

**NOTICE INVITING
EXPRESSION OF INTEREST**

**For
“Analytical Ferrography analysis (Direct
reading method and Analytical method) of lubricants
with the existing facilities of instruments namely
DR-III, Ferrogram maker and Ferroscope at Bokaro
steel plant.”**



STEEL AUTHORITY OF INDIA LIMITED
(A Government of India Enterprise)
BOKARO STEEL PLANT



**STEEL AUTHORITY OF INDIA LIMITED
(A GOVT. OF INDIA UNDERTAKING)
BOKARO STEEL PLANT
CONTRACT CELL-WORKS
PARYAWARAN BHAWAN
BOKARO STEEL CITY - 827001**

**INVITATION OF EXPRESSION OF INTEREST (EOI) FOR
“Analytical Ferrography analysis (Direct reading method and Analytical method) of lubricants with the existing facilities of instruments namely DR-III, Ferrogram maker and Ferroscope at Bokaro steel plant.”**

EOI Notice No. :CCW/CTS-S&C/009

Date: 07. 12. 2022

EXPRESSION OF INTEREST

Expressions of Interest are invited from interested Parties for **“Analytical Ferrography analysis (Direct reading method and Analytical method) of lubricants with the existing facilities of instruments namely DR-III, Ferrogram maker and Ferroscope at Bokaro steel plant.”** Parties may submit their proposal for their Expression of Interest with respect to Eligibility Criteria and other details mentioned in this notice.

SUBMISSION OF EOI

Interested Parties may submit their EOI with full details to the e-mail address mentioned below with **“Analytical Ferrography analysis (Direct reading method and Analytical method) of lubricants with the existing facilities of instruments namely DR-III, Ferrogram maker and Ferroscope at Bokaro steel plant.”**as the subject of the email. The participating parties may visit concerned areas of Bokaro Steel Plant (at their own expenses) in order to acquaint themselves for better understanding.

Expression of interest is to be submitted with name of the organization, Job Experience, Detailed Address, Phone no., email id, Name and Contact no. of the contact person/(s).in the format enclosed as Annexure A.

They can give their proposal in hard copy and/or through e-mail at [tapas.sahana@sail.in/](mailto:tapas.sahana@sail.in)
bsl.wo6@sail.in .

Address for submission of EOI (Hard Copy)

GM (Contract Cell-Works)
Paryawaran Bhawan
SAIL/ Bokaro Steel Plant
Bokaro Steel City-827001,
Jharkhand , India.

- Any clarification on EOI, if required, may be sought from the below mentioned address prior to the last date of submission of EOI.

Name of contact Person	Designation	Contact No.	E Mail
Mr. BANIBRATA MUKHERJEE	AGM (CNTRL TECH-SERV) SAIL/BOKARO STEEL PLANT	+91 8986871465	bb.mukherjee@sail.in

- Last date of submission of EOI: **26. 12. 2022 up to 16. 30 Hrs.**
- SAIL/BOKARO STEEL PLANT may at its sole discretion extend the last date and time of submission of EOI by issuing a Corrigendum. Such extension, if any, shall be notified on SAIL website www.sailtenders.co.in and shall be applicable to all Parties. Parties are requested to visit the SAIL website regularly (sailtenders.co.in). Parties who have already submitted their EOIs shall be eligible to submit a revised EOI, in case the last date of submission is extended. EOI must be submitted in one single pdf file format and all pages must bear signature and seal of an authorized signatory.
- All the EOIs received till the last date of Submission shall be opened and evaluated by a committee. All participating parties will be invited for a detailed presentation of their offerings (online/offline) before the committee.
- A shortlist of jobs will be prepared under each category based on the scores calculated by a committee as per a marking system. Details of the categories and marking system are given in the EOI documents.
- Mode of tendering will be finalized by the committee based on the shortlisted responses received under each category.
- This document is being issued to only elicit an Expression of Interest from parties for the specified work and shall not constitute any binding commitment from SAIL/BOKARO STEEL PLANT to proceed with the work or invite any or all parties in the subsequent discussion/bidding process.
- SAIL/BOKARO STEEL PLANT reserves the right to withdraw from the process or any part thereof, to accept or reject any or all applications in full or in part at any stage of process and/ or to modify the process or any part thereof or to vary the scope and terms of EOI at any time without assigning any reasons whatsoever. No financial obligations, whatsoever, shall accrue to SAIL/BOKARO STEEL PLANT in such an event.

