

# **EXPRESSION OF INTEREST (EOI)**

For  
Short-Listing Local Engineering Consulting Firms  
For  
THE PREPARATION OF OPERATION AND MAINTENANCE GUIDELINES  
FOR  
HYDROPOWER PLANTS, TRANSMISSION LINES AND SUBSTATIONS

Consulting Firm/Joint Venture:

.....  
.....  
.....

Prime Consultant (in case of a JV):

.....  
.....

**Employer:**

**Government of Nepal**

**Ministry of Energy**

**Department of Electricity Development (DoED)**

**Anamnagar, Kathmandu**

**Government of Nepal**  
**Ministry of Energy**  
**Department of Electricity Development (DoED)**  
Anamnagar, Kathmandu  
Notice No: ID068/69-01  
First Date of Publication: 2068/8/21  
**Expressions of Interest (EOI)**

1. The Government of Nepal, Ministry of Energy, Department of Electricity Development (DOED) invites EOI (Expressions of Interest) for the purpose of short listing the qualified, eligible and experienced domestic Consulting Firms for Consultancy Services for the preparation of “**Operation and Maintenance Guidelines for Hydropower Stations, Substations and Transmission Lines**”.
2. Experienced, eligible and willing Consulting Firms are invited to submit their EOI, either alone or in joint venture with other firms. The selection procedure of a consulting firm will be governed by the prevailing laws of Nepal, applicable to public procurement. The received EOI shall be subject to evaluation criteria based on general experience, experience in similar works as well as financial, equipment and human resource to produce a short list. The EOI documents may be collected at free of cost or can be downloaded from the website [www.doed.gov.np](http://www.doed.gov.np) by the interested firms for the submission of written application within 15th day of first date of publication of this notice during office hours.
3. Only the shortlisted Consulting Firms shall be invited for RFP (Request for Proposal). DOED reserves the right to accept or reject any or all of EOI Document of the Firms with or without giving any reasons whatsoever. Only six top ranked firms obtaining at least 50 % marks in the EOI evaluation process will be listed as qualified firms. Further information or clarification can be obtained from DOED during office hours.
4. The list of firms qualified in EOI process will be notified in due course of time for the submission of Technical and Financial proposals i.e. RFP Process. During RFP process the consulting firm will be selected in accordance with Quality and Cost Based Selection procedure (QCBS).
5. The scope of service is provided in ToR
6. The EOI documents will be evaluated on the basis of evaluation criteria approved by DoED.
7. The EOI shall be submitted in a sealed envelope to the address below at or before 12.00 noon within 16<sup>th</sup> day of first publication of this notice. In case the day of submission of the EOI falls on a public holiday, it shall then be submitted on the following working day.

Procurement Unit  
Department of Electricity Development  
Anam Nagar, Kathmandu  
Tel: 977-1-4480425, 4480218  
Fax: 977-1-4480257

## ***Introduction***

### **Scope of Qualification**

1. Government of Nepal (GoN) has allocated fund for the preparation of **Operation and Maintenance Guidelines for Hydropower Stations, Substations and Transmission Lines** and intends to prepare list of competent national Consultancy Firms or their joint ventures for the same. The EOI process will be conducted in an open and transparent process managed by DoED.
2. Applicant intending to file an application in response to this EOI should submit an "Application together with the duly completed EOI document providing all the information required therein" to the address mentioned in EOI document within time period specified in this EOI Invitation.
3. The EOI documents submitted by the consultant or their joint venture will be evaluated on the basis of the evaluation criteria approved by DoED. The evaluation of the joint venture firm will be done in cumulative basis. Only six top ranked consulting firms obtaining at least 50 % marks in the EOI evaluation process will be listed as qualified firms.

### **Definition of Terms**

Unless otherwise specified, the following terms used in this EOI have the following meanings:

"Applicant" means a single consulting firm or their joint venture that intends to submit or submit completed EOI document as per notice and this EOI document.

"Authorized Representative" means an individual authorized by the Applicant as the duly authorized entity to legally bind the Applicant to the EOI process, is the authorized signatory to the process, and is the point of contact for DoED in connection with the process.

"Bidder" means a successful Applicant those are short listed under this EOI and submits Technical and Financial proposal in response to RFP.

