

Assam Intra-State Transmission System Enhancement Project

Terms of Reference for Project Management Consultant

(Draft)

1. Project Background

The Government of India has applied for a loan from the Asian Infrastructure Investment Bank (AIIB) to help finance the cost of the Assam Intra-State Transmission System Enhancement Project (the Project).

The Investment Program will:

- (i) Strengthen power transmission capacity to deliver reliable and affordable electricity
- (ii) Improve access to electricity through grid electricity
- (iii) Enhance efficiency and quality of power supply.
- (iv) Ensure financial health of the power sector through continued power sector reform

The Project is expected to promote a sustainable state electricity sector with increased transmission capacity to support inclusive and low carbon economic growth. The outcome of the investment program is enhanced quality and expanded service delivery of clean electricity in Assam through improved technical, commercial and financial performance and capability of the Assam Energy Grid Corporation Ltd (AEGCL).

AEGCL with overall responsibility for the execution of the Investment Program and sub-projects, will also function as the Implementing Agency (IA) responsible for the day-to-day project implementation of the sub- projects.

A full-time Project Director is established with responsibility for the day-to-day coordination and administration of the sub- projects

2. Objective(s) of the Assignment

The Project under the facility includes (all quantities indicated here are approximate)

- (i) Construction of Transmission Line of voltage 400kV, 220kV & 132kV.- Total 1113 CkM
- (ii) Construction of Substation of voltage level 400/220kV, 220/132/33kV, 220/132kV, 132/33kV & 132/11kV- (Capacity Addition of 5606MVA)
- (iii) Transformer Capacity Augmentation- (Transformer capacity addition 828MVA)
- (iv) Conversion of Air Insulated Substation (AIS) to Gas Insulated Substation (GIS)- One No.
- (v) Installation of Optical Ground Wire (OPGW). (615KM)
- (vi) Augmentation of Transmission Lines (Re-conductoring by HTLS)-186CkM
- (vii) Bay Extension (29nos)
- (viii) Institutional capacity building measures in AEGCL

AEGCL intends to recruit a consultancy firm (Project Management Consultancy or PMC or Consultant) to provide consulting services for project management, supervision & implementation of the project. The Consultant will be responsible for review existing designs, support AEGCL in procurement of turnkey contractors, supervise the works of the suppliers and contractors and ensure successful commissioning of the Project.

The Consultant must have capability in electrical, civil design and construction supervision. They shall implement a comprehensive project management plan to ensure the most efficient, timely and economical implementation of the Project. The PMC will also coordinate and supervise construction works during the construction period and assist the IA to operate the plan in the most efficient way. In particular, the PMC will be responsible for supporting the IA in project supervision, implementation of Environmental and Social Management Planning Framework (ESMPF), design and engineering services, conducting review meetings, co-ordination of contractor(s), other government agencies, assist in procurement and control of schedule and quality, advise in financial matters.

3. Scope of Services:

The primary responsibilities of the Project Management Consultants (PMC) is to advise and assist the IAs in management of sub-projects, providing technical support, administration and implementation of the Loans proposed for AIIB financing:

- (i) **Project Preparation:** review the project management (including administration) procedures of the AEGCL for the implementation of the projects and, as appropriate recommend changes and or new procedures in keeping with and modern international practice.
- (ii) **Preparation of sub projects:** Advise and assist, at a project management level, in the preparation of each sub project (studies, investigations, designs, specifications and drawings, contract conditions, commercial conditions, Bill of Quantities) to properly define the work.
- (iii) **Interface with the Environmental and Social (E&S) Consultant:** Serve as the interface between the network development planning process and the E&S baseline studies undertaken by the E&S Consultant.

When advising on the final selection of sub-projects, the expert shall coordinate with the E&S Consultant to ensure environmental and social considerations are incorporated into the technical design and network planning in accordance with the ESMPF and other relevant E&S documents.

- (iv) **Procurement:** The PMC shall be responsible for effectively leading and taking initiative to manage, execute and implement the project. PMC will be responsible in advising, assisting and acting on behalf of AEGCL when so authorized, for the effective management of the Project providing technical support, administration and timely implementation of the loan to be provided by AIIB. The PMC will assist AEGCL in their efforts to achieve project completion within agreed timeline and cost budgets.

The overall responsibility of the PMC is to advise, assist and act on behalf of AEGCL when so authorized including but not limited to.

