>	
1.1	Company Data	
1.1.1	Name of Applicant	
1.1.2	Introduction of Applicant (establishing time,Copies of government issued IDs for all shareholders,main business scope,etc.)	
1.1.3	Applicant address	
1.1.4	Applicant phone number	
1.1.5	Applicant email address	
1.1.6	Applicant Website	

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Item No.	Category / Question	
1.1.7	* Manufacturer's Commitment Letter The supplier must be manufacturer.	
1.2	Authorized contact person and contact details	
1.2.1	Name of authorized contact person	
1.2.2	Contact person's business address - phone number	
1.2.3	Contact person's business address - mobile phone number	
1.2.4	Contact person's business address - email address	
1.3	Organization Chart	
1.3.1	Applicant is requested to attach its organization chart.	
1.4	Language	
1.4.1	English shall be used as the Project language for all documents and correspondence - applicant to confirm	
<b>2</b>	<b>FINANCIAL ASPECTS</b>	
2.1	Bank information	
2.1.1	Name of Applicant's principal bank	
2.1.2	Address of Applicant's principal bank - street and number	
2.1.3	Address of Applicant's principal bank - post code and city	
2.1.4	Address of Applicant's principal bank - country (and state)	
2.2	* Registration with the Tax Revenue Authority	
2.2.1	Registration with the Uganda Tax Revenue Authority, including TIN Certificate.(Applicable for Uganda)	
2.2.2	Registration with the Tanzania Tax Revenue Authority, including TIN Certificate.(Applicable for Tanzania)	
2.3	* Proof of Tax Clearance Certificate	
2.3.1	Proof of Uganda Tax Clearance Certificate for the latest 3 years available.(Applicable for Uganda)	

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Item No.	Category / Question	
2.3.2	Proof of Tanzania Tax Clearance Certificate for the latest 3 years available. (Applicable for Tanzania)	
2.4	Audited financial statements	
2.4.1	Applicant 's financial performance documents, Audited Balance sheets and Profit and Loss statements, Auditors Report and Notes to Accounts etc. for last 3 (three) years. Latest financial statement should not be older than 18 months on the date of submission of response to this Expression of Interest.	
2.5	Line of credit	
2.5.1	The line of credit shall not be less than USD 5 million, and the bid bond and performance bond shall only be issued by internationally renowned banks. (Yes or No)	
<b>3</b>	<b>LITIGATION HISTORY, RISK ASSESSMENT AND ELIGIBILITY</b>	
3.1	Litigation or arbitration history	
3.1.1	Provide information on any history of litigation or arbitration resulting from orders executed in the last (5) years or currently under execution, especially with CPP. (Yes or No)	
3.2	Eligibility	
3.2.1	Does Applicant appear on World Bank's common List of Ineligible Entities available under the following link <a href="http://www.worldbank.org/debarr">http://www.worldbank.org/debarr</a> or is Applicant subject to any sanction from World Bank and from UN? This must be similarly affirmed if the Applicant is an Affiliate or otherwise directly or indirectly controlled by such an ineligible entity. (Yes or No)	
<b>4</b>	<b>QA/QC, HSE, CERTIFICATES, KEY PERSONNEL</b>	
4.1	Please provide Applicant's ISO 9001:2015 Certificate.	
4.2	Please provide Applicant's ISO 45001:2018 Certificate (or equivalent).	
4.3	Please provide Applicant's ISO 14001:2015 Certificate (or equivalent).	
4.4	Please provide QA/QC manuals.	

