BHARAT HEAVY ELECTRICALS LIMITED

HEAVY POWER EQUIPMENT PLANT

RAMACHANDRAPURAM :: HYDERABAD-502032 (INDIA)

NOTICE INVITING

EXPRESSION OF INTEREST (EOI)

FOR TECHNICAL CO-OPERATION FOR DESIGN & MANUFACTURE OF

CONCRETE VOLUTE PUMPS

EOI REFERENCE NUMBER : HYD/PUMPS/2013/01

(This document contains 19 pages including this page)

Pumps Division of Bharat Heavy Electricals Limited, Hyderabad,

invites

Expression Of Interest (EOI) from Original Equipment Manufacturers (OEMs)

for a TECHNICAL TIE-UP with BHEL for design and manufacture of Concrete Volute Casing Type Circulating Water Pumps.

CONTACT PERSON AT BHEL :

P.SRINIVAS

ADDITIONAL GENERAL MANAGER / PUMPS ENGINEERING DEPARTMENT

07 ANNEXE, FIRST FLOOR,

BHARAT HEAVY ELECTRICALS LIMITED,

RAMACHANDRAPURAM, HYDERABAD -502032, INDIA

PHONE : +91 40 23182416 (office) , 9440679811 (mobile)

E-MAIL ID : srinivaspotturi@bhelhyd.co.in

EOI RESPONSE SCHEDULE

Last date for receipt of any queries on EOI : 30th September 2013

Replies to all queries/clarifications by BHEL : 10th October 2013

Last Date for receipt of Response to EOI at BHEL : 30th October 2013

MODE OF SUBMISSION OF RESPONSE TO EOI

Response should be sent in a sealed cover to the above address by courier mail. The cover shall be super-scribed with EOI Reference number and the words “Expression of Interest – CV Pump “

Alternately, same may be e-mailed to the e-mail ID given above, so as to reach BHEL on or before the last date mentioned above. In case of submission of response through e-mail to the e-mail ID, hard copy of the same shall be enclosed along with printout of e-mail and sent by courier mail to the above person so as to reach BHEL on or before 30th October 2013.

Notice Inviting Expression Of Interest (EOI) from Original Equipment Manufacturers (OEMs)

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SECTION – 1: SUMMARY OF REQUIREMENT

1.1 ABOUT BHEL

Bharat Heavy Electricals Limited (BHEL) (web site : www.bhel.com), a Government of India Undertaking, is a major electrical equipment manufacturer for both the Indian and export markets. It is one of the largest engineering and manufacturing enterprises in India and is one of the leading international companies in the field of power generating equipment with an annual revenue of over INR 275 Billion (US$ 5.5 Billion).

BHEL offers a wide spectrum of products and services for core sectors like Power, Transmission, Industry, Transportation, Oil & Gas, Non-Conventional Energy Systems etc.

1.2 ABOUT HYDERABAD UNIT OF BHEL

The Hyderabad unit (www.bhelhyderabad.com) of BHEL was formed in 1976 mainly for the design and manufacture of Steam Turbine, Generator, Heat Exchangers and Pumps required for thermal power plants

1.3 PUMPS DIVISION OF BHEL HYDERABAD

Boiler Feed Pumps along with matching Booster Pumps, Condensate Extraction Pumps and vertical metallic casing type Condenser Circulating Water Pumps suitable for thermal power plants of unit ratings up to 1000MW are designed and manufactured at the Pumps Division of BHEL Hyderabad

1.4 OBJECTIVE TO SEEK EXPRESSION OF INTEREST (EOI)

This EOI is published for seeking response from qualified and experienced Original Equipment Manufacturers (OEMs) who are willing to be associated with BHEL for extending a technical tie-up for the design and manufacture of Concrete Volute Casing Type Circulating Water Pumps to be used in large size Thermal Power Plants. BHEL is interested to take up the manufacture and supply of this type of pumps based on the design and manufacturing technology support extended by the prospective partner.

1.5 RESPONSE TO THE "EXPRESSION OF INTEREST" – (EOI)

BHEL will shortlist prospective partners based on the responses received to this EOI request.

A separate Request for Quotation (RFQ) will be issued to the shortlisted prospective partners for submitting their detailed technical and commercial proposals.

1.6 TECHNICAL AND QUALIFYING REQUIREMENTS

Only OEMs meeting both the Technical Requirements as described in Section-2 and the Qualifying Requirements (QR) as described in Section–3, will be considered for further evaluation.