- (a) Review existing tender documents and assist AEGCL in preparation of new tender documents, as required, in accordance with AIIB's standard procedures and guidelines. Assist with advertisement, pre bid meetings, evaluation of technical and financial bids, preparation of bid evaluation reports, contract negotiations and preparation of documents for contract signing, and advise on submission of documents for review and approval.

- (b) In the review of the tender documents, the expert shall particularly consider completeness of the scope of work, coherence between sections, constructability, cost, statutory regulations, risk/shared risk and consequences thereof, and compliance with procurement procedures and guidelines.
- (c) Organization of and participation in initial kick-off meetings with contractors and relevant stakeholders.
- (d) Support AEGCL for management of contracts awarded under the Project.
- (e) Assistance in handing over of sites and facilitation of site access.

(v) Contract Management:

- (a) Advise and assist AEGCL in management of contracts.
- (b) Advise on quality control programs, checking of design details of the structures and civil construction (submitted by contractors) as and when referred by AEGCL and speedily advising on acceptability of such designs and suggesting corrective measures to be undertaken.
- (c) Review and approval of programs for manufacturers and delivery of materials for site construction.
- (d) Establishing and maintaining cost control procedures and monitoring cost and assisting / advising AEGCL officers in the process of issuing payment certificates to contractors.
- (e) Assist AEGCL in handling all complaints and their redressal and in maintaining a detailed record of such complaints and their redressal.
- (f) Assist AEGCL in handling queries related to Right to Information Act (RTI) of the Government of India.
- (g) Assist AEGCL in managing other consultants, if any, employed by AEGCL.
- (h) Other general contract management matters including but not limited preparation of progress reports and status reports as required by various agencies including AIIB and the Government of India.

(vi) Design Review:

- (a) Review and approval of design of substations & related equipment, transmission line towers, structures, civil buildings, foundations and other related equipment and systems to be used in the Project and ensure proper implementation of quality assurance plan by the EPC contractor as agreed with AEGCL.
- (b) Review deviations, if any, and recommend course of further action to AEGCL.
- (c) Arrange (with contractors/suppliers) for the reproduction of missing drawings, if any.
- (d) Review and approval of testing methods and commissioning procedures submitted by the contractors.
- (e) Witness site tests conducted by contractors prior to and during commissioning and recommend certification (or otherwise) to AEGCL.
- (f) Maintain an up to date 'design register' with the record of drawings and other design, installation and testing documents of the project. This includes maintaining the latest drawings and documents in PMC's records.

- (vii) Project Scheduling and Monitoring:** The PMC will assist AEGCL in all aspects of project scheduling and monitoring including but not limited to

- (a) Preparation, maintenance and monitoring project's master schedule and detailed schedule including its optimization. Providing timely advise to AEGCL on deviations, if any, from the schedule and the recommended corrective actions.
 - (b) Review the project schedules submitted by contractors, monitor the progress of contractors' works and suggest corrective actions, as needed.
 - (c) Updating / revising project schedule as needed.
 - (d) Measuring, monitoring and reporting 'Results Indicators' as listed in AIIB's Project Document.
 - (e) Monitoring and reporting all aspects of the project including scope, cost, time, disbursements, compliance to AIIB's procurement and E&S policies.
 - (f) Assist AEGCL in preparation of forward-looking plans including physical, procurement and financial planning.
 - (g) Preparing regular progress updates.
 - (h) Arranging and conducting periodic coordination meetings at AEGCL and / or at project sites.
- (viii) **Supervision of Project Implementation:** The PMC shall assist AEGCL in all aspects of the supervision of the project packages works during the implementation phase including, but not limited to, frequent on-site progress monitoring and verification as well as deadline and quality control. No full-time on-site representation is required.
- While supervising the project implementation, the PMC shall:
- (a) Organize frequent site meetings, draft minutes of meeting (MoM) and distribute MoM to relevant stakeholders.
 - (b) Consistently follow-up on the works progress of as per the agreed work programs and implementation timetables, monitor the time schedules of delivery, installation, testing and commissioning performed by the Contractors and react pro-actively in case of delays and deviations.
 - (c) Regularly inspect project packages on-site, verify and record materials delivered, measurements and agreed quality and scope of works and deficiencies regarding material management through contractor in and timely reporting to AEGCL.
 - (d) Access and inspect facilities, equipment and storage areas of the contractors and ensure operations in line with best contractor practice, in particular with regard to work safety and health.
 - (e) Support AEGCL in the commissioning, financial & contractual closure and final acceptance /handover of the project packages as well as in the finalization of the completion report.
 - (f) Ensure implementation of E&S aspects and compliance with the bid documents and agreed E&S management documents.
 - (g) The PMC shall not be authorized to modify the works as specified in the contract between the contractors and AEGCL, to instruct modifications or in other ways
- (ix) **Prepare E&S documents and Monitor E&S Aspects of the Project:** The PMC shall ensure that each sub-project complies with the ESMPF and other E&S documents prepared for the project.

