



**THE HARYANA STATE COOPERATIVE SUPPLY
AND MARKETING FEDERATION LIMITED (HAFED)**

CORPORATE OFFICE, SECTOR 5, PANCHKULA HARYANA

TEL: 2590520-24, FAX: 2590711

E-Mail: hafed@hry.nic.in

Website: www.hafed.gov.in



**TENDER NOTICE FOR CONDUCTING ENERGY AUDIT OF HAFED OIL MILL REWARI
AND NARNAUL.**

Sealed tenders are invited from reputed parties/ companies for conducting energy audit of Hafed oil mill Rewari and Narnaul. Sealed tender should be submitted on the prescribed tender form which must be accompanied with an earnest money of Rs. ten thousand in the shape of demand draft in favour of 'The Haryana State Cooperative Supply and Marketing Federation Ltd.' Payable on any scheduled bank at Panchkula or Chandigarh. The tender form can be obtained from Oil Division, Hafed Corporate Office, Sector-5, Panchkula-134109 (Haryana) on any working day during office hours on payment of Rs.500/- only (Non refundable). The tender form can also be down loaded directly from our website www.hafed.gov.in and its cost thereof be deposited at the time of submitting tender in the shape of demand draft at our Corporate Office. The tenders will be received in Hafed Corporate Office at Panchkula (Haryana) latest by **2.00 PM on 18.03.2014** and will be opened on the same day at 2.30 PM in the Tender Room of Hafed Corporate Office at Panchkula in the presence of tenderers or their authorized representatives who may wish to be present. Tenders without requisite earnest money or conditional tenders will not be accepted. Managing Director, Hafed reserves the right to accept or reject any or all the tenders without assigning any reason whatsoever.

**MANAGING DIRECTOR
HAFED: PANCHKULA.**



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**TENDER FORM FOR CONDUCTING ENERGY AUDIT OF HAFED OIL MILL,
REWARI & NARNAUL.**

Tender Form No.: _____

Tender cost: Rs.500/- (non refundable)

Date & Time of Submission on 18.03.2014 upto 2.00 PM

Date & Time of Opening on 18.03.2014 at 2:30 PM

at Hafed Corporate Office, Sector-5, Panchkula.

The Managing Director,
Hafed, Panchkula.

Subject: Offer for conducting Energy Audit of Hafed Oil Mil, Rewari & Narnaul.

Ref: Your advt. in The Times of India, Chandigarh Edition.

Sir,

We hereby offer our lowest rate for conducting Energy Audit of Hafed Oil Mil, Rewari & Narnaul as per your scope of work, terms & conditions indicated in the attached sheet.

Energy Audit	Basic rate	Service Tax	Total cost.
HOM, Narnaul			
HOM, Rewari			

We enclose herewith a bank draft No. _____ dated _____ for Rs. _____ towards earnest money & tender cost, if downloaded. The terms & conditions attached with the tender form are acceptable to us and the same are attached herewith duly signed.

Our offer is open for acceptance for 10 days from the date of opening.

Yours faithfully,

Encl: Terms & Conditions with scope of work.

For M/s _____
Signature

HAFED CORPORATE OFFICE, SECTOR-5, PANCHKULA

Scope of Work & terms & Conditions

Scope of work

The Haryana State Cooperative Supply & Marketing Federation Ltd., known as Hafed is an Apex Cooperative Federation in the State of Haryana. Hafed is an identified procurement agency on behalf of the State Govt. for the Central Pool Stocks. It is also enjoying the status of an approved source for supply of agri. inputs to the farmers of Haryana through Cooperative Societies. In addition to this, Hafed is doing value addition of some of the Agri, produce procured directly from the farmers of the State through processing in its own units. Hafed is marketing these products like Kachhi Ghani Mustard Oil, Rice, Sugar, Turmeric powder, Atta etc. through its distribution network. Since market is highly competitive so it is imperative to bring the cost of production at the lowest. Keeping in view this objective Hafed is conducting Energy Audit of its Oil Mills at Rewari & Narnaul. Each mill has 30 TPD crushing capacity of mustard seed and their energy cost is about 60% of the total cost of production. The detailed energy audit will cover identified thermal, electrical & captive energy at Hafed Oil Mill, Rewari & Narnaul which includes detailed energy audit of the all the process and utility areas. A half day training program on various aspects of energy conservation to the personnel of each of the sites. Following areas are covered in the energy audit.

Motors:

Detailed power measurements (V, I, PF, KVA_r, kW and Hz) will be carried out on all the major motors. Based on the loading pattern of the motors, the following energy saving opportunities will be explored:

- Installation of auto star-delta-star converters
- Application of Variable frequency drives
- Replacing with lower capacity motors
- Replacing with higher efficient motors

Electrical Distribution System

Review of present electrical distribution like Single Line Diagram (SLD), transformer Loading, Cable Loading, Voltage Drops, normal and Emergency loads, Electricity distribution in various areas Study of Reactive power management and option for power factor improvement.