"DoED" means the "Department of Electricity Development".

"GoN" means "Government of Nepal".

"JV" means "Joint Venture".

"Lead Firm" means an entity or firm that is the authorized leader of a team comprising the Lead Firm and its constituents to submit the EOI and perform the assignment.

"EOI" means "Expression of Interest".

"MOEn" means Ministry of Energy.

"RFP" means a Request for Proposal.

"TOR" means "Terms of Reference".

### **Eligible Applicants**

EOI process is open to invite applications from interested, experienced and eligible local Consultancy Firms or their joint ventures. Consulting firms should be registered in Nepal under GoN rules & regulations, should have valid firm registration, PAN/VAT registration and should have tax clearance/ Tax Return Submission receipt for the last fiscal year.

1. The Applicants should be in existence for at least one year.

## Amendment to EOI Documents

1. At any time prior to the deadline for the submission of the completed EOI document, DoED may amend the EOI, for any reason, whether on its own initiative or in response to a clarification requested by Applicant.
2. All applicants will be notified in writing about the amendments. All applicants will be bound by the amendments. Applicants will be required to acknowledge receipt of any amendment within three business days of such receipt. DoED will assume that the information contained in the amendment is taken into account by the Applicant in its Application.

## INFORMATION TO THE CONSULTING FIRM

1. Purpose of inviting the EOI: The main purpose of the EOI is to shortlist suitable consulting firm for the preparation of Operation and Maintenance Guidelines for Hydropower Stations, Substations and Transmission Lines so that proposal could be invited from them only. However the client may extend shortlist to include additional relevant consulting firms which are capable of giving the desire output.
2. The firms submitting EOI in joint venture shall furnish duly signed Joint Venture Agreement stating responsibility of each partner of Joint Venture and name of authorized signatories through attorney of power signed by each Joint Venture firm.
3. Deadline of submission of EOI shall be 16th day from the date of publication of the invitation notice for EOI
4. If the deadline specified herein falls on a government holiday, the deadline shall be extended automatically to the next working day at the same hour.
5. Number of copies to be submitted: one (sealed in envelope and marked as "Expression of Interest")
6. Information from client: The shortlisted shall be informed in due time.
7. Minimum eligibility of the firm: Registered firm, registered at VAT office, Tax clearance certificate.
8. Duration for Study: The assigned work shall be completed within 12(Twelve) months from the date of signing of the contract.

## EVALUATION CRITERIA

### (I) Eligibility Criteria (Pass / Fail)

<i>Sr. No.</i>	<i>Eligibility Criteria</i>	<i>Requirement</i>	<i>Compliance</i>	<i>Remarks</i>
1.	Corporate Registration	Mandatory	Yes/ NO	Pass/Fail
2.	Tax Clearance / Tax Return Submission receipt for the last fiscal year	Tax return submission receipt for the last fiscal year. Mandatory	Yes/ NO	Pass/Fail
3.	Vat Registration	Mandatory	Yes/ NO	Pass/Fail
4.	Minimum Years of Standing	The applicant or the Lead partner of J/V applicant must have min. 1 years of standing	Yes/ NO	Pass/Fail
5.	Joint Venture Agreement between the JV Partners and a Power of Attorney	Mandatory in case of joint venture	Yes/ NO	Pass/Fail

### (II) Ranking Criteria (Out of 100%)

SN.    Description

i.        Capability of the firm – **20 Marks**

Under the criteria of capability of the firm financial capability and capability in firms logistic supports will be evaluated.

(i)       **Financial capability – 10 Marks**

(ii)      **Firms logistics and supports – 10 Marks**

ii.       Experience of the firm in last five years – **40 Marks**

Under the criteria of experience of the firm in last five years following experience will be considered.