Specifically, the PMC shall:

- (a) Review the ESMPF and prepare the necessary E&S documents for each sub-project in accordance with the ESMPF, including but not limited to, Environmental and Social

- Impact Assessments (ESIAs) and/or site specific Environmental and Social Management Plans (ESMPs), Resettlement Action Plans (RAPs) and Tribal Peoples Plans (TPPs), wherever required.
- (b) Assist AEGCL to submit the sub-projects' E&S documents to AIIB and ensure the disclosure prior to mobilization.
 - (c) Ensure the required clearances/permits for each sub-project have been obtained prior to construction.
 - (d) Assist AEGCL to establish a multi-layer Grievance Redress Mechanism (GRM) including Grievance Redress Committee (GRC) to resolve the Grievances of E&S matters in a timely manner.
 - (e) Identify project stakeholders and hold consultations with them as per the public consultation framework of ESMPF.
 - (f) Ensure and supervise the ESIAs/ESMPs and RAPs, TPPs (if applicable) compliances specific to each sub-project, and implementation of measures and action points proposed in these, as well as any required compensation payments.
 - (g) Monitor and report on progress of implementation and provide early warning reporting in case of potential violation of applicable standards.
 - (h) Supervise contractor's application of environmental, health and safety standards as agreed in their contract with AEGCL, report deviations and ensure implementation of corrective measures by the contractors.
 - (i) Prepare E&S monitoring reports on a regular basis, in line with sub-projects' ESIAs/ESMPs.
 - (j) Capacity building for contractors and PMU/PIU.
 - (k) Update E&S documentation for each sub-project as and when required.
- (x) **Project Progress Meetings:** Project progress meetings shall be held frequently during implementation. These meetings at the office of AEGCL shall address on-site progress of Project Packages and ensure quality assurance. The PMC shall organize these meetings and be ready to present the following topics:
- (a) Review of Contractor's work progress and time schedules.
 - (b) Status of materials arranged/required to be arranged in a given time schedule.
 - (c) Status of reporting, cash flow and invoicing.
 - (d) Review of implementation of E&S aspects and compliance as per the Bid Document and agreed E&S Management documents.
- (xi) **Reporting Support:** The PMC shall prepare regular progress reports showing the monthly or quarterly progress and to suggest measures for any improvement, encountered bottlenecks or problems and steps to be taken or initiated through the parties concerned. Furthermore, the Consultant shall support AEGCL in other reporting requirements as required for time to time.
- (xii) **Monitoring Project Disbursement:** Quarterly updating and comparative reporting on overall project disbursement and advising AEGCL on rescheduling of budget against subprojects.
- (xiii) **Capacity Building Measures:** Propose institutional capacity building measures for AEGCL. Once the measures have been agreed, assist AEGCL in implementing such measures.

4. Detailed Outputs of the assignment

4.1 Key Timelines

The timeline for the project is 60 months.

4.2 Team Composition and Qualification Requirements for the Key Experts

Qualification of the Firm: Extra High Voltage transmission engineering including survey, design and supervision of new installations (transmission line systems and AIS & GIS substations from voltage level 132kV - 400KV). The firm shall have the international and national consultants with expertise in design and supervision work at 132kV - 400KV voltage level.

Qualification Requirements for the Key Experts:

NOTE: Experience of all the Key Experts in similar geographic area shall be an added advantage.

(i) Team Leader / Transmission Line Expert (International):

The Team Leader/Transmission Line Expert shall hold an engineering degree in Electrical / Civil / Mechanical and shall have an international professional work record of not less than 15 years in planning, designing, managing, quality assurance and supervising transmission line with voltage levels covering 132kV upward including 400kV.

The Transmission Line Engineer shall have experience of not less than 10 years in survey of transmission line at voltage level up to 400kV.

As a minimum requirement, the Team Leader shall have managed at least two (2) projects of similar nature having an estimated value of USD 100 million or more involving International Funding Institutions in India.

The Team Leader shall have experience with International Financial Institutions (IFI) funded projects and their respective procurement and implementation guidelines.

