



Nepal Electricity Authority

(A Government of Nepal Undertaking)

Project Management Directorate

Distribution Line and Substation Department

NEA Digital Network AND SCADA Expansion Project

Ref. No: 2083/084/-11

Date: Wednesday, 02 September 2026

To:

All prospective bidders.

Subject: Issuance of Amendment-VIII

Loan/Grant No. and Title: Loan No. 4520(COL), Loan No. 8485, Grant No. 0983(SF), Grant No. 0984(EF) South Asia Subregional Economic Cooperation Electricity Transmission and Distribution Strengthening Project

OCB No. and Title: PMD/ETDSP/NDNSEP-082/83-01:
Design, Supply, Installation and Commissioning of the NEA Digital Network and SCADA Expansion (Package No. P-13)

Dear Sir/Madam,

With reference to the bid published on 22 February 2026, we would like to inform all our prospective bidders about the issuance of Amendment-VIII according to the ITB clause 8 of the bidding document.

Kindly acknowledge the receipt of the same at the project office.

Best regards,

Brabim Manandhar
(Project Manager)

Amendment to Bid

OCB No. and Title: PMD/ETDSP/NDNSEP-082/83-01: Design, Supply, Installation and Commissioning of the NEA Digital Network and SCADA Expansion (Package No. P-13)

Loan/Grant No. and Title: Loan No. 4520(COL), Loan No. 8485, Grant No. 0983(SF), Grant No. 0984(EF) South Asia Subregional Economic Cooperation Electricity Transmission and Distribution Strengthening Project

Pursuant to ITB Clause number 8 Amendment-VIII has been issued. All the bidders are requested to collect the hard copy of Amendment -VIII from Project office. This Amendment-VIII shall be a part of bidding document and failure to collect the same shall be at the risk of the bidder. Addendum consists of the following

Amendment - VIII

Wednesday, 02 September 2026

Sr.No.	Bidding Document Reference	Existing Clause	Revised Clause
1	Volume -II, Annexure: EMP Plan, Pg. No. 117-144	Annexure: EMP Plan	Please refer to " Annexure - Updated EMP " for the updated EMP.
2	Section 2: BDS: ITB 24.1	The Deadline for bid submission is Date: 07 th September 2026 Time: 12:00 Noon (Local Time)	The Deadline for bid submission is Date: 23 rd September 2026 Time: 12:00 Noon (Local Time)
3	Section 2: BDS: ITB 27.1	The Deadline for bid Opening is Date: 07 th September 2026 Time: 12:30 Noon (Local Time)	The Deadline for bid Opening is Date: 23 rd September 2026 Time: 12:30 Noon (Local Time)

The amendments/clarifications/Addendum issued in this document shall be treated as a part of Bid Document from here and after and shall be read with the original Bid document and subsequently issued corrigendum documents.

Note:- All the relevant documents/declarations/certificates etc., which are required to be submitted along with the proposal shall be submitted in the required formats, wherever applicable as mentioned in the Bid Document.

For further details, Please Contact

Project Manager,
NEA Digital Network and SCADA Expansion Project
Distribution Line and Substation Department,
Project Management Directorate,
Nepal Electricity Authority,
Matatirtha, Kathmandu, Nepal
Telephone: +977-1-5164099,
email: ndnsep@nea.org.np/ndnsep@gmail.com



Annexure - Updated EMP

CRITERIA AND PRINCIPLES FOR FIBER OPTIC CABLE/POLE NETWORK SELECTION

Once NEA have prepared the individual OHL Fiber Optic (FO) Network/Poles/Route list and the contractors are on board, during project implementation **site-specific assessment checklist** and **consultation proformas for each line** will be completed by contractors and verified and approved by NEA PMU and PISC for the FO lines, then this IEE and EMP will need to be updated and cleared by ADB with any government clearances or permissions obtained firstly before issuing an addendum/supplement to any of bid documents and secondly before routings are approved by NEA and PISC and works commence. Once the FO Network lines have been mapped by contractors and NEA, any found to not be meeting a **Criterion** will be immediately dropped. New FO lines will then also be dropped if they will result in significant adverse impacts on biodiversity/physical cultural resources. Similarly, for those mapped in the tentative UNESCO sites or within 500m of nationally protected monuments site-specific physical cultural resources assessment will be undertaken and the lines dropped if they would result in any significant adverse impacts on physical cultural resources.