Study of power quality like Harmonics, Current unbalance, Voltage unbalance etc

Exploring the energy conservation option (ENCON) in electrical distribution system. Thermography study of Electrical Switchgears etc

Diesel Generator (DG) sets

Review of DG set operation

Performance Assessment of DG sets in terms of Specific Fuel Consumption (SFC i.e. kwh / Liter)

Exploring the Energy Conservation Option (ENCON) in DG sets

Expeller / Kolhu:

Expeller, Kolhu motors are the major electrical energy consumers in the plant. During the detailed energy audit, energy consumption study of these equipments would be done for possibility of energy savings. The following aspects will be studied in detail to develop possible schemes for energy saving:

Study of the system requirement vis-à-vis the design of the expeller/Kolhu

Loading pattern study of these equipments

Feasibility of installation of controls.

Lighting:

Lighting forms a major portion of electricity consumption. Party will conduct a survey for further reducing energy consumption in lighting.

Installation of electrical energy savers in lighting systems

Energy efficient lighting practices

Modification in lighting system to minimize power consumption including recommendations for installation of solar energy or other renewable energy.

Voltage optimization possibilities

Compressors:

Compressors are one of the major energy consumers of energy for cleaning and also for the instrumentation in all the plants.

The following energy saving opportunities would be explored during the detailed energy audit.

Optimization of system pressure in accordance with end use applications

Assessment of FAD & Estimating the kw/cfm for the compressors and to explore the opportunity of replacing with a higher efficiency compressor.

Leakage test to identify the losses in the systems & to suggest remedial measures for arresting the same.

Study of compressed air distribution network for pressure drops

Feasibility of installing better control systems like an intermediate Controller / Variable Frequency Drive

Study of compressor auxiliaries to identify possible energy saving opportunities

Pumps:

Pumping systems not only includes the oil pumps, water pumps (Raw water Pumps and DM water Pumps) but also the process and Hydraulic Pumps. During the detailed audit, following aspects will be looked into for developing possible energy saving schemes in the pumping system:

- Fine tuning of pumps so as to match pumps with system resistance
- Efficiency study of pumps & installation of higher efficiency pumps
- Installation of VFD wherever economically attractive
- Feasibility of stoppage of the pumps.

Boiler:

During the detailed energy audit, the following aspects will be studied in detail to identify possible projects for energy saving.

- Flue gas analysis
- Optimizing excess air in the boiler
- Further possibility of heat recovery
- Insulation survey of the steam system
- Fine tuning of feed water and other pumps in the boiler house
- Feasibility of installing high level control systems for improving efficiency of boilers would also be explored during the audit

All the major steam consumers in the entire plant will be studied in detail during the detailed audit. The possibilities of the following will be studied in detail during the audit.

- Insulation survey in the plant to identify possible areas for reduction of insulation losses.
- Steam trap survey.
- Study and improvement in condensate recovery system.
- Solar energy scope for working of the boiler.

Training Program:

To facilitate maximum achievement of savings, party will conduct a training programme, for each of the sites, for personnel to:

- Give a detailed in-depth knowledge on method of approach for energy Conservation in specific areas/ equipment.
- Help in identification and implementation of maximum number of energy saving ideas by plant personnel.
- Facilitate self auditing techniques by substantiating with actual Implemented case studies.
- Motivate plant personnel towards energy conservation

The training programme will cover the following areas:

- Energy audit methodology
- Electrical systems and Distribution
- Motors
- Lighting System

The training program will be conducted for half day at the beginning of the detailed energy audit in the plant itself.

Energy Audit Report:

The energy audit report will contain the following:

Specific energy savings proposals

Full descriptions and figures if required

Method of implementing the proposals

Cost benefit analysis

Present energy consumption pattern

Energy Management Guidelines to monitor and sustain the savings identified.

The recommendations will be classified as non-capital proposals (proposals requiring no investment or insignificant investment) and as capital proposals.

Terms & Conditions:

1. The Agency should have certified energy auditors for which they will produce copy of Energy Manager Certificate issued by Bureau of Energy Efficiency, Ministry of Power.
2. The Agency should have conducted energy audit of reputed companies and will quote the name with the tender document. The Agency should have minimum turnover of one crore during last three years. Preference will be given to a Agency who has conducted energy audit of oil mills.
3. Agency has to deposit EMD of Rs. 10,000/- along with tender documents and this EMD will be converted into security of successful bidder and same will be refunded after acceptance of audit report by Hafed. No interest will be paid on the security.
4. Hafed will provide free boarding & lodging to the Energy audit team during audit in the mills.
5. 50 % payment will be made after submission of draft audit report and its presentation & balance 50% after submission of final report.
6. The energy audit will be completed within 3 months of both the mills from the date of issue of order.

Accepted

(Signature of the party)

Addl. GM (Oils)
Hafed, Panchkula