For SAIL, Bokaro Steel Plant,

GM, Contract Cell (W)

Notice inviting Expression of Interest (EoI) for Analytical Ferrography analysis (Direct reading method and Analytical method) of lubricants with the existing facilities of instruments namely DR III, Ferrogram maker and Ferroscope at Bokaro steel plant.

Technical specification

Scope of supply as per specification of Analytical Ferrography of Lubricants at CTS Bokaro Steel Plant.

CTS-S&C department Bokaro steel Plant is having the Ferrography laboratory setup, comprises of Direct Reading Ferrography (DR-3, Ferroscope, ferrogrammaker and to test the oil and equipment condition. The analysis also required different accessories such as oil sample heater, Substrate, Culture tube, DR tubes, FM tubes, Dilution bottles, Sample Bottles, Pipe roll, Expert analysis software, chemicals and skilled analyst, maintenance and calibration of the aforementioned instruments. The bidder is advised to visit the work place and appraise themselves of the actual requirement prior to submission of EOI.

1. Knowledge of lube system/lube line/lube path of equipment from which oil samples are to be taken. Analyst should have at least 5 years of sample collection, sample point identification with respect to steel industry in terms applications like convertor, turrets and other critical applications.
2. Should be capable of testing all lubricants of oil and grease in applications of gear oil, turbine oil, hydraulic oil and engine oil samples.
3. Location of filters.
4. Finding of return line for collection of oil samples. If, multiple equipments are attached to the same oil cellar identify the return line of individual component and make necessary arrangement ,suitable spot in return line for the same equipment for appropriate collection of sample of the same.4. Sample to be collected only in running equipment.
5. Sample collection in equipments is as per norms and are flexible on the basis of Route, schedule, on call job and severity of oil condition.
6. Repeatability of collection of oil samples should be as per the suggesting condition.
7. Identify the correct grade of oil sample & capacity of oil cellar.
8. Oil samples from oil cellar should be as per standards of ferrography analysis (i.e. 1/3 distance from bottom, or in circulating portion of reservoir, at the discharge end near mid height of reservoir. The quality of sample collection is totally at the direction of the analyzer and the standard followed in ferrography analysis.)
9. All consumables used for analysis of samples should be from the original OEM (Trico). Documentary evidence of procurement of the same from OEM has to be submitted along with execution of work.
10. Vendor should cover and provide necessary Annual maintenance contract for DR, FM and Ferroscope from the OEM and maintain records of service on year on year basis.
11. Vendor is responsible for any defect/malfunctioning of any instrument and same has to be made operative by the vendor without claiming any additional charges from Bokaro steel Plant
12. Passport software :
 - o Vendor should provide PASSPORT SOFTWARE of OEM in a laptop for capturing the image from ferroscope for storing in the database, trending, analysis and reporting in pdf.
 - o Should have data base of various wear particle images in the software as default

DR:

- Service and scope to measure and differentiate particles by size >5 microns &<5 microns up to 15 microns.
- The party should provide and execute the DR measurements (Model DR-3) of OEM(Trico). The specific tube size should be used for effective analysis without compromising the particles.

FM:

- Should be able to prepare 2 Ferrograms at once as per OEM guidelines (Model FM-3) of (Trico).
- The party should provide and execute the FM measurements (Model FM-3) of OEM(Trico). The specific tube size should be used for effective analysis without compromising the particles.

Ferroscope:

- Should be able to run the ferrogram slide in the Ferroscope as per OEM guidelines (Model FS-3) of Trico.

Hosekeeping and safety

The party shall abide by all the housekeeping and safety norms and also as per the guidelines of safety department of Bokaro steel Plant. They shall consistently maintain the cleanliness of workplace and safe environment. Laboratory waste generated during the above analysis is to be properly disposed at the allocated space specified during the course of contract.

Eligibility criteria

Bidder should have experience of catering similar job with stationed man power for conducting the analysis at minimum 2 sites in the last 5 years.

Party should have completed minimum 2 similar job/work order with value of more than 40 lakhs (each) in the last 3 years and job completion certificate of the same should be submitted.

Vendor should have set up laboratory of same capacity and of the same instruments that is existing in Bokaro steel Plant.

Vendor to have at least one Level-3 ICML certified analyst in the organisation for verification and suggestion of the reports.

Vendor should be having thorough and professional experience on clinical oil analysis.

The analyst should be minimum diploma engineer with Analytical ferrography analysis capability of minimum 5 years.

Vendor should have an additional man power for assisting the analyst in collection of samples, sample preparation.

