

**Bharat Heavy Electricals Limited  
Boiler Auxiliaries Plant ,  
Ranipet ,Tamilnadu- 632406**

**Purchase Department  
NOTICE INVITING TENDER**

**OPEN TENDER Ref: BAP/PUR/UTY/ RUST PREVENTIVE FLUID FOR COLLECTING  
ELECTRODE (DRYING TYPE) /19 dt.14.10.2014**

**Sub:** Sealed Bids (Two Part Basis) are invited from prospective Suppliers for supply of **RUST  
PREVENTIVE FLUID FOR COLLECTING ELECTRODE (DRYING TYPE).**

- Last Date for Submission of Bid : **26.11.2014** before 14.00 Hrs
- Bid Opening date: **26.11.2014** at 14.30 Hrs

**Enquiry No: BAP/PUR/UTY/ RUST PREVENTIVE FLUID FOR COLLECTING ELECTRODE  
(DRYING TYPE) /19 dt.14.10.2014**

**Item: RUST PREVENTIVE FLUID FOR COLLECTING ELECTRODE (DRYING TYPE)**

**Contents:**

**Annexure-A  
(a) Technical Requirement**

**Annexure-B**

- a) General terms and conditions of enquiry**
- b) Pre-Qualifying requirement (PQR) for vendors supplying **RPF for CE****
- c) MSME status**
- d) Special Terms and Conditions**
- e) Standard Terms and Conditions**
- f) Supplier Registration Forms.**

**Annexure-C  
a) Commercial terms and Conditions**

**Contact Details**

**Shri . N.TAMIZHARSAN  
SDGM/Purchase  
Email : nt@bhelrpt.co.in  
Phone : 04172- 284338  
Fax : 04172-241131**

**Shri . C.Sudheesh  
Sr Engineer / Purchase  
Email : sudheesh@bhelrpt.co.in  
Phone : 04172-283018  
Fax : 04172-241131**



- Last Date for Submission of Bid : **26.11.2014** before 14.00 Hrs
- Bid Opening date: **26.11.2014** at 14.30 Hrs

### **Annexure A**

### **NOTICE INVITING TENDER**

### **Ref: BAP/PUR/UTY/ RUST PREVENTIVE FLUID FOR COLLECTING ELECTRODE (DRYING TYPE) /19 dt.14.10.2014**

#### **(a) Technical Requirement for Supply of Rust Preventive Fluid For Collecting Electrode (Drying type).**

Sealed Bids (Two Part Basis) are invited from prospective suppliers for supply of **Rust Preventive Fluid For Collecting Electrode (Drying type) as per BHEL specification given below.**

Sl No	Material Code	Description	Qty (in Ltrs)
<b>1</b>	<b>IM1300100100</b>	<b>Rust Preventive Fluid For Collecting Electrode (Drying type) as per BHEL specification AQCS :RP :REV :00 Dt 19. 07. 2014</b>	<b>1,60,000</b>

- Delivery: Approximately 25,000 to 30,000 Ltrs per month
- Initially the offer (both techno commercial & Price bid offers each in a separate sealed cover and both the covers , shall be kept in a common sealed cover) should be submitted before the tender submission schedule indicated in our tender. The technical offer will be opened first and the same will be evaluated. Once, the offer is technically accepted, the same will be valid for one year.
- Subsequently, for each supply of a separate tender opening (i.e price bid opening alone) will be carried out through web based Electronic Procurement System (EPS) through our service provider (or) through sealed cover (or) reverse auction , to finalise the order for each month.
- If the offer does not meet the above technical specification, the same will be rejected.

#### **RUST PREVENTIVE FLUID SPECIFICATION (Drying Type)**

**Ref: AQCS :RP :REV :00 Dt 19. 07. 2014**

**1.0 Scope:** This specification covers the requirement of temporary rust preventive fluid (drying type) for collecting electrode of ESP by dipping process.