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Item No.	Category / Question	
4.5	Any other technical Certificates (API, etc.).	
4.6	Please provide key personnel list, Format refer to Appendix 1.	
4.6.1	Please provide QA Manager's CV	
4.6.2	Please provide QC Inspector's CV	
4.6.3	Please provide Production Manager's CV	
<b>5</b>	<b>FABRICATION AND DESIGN</b>	
5.1	Range of products for oil and gas industry the applicant produces. (Yes or No)	
5.2	Please give details of your manufacturing and design/engineering facilities (size, area, number, etc.).	
5.3	Do you have in house design facilities? (Yes or No)	
5.4	Please provide details of the assembly yard/facilities you would use for the various parts of the project.	
5.5	Please provide the equipment list of production and inspection, Format refer to Appendix 2.	
5.6	*Technical requirements shall meet our relevant technical requirements documents attached. (Yes or No)	
<b>6</b>	<b>PROJECT SPECIFIC OUTPUT, CAPACITY, ABILITY</b>	
6.1	Please specify estimated average capacity per month for manufacturing and delivery of the product.	
6.2	What is the available capacity (i.e. not yet booked) of the Applicant for the product in Year 2023?	
6.3	According to your present workload what is the approximate time period (in weeks) for the first dispatch after purchase order award (on EXW basis)?	
<b>7</b>	<b>EXPERIENCE RECORD AND REFERENCES</b>	
7.1	Please provide similar experience within last three years, Format refer to Appendix 3.	
7.2	Please provide scanned CONTRACT for completed project or LETTER of AWARD for ongoing projects, completion certificate (if any), appreciation letters (if any) etc.	
7.3	Please confirm whether there have been any product quality incidents in the past 5 years. (Yes or No)	
<b>8</b>	<b>RAW MATERIALS</b>	

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Item No.	Category / Question	
8.1	Please list the Sub-suppliers of raw materials (Company Name, Country).	
9	<b>SPARE PARTS AND MAINTENANCE</b>	
9.1	Supply list of recommend spare part for the product. (If applicable)	
10	<b>DIVERSE DATA</b>	
10.1	Please confirm that you will provide on-site Services such as provision of re-assembly, supervision of site acceptance, assistance during quality warranty period. (If applicable, Yes or No)	









# **Technical Requirements of Welding Consumable**

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## 1 PURPOSE

The Purpose of this documents is to describe minimum requirements for supply welding consumables for EACOP Project.

## 2 SCOPES

This document outlines the minimum requirements to be followed for the mechanical tested of welding consumables used in the EACOP project. Other examine/tests, identifying and packaging shall be performed in accordance with the relevant sections of ASME Section II, Part C-2017 and ASME Section IX-2017.

## 3 REFERENCES

ASME Section II, Part C-2017	Specification for Welding Rods Electrodes and Filler Metals
ASME Section IX-2017	Welding and Brazing Qualifications
EN 10204-2006	Metallic products - Types of inspection documents
ISO 14344-2010	Welding consumables – Procurement of filler materials and fluxes
UT-MID-70-WPR2-210001-02	Specification For Pipeline Welding
UT-MID-60-WPR2-210010	PPS-Welding, Inspection and PWHT for piping
UT-MID-60-WPR2-100015	EACOP Project Description, Definitions and Abbreviations List
UT-MID-60-WPR2-100036_02	SUPPLIER DOCUMENT AND MANAGEMENT SPECIFICATION

## 4 DEFINITIONS AND ACRONYMS

COMPANY	East African Crude Oil Pipeline (EACOP)
EPcmC	Engineering, Procurement, Construction Management and Commissioning
CONTRACTOR	China Petroleum Pipeline Engineering Co. Ltd (CPP)
AGI	Above Ground Installations
AWS	American Welding Society
BPVC	Boiler and Pressure Vessel Code
Drying	Prior to delivery Low Hydrogen Type Electrodes for carbon steel and low alloy steel, and Lim-Titanium Type Electrodes for austenitic stainless steel, etc., shall be dried to reduce the moisture contained in the coated flux in accordance with electrode manufacturer's recommendations.
EN	European Norm
HAZ	Heat-Affected Zone
IEC	International Electro technical Commission
ISO	International Organization for Standardization
ITP	Inspection and Test Plan

RFI	Request For Inspection
SMAW	Shielded Metal Arc Welding
SS	Stainless Steel
TS	Tensile Strength
Unused Electrodes	Refer to all electrodes that have defects, such as damaged coating or illegible identity marking, damaged or missing flux coating, wet flux or change in quality of flux shall not be used. Unused electrodes shall be properly disposed according to COMPANY Standard and Welding Requirements.
YS	Yield Strength

## 5 TESTS

### 5.1 Testing

Each heat, lot (or batch) of consumables shall be subject to inspection and approval by COMPANY. 3.1 (according to EN 10204) Mill test certificates from consumable Manufacturers showing test results obtained on the said lot shall be submitted to COMPANY for review. During purchase order phase, CONTRACTOR will highlight to welding consumable manufacture to adopt the required mechanical test during productive process. During welding consumable purchase phase, Contractor will double confirm the relevant Mill test certificates, only after confirm CONTRACTOR can accept the purchase.