Transmission Line Expert should be well conversant with the Structural design of Transmission Line & Monopole Tower, Structural Design Software, Pile foundation for tower in river. He/she should have good experience in laying of Underground cables and stringing of High Temperature Low Sag (HTLS) conductor up to the voltage level of 220KV.

Regional experience of Team Leader will be added advantage.

The Team Leader shall have an excellent command of English both written and orally and a proven record in team leadership as well as in management of projects with a similar scale.

Responsibility of Team Leader/Transmission Line Expert shall be the following but not limited to:

(a) **Team Leadership:** Overall responsibility of supervising the team of consultants, coordinating and communicating with AEGCL and preparing regular project reports;

(b) **Project Preparation:** Review the project management (including administration) procedures of the AEGCL for the implementation of sub-projects and, as appropriate recommend changes and or new procedures in keeping with AIB and modern international best practices;

(c) **Preparation of sub-projects:** Advise and assist, at a project management level, in their view of each sub-project (network studies, investigations, designs, specifications and drawings, contract conditions, commercial conditions, Bill of Quantities, quality control of equipment and works) to properly define the work;

(d) **Procurement:** Review existing tender documents and assist in preparation of new tender documents, as required, in accordance with AIB's standard procedures and guidelines,

with special attention to international best practices in quality of material, equipment and works. Assist with advertisement, pre bid meetings, evaluation of technical and financial bids, preparation of bid evaluation reports, contract negotiations and preparation of documents for contract signing, and advise on submission of documents to AIBB for review and approval;

(e) **Contract Management:** Advise and assist AEGCL in management of the contracts for works, and plant and equipment. Advise on quality control programs, check design details of plant and civil construction (submitted by contractors) and advise on acceptability of such designs, suggest corrective measures to be undertaken, and ensure revisions are implemented;

(f) **Design Checking and Clarification:** Review of Single Line Diagram, Substation Layout, Substation equipment drawings, Sub-Transmission Line equipment drawings and recommendation for approval; He/she will also ensure implementation of quality assurance plan while execution of all the components of the project.

(g) **Project Scheduling and Monitoring:** Review project schedules submitted by the contractors, analyze progress and suggest corrective measures at management level to ensure project progress on the schedule agreed with the Contractors;

(h) **Monitoring Project Disbursement:** Prepare quarterly updates and comparative reports on overall project disbursement and advise AEGCL on rescheduling of budget against subprojects.

(ii) Substation Expert (International):

The Substation Expert (International) shall be an Electrical engineer and shall have an international professional work record of not less than 15 years in planning, designing, managing, quality assurance and supervising substations works of both Air Insulated and Gas Insulated Substations from 132kV to 400kV Voltage level. The substation expert should be well acquainted and have good proficiency in the international modern practices and technologies adopting specially in the construction of Gas Insulated Substations. Knowledge of handling modern software related to Substations will be added advantage.

He/she will undertake the following, but not limited to:

(a) Assist Team Leader, in monitoring, supervising, coordinating overall activities of other experts in the team.

(b) In coordination with other team members help team leader to develop a detailed work plan and implementation schedule

(c) Conduct site visit to the Project locations.

(d) Assist Team Leader in the review of the tender documents, particularly consider completeness of the scope of work, coherence between sections, constructability, cost, risk/shared risk and consequences thereof, and compliance with AIBB's procurement procedures and guidelines.

(e) Assist AEGCL during the tendering period, including but not limited to organization of site visits, assistance during the pre-bid meeting, clarification of tender documents, bid opening and bid evaluation.

(f) Assist AEGCL in preparation of Contract Documents.

(g) Assist AEGCL in supervision during the Implementation stage and provide guidance to the contractors so as to conform to the specifications and implementation of quality assurance plan.

(h) Identify any problem during project implementation, propose remedial actions and promptly report any outstanding issues to AEGCL;

- (i) Advise AEGCL on any contractual or technical disputes that may arise between contractor and AEGCL during the implementation phase.
- (j) Preparing overall disbursement plan, monitoring cost and project accounts.
- (k) Undertake project monitoring and evaluation during the project implementation.
- (l) Provide input on the field of responsibility to required monthly, quarterly progress reports and other reports as may be required.

(iii) OPGW Specialist (National):

The OPGW Specialist shall hold an engineering degree and shall have professional work record of not less than 15 years in planning, designing, managing, quality assurance and supervising OPGW network.

The OPGW Specialist shall have experience of installing the OPGW in “Live Line Condition”.