1.7 TYPICAL ARRANGEMENT FOR TECHNOLOGY TRANSFER

The prospective partner shall indicate in their response to this EOI, their proposed typical arrangement for transfer of technology to BHEL, along with the milestones and time frame.

This shall however be mutually agreed considering the long term support implications at the time of entering into a final agreement.

1.8 INFORMATION SHARING

In the response to the EOI, the prospective partner shall clearly state his willingness to share the following with BHEL :

a. Engineering information and design criteria of mechanical and civil work involved.
b. Technical documentation for manufacture , testing methods, source code and software.
c. Details of special purpose equipment that may be required for manufacture and testing.
d. Training and assistance in system design, manufacturing and testing of the equipment.
e. Support for site form work, erection & commissioning and training of BHEL engineers for handling the equipment at site.
f. Future Technology upgrades.
g. Support for spares and services

1.9 CHECKLIST OF DOCUMENTS

The check-list of information required to be submitted along with the EOI by the interested OEMs, is given at Section–5 of this document.

SECTION – 2: TECHNICAL SPECIFICATIONS

TYPICAL DESIGN PARAMETES :

BHEL is interested to take up the design and manufacture of Concrete Volute type Cooling Water Pumps meeting the following design parameters :

Design Flow Rate : From 35,000 CuM/Hr up to 75,000 CuM/Hr

Design Developed Head : From 23 to 30 Metres

Following are the typical levels in the pump house :

Floor Level : EL (+)1.0M

Max. W.L. : EL(-)0.5M

Min W.L. : EL(-)1.8 M

OEMs may please indicate suitable pump frames meeting the above requirement, along with operating range of each pump frame.

TECHNICAL REQUIREMENTS OF THE CV PUMP

DESIGN AND CONSTRUCTION

CIRCULATING WATER PUMP AND DRIVE

Circulating Water Pump shall be of vertical shaft, constant speed, single entry, centrifugal or mixed flow, single stage and concrete volute casing type directly driven by a vertical shaft constant speed inductive motor. The pump shall operate in a dry pit.

Pump shall have a range of operation so as to be able to operate continuously and without any instability or cavitation under all possible operating conditions stipulated in this specification.

Each pump shall be capable of discharging the rated volume of water against the rated head when the driving motor is supplied power at a frequency of 47.5 Hz. The best efficiency point for each pump set shall preferably be at the nominal flow rate at lower low water lever (LLWL), at rated frequency of 50 Hz.

All pumps shall be capable of operating in parallel without any instability. Pumps shall be so designed that the discharge head shall fall continuously as the discharge flow is increased for zero to the runout flow. For parallel operation of the pumps, pumps shall have identical characteristics to ensure equal load sharing and shall ensure trouble-free operation of any pump when the other pump running in parallel trips.

The maximum closed valve head shall not be greater than 15% of the rated head including tolerance, to prevent over-pressurisation of the concrete volute.

The pump shall have a non-overloading type power characteristic i.e. the input power shall continuously rise as the flow increases from zero to the rated flow and then fall from rated flow to run out flow.

The suction duct profile shall be as simple as possible in keeping with the requirement for exclusion of dead area or areas leading to hydraulic recirculation and vortexing and allowing simple manufacture.

Pumps shall be suitable for sustained running against a closed discharge valve for upto 15 minutes without adversely affecting their life and performance.

Pump speed shall be selected in a manner so as to minimise cavitation and ensure a long and trouble-fee service.

The NPSH required by the pump at head drop shall be less than NPSH available with a minimum margin of 1.0 M available at all operating condition as stipulated in the specification.

The pump shall be capable of sustained running in a trouble-free manner at any submergence between the LLWL and HHWL.

The upper limit of pump efficiency to be considered for this contract is 89%. No credit shall be given for higher efficiency values. (Not applicable in this case.)

The pump sets shall be designed such that each unit is capable of running in the reverse direction at a maximum speed corresponding to the reverse flow of the pump when its discharge valve has failed to close and the remaining pumps are operating with their discharge valves fully open. As an additional protection, a suitable device shall be provided which will detect reverse rotation and trigger an alarm. Moreover, protective devices shall be maintained such that motor cannot be switched on while pump is rotating in reverse direction.

The pump set structure shall be designed so that its first critical speed is either higher than 125% or lower than 75% of the operating speed.

Acceptable vibration level of the pump set at all operating conditions shall be guided by stipulation of the Hydraulic Institute of U.S.A. latest edition.