SHOP WISE EQUIPMENT LIST

BLAST FURNACE

SL.NO	EQU.NAME
1	BF - 2 STOVE
2	BF - 2 MUDGON HYDRAULIC SYSTEM
3	BF - 2 BOTTOM CHARGING
4	BF - 3 STOVE
5	BF - 3 MUDGON HYDRAULIC SYSTEM
6	BF - 4 MUDGON HYDRAULIC SYSTEM
7	BF - 5 STOVE
8	BF - 5 MUDGON HYDRAULIC SYSTEM
9	BF - 2 BLT HYDRAULIC SYSTEM
10	BF - 3 BLT HYDRAULIC SYSTEM
11	BF - 4 BLT HYDRAULIC SYSTEM
12	BF - 5 BLT HYDRAULIC SYSTEM
13	BF - 2 CH SGP - 3 HYDRAULIC SYSTEM
14	BF - 2 CH SGP - 3 HYDRAULIC SYSTEM
15	BF - 1 MUDGON HYDRAULIC SYSTEM
16	BF - 1 STOVE
17	BF - 1 BLT HYDRAULIC SYSTEM

SINTER PLANT

SL.NO	EQU.NAME
1	EXHAUSTER # 5 GEAR BOX (SINTER PLANT)
2	EXHAUSTER #6 GEAR BOX (SINTER PLANT)
3	EXHAUSTER # 1 GEAR BOX (SINTER PLANT)
4	EXHAUSTER # 2 GEAR BOX (SINTER PLANT)
5	EXHAUSTER # 3 GEAR BOX (SINTER PLANT)
6	EXHAUSTER # 4 GEAR BOX (SINTER PLANT)
7	BAND-1/MAIN DRIVE/CHARGE SIDE GEAR BOX
8	BAND 2 MAIN DRIVE CHARGE SIDE GEAR BOX
9	BAND-3/MAIN DRIVE/CHARGE SIDE GEAR BOX
10	BAND-3/ HOT SCREEN BEARING GEAR BOX
11	BAND-3/ DISCHARGE SIDE GEAR BOX
12	BAND 2 HOT SCREEN BEARING GEAR BOX
13	BAND-2/ DISCHARGE SIDE GEAR BOX
14	BAND-1/ DISCHARGE SIDE GEAR BOX
15	BAND 3/COLD SCREEN BRG GEAR BOX
16	HAMMER CRUSHER - 1 BEARING
17	HAMMER CRUSHER - 2 BEARING
18	HAMMER CRUSHER - 3 BEARING
19	HAMMER CRUSHER - 4 BEARING
20	HAMMER CRUSHER - 5 BEARING
21	I/C BAND 2 STACKER DRIVE GEAR BOX
22	I/C BAND 2 STACKER NON DRIVE GEAR BOX
23	I/C 8 BAND 3 STACKER DRIVE GEAR BOX
24	I/C 8 BAND 3 STACKER NON DRIVE GEAR BOX
25	I/C BAND 1 STACKER DRIVE G.B
26	I/C BAND 1 STACKER NON DRIVE G.B

HSM

SL.NO	EQU.NAME
1	SYSTEM - 1 GEAR BOX
2	SYSTEM - 2 GEAR BOX
3	SYSTEM - 3 OIL FILM BEARING
4	SYSTEM 4 / GEAR BOX
5	SYSTEM 5/ GEAR BOX
6	SYSTEM 6/ MOTOR BABBITT BEARING
7	SYSTEM 7/ MOTOR BABBITT BEARING
8	SYSTEM 9/ GEAR BOX
9	SYSTEM 10 / GEAR BOX
10	SYSTEM 11/ OIL FILM BEARING
11	SYSTEM 12/ OIL FILM BEARING
12	SYSTEM 13/ OIL FILM BEARING
13	RR - 2 MOTER BRG TOP
14	R- 3 BEARING GEAR BOX
15	R- 4 BEARING GEAR BOX
16	R - 5 BEARING GEAR BOX
SL.NO	CRM (SPM 1&2)
1	SPM - 1 TANK32 OIL FILM BEARING
2	SPM - 1 TANK33 GEAR BOX
3	SPM - 1 TANK34 MOTOR BEARING
4	SPM - 1 TANK35 GEAR BOX
5	SPM - 1 PAS 5 HYDRAULIC SYSTEM
6	SPM -2 MORG OIL FILM BEARING
7	SPM -2 CIRCULATING SYSTEM
8	SPM -2 HYDRAULIC SYSTEM - A
9	SPM -2 HYDRAULIC SYSTEM - B ENTRY, EXIT
10	SPM - 2 AGC ROLL FORCE CYLINDER HYD.
11	SPM -2 HYDRAULIC SYSTEM - B ENTRY, EXIT
12	SPM - 2 AGC ROLL FORCE CYLINDER HYD.