(i)       **General Experience of the Firm**

General Experiences of the Firm Hydropower related works

(ii)      **Specific Experience of the Firm in preparation of operation and maintenance guidelines for hydropower plants/ substations/transmission lines works, in preparation of hydropower related guidelines and feasibility study and detail design works of hydropower projects more than 10 MW:**

In the specific experience, preparation of operation and maintenance guidelines for hydropower plants/substation/transmission lines, preparation of hydropower related guidelines and feasibility study and detail design works of hydropower projects more than 10 MW capacity will be counted.

iii.      Personnel proposed to be deployed for this project (Qualification and Experience) – **40 Marks**

**Experience of the Professional in relevant field**

Minimum 2 year of experience

While evaluating the EOI document based on evaluation criteria mentioned above following will be considered:

- Evidence of registration certificates, income tax clearance certificate/income tax submission certificate and other relevant information of firm shall be furnished.
- In case of joint venture, the evaluation of firm's capacity will be done collectively, for this purpose the relevant figures/numbers of the each members of joint venture shall be added together to arrive at the joint venture's figures/numbers.
- Marks will be given only to the personnel listed in details of professional staffs to be deployed for the study. The marks will be distributed among the list of personnel under each category.

- The Professional hired from outside or part time will be evaluated with 80 % weightage for evaluation marks obtained.
- The consultant should submit experience certificate or work completion certificate as evidence of experience. The experience of the firm without the experience certificate or work completion certificate will not be considered for evaluation.
- Only six top ranked firms obtaining at least 50 % marks in the EOI evaluation process will be listed as qualified firms.

The list of firms qualified in EOI process will be notified in due course of time for the submission of Technical and Financial proposals i.e. RFP Process. During RFP process the consulting firm will be selected in accordance with Quality and Cost Based Selection procedure (QCBS).

### **Clarification during Evaluation by DoED**

1. During the evaluation, DOED may request the Applicant for any clarifications. The Applicant shall furnish the necessary clarifications expeditiously by post/courier/fax/e-mail or by any other fastest means of communication to DoED at the address given.
2. Failure to provide information essential to evaluate the Applicant's qualifications, or to provide timely clarifications or substantiation of the information furnished, the DOED would be at liberty to declare such bidder as non-responsive and reject his/her document.

### **Rejection of EOI Document of Applicant**

1. DoED reserves the right to accept or reject any or all EOI proposals with or without giving any reason whatsoever and is not liable for any losses to Bidders due to such rejection.
2. The consulting firm must satisfy the eligible documents (eligibility criteria) such as valid registration certificate of firm, PAN and VAT certificate and tax clearance certificate/tax submission certificate. Failure to submit such eligible documents will result in rejection of application.
3. Furnishing of false or wrong information, document or evidence in the EOI document by any firm or joint venture may result in rejection of the EOI document of the firm and their joint ventures.
4. Every pages of the EOI document should be signed by authorized representative and stamped with company seal. The EOI document without having signature on every page will be rejected and will not be considered for the evaluation

# LETTER OF APPLICATION

*[Letterhead paper of the Applicant, In case of Joint Venture, by the Lead Firm]*

Date: .....

To:  
The Director General  
Department of Electricity Development  
Anamnagar  
Kathmandu, Nepal

Sirs,

Being duly authorized to represent and act on behalf of .....  
.....  
..... (hereinafter "the Applicant"), and having reviewed and fully understood all the information provided in EOI, the undersigned hereby apply for qualification by DoED as a consultant firm for the preparation of "Operation and Maintenance Guidelines for Hydropower Stations, Substations and Transmission Lines".

DoED and its authorized representatives are hereby authorized to verify the statements, documents, and information submitted in connection with submitted EOI proposal. This Letter will also serve as authorization to any individual or authorized representative of any institution referred to in the supporting information, to provide such information deemed necessary and requested by your-selves to verify statements and information provided in this EOI proposal, or with regard to the resources, experience, and competence of the Applicant.

DoED and its authorized representatives are authorized to contact any of the signatories to this letter for any further information:

This application is made in the full understanding that :

- "All decisions by DoED related to this EOI are final, binding and not subject to review".
- DoED shall not be liable for any decisions or actions related to this EOI and shall be under no obligation to inform the Applicant of the reasons for its decisions or actions.

Applicant hereby provides willingness and commitment to abide by all applicable laws, regulations, and other requirements having the effect of law in the execution of this study, if selected.

All further communication concerning this EOI proposal should be addressed to the following person,

[Person & Designation]

[Company]

[Address]

[Phone, Fax, Email]

authorized to represent and to receive all communication on behalf of the Applicant and its constituents. By its signature below, each person represents that he/she is the Authorized Representative authorized to represent and bind the Applicant on matters herein.