The OPGW Specialist will undertake the following, but not limited to, in coordination with the Team Leader:

- (a) **Project Preparation:** Review the project management (including administration) procedures of the AEGCL for the implementation of the up-gradation to OPGW and, as appropriate recommend changes and or new procedures in keeping with AIBB and modern international practice.
- (b) **Project Management:** Advise and assist, at a project management level, in the preparation of the Up-gradation to OPGW (studies, investigations, designs, specifications and drawings, contract conditions, commercial conditions, Bill of Quantities) to properly define the work. Advise AEGCL on future line of action in the field of communication suitable for AEGCL.
- (c) **Procurement:** Review existing tender documents and assist in preparation of new tender documents, as required, in accordance with AIBB’s standard procedures and guidelines, with special attention to international best practices in quality of material, equipment and works. Assist with advertisement, pre bid meetings, evaluation of technical and financial bids, preparation of bid evaluation reports, contract negotiations and preparation of documents for contract signing, and advise on submission of documents to AIBB for review and approval.
- (d) **Contract Management:** Advise and assist AEGCL in management of the contracts for civil works, plant and equipment. As the optical fibers (OPGW) will be laid on existing transmission lines also, to minimize shutdown of transmission lines, the consultant will advise on issues related to “Live line” laying and execution of these fibers, inform intricacies, fore warn risk factors. The consultant will also scrutinize Guaranteed Technical Particulars, drawings and specifications of optical fibers and other connected equipment including exchanges and advise EA on acceptability. The consultants will also advise AEGCL on quality control to be adopted by the contractors.

(iv) Transmission Line Expert (National):

The Transmission Line Expert shall hold an engineering degree and shall have a professional work record of not less than 15 years in planning, designing, managing, quality assurance and supervising transmission line with voltage levels covering 132kV upward including 400kV.

He/she shall have experience of not less than 10 years in survey of transmission line at voltage level from 132kV to 440KV. Experience of EHV underground cable, Stringing of HTLS conductor, erection of special and multi circuit tower and pile foundation in river crossing will be preferred.

The National Transmission Line Expert will undertake, but not limited to, the following:

- (a) Assist Team Leader in review of design and drawings related to Transmission Line;

- (b) Assist Team Leader, in construction supervision and progress monitoring, of the Transmission Line;
- (c) Assist Team Leader in all other activities as entrusted by Team Leader.
- (d) Ensure adherence of all safety norms as per the safety regulation of construction of transmission line during the whole construction cycle.

(v) Substation Expert (National):

The Substation Expert shall be an electrical engineer and shall have an professional work record of not less than 10 years in planning, designing, managing, quality assurance and supervising transmission line and substations works with voltage levels covering 132kV upward including 400kV.

The Substation Expert shall possess experience in both Air Insulated Substation and Gas Insulated Substation covering 132kV and above.

The Substation Expert shall have experience with EAP funded projects and the respective tender and implementation guidelines.

The National Substation Expert will assist International Substation Expert in all the activities assigned to him/her.

Ensure adherence of all safety norms as per the safety regulation of construction of substation line during the whole construction cycle.

(vi) Procurement and Contract Expert (National):

The Procurement and Contract Expert shall hold a post graduate degree and shall have an professional work record of not less than 10 years in managing procurement and contract management for works of similar nature with voltage levels covering 132kV upward including 400kV.

The Procurement and Contract expert shall assist the Team Leader in preparation of Bid Documents, Contract Documents and Contract Management.

(vii) Sr. Environmental Safeguard Expert (National):

The Expert shall have a Master's degree in Environmental Science / Environmental Management or similar field with 15 years of total experience and minimum of 5 years' experience overseeing Energy Infrastructure projects. Regional Experience will be an added advantage.

The Expert will assist in the following, but not limited to:

- (a) Review the ESMPF report prepared for the project to understand the background, environmental issues, proposed project activities, mitigation and monitoring requirements of the project
- (b) Prepare the necessary environmental documents for each sub-project and take necessary procedures in accordance with the ESMPF, including but not limited to, preparing the ESIA's, and/or ESMPs in accordance with AIIB's E&S Policy (ESP) where ever required
- (c) Analyze siting transmission lines and substations in terms of their environmental impacts and benefits. The analyses should include the siting process, based on the description of the selected route and guided by the site selection guideline of ESMPF
- (d) Identify project stakeholders and hold consultations with them as per the public consultation framework of ESMPF, to delineate the appropriate boundaries of the environmental assessment and to screen potential adverse environmental issues