The FO route surveys shall be conducted by the EPC contractors who will be responsible for determining the route alignment (including considering alternative routes) such that the project criteria and route alignment principles are followed. The criteria and principles that have been/will be adopted by NEA for selection of route alignments for the distribution lines are:

CRITERIA

- i. FO Lines and related facilities will only be installed in existing poles and where significant damage to local physical cultural resources can be avoided.
- ii. No FO lines that require IEE or EIA under national regulations will be taken up under the Output 2 (viii) Supervisory Control and Data Acquisition Network components.
- iii. FO lines or related facilities in the National Parks, their buffer zones, Ramsar Sites, forest protection (conservation forests) areas will be taken up only with permission. If there is an existing permit for the power line, that would be acceptable; otherwise, the necessary permit should be obtained.
- iv. For FO lines in IBA/KBA areas, the works will be taken up only after the concerned DFO/Forest Department is duly informed and all applicable requirements of the Biodiversity EMP are complied with.
- v. For FO lines in community managed forests permission from the community forest user group (or for leasehold or private forest, the applicable user and owner permissions) will be sought.
- vi. Only FO lines following existing power line RoWs/poles will be taken up in community (leasehold or private) forest land and only after having first received a written no-objection from the Community Forest User Group or equivalent.
- vii. No FO lines in the nationally protected monument sites of Nepal Department of Archaeology (DoA) or religious forests will be taken up under the Output 2 (viii) Supervisory Control and Data Acquisition Network components, and in the tentative UNESCO sites and at all sites within 500 m of nationally protected monuments no lines or related facilities will be taken up unless no objection has been received from DoA following site-specific physical cultural resources assessment to demonstrate that any significant adverse impacts can be avoided.

PRINCIPLES

- a. New FO lines resulting in the significant conversion or degradation of natural habitats as defined by ADB SPS, 2009 or which occur in areas with presence of potential ADB Critical Habitat-qualifying biodiversity and have been demonstrated through a site-specific assessment not to comply with ADB's Safeguard Policy Statement 2009 requirements, shall not be taken up under the Output 2 (viii) Supervisory Control and Data Acquisition Network components.
- b. FO Lines must avoid or minimize damage to trees, especially private/community forest user trees if passing through such areas, and before any are trimmed/lopped ensure they are subject to ecological checks for nesting birds etc.
- c. FO Lines installation must create minimum disturbance to existing pedestrian and traffic routes in terms of blockages or diversions.
- d. Sites with landslide and flooding vulnerability are to be avoided.
- e. No project activities/sites/FO alignment shall be located on reclaimed water body or flood plain or on slope above 30 degrees and areas prone to landslide.
- f. FO towers and related equipment must not be installed in those poles in perennial or seasonal water bodies/riverbeds.
- g. Any activity involving purchase or use of Asbestos, or harmful lead-based products will not be included under this Project.
- h. Activities that may cause or lead to forced labor or child abuse, child labor exploitation or human trafficking, or project activities that employ or engage children, over the minimum age of 15 and under the age of 18, in connection with the project in a manner that is likely to be hazardous or interfere with the child's education or be harmful to the child's health or physical, mental, spiritual, moral, or social development will be prohibited.

ENVIRONMENT DUE DILIGENCE CHECKLIST TEMPLATE FOR SITE/ROUTE/POLE LEVEL SCREENING.

For New SCADA FIBRE OPTIC LINE Specific

The objective of this Environment Assessment Due Diligence screening checklist is to assist the NEA in the evaluation of planned construction of infrastructure and the installation of SCADA equipment and FO line. The form is designed to place information in the hands of NEA so that impacts and their mitigation measures, if any, can be identified and/or that requirements for further environmental assessment can be determined. The form contains information that will allow NEA to determine the characterization of the prevailing local biological, physical and social environment and physical cultural resources with the aim to assess the potential impacts of the activities on this environment. The form is completed by the Contractor in coordination with PMD, PISC and safeguard staff, after field visit and consultations with local authorities and communities in the respective subproject FO routes.