CRM

SL.NO	EQU.NAME
1	TM - 2 HYDRAULIC - B
2	TM - 2 HYDRAULIC - C
3	TM - 2 NEW HYDRAULIC SYSTEM
4	TM - 2 AGC HYDRAULIC
5	TM 2 CIRCULATING SYSTEM GEAR BOX
6	TM 2 MOTOR BEARING LUBE - 1
7	TM 2 MOTOR BEARING LUBE SYSTEM - 2
8	TM 2 MORG OIL - A
9	TM 2 MORG OIL - B
10	TM - 1 / PAS 4 MILL HYDRAULIC SYSTEM
11	TM - 1 / TANK 22 /2 BACK UP ROLL BEARING
12	TM - 1 / TANK 23 /2 BACK UP ROLL BEARING
13	TM - 1 / TANK 24 UNCOILER BEARING GEARBOX
14	TM - 1 / TANK 25 UNCOILER BEARING G.B
15	TM - 1 / TANK 26 MOTOR BEARING
12	SPM - 2 AGC ROLL FORCE CYLINDER HYD.
13	TM - 1 / TANK 24 UNCOILER BEARING G.B
14	TM - 1 / TANK 25 UNCOILER BEARING G.B
15	TM - 1 / TANK 26 MOTOR BEARING

CCP 1 & 2

SL.NO	EQU.NAME
1	COMPRESSOR 3
2	COMPRESSOR 4
3	COMPRESSOR 5
4	COMPRESSOR 6
5	COMPRESSOR 1D
6	COMPRESSOR 2D
7	COMPRESSOR 3D
8	COMPRESSOR 4D
9	COMPRESSOR / INCREASER 1
10	COMPRESSOR 4D

SMS - I

SL.NO	EQU.NAME
1	SMS 1/CONVERTOR 3B COMMON TANK
2	SMS 1/CONVERTOR 5E COMMON TANK
3	CONV_1 D / BF SIDE
4	CONV_1 D / MILL SIDE
5	SMS 1/CONVERTOR 2C
6	SMS 1/CONVERTOR 4A
7	SMS-1/ CONVERTOR 3B PRIMARY GB CH.SIDE
8	SMS-1/ CONVERTOR 3B PRIMARY GB PIT SIDE
9	SMS 1/CONVERTOR 5E PRIMARY GB CH.SIDE
10	SMS 1/CONVERTOR 5E GB PIT SIDE
11	SMS 1/CONVERTOR 1 BULL GB

TBS & ODPL

SL.NO	EQU.NAME
1	TURBINE BLOWER 1 BEARING
2	TURBINE BLOWER 2 BEARING
3	TURBINE BLOWER 4 BEARING
4	TURBINE BLOWER 8 BEARING
5	TURBINE COMPRESSOR 1 BEARING
6	TURBINE COMPRESSOR 4 BEARING
7	TURBINE BLOWER 6 BEARING
8	TURBINE COMPRESSOR 3 BEARING
9	TURBINE BLOWER 3 BEARING
10	TURBINE BLOWER 7 BEARING

OXYGEN

SL.NO	EQU.NAME
1	OXYGEN TURBO COMPRESSOR - 1
2	OXYGEN TURBO COMPRESSOR - 2
3	OXYGEN TURBO COMPRESSOR - 3
4	OXYGEN TURBO COMPRESSOR - 4
5	AIR TURBO COMPRESSOR
6	AIR SEPARATOR UNIT - 3 / TURBINE / D1-1
7	AIR SEPARATOR UNIT - 3 / TURBINE / D2-1
8	AIR SEPARATOR UNIT - 3 / TURBINE / D2-2
9	AIR SEPARATOR UNIT - 4 / TURBINE / D3-2
10	AIR SEPARATOR UNIT - 5 / TURBINE / DO-1
11	AIR SEPARATOR UNIT - 5 / TURBINE / DO-2
12	OXYGEN TURBO COMPRESSOR - 6
13	AIR SEPERATOR D1 - 2
14	OXYGEN TURBO COMPRESSOR - 4