- (e) Identify potential environmental issues of transmission lines in terms of their nature, magnitude, extent and location and timing and duration. These impacts may relate to the sub-project design stage, construction stage and/or the sub-project operation and decommissioning stage. Based on impact prediction methods and as the result of public consultations, the Expert will screen adverse environmental impacts for inclusion in mitigation measures and ESMPs. The Generic ESMP of ESMPF will be referred to if applicable
- (f) Support AEGCL to prepare documents and fulfil steps required to process all environment safeguards related clearances that may be required including but not limited to wildlife and forest clearances (including preparation of Biodiversity Assessment Plans, if required), tree cutting permits etc. that are to be obtained/processed by AEGCL
- (g) Visit each sub-project area and consult AEGCL and other line departments to establish the baseline conditions in terms of physical chemical and biological environment conditions in the sub-project area. Ensure the primary baseline data of environmental elements are in place prior to mobilization
- (h) Assist AEGCL to establish a multi-layer GRM including GRC to resolve the Grievances of environment, health and safety matters in a timely manner
- (i) Conduct a Training Need Assessment and then conduct training workshops for field level AEGCL staff and contractors on the requirements and implementation of the ESIA/ESMPs on half yearly basis. Orientation will be conducted prior to mobilization
- (j) Ensure that the Contractors obtain all necessary clearances, consents & permissions (including but not limited to CTE, CTO, Hazardous wastes handling, labour licenses etc.) from ASPCB, Forests and other line departments
- (k) Propose appropriate mitigation measures for the adverse environmental impacts, including conditions set out in relevant permits and clearances
- (l) During the preparation of bidding documents, clearly include environmental responsibilities as explained in the ESIA/ESMPs as "Environmental Contract Specifications (ECS)"
- (m) Assist AEGCL to implement the ESMPs and solve environmental issues that may arise during the construction stage
- (n) Based on review of the ESMPF & the Environmental Monitoring Plan (EMoP), make necessary amendments if any issues are not covered and ensure that the location and timing of checking / testing all environmental parameters are in accordance with the site conditions
- (o) Prepare or review (if already existing) monitoring checklists for weekly, fortnightly and monthly checklists (as necessary) for monitoring implementation of the ESIA/ESMPs by the contractor
- (p) Prepare or review (if already existing) reporting formats for monthly, quarterly, biannual and annual monitoring reports of the contractor
- (q) Assist AEGCL in implementation & Monitoring of mitigation measures and monitoring program as guided by the ESMPF and as detailed in the ESIA/ESMPs for each sub-project on monthly basis
- (r) Prepare monthly, quarterly, biannual & annual Environmental Monitoring reports based on site visits and completed checklists for submission to the AEGCL and AIIB during project construction in compliance with AIIB's ESP. The monthly report submitted to AEGCL shall report all violations of environmental matters (including but not limited to environment related grievances received, safety & health of the labourers and locals, and the compliance conditions of consents & permissions) and measures taken to restore compliance
- (s) Assist AEGCL in identifying training needs for PMU/PIU and corporate staff and identify suitable trainings on environmental issues including on-site trainings in other similar on-going projects. In doing so assist AEGCL on capacity building

- (t) Conduct on the job or site based practical training for the contractors' environmental and safety staff while implementing the ESMP during each and every site visit
- (u) Maintain a copy of all environment related statutory clearances required for implementation ESIA/ESMPs for all sub projects
- (v) Preparation of mid-term evaluation & completion report at the end of the project on the implementation activities of the ESIA/ESMPs. The reports shall document with photographs all good practices adopted in the sub projects (so that such practices can be incorporated in future projects), trainings and workshops conducted, and the improvements noticed after training, consultations and analysis of grievances addressal
- (w) Facilitate consultations between the contractor and local people or other relevant agencies where necessary and assist AEGCL in conflict resolution on environmental issues during executing stage of the project. Maintain proper records of all environment related grievances & consultations and details on how they were addressed

(viii) Sr. Social Safeguard Expert (National):

The Expert shall have a Master's degree in Social science / Social Welfare / Social Management or similar field with 15 years of total experience and minimum 5 years' experience overseeing linear Infrastructure projects. Regional Experience will be an added advantage.