FO Line Specific Assessment Forms

One consolidated set of FO line specific assessment forms is to be completed for each Project district for the Fiber optics network component, with the consolidated forms to be submitted to ADB for clearance prior to the commencement of any works associated with the FO line covered by them:

- **Form A. Project description** - Fiber optics network component
- **Form B. Baseline setting** - Fiber optics network component
- **Form C. Environment assessment checklist** – provide for all Fiber optics network component /district

Provide requested maps and photographs as separate files using clear naming protocol to identify them.

A. PROJECT DESCRIPTION

Form A.

Items	Details
Fiber optics (FO) network component Name	
Project District	
Administrative Province/District/Municipality	
Names of Settlements Served	
Contract Package/Lot	
Contractor	
Construction timeline	
Line Start Point Coordinate	
Line End Point Coordinate	
Length (km)	
Type (Single-mode Fiber, Multimode Fiber or Specialty Fiber)	
No. and grid coordinates of Pole where FO line is installed	
Details of Pole where FO is installed (33/11/etc. kV)	
Name and details of connecting Substations	
Elevation	
Topography (flat land/rolling/complex)	

Items	Details
Ground Conditions (stable/unstable)	
Map of final FO route alignment (map(s) to be provided for entire route)	Insert or provide as a separate file map showing the FO line alignment at readable scale (use GPS to map during site visit walkover)
Number of road crossings (type used if different to main type)	
Number of river crossings (type used if different to main type)	
Number of railway crossings (type used if different to main type)	
Temporary facilities, location/size, if any (may be used for multiple components)	
Temporary workers camp location/size (may be used for multiple components)	

B. BASELINE SETTING

(Contractors Route surveyors who should include environmental experts can use checklists to obtain sufficient information from the field to inform the baseline setting)

Land Use and Sensitive Receptors	Details
Land use setting of FO line (dense urban/semi urban/rural settlement/rural)	
Minority dominated communities (details)	yes/no
FO line ROW following existing road reserve in habitation	km of line:
FO line ROW on existing road reserve outside habitation	km of line:
FO cable alignment crossing of roads	Number of roads crossed:
FO line crossing agricultural land traversed	km of line:
FO line crossing with plantation traversed (detail type)	km of line:
FO line ROW with forest habitat (detail type) Note: this includes forest outside of notified areas, regardless of level of habitat degradation observed	km of line:
FO line with other land type traversed: (detail land types)	km of line:
Any FO Cable crossing waterbodies e.g., rivers, streams, drains, ponds etc.	Number and types of waterbody crossed: Insert or provide as a separate file a clear photo of each waterbody to cross
Other waterbodies within 15m of the FO line route e.g., rivers, streams, drains, ponds etc.	Number and types of waterbody:
Habitat types found within 15m of the ROW: (detail habitat types, see ADB SPS 2009 definition of modified and natural habitats)	modified/natural
Presence of internationally or nationally important physical cultural resources in subdivision, informed by baseline survey/mapping and screening. Including UNESCO World Heritage Sites (Cultural), and the Department of Archaeology of Nepal or province/district protected monuments / sites	yes/no If yes, list together with minimum distance to FO line route
Locally important physical cultural resources in 15m of the FO line route e.g., shrines, temples, and worship sites (sacred tree, etc), and community and ritual sites.	yes/no If yes, provide details of these physical cultural resources including photos as separate files

Land Use and Sensitive Receptors	Details
Any public/private buildings that are situated within 25m of the FO line route	yes/no If yes, provide photos clearly showing baseline situation (attach as separate files)

Name, job title, and contact details of the person responsible for filling out this form:

Name: _____

Job title: _____

Contractor: _____

Telephone numbers: _____

E-mail address: _____

Date: _____ Signature: _____

C. ENVIRONMENT ASSESSMENT CHECKLIST

Potential environmental risks and impacts have not yet been conducted due to not availability of site specific data like final FO alignment; the identified impacts and risks are high level at this stage and generic plan; mitigation and monitoring requirements have been identified at this stage; detailed locational/site specific data collection need further consideration.