SMS 2

SL.NO	EQU.NAME
1	SMS 2/CONVERTOR 2/MILL SIDE G.B TANK
2	SMS 2/CONVERTOR 2/MILL SIDE BRG TANK
3	SMS2/CONV2/BF SIDE G.B TANK
4	SMS2/CONV2/BF SIDE BRG TANKTANK
5	SMS2/CONV1/MILL SIDE
6	SMS2/CONV1/BF SIDE
7	MIXER 1 G,B
8	MIXER 2 G,B
9	SMS -2 CONVEYOR 1 G,B
10	SMS -2 CONVEYOR 2 G,B

CO& BPP

SL.NO	EQU.NAME
1	EXHAUSTER 1 BEARING GEAR BOX
2	EXHAUSTER 4 BEARING GEAR BOX
3	EXAUSTER - 6
4	EXAUSTER - 2
5	EXHAUSTER - 5(46/5)
6	EXHAUSTER - 3
SL.NO	CCS
1	TURRET -1 OIL GEAR BOX
2	TURRET -2 OIL GEAR BOX
3	TURRET -1 BEARING
4	TURRET -2 BEARING

RMP

SL.NO	EQU.NAME
1	
2	COOLER - 3 GEAR BOX
3	KILN - 4 GEAR BOX
4	COOLER - 4 GEAR BOX
5	COOLER - 6 GEAR BOX
6	KILN 01 GEAR BOX
7	KILN 03 GEAR BOX
8	KILN 06 GEAR BOX
9	KILN - 2 GEAR BOX
10	COOLER - 2 GEAR BOX
11	COOLER - 5 GEAR BOX
12	KILN - 5 GEAR BOX

HRCF

SL.NO	EQU.NAME
1	OC - 8 / TANK 1
2	OC - 8 / HYDRAULIC SYSTEM
3	UNCOILER HYDRAULIC SYSTEM LINE - 2
4	OC 9 / TANK 1
5	OC 9 / HYDRAULIC SYSTEM LINE - 1
6	UNCOILER HYDRAULIC SYSTEM LINE - 1
7	OC 1 / TANK 1
8	OC 1 PAS 1
9	OC 2 TANK 2
10	OC 3 TANK 3
11	OC 18 TANK 18
12	OC 19 TANK 19
13	ADDITIONAL COIL YARD HYD

Annexure -A

FORMAT FOR BASIC INFORMATION

(To be submitted on Parties Letter Head)

Instructions to fill up the Basic Information:

- (i) Please use this worksheet to specify basic details and Contact information; an authorized person should sign the document at relevant section. An authorization certificate issued by CEO/Director of the organization must be submitted along with.
- (ii) Past Industrial Relations track record, please mention if there was closure/ cessation of work at any of your plant(s) in the last 5 years.
- (iii) Use this form as Format. Use additional sheets to provide relevant information.

1	Company's /Educational Institute Name	
2	Ownership Details/ Institute Details	
3	Contractor/ Sub Contractor/ Distributor/ Dealer of spare part(if applicable)	
4	Mention, if PSU/ Joint venture with PSU/ SSI Unit(if applicable)	
5	Contact Person & Designation	
5 a	Phone No./Mobile No./ Fax No.	
5	E-mail	
6	GST No.	
7	Vendor Code in BOKARO STEEL PLANT (If available)	
8	Any other relevant factor including job experience of similar nature	

I hereby certify that all information provided above is correct to the best of my knowledge.

(Signature, name & seal of the authorized person)

Annexure - B

Proforma for Equipment and Quality Control

Reference: EoI No. _____ Date _____

1. Name and Address of the Firm

2. (a) Telephone No. office/factory/works

(b) Fax No. / E-mail ID

3. Location of manufacturing works/factories owned by the firm (documentary evidence of ownership must be produced).

4. Brief description of the factory (i.e. area covered accommodation, Department into which it is divided, laboratory etc.)

5. Details of plant and machinery erected and functioning in each department (monographs and description pamphlets) be supplied if available.

6. Whether the process of manufacture in the factory is carried out with the aid of power or without it.

7. Details and stocks of raw materials held.

8. Production capacity of items quoted for with the existing plants and machinery

(a) Normal

(b) Maximum

9. Details of arrangements for quality control products such as laboratories etc.

10. (a) Details of technical supervisory staff in-charge of production and quality control.

(b) Skilled labour employed.

(c) Unskilled labour employed

(d) Maximum number of workers (skilled and unskilled) employed on any day during 18 months preceding the date of application.

11. Whether stores were tested to any standard specification, if so, copies of original test certificate should be submitted in duplicate.

(Signature, name & seal of the authorized person)