The Expert will assist in the following, but not limited to:

- (a) Review the ESMPF and prepare the necessary social documents for each sub-project in accordance with the ESMPF, including but not limited to, ESIA and/or site specific ESMPs, Resettlement Action Plans (RAPs) and Tribal Peoples Plans (TPPs) wherever required
- (b) Visit each sub-project area and consult AEGCL and other line departments to establish the baseline conditions in terms of socio-economic in the sub-project area.
- (c) Ensure that the social and resettlement issues are properly addressed as per the guidelines given in ESMPF and in compliance with AIIB's ESP and ESSs
- (d) Assist AEGCL in implementation of the mitigation measures and monitoring program as detailed in the ESIA/ESMP, RAP and TPP if applicable for each sub-project
- (e) Report the progress of implementation of the ESIA/ESMP, RAP and TPP if applicable for each sub-project to AEGCL twice a year. Report any violation of standard social safeguards and measures taken to restore compliance twice a year to AEGCL
- (f) Prepare monitoring checklists for weekly, fortnightly and monthly checklists (as necessary) for monitoring & implementation of the ESIA/ESMPs by the contractor
- (g) Prepare or review (if already existing) reporting formats for monthly, quarterly, biannual and annual monitoring reports. Also develop specific monitoring indicators for undertaking monitoring of RAP
- (h) Analyze siting of transmission lines and substations in terms of their social impacts and benefits. The analyses should include the siting process, based on the description of the selected route
- (i) The consultant will identify project stakeholders and hold consultations with them as per the public consultation framework of ESMPF, to delineate the appropriate boundaries of the potential adverse social issues; Special arrangements shall be made to accommodate for gender-inclusive engagements and participation of vulnerable people. Also shall ensure implementation of the social development and gender relevant features included in the design of the project, including monitoring of HIV/ AIDS, community awareness activities, compliance of core labour standards by the civil works contractors (if any) etc.

- (j) The Consultants will identify potential social issues of transmission lines in terms of their nature, magnitude, extent and location, and timing and duration. These impacts may relate to the project design stage, construction stage and/or the project operation and decommissioning stage. Based on impact prediction methods and as the result of public consultations, the consultant will screen adverse social impacts for inclusion in mitigation measures and social management plan
- (k) The consultant will propose appropriate mitigation measures for the adverse and enhancement of positive social impacts
- (l) Facilitate consultations between the contractor and local people or other relevant agencies where necessary in conflict resolution for social issues during executing stage. Maintain proper records of all social related grievances & consultations and details on how they were addressed.
- (m) Facilitate the functioning of the Grievance Redress mechanism and maintain proper records of all social related grievances & consultations and details on how they were addressed
- (n) Assist AEGCL with social issues that may arise during the construction stage
- (o) Provide monthly, quarterly, semi-annual and annual reports on resettlement implementation including close monitoring of resettlement implementation of Indigenous Peoples (if necessary), and provide updates on the schedule and financial aspects of resettlement to the team based on site visits and completed checklists for submission to the AEGCL and AIIB in compliance with AIIB's ESP during project construction. The monthly report submitted to AEGCL shall include all violations of social matters
- (p) Prepare the due diligence reports on resettlement implementation as needed for processing of subsequent loans
- (q) Provide training on AIIB's ESP and ESSs as necessary
- (r) Preparation of mid-term evaluation & completion report at the end of the project on the implementation activities of the ESIA/ESMPs, RAPs and TPPs if applicable. The reports shall document with photographs all good practices adopted in the sub projects (so that such practices can be incorporated in future projects), trainings and workshops conducted, and the improvements noticed after training, consultations and analysis of grievances addressal

(ix) Civil/Structural Expert (National):

The engineer should preferably have a bachelor or higher degree in civil engineering and preferably minimum 15 years of relevant experience in designing, quality monitoring and supervising of transmission line and Substations civil foundation works with voltage levels covering 132kV and upward up to 400kV.

The expert shall have an understanding of High Voltage Transmission line clearances and safety considerations and knowledge on AutoCAD or similar software.

Civil/Structural Expert will undertake the following, but not limited to:

- (a) Review and confirm designs and layouts for the substations, transmission line tower foundations & substation equipment foundations taking into consideration, but not limited to, seismic factors;
- (b) Conduct site visits during construction phase to verify quality of civil works, identify any problems during project implementation, propose remedial actions and promptly report any outstanding issues to AEGCL
- (c) Advise AEGCL on any contractual or technical disputes that may arise between the contractor and AEGCL related to civil construction during the implementation phase.