The vibration shall be measured in the radial direction on the external surface of the upper motor bearing housing with the pump operating at rated speed. Permissible vibration on no load for motor shall be half of the permissible vibration of CW pump set on load.

Drive Unit

(a) The pump shall be driven by direct coupled electric motor.

(b) A heavy duty coupling shall be provided between the drive unit and driven equipment.

(c) Bidder shall select the drive element power rating based on the maximum of the following requirement :

(i) 5% margin over the pump shaft input power at the rated working condition.

(ii) 5% margin over the maximum pump shaft input power required within its operating range including the shut-off point.

(iii) For parallel operation of pumps, each pump shall be able to run singly when the other one is off. System resistance curve shall be furnished to the successful bidder for review of motor rating.

(d) The drive motor shall be Closed Air Circuit Air Cooled (CACA) or closed air closed water (CACW) as per proven design type.

(e) Pump motor subject to reverse rotation shall be designed to withstand the stresses encountered with non-energised shaft rotating at 125% of rated speed or more, as applicable for the equipment offered, in the reverse direction.

CIVIL DESIGN AND CONSTRUCTION ASPECTS

The civil engineering works associated with the pumps, the pump foundations, and the suction duct to produce the required hydraulic design will be carried out at site by the pump supplier with the help of the pump house civil contractor who will do the concreting work. However, the complete responsibility of getting an approved quality of civil work shall be with the pump supplier.

The pump suction duct and volutes shall be of unlined, site-manufactured reinforced concrete integral with the foundations. The volute of the pump shall be designed to give maximum efficiency at the rated duty point. Due consideration shall be given to the cross-sectional profile of the volute shuttering, so that no air pocket is found during concreting. The suction duct, which is formed in the pump-house foundation block, shall be designed in a way to ensure uniform and smooth flow and acceleration from inlet suction to the impeller eye with minimum losses.

When the concrete ducts and volutes are being constructed, the pump manufacture shall check the dimensional correctness and other features of formwork before it is placed in position, and again after it is fixed and before the concrete is poured. This shall be repeated for each use of the formwork.

Curves in more than two planes should be avoided in the development of the volute and inlet, with the exception of short radius blending fillets.

The volute shaper shall be developed to take account of the casting properties of the concrete specification.
Any steelwork required for setting or erection of the pump, motor unit parts shall be provided.

Use of slow-arc pozzolanic concrete will be encouraged to ensure minimum temperature rise. Suitable approved means shall be employed to minimize the pouring temperature of the concrete.

PUMP CONSTRUCTION REQUIREMENTS

Material of construction of various parts of the CW Pump shall be as per description in the data sheet.

Impeller and rotating assembly

(a) The impeller shall be mono-block shrouded type with the external side of the shrouds machined to obtain the maximum hydraulic efficiency during continuous operation. Suitable arrangements shall be made to minimise the axial down-thrusts on the thrust bearing due to hydraulic back pressure on the impeller.

(b) The impeller shall be fitted with renewable wear rings secured in a suitable manner to permit removal without damage to the impeller. The impeller shall be secured to the shaft in a manner as to be readily removable without damage to either the shaft or the impeller.

(c) Suitable shaft sleeves shall be provided between the shaft seal and impeller to protect the shaft. Interfaces between components on the shaft assembly, where it would otherwise be exposed to water, shall be provided with suitable seals.

(d) Impeller diameter shall be selected in such a way so as to ensure good access to bearings and seals.

(e) Provision shall be made for differential expansion between the pump and motor to be accommodated while the unit is running. Means shall be provided for turning the rotating elements of the pump set to facilitate the correct alignment of the shaft system, and for machining the impeller in-situ after the performance test.

(f) Running clearances between the impeller and the stator shall be adequate to ensure that no contact occurs at any point on the pumps operating regimes between closed valve and maximum single pump run out.

(g) The pump manufacturer shall be responsible for the correct fitting, static balancing and aligning of the coupling. Each half coupling shall be statically balanced on its shaft and the complete rotor assembly shall be separately balanced. Each pump set rotating assembly shall be dynamically balanced.

Mechanical Seal

(a) Mechanical seal of proven design shall be provided.

These shall have a minimum life between overhauls of 25,000 operating hours. The seal design shall be of cartridge construction for ease of maintenance and shall be able to accommodate the shaft deflections.

(b) Mechanical seal shall be of a type which will allow replacement of the sealing faces without major dismantling of any part of the unit. A seal flushing system shall be provided which will supply the glands with flushing water both during pump start-up and shutdown and also while the pump is running. The main source of gland seal water shall be the filtered water being pumped. Alternate quality of water, if required, shall be indicated by the pump manufacturer.