If the answer to any of the assessment questions below is a yes or not known, then site-specific assessment might be required for any components/activities of concern to determine the significance of potential impacts and any site-specific mitigation measures required. Further consultation should be undertaken with Contractor/PMD/PISC's environment safeguards specialist/consultant if the answer to any of these questions is identified to be a yes.

SCADA fibre optics network component Specific Assessment	Yes	No	Not Known	Remarks (provide actual distance in m)
A. FO Network Siting				
Is any Fiber optics network/route adjacent to (e.g., within 25m) or in any of the following?				
▪ UNESCO (World Heritage) Natural Site				
▪ National Park				
▪ Conservation Reserves				
▪ Buffer Zone				
▪ Wildlife Reserves				
▪ Wildlife corridors/crossings				
▪ Ramsar Wetland				
▪ Important Bird Area				
▪ Key Biodiversity Area				
▪ Ecoregion supporting high biodiversity values				
Is any Fiber optics route/site adjacent to (e.g., within 25m) or inside/passing any Dept. of Archaeology, Nepal, monument's historical and archaeological value?				
▪ Dept. of Archaeology, Nepal protected monument				



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SCADA fibre optics network component Specific Assessment	Yes	No	Not Known	Remarks (provide actual distance in m)
B. Environment Criteria				
Will the Fiber optics network route/site				
▪ Be in, or pass through protected areas, UNESCO site or the regulated zone of Dept. of Archaeology monuments/sites				If yes, drop from project scope
▪ Be in, or pass through, Nationally protected/regulated Forests				Permit required
▪ Be in, or passing through, protected Forests or KBAs and IBAs				
▪ Be in natural habitat where significant conversion or degradation of natural habitat (during installation/O&M) has not been demonstrated to be avoided through a site-specific assessment				If yes, reroute or redesign per recommendations
C. Potential Environmental Impacts				
Does the Fiber optics network route/site have the potential to:				
▪ cause significant adverse environmental impacts that are irreversible, diverse, or unprecedented				If yes, drop from project scope (see Inclusion/Criteria List (of this document) for the principles)
▪ result in the conversion or degradation of natural habitat because the Fiber optics network route/site is sited in or passes through or adjacent natural habitat including forest habitat, Ramsar/wetland area etc. Even if habitat not notified by GoN or it is degraded? refer to ADB SPS 2009 for definition of natural habitat				If yes, conduct site specific assessment and reroute or redesign per recommendations
▪ encroach directly or indirectly (e.g., worker disturbance) on any internationally or nationally important biodiversity areas as per Section A?				If yes, check criteria and if it is necessary drop from scope. Ensure EMP measures are followed. For works in nationally protected forests please attach Permit/or FC
▪ require the trimming/pruning of any public trees?				If yes, obtain tree permits/consents
▪ require the trimming/pruning of any private trees?				
▪ result in damage (poles within/adjacent to PCR) to locally important physical cultural resources or heritage trees?				If yes, conduct site specific assessment and reroute or redesign per recommendations



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SCADA fibre optics network component Specific Assessment	Yes	No	Not Known	Remarks (provide actual distance in m)
▪ encroach indirectly (e.g., worker disturbance) on the regulatory monuments as per Section A?				If yes, conduct site specific assessment and reroute or redesign per recommendations
▪ encroach directly or indirectly (e.g., worker disturbance) on any internationally or nationally important heritage areas as per Section A?				If yes, check criteria and if it is necessary drop from scope
▪ create disturbance to existing pedestrian and traffic routes during installation/O&M, in terms of creating blockage or diversions during installations/material storage				If yes, ensure EMP measures are followed
D. Provide information on the type and scale of the activity				
E. Provide information about actions needed during the activity, e.g., laying fiber cable aerial/terrestrial, construction of shelters, etc				
F. Describe how the activities will be carried out, including support/activities and resources required to operate it e.g. roads, disposal site, water supply, energy requirement, human resource etc				
G. Other Impacts Will the Fiber optics network route/site cause any additional site-specific impacts to those detailed in the IEE and covered by the project-level EMP...				
▪ <i>[insert details]</i>				
▪ <i>[insert details]</i>				
▪ <i>[insert details]</i>				
▪				