1. The undersigned declare that the statements made and the information provided in the duly completed EOI proposal are complete, true and correct in every detail.

Signed \_\_\_\_\_ :

Name \_\_\_\_\_ :

Designation \_\_\_\_\_ :

For and on behalf of (Name of Applicant :  
or Lead Firm of joint venture)



## SELF DECLARATION FORM

*[Letterhead paper of the Applicant, In case of Joint Venture, by the Lead Firm]*

Date: .....

To:  
The Director General  
Department of Electricity Development  
Anamnagar  
Kathmandu, Nepal

Sirs,

Ladies/Gentlemen:

We, the undersigned, on behalf of ..... (Name of firm/name of all firm of Joint Venture in case of JV) declare that we are legally eligible to participate in procurement process of consulting services for the preparation of "Operation and Maintenance Guidelines for Hydropower Stations, Substations and Transmission Lines".

We also declare we do not have any conflict of interest in proposed assignment.

We hereby also declare that do not have received any punishment while doing consulting business.

(In the any member of the consulting firm is not eligible to participate in procurement process or have conflict of interest in the proposed assignment or have received any punishment while doing consulting business or litigation history if any should be clearly mentioned in this self declaration form with reason whatsoever it is.)

Signature

Name

Designation

For and on behalf of (Name of Applicant or Lead Firm of joint venture)

FORM A-2

**I. IDENTIFICATION OF FIRM**

Full name of the Firm:

Address:

(Please attach location map of your office)

Telephone number: Fax number: E-mail: Others:	<b>Year of Establishment:</b> Number of Year of establishment:
<b>Corporate Registration:</b> Date of Registration: Registration No:	<b>VAT Registration:</b> Date of Registration: VAT Registration No:
Date of last renew: Valid up to:	
<b>Name and address of contact person:</b> Name and Designation of Contact Person: Address:  Telephone number (Office): Telephone number (Residence) : Fax: Email:	

## II. FINANCIAL STATUS

Total asset	
Total liabilities	
Current liabilities	
Current asset	
Current credit resources	

Description	FY 065/66	FY 066/67	FY 067/68	Average Annual
Turn Over (NRs.)				
Expenditure (NRs.)				

*(Note : Supporting documents should be submitted.)*

### III. LOGISTIC SUPPORT

Total office space (Sq. ft.)	
No of Rooms	
Number of vehicle	
Number of motorcycle,	
Computer network in office	Yes <input type="checkbox"/> No <input type="checkbox"/>
Number of computers	
Number of printers	
Number of theodolites (with all accessories)	
Number of level instruments (with all accessories)	
Number of photcopy machine	
Do you have your own drilling equipment  (If yes please attach a specification sheet)	Yes <input type="checkbox"/> <input type="checkbox"/> No
Do you have your own material testing laboratory  (If yes please attach a specification sheet)	Yes <input type="checkbox"/>  No <input type="checkbox"/>

Signed \_\_\_\_\_ :

Name & Designation \_\_\_\_\_ :

For and on behalf of (Name of Applicant or Lead \_\_\_\_\_ :

Firm of joint venture)

Note: In case of the applicant being joint venture, provide similar information for each joint venture partners separately

**FORM A- 3**

**JOINT VENTURE INFORMATION**

If the EOI is being submitted in Joint Venture, provide Joint Venture Information

<b>S. N.</b>	<b>NAME OF ASSOCIATION OR JOINT VENTURE FIRM</b>	<b>POSTAL ADDRESS, TEL, FAX AND E-MAIL</b>	<b>CONTACT PERSON</b>	<b>TELEPHONE OF CONTACT PERSON</b>
1.	<b>Lead Firm:</b>			
2.	<b>Partner Firm:</b>			
3.				
4.				
5				
6				

*(Note: provide duly signed and stamped joint venture agreement and power of attorney of the signatories.)*

**Attached:**

- |   |     |    |
|---|-----|----|
| 1. Power of attorney of the signatory (ies) of the applicants | Yes | No |
| 2. Agreement of intent to form Joint Venture.                 | Yes | No |

Signed :

Name & Designation :