All test results shall be reflected in the 3.1 Certificate and supported by a test report issued by a qualified and approved by the COMPANY laboratory.

- 1) The lot and the level of testing are specified as per ISO 14344 as follows:
  - Covered electrodes: class C5 or alternatively C3 provided it is limited to one heat number and when the chemical composition of wet mixes is controlled by raw material analysis and computerized weighing.
  - Bare solid electrodes and rods: class S3
  - Tubular cored electrodes and rods: class T3.

**Note:** The following definitions are fully consistent with ISO 14344.

**Class S3-** A class S3 lot of bare solid electrodes and rods or consumable inserts is the quantity of one size produced in one production schedule from material identified by one heat number.

**Class T3-** A class T3 lot of tubular cored electrodes and rods is the quantity produced from material identified by one heat number and one dry batch or one dry blend of core materials. Identification of the core ingredients shall be as specified in 3.5.

**Class C3-** A Class C3 lot of covered electrodes is the quantity, not exceeding 45000 kg, of any one size and classification produced in 24 h of consecutively scheduled production (i.e. consecutive normal work shifts). Class C3 electrodes shall be produced from covering identified by wet mix or controlled chemical composition (see 3.3.2 in ISO 14344) and core wire identified by heat number or controlled chemical composition (see 3.3.1 in ISO 14344).

**Class C5-** A class C5 lot of covered electrodes is the quantity of one size and classification produced from one dry blend of covering mixture and core wire identified by one heat number.

**Heat Number-** Consumable inserts, solid wires, rods and strip, core wire for covered electrodes, and the sheath (strip or tubing) for tubular cored electrodes and rods, identified by heat number, shall consist of material from a single heat of metal.

**Dry batch**-Quantity of dry ingredients mixed at one time in one mixing vessel. Note Liquid binder, when added to a dry batch, produces a wet mix. A dry batch can be divided into smaller quantities, in which case addition of the liquid binder produces as many wet mixes as there are smaller quantities.

**Dry Blend**-(Welding Consumables) two or more dry batches from which quantities of each are combined proportionately, then mixed in a mixing vessel to produce a larger quantity in which the ingredients are as uniformly dispersed as they would have been had the entire quantity been mixed together at one time in one large mixer. Note a dry blend, as in the case of a dry batch, can be used singly or divided into smaller quantities which, when the liquid binder is added, produce one or more wet mixes.

**Wet Mix**-Combination of liquid binder and a dry batch or dry blend, or a portion thereof, mixed at one time in one mixing vessel.

- 2) The level of testing shall be as per ISO 14344 - Schedule 4 as a minimum.

### 5.1 Pipeline Welding Consumable Test

- 1) EN10204-3.1 certificate shall be provided for welding consumables.

Filler Metals		
Specification & Classification	Diameter	Type of packaging
AWS A5.18 ER70S-G	0.9 and 1mm	Spools, 8 Inch,5kg, See <b>Figure 5.1</b> for dimensions.
AWS A5.18 ER70S-6	2.4mm	Straight, L=900mm, 5kg
AWS A5.36 E81T1-M21A8-NI1-H4	1.2mm	Spools, See <b>Figure 5.2</b> for details.
AWS A5.1 E7016	3.2mm	Straight
AWS A5.5 E8018	3.2mm	Straight
AWS A5.29 E81T1	1.2mm	Spools, 8 Inch,5kg, See <b>Figure 5.1</b> for dimensions.
AWS A5.29 E91T1	1.2mm	Spools, 8 Inch,5kg, See <b>Figure 5.1</b> for dimensions.