(c) The seal flushing water shall be filtered by the provision of backwash strainers. The degree of filtration and flushing quantities will be determined by the bidder in accordance with the requirements of the seal design. The pump manufacture shall be responsible for the complete system design.

(d) Provision shall be made for suitable isolating seal (inflatable type) below the main seal which can be applied under HHWL conditions for maintenance of the main seal. Compressed air as necessary for this purpose shall be arranged by the bidder.

(e) Bidder shall make necessary arrangement for proper drainage of the seal area by providing suitable submersible pumps.

Bearings

(a) The CW pump shall be provided with journal and tilting pad type thrust bearings. Adequate bearing lubrication shall be provided for all operating conditions. The bearing housings shall be designed to exclude the ingress of dust and water and shall have suitable provision for breathing and be adequately sealed to prevent leakage of oil.

(b) All bearings shall be suitable for reverse rotation upto the maximum speed stated elsewhere and shall be suitable for continuous operation at all duties from closed-valve to maximum runout. The top bearing shall be of self-lub design whereas the lower journal shall be oil-lubricated type.

(c) All bearings shall be out of water and should be easily accessible for maintenance purpose.

(d) The bearing bracket shall be designed to ensure maximum rigidity of the bearing support.

Pump Shaft

(a) The shaft shall be designed to transmit the maximum rated power at the pump operating speed and shall be of ample stiffness to minimise deflection of the shaft during closed valve starting conditions.

(b) The shaft shall preferably have all components key driven including impeller, thrust and journal collar and coupling. Where the pump shaft is exposed to water i.e. to effects of corrosion, it shall be adequately protected by stainless steel sleeves to prevent ingress of water.

Lubricating System

(a) The design of the lubricating system shall be such that the bearing performance I insensitive to small changes in oil levels. Maximum and minimum operating oil levels shall be distinguished by a generous quantity of oil between the defined oil levels.

(b) The bidder shall describe the mechanism of achieving an optimum lubricating oil temperature for all operating conditions under all environmental conditions detailed in the specification.

(c) The bearing lubricating system must be designed to permit easy filling and drainage of lubricating oil. Easy access shall be provided for the addition of lubricating oil with the pumps in service. All associated pipe work shall be of stainless steel.

(d) All bearings shall be equipped with oil level switches which raise alarms when the defined minimum oil level is being approached.

Gland Drainage

(a) Bidder shall provide suitable means of adequately draining the gland area in view of the fact that the same shall be below operating floor level. The system shall be complete with pump, float switch or timer control etc.

(b) Provision shall be kept for emergency overflow pipe which shall divert the leakage water to discharge valve pit drainage sump in case of an inadvertent malfunctioning of the seal.

Manhole

The pump shall be equipped with an inspection cover for manhole (Minimum diameter 500 mm) with foundation ring for incorporation in the concrete volute complete with steel cover plate & strips. Suitable access provision shall be made in the manholes.

Cleaning, Protection and Painting

(a) Surfaces of all parts shall be cleaned to remove scale, dirt, oil, water, grease and other foreign objects prior to final assembly of the equipment. All openings shall be covered to guard against damage and entry of foreign objects.

(b) All steel parts of all Pumps, Piping etc. which are in contact with water or exposed to atmosphere shall be painted.

(c) Surface preparation shall be done by sand blasting.

(d) Two coats of primer of Epilux 610 or Epilux 4 Zinc or equivalent shall be applied.

(e) Upon application of above primer, 3 coats of Epilux 5 Coal tar epoxy finish paints of approved shade as per Is shall be applied.

ADDITIONAL DESIGN ASPECTS

A suitable transitional profile before the flow enters the eye of the impeller shall be provided for ensuring no dead zones in this area.

The model volute and inlet duct should have the same shape as the prototype.

The mechanical design shall be rigid, highly reliable ensuring prolonged trouble free operation. The minimum period between major overhauls shall be about ten (10) years except the mechanical seals, which may require replacement once in two (2) years. Attention shall be given to providing ancillary item of equipment with a high degree of reliability consistent with the respective plant. Wherever possible, components with proven service under similar operating conditions shall be used.

The impeller diameter shall be of adequate size for ensuring ease of accessibility from the cover for inspection of the pump without dismantling or dewatering of the units.

The bearing support preferably shall be of triangular section for providing the requisite stiffness required for resisting the shaft loads.