For and on behalf of (Name of Applicant or Lead Firm of a joint venture) :

**FORM - B**

**DETAILS OF PROFESSIONAL STAFFS TO BE DEPLOYED FOR THE STUDY**

S. N.	DESIGNATION	NAME	QUALIFICATION (INCLUDING UNIVERSITY & YEAR OF DEGREE OBTAINED)	YEARS WITH COMPANY	TOTAL YEAR OF EXPERIENCE	FULL OR PART TIME
1.	Team Leader					
2.	Hydropower Engineer					
3.	Mechanical Engineer					
4.	Electrical Engineer					
5.	Civil Engineers					
6.	Safety Engineers					
7.	Environmentalist					
8.	Financial Analyst					
9.	Geotechnical Engineer					
10.	Geophysicist					
11.	Geologist					
12.	Hydrologists					

Date:

Signature & Designation of Applicant:

Seal of the Firm

**FORM C-1**

**RELEVANT WORK EXPERIENCE OF THE FIRM IN HYDROPOWER SECTOR (IN LAST FIVE YEARS)**

<b>S. N.</b>	<b>NAME OF PROJECT (MENTION THE CAPACITY OF HYDROPOWER PROJECT STUDIED)</b>	<b>LOCATION/ RIVER</b>	<b>CLIENT</b>	<b>VALUE OF CONTRACT</b>	<b>YEAR OF COMPLETION</b>	<b>DESCRIPTION OF RELEVANT WORK CARRIED OUT</b>
1.						
2.						
3.						
4.						

Note: The experience of the firm shall be supported with its evidence/proof of experience/ completion certificates showing the project size and date of completion of the assignment. The experience of the firm without evidence or experience certificate will not be considered for evaluation purpose.

Date:

Signature & Designation of Applicant:

Seal of the Firm

**FORM C-2**

**RELEVANT WORK EXPERIENCE OF THE FIRM IN HYDROPOWER STUDY, DETAIL DESIGN, OPERATION AND MAINTENANCE WORKS AND HYDROPOWER GUIDELINE WORKS (IN LAST FIVE YEARS)**

<b>S. N.</b>	<b>NAME OF PROJECT (IF HYDROPOWER OR TL MENTION CAPACITY OF PROJECT)</b>	<b>LOCATION</b>	<b>CLIENT</b>	<b>VALUE OF CONTRACT</b>	<b>YEAR OF COMPLETION</b>	<b>DESCRIPTION OF RELEVANT WORK CARRIED OUT</b>
1.						
2.						
3.						
4.						

Note:

1. The experience of the firm shall be supported with its evidence/proof of experience/ completion certificates showing the project size and date of completion of the assignment. The experience of the firm without evidence or experience certificate will not be considered for evaluation purpose.

Date:

Signature & Designation of Applicant:

Seal of the Firm



Terms of Reference for  
Operation and Maintenance Guidelines  
for  
HYDROPOWER PLANTS, SUBSTATIONS AND TRANSMISSION LINES

## **1 Introduction**

Nepal is endowed with the enormous potential for hydropower development. Government of Nepal (GoN) has given due emphasis for enhancing economic growth of the country through the prudent development of hydropower sector. But less than 1% of the total theoretical potential of 83,000 MW has been harnessed to date. After promulgation of liberal hydropower development policy, there is an increasing interest for developing hydropower projects. In order to ascertain continuous and reliable supply to the national grid, it is necessary to have guidelines for effective operation and maintenance of the project components.

As per the existing acts and regulations, a prospective developer has to obtain licenses for generation, transmission and distribution of electricity for a specific period. At the end of license period, the project has to be transferred to the Government of Nepal. Hence, in line with the Hydropower Policy, 2001 the various aspects associated with the project, such as quality of supply, standards and norms, consumer protection, power sector reform model, introduction of competition, assurance of return on investment in the sector etc. need to be regulated in proper ways. Even after careful project planning and good quality control measures from construction to commissioning, unforeseen problems may occur in service resulting in unplanned outages/low generation and load shedding etc. This causes disruption to consumers and reduced cash generation for the operator.