**2.0 Application:** Mild steel sheets of IS 513 Gr DD are being rolled to a specific configuration in an automated line and packed in a steel crate. These collecting electrodes are used as anode in a Electrostatic Precipitator. These collecting

electrodes are erected inside the ESP Chamber and till it is erected, the surfaces of collecting electrodes are to be protected from corrosion, erosion, rusting, pitting etc. Hence the packed collecting electrode bundles are dipped in a rust preventive fluid of drying type tank before dispatch to various sites which includes coastal sites like Vizag, North Chennai etc.

### 3.0 Functional Specification of the RP fluid:

SL. No	Details	Acceptance Norms
01	Specific Gravity @ 27 deg C	0.85 to 0.95
02	Flash point °C (Min.)	50°C
03	Viscosity Ford Cup@ 27 deg C	32 to 45 Seconds
04	Odour	The fluid shall be fit for usage by dipping process in confined atmosphere inside the production shop. It shall not give any Pungent smell while dipping process.
05	Melting Point of the dry film on steel sheet	Should not be greater than 90°C.
06	Appearance	Black
07	Coverage Area (Square meter/Litre)	50 to 65 ( for Specific Gravity =0.85 and for DFT 15 -20 microns)
08	Salt Spray Test	The film shall withstand corrosive atmosphere in a salt spray chamber after exposure to 100 hours. <b>(As per ASTM-B-117 mentioned in IS 1154: 2000 or any equivalent standard )</b>
09	Humidity Test	The film shall withstand corrosive atmosphere in a humid chamber after exposure to 360 hours. <b>(As per IS 1154: 2000 or any equivalent standard )</b>
10	Drying time (Max.)	2 to 4 hours The film should not be sticky after 30 minutes.
11	Dry Film Thickness(DFT) required	15 to 20 Microns

### 4.0 Design Requirement:

4.1 The offered RP fluid should spread over the mild steel sheets uniformly when the bundles are dipped in a RP fluid tank.

4.2 Dry film thickness (DFT) should be uniform throughout the surfaces of the collecting electrodes after dipping.



4.3 The offered rust preventive fluid shall protect the collecting electrode surfaces for a minimum period of not less than 12 months from the day of dipping by retaining their corrosion resistance properties.

4.4 The offered RP fluid should also be easily removable when the same is exposed to flue gas of temperature of 90 Deg to 160 Deg C.

4.5 The offered RP fluid will be checked for viscosity using ford cup 4 at regular intervals (every first usage of the day) to maintain within 32 to 45 seconds and record. If the viscosity of rust preventive fluid does not falls in the above mentioned range suitable thinner may be added to maintain the same. **Detailed quantity of THINNER addition for the offered RP fluid to ensure the DFT over the collecting electrode surfaces to be furnished by the vendor.**

#### **5.0 Inspection & Testing:**

5.1 The offered RP fluid will be checked for above Tests at vendor works for every Lot of supply and will be witnessed by BHEL or BHEL approved Inspection agency.

5.2 Each RP fluid barrel should contain the following data:

a. Batch Number b. Date of Manufacturing c. Quantity and net/gross weight d. Safety & Storage instructions e. Best before use date

#### **6.0 Documents to be furnished along with offer:**

6.1 Vendor should furnish the Material Safety Data Sheet (MSDS) for the RP fluid along with the offer. Otherwise the offer will not be evaluated.

#### **7.0 Packing & Despatch:**

7.1 The offered RP Fluid should be supplied in a barrel of 200 Liters capacity.

7.2 The Barrel should be identified with MSDS data for reference and use.



**Rust Preventive Fluid  
Specification  
(Drying Type)**

TEP

AQCS:RP:

Rev

00

Date

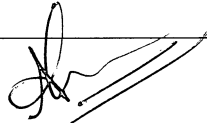

19-07-2014


**1.0 Scope:** This specification covers the requirement of temporary rust preventive fluid (drying type) for collecting electrode of ESP by dipping process.