Final remarks: site GO/NO GO and justification (Ref Criteria/Exclusion List)	
Note from the Reviewer, if any:	

Submitted by:

Name and signature:

Position:

Date:

Reviewed by:

Name and signature:

Position:

Date:



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ENVIRONMENT CONSULTATION PROFORMA**NEW SCADA FO NETWORK LINE/SITE SPECIFIC CONSULTATION PROFORMA****Environmental Consultation Form for Local Communities (in the FO route)**

Nepal Electrical Authority (NEA), PMD, Nepal
 ADB South Asia Subregional Economic Cooperation Electricity Transmission and Distribution
 Strengthening Project: Digital Network and SCADA Expansion Project
 Environmental Consultation Form for Local Communities

PERSONAL DETAILS

Date:

Name of the Respondent:

Phone Number of Respondent:

Municipality / Rural Municipality of Respondent's Residence:

Age of Respondent:

Under 16 ☐ 16-55 ☐ Over 55 ☐Gender of Respondent: Female ☐ Male ☐

Main Livelihood (Occupation):

Secondary Livelihoods:

Ethnic Group:

Caste:

Religion:

Main Language:

Other Languages:

Number of family members living under the same roof (as a single household):

Do you or any of your family members fall into any of the following vulnerable groups?:

Potentially Vulnerable Group		Remarks (numbers and relationship)
Female Headed Household	☐	
Below Poverty Line	☐	
Indigenous Peoples	☐	
Children	☐	
Elderly	☐	
Illiterate	☐	
Persons with Disabilities	☐	

How is Your and Your Family Members Underlying Health?

Very Poor ☐ Poor ☐ Good ☐ Very Good ☐

Elaborate on Health Conditions/Diseases Currently Suffered or Suffered in the last year, if any:

Awareness of the Project Prior to this Consultation:

Not At All Aware ☐ Slightly Aware ☐ Very Aware ☐**LAND USE, LIVELIHOODS, AND SENSITIVE COMMUNITY RECEPTORS**

Where is your residence and/or land located in relation to the following project locations:

	Residence	Land	Remarks
In the vicinity of the FO line			
None of the above (please specify)			

Are you Concerned about Land Use being Adversely Impacted By The Project?

Yes ☐ No ☐ Don't Know ☐If yes, elaborate on Concerns and Suggest any Measures the Project Can Consider to Mitigate Impacts, noting that compensation will be paid for land acquisition and resettlement:¹¹ Under Land Use Consider Damage to Crops, Structures, Trees etc. but also Landscape/Visual Impacts

Are you aware of any sensitive community receptors that may be directly or indirectly adversely impacted by the subproject, please identify their location on map provided whenever possible:

Receptor		Remarks Potential Impact/Suggested Mitigation
Farmland	☐	
Forest/NH	☐	
Educational Institute/School	☐	
Clinic, Health Centre, or Hospital	☐	
Religious Building (temple, shrine, heritage trees, etc.)	☐	
Footpath or track	☐	
Other	☐	

BIODIVERSITY

Are you aware of any legally protected areas or other sensitive ecological habitat that may be directly or indirectly adversely impacted by the project, please identify their location on map provided whenever possible:

Legally Protected Area or Sensitive Ecological Habitat	Location	Remarks Potential Impact/ Suggested Mitigation

Are you Concerned about Wild Animals and Plants being Adversely Impacted By The Project?

Yes ☐ No ☐ Don't Know ☐

If yes, Identify Habitats or Species of Concern and Suggest Measures the Project Can Consider to Mitigate Impacts:

Habitat or Species	Remarks Potential Impact/Suggested Mitigation

PHYSICAL CULTURAL RESOURCES

Are you Concerned about Physical Cultural Resources being Adversely Impacted By The Project?

Yes ☐ No ☐ Don't Know ☐

Are you aware of any Physical Cultural Resources of either national or local importance (e.g. temples, shrines, sacred groves or trees, heritage trees, cremation places etc.) that may be directly or indirectly adversely impacted by the Project, please identify their location on map provided whenever possible?