In the above context it has been envisaged that the various segment and activities in the power sector needs independent, transparent and efficient regulation. It has been found that the operation and maintenance related costs, management of scheduled and emergency maintenances for power plants, transmission systems and substations with different capacity levels could be bench marked and standardized for the country. Therefore, Ministry of Energy, Department of Electricity Development intends to prepare an effective and proper Operation and Maintenance Guidelines Hydropower Plants, Substations and Transmission Lines.

## **2 Objective**

The main objective of this consultancy services is to prepare "Operation and Maintenance Guidelines for Hydropower Plants, Substations and Transmission Lines". This guideline will help to provide uniform and consistent approach for regulatory authority and owner of the hydropower plant, substation and transmission line. This guideline is expected to provide standard and benchmark for schedule of operation and maintenance of hydropower plants, substations and transmission lines.

By providing uniform and consistent approach of operation and maintenance of hydropower plant, substation and transmission line, the guideline shall be able to ensure the following :

- Stable operation of various project structures, equipment and their accessories in the service environment through planned, periodic inspection and checking of components and systems together with replacement or rectification of parts wherever required.
- Maximum availability of equipment and a minimum of unplanned shut downs by using planned / periodic shutdowns to inspect all equipment (serviceable and non-serviceable).
- Eradication of operational problems by a timely analysis of the cause of faults / problems and replacement of short term solutions by long lasting and permanent ones.
- Optimum utilization of available water resources
- Effective maintenance with minimum cost and maximum reliability
- Development of diagnostic facilities / measures during its operation
- Appropriate maintenance method and maintenance cycle by evaluating facility performance
- Avoidance of severe troubles by appropriate diagnosis
- Timely maintenance with remaining life assessment of equipment
- Minimizing of occupational health and safety hazards

### **3 Scope of the Work**

The broad scope of works for preparation of "Operation and Maintenance Guidelines for Hydropower Plants, Transmission Lines and Substations" have been listed out as follows. The list is not complete in itself, neither can it represents a fixed scope rather it can be used only as a guide to accomplish the given task. The scope shall cover following, but not limited to:

1. Review existing operation and maintenance norms and relevant guidelines within and outside Nepal to develop best practice bench marks and standards. Review the existing norms and advice on their efficacy from the view point of economy and efficiency.
2. Undertake necessary studies for the assignment, collect data on operation and maintenance of a large number of hydropower plants, substations and transmission lines located in Nepal and analyze it to identify the necessary process of proper operation and maintenance .The data shall be collected both from private and public sector within Nepal.
3. Develop operational and maintenance guideline including methodology, bench marks, techniques and cost allocations for hydropower plants, substations and transmission lines.
4. Develop appropriate reporting format and checklist for each and every equipment and their accessories after each operation and maintenance.
5. The guideline shall differentiate between the size and the capacity of the hydropower plants, substations and transmission lines as appropriate and approved by DOED.

In general, the scope of works shall comprise preparation of the following:

- Guidelines for operation of hydropower plants, substations and transmission line
  - Civil & hydraulic structures like weir, undersluice, spillway, desander etc
  - Water conveyance system like canal, tunnel, pipe etc
  - Forebay or surge tank and penstock or pressure tunnels etc
  - Powerhouse complex
  - Power plant
  - Switchyard
  - Transmission line
  - Substation

In addition the following manuals and guidelines shall also be incorporated:

- Guidelines for operation manuals
- Guidelines for plant records and reports
- Guidelines for safety manuals
- Guidelines for disaster management etc

- Guidelines for maintenance of hydropower plants, substations and transmission line
  - Civil & hydraulic structures like weir, undersluice, spillway, desander etc
  - Water conveyance system like canal, tunnel, pipe etc
  - Forebay or surge tank and penstock or pressure tunnels etc
  - Powerhouse complex
  - Power plant
    - Valves
    - Turbines
    - Governors
    - Generators
    - Power transformers
    - Cooling system
    - Auxiliary equipment
    - Hoists, gantries etc
  - Switchyard
  - Transmission line
  - Substation

For each of the above components, the guideline shall indicate and elaborate the following:

- Types of maintenance and schedule
- Reactive maintenance (run to failure)
- Preventive maintenance
- Predictive maintenance
- Reliability centered maintenance (RCM)
- Effective maintenance requirements
- Maintenance procedures for typical parts etc

- Guidelines for
  - Manpower and training

- Essential tools, spare parts and instruments etc
- Fire protection and fire fighting
- Safety aspects of power plant operation
- Documentation and record keeping etc

## **4. Methodology**

The methodologies described below are general and comprise the following as minimum requirement. The consultant should submit the appropriate methodology to accomplish the objective.