The thrust bearing shall be continuously rated for resisting all axial thrust loads from closed valve to the run-out condition (for closed valve a minimum of 15 minutes rating is required). The volute design shall be suitably reinforced including tie-bars for closed valve operation.

The pump clearances shall be adequate (at least 1.4 mm diametrical) for ensuring that there is no rubbing under any condition of operation after taking due consideration of any offsets of the wearing rings if required.

The shaft shall be suitably sized for all radial thrusts from closed valve to run-out condition. Shaft deflection diagrams and thrust diagrams should be prepared for different flow conditions.

A suitable mechanical seal shall be provided, which is capable of operating with the pumped medium. The seal design shall accommodate the shaft deflections. Seal design shall be cartridgised for ease of maintenance.

Provision shall be made for a suitable isolating seal (inflatable type) below the main seal which can be applied under high water level conditions for maintenance of the mechanical seal.

The top bearing shall be thrust cum-journal type of self-lube design with offset pivots for taking care of the reverse rotation condition. The lower journal bearing shall be oil-lubricated type.

The pump shall be constructed as a “cartridge” such that the shaft, impeller, pump cover, Mechanical seal, thrust and journal bearings and coupling may all be removable as a single assembly.

Prior to the assembly of the pump in the casing, the volute casing shall be hydrostatically tested to a minimum of 120% of the closed valve pressure. The suction duct shall be suitably blanked off by using a blanking piece.
The shaft critical speed should not be less than 1.1 times maximum run away speed in the reverse. Also no critical-speed should be below the running speed due to the long time taken to run up the pump to its full speed.

No structural natural frequencies should be in the region of the running speed or the reverse running speed.

Stationary wearing ring shall be held in metallic carrier, grouted in the concrete, which permits final adjustments to be carried out after completion of the civil works. Wearing ring shall be removable from the carrier.

The design should provide for adjustment of the vertical clearance of the impellers at the thrust bearing and not at the coupling.

Reverse Rotation

The equipment design shall ensure that no damages during reverse rotation should occur. A suitable device shall be provided which will detect reverse rotation and trigged an alarm. As an additional protection against reverse rotation, the Butterfly valves should be capable of closing at a dual range (with a suitable dash-pot arrangements), so as to minimise the water hammer affects.

All cast-in or built-in components shall be of corrosion resistant materials suitable for the temperature and water analysis provided.

The design shall be such that the motor is mounted above the concrete level, with suitable protection against flooding of the motor under HHWL conditions.

Start up and shut down requirements

(a) The pump shall be left primed.

(b) At pump start-up and shut down, the pump discharge valve shall be fully closed. Pump shall be suitable for this kind of operation.

Vibration

(a) Each C.W. Pump set shall be designed with the objective of vibration level at the duty point which is no worse than 2.8 mm per second rms. In addition, the guarantees require that the exhibited vibration levels will not exceed 4.5 mm/sec. over the complete operating range.

(b) Site vibration test shall be carried out by the Contractor on each pump set to demonstrate that it has to meet the above requirements. Measurements shall be taken at the top bearing of each pump set in horizontal planes 90° apart.
(c) The maximum level of vibration at ay flow through the pump from 0 to 135% of rated flow shall be in accordance with the above requirements.

HYDRAULIC DESIGN ASPECTS

(a) The pumps shall be capable of running in parallel from high water level to low water level.

(b) The pump impellers shall be of shrouded type (for wearing ring adjustment) with a balanced design for minimizing the hydraulic thrust.

(c) The pump shall be of proven hydraulic design. The model test should demonstrate atleast 10 speed points between the closed valve and best efficiency conditions.

(d) The shape of volute shall be of flat base with vertical sides (except for discharge nozzle) for ease of casting and free from any three dimensional curves for better control of the dimensions and its ultimate geometry. This shall ensure better quality and dimensional control of final shape of volute.

(e) The inlet duct shall have a simple castable shape with flat base and vertical sides for better dimensional control.

PERFORMANCE REQUIREMENTS

Performance requirements for the pump(s) shall be guided by the stipulations as specified by end users. However, the following minimum requirements are to be confirmed :

Pump (s) shall be designed such that the maximum efficiency lies within 10% of the design flow. Further, the pump(s) shall be suitable for continuous operation at any point within its 'range of operation' as specified in Datasheet – A enclosed with this section.

Pump (s) shall preferably have continuously rising Head-capacity characteristics, with maximum head at pump discharge shut-off, to enable parallel operation.