**2.0 Application:** Mild steel sheets of IS 513 Gr DD are being rolled to a specific configuration in an automated line and packed in a steel crate. These collecting electrodes are used as anode in a Electrostatic Precipitator. These collecting electrodes are erected inside the ESP Chamber and till it is erected, the surfaces of collecting electrodes are to be protected from corrosion, erosion, rusting, pitting etc. Hence the packed collecting electrode bundles are dipped in a rust preventive fluid of drying type tank before dispatch to various sites which includes coastal sites like Vizag, North Chennai etc.

**3.0 Functional Specification of the RP fluid:**

SL. No	Details	Acceptance Norms
01	Specific Gravity @ 27 deg C	0.85 to 0.95
02	Flash point °C (Min.)	50°C
03	Viscosity Ford Cup@ 27 deg C	32 to 45 Seconds
04	Odour	The fluid shall be fit for usage by dipping process in confined atmosphere inside the production shop. It shall not give any Pungent smell while dipping process.
05	Melting Point of the dry film on steel sheet	Should not be greater than 90°C.
06	Appearance	Black
07	Coverage Area (Square meter/Litre)	50 to 65 ( for Specific Gravity =0.85 and for DFT 15 -20 microns)
08	Salt Spray Test	The film shall withstand corrosive atmosphere in a salt spray chamber after exposure to 100 hours. (As per ASTM-B-117 mentioned in IS 1154: 2000 or any equivalent standard )
09	Humidity Test	The film shall withstand corrosive atmosphere in a humid chamber after exposure to 360 hours. (As per IS 1154: 2000 or any equivalent standard )
10	Drying time (Max.)	2 to 4 hours The film should not be sticky after 30 minutes.
11	Dry Film Thickness(DFT) required	15 to 20 Microns

 <b>Adarsh Verma/Product Engineer/AQCS</b>	 <b>C.Ganesh/Senior Manager/AQCS</b>
Prepared	Approved

	<b>Rust Preventive Fluid Specification (Drying Type)</b>	TEP	AQCS:RP:
		Rev	00
		Date	19-07-2014

**4.0 Design Requirement:**

4.1 The offered RP fluid should spread over the mild steel sheets uniformly when the bundles are dipped in a RP fluid tank.

4.2 Dry film thickness (DFT) should be uniform throughout the surfaces of the collecting electrodes after dipping.

4.3 The offered rust preventive fluid shall protect the collecting electrode surfaces for a minimum period of not less than 12 months from the day of dipping by retaining their corrosion resistance properties.

4.4 The offered RP fluid should also be easily removable when the same is exposed to flue gas of temperature of 90 Deg to 160 Deg C.

4.5 The offered RP fluid will be checked for viscosity using ford cup 4 at regular intervals (every first usage of the day) to maintain within 32 to 45 seconds and record . If the viscosity of rust preventive fluid does not falls in the above mentioned range suitable thinner may be added to maintain the same. **Detailed quantity of THINNER addition for the offered RP fluid to ensure the DFT over the collecting electrode surfaces to be furnished by the vendor.**

**5.0 Inspection & Testing:**

5.1 The offered RP fluid will be checked for above Tests at vendor works for every Lot of supply and will be witnessed by BHEL or BHEL approved Inspection agency.

5.2 Each RP fluid barrel should contain the following data:

a. Batch Number b. Date of Manufacturing c. Quantity and net/gross weight d. Safety & Storage instructions e. Best before use date



**6.0 Documents to be furnished along with offer:**

6.1 Vendor should furnish the Material Safety Data Sheet (MSDS) for the RP fluid along with the offer. Otherwise the offer will not be evaluated.

**7.0 Packing & Despatch:**

7.1 The offered RP Fluid should be supplied in a barrel of 200 Liters capacity.

7.2 The Barrel should be identified with MSDS data for reference and use.

 <b>Adarsh Verma/Product Engineer/AQCS</b>	 <b>C. Ganesh/Senior Manager/AQCS</b>
Prepared	Approved