### **4.1 Literature Review**

The preparation of the guidelines shall be based on relevant national and international guidelines, standards, code of practice and other relevant reports and documents. Consultant shall study, review, analyze, and refer to the extent possible all available resources, standards, guidelines, design codes, magazines, articles, laws, acts, regulations and practices being adopted in Nepal as well as in other countries.

### **4.2 Consultative Meeting**

The consultant shall conduct consultative meetings with experienced hydropower and transmission line/substation experts (60 persons 1 day) involved in similar activities with consent/presence of DoED representatives for fine-tuning and breakdown in scope of work in detail during preparation of inception report. The selection of the experts for consultative meetings shall be carried out with close consultation and consent with DoED (repetition from above). The information about the scope of work and corresponding schedules will be updated in inception report valid for this project.

### **4.3 Field Visit**

The consultant shall organize site visits at existing and under construction projects in Nepal with personnel from DoED/MoEN after submission and approval of inception report. The main objectives of field visits are to collect relevant data and information regarding major maintenances, replacement of main parts, problems faced or likely to occur during operations etc. Data required for the preparation of guidelines shall be obtained from site visits and case studies of at least 10 different schemes under operation. Consultant must acquire prior consent/approval from DoED for site selection and the field visit program.

### **4.4 Workshop**

After submission and approval of the draft report prepared by the consultant, a workshop (1 day and 60 persons) shall be organized in co-operation with DoED. The main objective of the workshop is to collect input, suggestions and experience of experts working in relevant field of study. These inputs from the workshop shall

be suitably included in the draft final report to prepare qualitative and practical guidelines in Nepalese context. Selection of the participant's name for the workshop shall be carried out in due consultation and approval of DoED.

#### **4.5 Others**

The consultant shall submit a list of References, Abbreviation and others used for preparation of the guidelines. The consultant shall seek information from different international institution wherever possible. Consultant is to follow guidelines given by DoED in preparation of the said guidelines in any phase of the project.

### **5. Deliverables**

#### **5.1. Inception Report**

Five copies of the Inception Report shall be prepared and submitted to DoED within 6 weeks after signing the contract agreement. This report shall contain the understanding of the job, collected reference and study materials, findings of literature review, finalized scope of works, input from consultative meeting, general approach and methodology, and detail work plan/schedule that the Consultant is to complete the Preparation of said Guidelines within expected time.

#### **5.2 Interim Report**

Five copies of Interim Reports shall be prepared and submitted to DoED no later than 3 months after signing the contract agreement. This report shall contain the out come of data analysis collected from field visits and substantial progress heading to formulate and design guidelines to be incorporated in the Draft Report.

#### **5.3 Draft Report**

Sixty copies of Draft Report (sufficient to distribute to all the participants of the workshop) shall be prepared and submitted to DoED no later than 6 months after signing the contract agreement. The Draft Report of the study shall include preparation of all required guidelines in a complete set and other details as specified in the scope of work in the Inception Report.

#### **5.4 Final Report**

Fifteen copies of Final Reports shall be prepared and submitted to DoED no later than 8 months after signing the contract agreement. The final report shall be a complete set of guidelines prepared by incorporating all the pertinent comments and suggestions received from the workshop as well as from DoED. After the approval of Final Report from DoED, the consultant shall prepare and submit 100 copies in bookbinding form

with 100 electronic CD copies no later than 12 months after the agreement. Consultant must need letter of satisfactory completion of the project from DoED prior to get final payment.

## **6. Study Team**

The study team shall consist of following personal but not limited to:

1. Team Leader
2. Hydropower Engineer
3. Mechanical Engineer
4. Electrical Engineer
5. Civil Engineers
6. Safety Engineers
7. Environmentalist
8. Financial Analyst
9. Geophysicist/Geologist/Geotechnical Engineer
10. Hydrologist