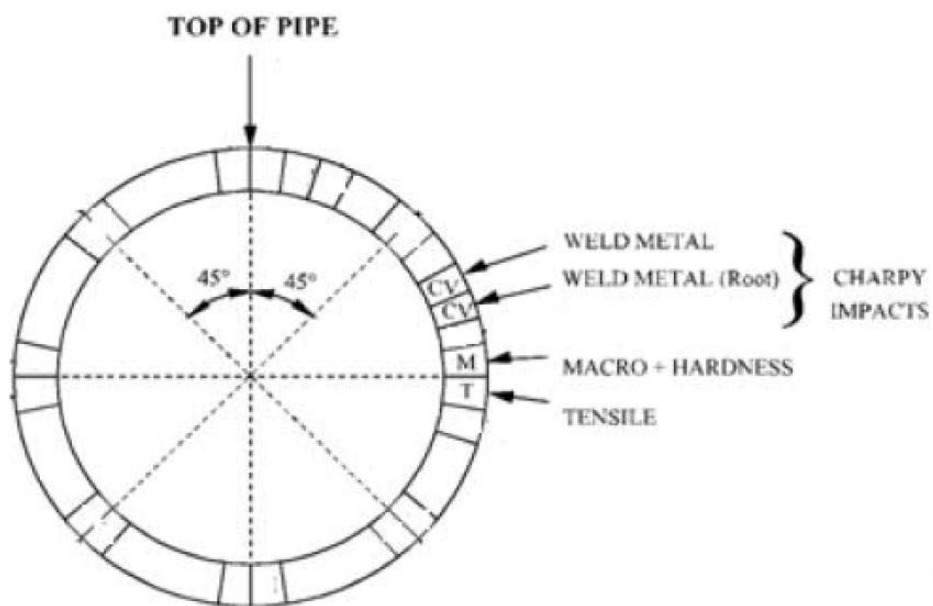


2) Each batch of welding consumables shall be subject to the following welding tests under the same conditions and with the same equipment as used for the relevant approved welding procedure:

- As-welded chemical analysis
- Tensile-strength Test (all weld and cross weld)
- Charpy V-notch Impact Test
- Macro + Hardness Survey
- Diffusible hydrogen (Only for low hydrogen electrode)

CTOD Test (the toughness acceptance criteria are a minimum CTOD value of 0.50mm converted from J. It is highlighted that this minimum CTOD value does not imply that a strain capacity of 2% will be met.) This is solely a quality control acceptance criteria.

3) The location of each specimen is shown below:

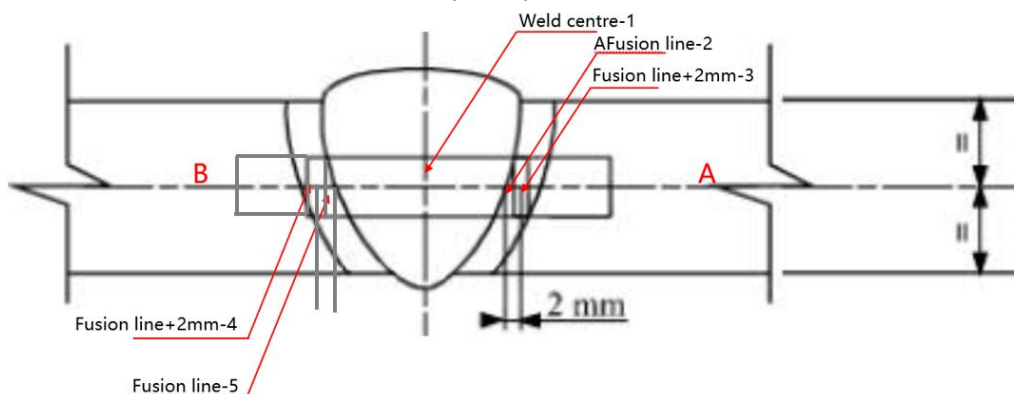


**Key:**

T = Transverse Tensile

M+H = Macrography+ Hardness survey

CV = Charpy V-notch impact. If the pipe comprised the test coupon are not from the same manufacturer, the number of impact specimens shall be 5, as follows:



4) Test specimens shall be cut mechanically (sawing, milling). Flame cutting shall only be permitted to facilitate machining, and only if cuts are spaced at least 50 mm from any test specimens.