Name of Physical Cultural Resource	Location	Remarks Potential Impact/ Suggested Mitigation

HUMAN ENVIRONMENT

Are you aware of any of the following having occurred in the local area?

Earthquakes ☐ Landslides ☐ Storms ☐
 Flooding ☐ Drought ☐ None ☐ Don't Know ☐

Are you aware that, if not well managed, there may be safety risks associated with operation of the FO network infrastructure?

Yes ☐ No ☐ Don't Know ☐

Please elaborate on Concerns and, if no, Suggest any Measures the Project Can Consider to Increase Awareness:

Are you Concerned about the Overall Community Health and Safety Impacts of the Project?:

Yes ☐ No ☐ Don't Know ☐

If yes, elaborate on Concerns and Suggest any Measures the Project Can Consider to Mitigate Impacts:

Impacts and Risks from the Project during FO/SCADA Installation Are?

Influx of construction workers from outside the local area and/or Sri Lanka during the construction period:

Intolerable ☐ Tolerable ☐ Don't Know ☐

Accommodation of construction workers in local communities:

Intolerable ☐ Tolerable ☐ Don't Know ☐

Interaction of community members with construction workers:

Intolerable ☐ Tolerable ☐ Don't Know ☐

Interaction of community members with construction traffic:

Intolerable ☐ Tolerable ☐ Don't Know ☐

If intolerable to any of the above, elaborate on Potential Impacts and Detail Measures the Project Can Consider to Mitigate These Impacts/Make a Risk More Acceptable:

According to you, what are the Impacts and Risks from the Project during Operation Are?

How would you qualify:

The existing noise level in the area?

Very Quiet ☐ Quiet ☐ Noisy ☐ Very Noisy ☐

The existing air quality (dust levels) in the area?

Very Dirty ☐ Dirty ☐ Clean ☐ Very Clean ☐

The availability of water resources for drinking, washing etc.

Very Poor ☐ Poor ☐ Good ☐ Very Good ☐

The existing surface water quality in the area?

Very Polluted ☐ Polluted ☐ Clean ☐ Very Clean ☐

Solid and hazardous waste management in the area is?

Very Poor ☐ Poor ☐ Good ☐ Very Good ☐

The existing road traffic in the area?

Very Busy ☐ Busy ☐ Quiet ☐ Very Quiet ☐

What are the main sources of existing pollution in the local area?

None ☐ Lack of Sanitation ☐ Agriculture ☐
Discarded Waste ☐ Traffic ☐ Other (please state) ☐
Don't Know ☐

Do you think the project could, either temporarily during construction/installation or permanently during operation:

Increase existing noise levels in the area?

Yes: Intolerable ☐ Yes: Tolerable ☐ No ☐ Don't Know ☐

Decrease existing air quality (dust) in the area?

Yes: Intolerable ☐ Yes: Tolerable ☐ No ☐ Don't Know ☐

Increase pressure on availability water resources for drinking, washing etc.

Yes: Intolerable ☐ Yes: Tolerable ☐ No ☐ Don't Know ☐

Decrease existing surface water quality in the area?

Yes: Intolerable ☐ Yes: Tolerable ☐ No ☐ Don't Know ☐

Decrease existing ground water quality in the area?

Yes: Intolerable ☐ Yes: Tolerable ☐ No ☐ Don't Know ☐

Increase solid and hazardous waste in the area?

Yes: Intolerable ☐ Yes: Tolerable ☐ No ☐ Don't Know ☐

Increase existing road traffic in the area?

Yes: Intolerable ☐ Yes: Tolerable ☐ No ☐ Don't Know ☐

If yes to any of the above, elaborate on Potential Impacts and Detail Measures the Project Can Consider to Mitigate These Impacts:

How Do You Believe Socioeconomic Conditions Will Be Impacted By The Project?

Positively ☐ Negatively ☐ Don't know ☐

Elaborate on Potential Socioeconomic Impacts and Detail Measures the Project Can Consider to Mitigate Any Negative Impacts:

GENERAL

General Support for the SCADA Sub-Project:

Not Supportive ☐ Neutral ☐
Slightly Supportive ☐ Very Supportive ☐

Further Suggestions to Project on Environment, Health and Safety Impacts to be Considered Further and Measures that Could be Incorporated to Mitigate Them.