Under all circumstances, the 'range of operation' of the pump(s) shall exclude any unstable operating zone of the head-capacity curve.

For parallel operation of the pumps, pumps shall have identical characteristics to ensure equal load sharing and shall ensure trouble-free operation of any pump when the other pump(s) working in parallel with it trip.

SECTION – 3: QUALIFYING REQUIREMENTS

3.1 TECHNICAL CAPABILITY

The respondent shall be an Original Equipment Manufacturer (OEM) who should have designed Concrete Volute Pumps of similar type, of same or higher size, and which are in satisfactory operation at minimum two power stations for the past two years or more as on the date of response to this EOI. This data is to be furnished as per the format indicated below:

PROFORMA FOR FILLING UP THE QUALIFYING REQUIREMENT DATA

SL. NO. :

CUSTOMER NAME, ORDER REFERENCE & DATE :

PUMP FLOW RATE (IN CuM/Hr):

DEVELOPEED HEAD (IN MLC) :

YEAR OF SUPPLY :

NUMBER OF PUMPS SUPPLIED :

DATE OF COMMISIONING OF PUMP :

CUSTOMER'S (END USER) CONTACT DETAILS :

- NAME
- DESIGNATION & ADDRESS
- CONTACT TELEPHONE NUMBER
- E-MAIL ID

NOTE :

Performance certificate from customers (END USERS) regarding satisfactory performance of the supplied pumps should be attached

SECTION – 4 COMPANY PROFILE OF THE OEM

NAME OF COMPANY:

DETAILS OF HEAD OFFICE:

ADDRESS:
TELEPHONE:
FAX:
E-MAIL:
WEB SITE:

DETAILS OF FACTORY / WORKS:

ADDRESS:
TELEPHONE:
FAX:
E-MAIL:
DETAILS OF CHIEF EXECUTIVE OF THE COMPANY :

NAME(S):
DESIGNATION:
ADDRESS:
TELEPHONE:
FAX:
E-MAIL:

DETAILS OF MARKETING REPRESENTATIVE (OUTSIDE INDIA):

ADDRESS:
TELEPHONE:
FAX:
E-MAIL:

DETAILS OF INDIAN REPRESENTATIVE , IF AVAILABLE :

ADDRESS:
TELEPHONE:
FAX:
E-MAIL:
CONTACT PERSON FOR FURTHER INTERACTION REGARDING THIS EOI :

NAME(S):
DESIGNATION:
ADDRESS:
TELEPHONE:
FAX:
E-MAIL:

YEAR OF ESTABLISHMENT OF THE OEM COMPANY :

ANNUAL PRODUCTION CAPACITY :

PARTICULARS OF PRODUCT RANGE OF THE COMPANY :

(Please attach brochures and catalogues)

COUNTRY OF ORIGIN FOR OFFERED DESIGN AND TECHNOLOGY :

FINANCIAL INFORMATION:

ANNUAL TURN OVER AND PROFIT AFTER TAX FOR LAST 3 YEARS: (2011, 12 & 13)

(Please attach copies of audited Balance Sheet and P&L Account)

DUN AND BRADSTREET REPORT FOR THE COMPANY

QUALITY AND ENVIRONMENTAL MANAGEMENT SYSTEM:

IS THE COMPANY ISO:9001 CERTIFIED ? : YES / NO.

(IF YES, ENCLOSE COPY OF CERTIFICATE)

IS THE COMPANY ISO:14001 CERTIFIED ? : YES / NO.

(IF YES, ENCLOSE COPY OF CERTIFICATE)

IS THE COMPANY OHSAS 18001 CERTIFIED ? : YES / NO.

(IF YES, ENCLOSE COPY OF CERTIFICATE)

EXPERIENCE LIST OF CV PUMPS SUPPLIED SO FAR

ANY OTHER INFORMATION LIKED TO BE SHARED BY OEM (OPTIONAL)

SECTION – 5: CHECKLIST OF DOCUMENTS TO BE ATTACHED TO THE EOI RESPONSE

Following documents are to be provided along with the Expression of Interest :

Covering Letter expressing their interest, on Company letterhead, along with following Enclosures.

1 Catalogue indicating design features, sizes, weights, etc, of the CV pumps

2 Reference list of CV Pumps supplied/commissioned

3 Confirmation / queries (if any) to Technical Specifications – Section–2

4 Filled-up format of Qualifying Requirement Criteria – Section–3

5 Filled-up format of Company Profile – Section–4