(x) Financial Expert (National):

He/ She shall possess an MBA degree (or equivalent) in Finance. He/ She must have a minimum of 10 Years of Experience and at least 5 years in the financial analysis field. He/ She shall be conversant on project finance and able to carry out financial modeling and analysis. He/ She shall have sound previous experience in performing financial analysis and planning functions and activities in India's public sector, preferably in relation to Power project and/or asset management financing matters.

The Financial Expert will liaise with AEGCL finance / accounts department to ensure that the audit reports as well as financial progress report are submitted in time.

He/she shall support AEGCL in the financial contractual closure and in the finalization of the Completion Report.

4.3 Reporting Requirements and Time Schedule for Deliverables:

Report/Document	Number of Copies	Delivery Schedule
Inception Report	1	Within 1 month after mobilization
Monthly Progress Report	3	Within 10 working days after end of each month
Quarterly Progress Report	3	Within 30 working days after end of each quarter.
Social and Environmental Documents for each sub-project as outlined in the ESMF and other E&S documents	1	As and when required
Biannual Social & Environmental Reports	3	Within 30 working days after end of each 6 months.
Reviews of Design & Drawings		Within 14 days for each design & drawings.
Any Other reports required for the execution of the Project		As and when required by the Client.
Draft Completion Report	2	Within 6 weeks after completion of final package.
Final Completion Report	1	Upon completion of last project, within 4 weeks after receiving and addressing comments by AEGCL on draft Completion Report.

The above number of copies shown are indicative and illustrates the number of hard copies. The exact number of hard copies needed will be defined at a later stage. All these reports will have to be sent by email to AEGCL and the financing agency.

4.4 Clients Input:

- (i) Consultant shall have to arrange their own Office accommodation for the Team Leader and other project staff. The office accommodation shall be located in Guwahati within a radius of not more than 2 km from AEGCL's HQ.
- (ii) The Consultant should make their own arrangement for office furniture, equipment, stationeries, photocopier, printer communication facilities like telephone, internet connection etc. including its maintenance thereof. Vehicle for transportation to Project site and to & from AEGCL's HQ shall be arrange by the consultant of its own.
- (iii) Monthly rent for the Office Accommodation and vehicle shall be the responsibility of the Consultant Firm.

4.5 Team Composition: The consulting firm (PMC) will be provide consulting services for Project Implementation Support, to develop AEGCL's institutional capacity as required for project planning and management and to develop and implement a comprehensive project management plan to ensure the most efficient, timely and economical implementation of each project. The plan should take into account the engineering technology required, the resources and costs involved, and the critical time frame for the completion of each project. The PMC will be recruited using the quality and cost-based selection (QCBS) method. The proposal will be full technical proposal. The team composition of the international and national experts along with their estimated person months is shown in the table below:

The following will be the key personnel that the Consultant shall provide (These are only indicative requirements and are subject to change):

Experts	No. of Experts	*International/ National
1. Team Leader / Transmission Line Expert	1	International
2. Substation Expert	1	International
3. Transmission Line Expert	2	National
4. Substation Expert	2	National
5. Procurement and Contract Expert	1	National
6. OPGW/SCADA Specialist	1	National
7. Sr. Environmental Safeguard Expert (National)	1	National
8. Sr. Social Safeguard Expert (National)	1	National
9. Civil/Structural Expert	1	National
10. #Financial Expert	1	National
Total	2	International
	10	National

In addition to above, the following support staff shall be provided by the Consultant for a period of **60 months**.

(These are only indicative requirements and are subject to change)

##Support Staff	No. of Staff	National
1. Electrical Engineer	5	National
2. Civil Engineer/structural engineer	5	National
3. Communication Engineer	1	National
4. Social Investigation Officer	2	National
5. Environmental Investigation Officer	1	National
6. Project Accountant	1	National
7. Office Manager	1	National
8. Office Assistant	1	National

##Support Staff	No. of Staff	National
Total	17	National

Note:

* International experts mean experts who are citizens of a country other than Client’s country.

National experts mean experts who are citizens of the Client’s country.

Nationals of the Client’s country who possess the appropriate international experience may be considered for assignments that require international expertise in the national’s own country.

Financial Expert shall have to be fielded by Consultant on request of Client only.

The Support Staff CVs will not be evaluated during the Technical evaluation. However, the cost of the Support Staff shall be evaluated during the financial evaluation. The payment will be based on the actual man-month used for the Expert staff and the support staff.

5. Duration and Location of the Services

Duration of the Project : **60 months**

Location of the Services : **Assam, India**