- 5) The weld deposits obtained from these consumables shall satisfy the Impact Toughness, CTOD and Hardness requirements stated in UT-MID-70-WPR2-210001 for pipeline. See Table 1.

Table 1 Test Item and Number of specimens

No	Test Item		Standard (Current version)	Acceptance value	Number of specimens
1	Tensile (All weld and cross weld)		ASMT A370 or ASTM E8/E8M	Tensile test results shall comply with the requirements of Section 5.6.2.3 in API 1104 and UT-MID-70-WPR2-210001	1
2	Impact <sup>c</sup>	Weld	ASTM A370 or ASTM E23 or ISO148-1	0°C, Average ≥45 Joule and Single ≥38 Joule for API 5L X65M.	3
		HAZ		Average: ≥42 Joule and Single ≥35 Joule for API 5L X60M.	3
3	Macrograph <sup>a</sup>		ASTM E340	All welds shall be free from lacks of penetration and lacks of root fusion.	1
4	Hardness <sup>b</sup>		ASTM E384	Not exceed 300 HV5.	
5	SENT		BS 8571	CTOD ≥0.5mm Only applicable to: AWS A5.5 E8018 and AWS A5.1 E7016.	3
6	As-welded chemical analysis (including diffusible hydrogen level where specified)		ISO 6847	Follow the requirement	3
Laboratory to be accredited to ISO/IEC 17025, the scope of accreditation included the above standard, and approved by the COMPANY.					

**Note :** a. The macro-sections shall be ground and polished (diamond paste finished) and etched to show up the Weld Metal and Heat Affected Zones micro-structures. The macro-section shall be visually examined using a magnification lens of at least X5 to ensure good weld profile and absence of out-of-tolerances imperfections. All welds shall be free from lacks of penetration and lacks of root fusion.

b. Photomicrographs showing the indent locations shall be included with the test Record. See Figure of section 5.6.8 in UT-MID-70-WPR2-210001.

c. The three specimens shall consist of one each from the nominal 12, 3 or 9, and 6 o'clock positions on the test weld and should be permanently marked to identify the original position.

## 5.2 AGI Welding Consumable Test

- 1) EN10204-3.1 certificate shall be provided for welding consumables.

Filler Metals		
Specification & Classification	Diameter	Type of packaging
AWS A5.18 ER70S-6	2.4mm	Straight 直段, L=900mm, 5kg
AWS A5.1 E7018	3.2mm	Straight 直段
AWS A5.9 ER316L	2.5mm	Straight 直段, L=900mm, 5kg
AWS A5.4 316L-16	3.2mm	Straight 直段
AWS A5.9 ER385	2.5mm	Straight 直段, L=900mm, 5kg

- 2) Each batch of welding consumables shall be subject to the following welding tests under the same conditions and with the same equipment as used for the relevant approved welding procedure:

➤ All-Weld-Metal Tensile Teste

- Charpy V-notch Impact Test
- Moisture Test
- As-welded chemical analysis
- Diffusible Hydrogen Limits for Weld Metal

Table 2 Test Item and Number of specimens

No.	Test Item		Standard	Acceptance value	Number of specimens
1	All-Weld-Metal Tensile Test		SFA-5.1 of ASME BPVC.II.C-2017	TS $\geq$ 490Mpa, YS $\geq$ 400Mpa, Elongation $\geq$ 22%;	1
2	Impact	Weld	SFA-5.1 of ASME BPVC.II.C-2017	Average $\geq$ 27J and Single $\geq$ 20J at $-30^{\circ}\text{C}$	5
		HAZ			
3	Moisture Test		SFA-5.1 of ASME BPVC.II.C-2017	<0.6	N/A
4	As-welded chemical analysis		ASTM E350	Table 7 in the SFA-5.1 of ASME BPVC.II.C-2019	1
5	Diffusible Hydrogen Limits for Weld Metal		SFA-5.1 of ASME BPVC.II.C-2017	16 mL/100g	N/A
Laboratory to be accredited to ISO/IEC 17025, the scope of accreditation included the above standard, and approved by the COMPANY.					

Note : Both the highest and lowest test values obtained shall be disregarded in computing the average. Two of these remaining three values shall equal or exceed 27J.