.....
.....

Name and Signature of Interviewee:
Name and Signature of Interviewers:
Date:

SUMMARY RECORD OF PUBLIC CONSULTATIONS AND FOCUS GROUPS

Table to capture consultation data based on **Environment Consultation Proforma** inputs

Note: Those undertaking the consultants can use checklists (above) to obtain sufficient information to be able to complete summary record. Photographs and attendance sheet to be attached with the consultation proforma

SCADA fiber optics network component Line Name		
Province/District/Municipality		
Village(s)/Town/City		
Date and Time		
Total Population of Affected Persons within 50m of FO alignment/Tower (estimate)		
Total Number of Participants	Male:	Female:
Number of Participants from Vulnerable Groups		
Names and Designations of Key Participants		
NEA PMD/SCADA PIU Team/PISC		
Contractor		
District/Area administration/village/town/city representatives		
Topics Discussed and Findings		
Presence of internationally (UNESCO/KBA/IBA) and nationally important (Protected Areas/Forest) biodiversity sites and physical cultural resources in the area		
Presence of critical habitat species in the area		
Presence of any threatened species in the area		
Presence of trees along alignment and if require trimming/pruning		
Presence of physical cultural resources along alignment		
Presence of buildings along FO alignment		
Presence of community facilities along FO alignment		
Concerns of community related to H&S of new FO network		
Concerns of community related to pollution and waste management during the installation		
Concerns of community related to noise, during the installation		
Concerns of community related to disturbance to agricultural activities during works (for those existing poles to be used for FO in cropland)		
Concerns of community related to disturbance to ongoing access and traffic management issues during installation		
Concerns of community related to incoming skilled workers and their accommodation during the works		
Concerns of community related to local employment (jobs created for unskilled workers by construction are very minimal if any)		
GRM and types of grievances related to environment, health and safety that could be raised		
Suggestions for Alignment and Mitigation		

* Provide photographs of the public meeting and/or focus groups on progress and copy of sign in sheet

Submitted by:

Name and signature:

Position:

Date:

Reviewed by:

Name and signature:

Position:

Date:



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TABLE 2: ENVIRONMENTAL MITIGATION PLAN FOR NEA DIGITAL NETWORK AND SCADA EXPANSION PROJECT

TABLE 2: ENVIRONMENTAL MITIGATION PLAN FOR THE DIGITAL NETWORK AND CONSTRUCTION PROJECT					Responsibilities		
Project Activity or Environment Impacts/ Risks	Mitigation Measures	Performance Standard	Budget/ Source	Schedule	Implementati on	Supervision	Contractor
Detailed Design/Pre-construction Preparations Phase							
Impact on vegetation along alignment and interference with community activity, economic loss to commercial or farmlands, crops, etc.	- Contractor to complete the environmental assessment checklist included for each site/FO line for PISC revuew abd NEA PMU/PMD approval (after having received ADB clearance) alongside detailed design and confirm all components meet the environmental criteria and principles set out - Meaningful consultation to be undertaken for each FO line by contractor to inform affected communities and other interested stakeholders of the planned works as per the consultation proforma to be submitted for each FO site/line for PISC review and NEA/PMD/PMU approval alongside their detailed design. - Prior to PMD approval of the detailed designs and commencement of construction seek ADB clearance of the consolidated environmental assessment forms and update the IEE (by PISC) as required, confirm no change from the impacts and risks described and assessed in the IEE, or undertake site-specific assessment and update the site-specific EMP by PISC if required, seeking ADB clearance of any updated IEE before works start. - Contractor to undertake FO line alignment/location walkover and	Final FO route alignments comply with the environmental principles of IEE/EMP. 100% of consolidated environmental assessment forms and consultation proformas submitted to and cleared by ADB before the commencement of works IEE updated by NEA PMD and cleared by ADB prior to approval of detailed designs. 100% landowner consent obtained and/or compensation	NEA counterpart fund, contractors to reflect in contract costs RP budget for compensation	Pre-construction stage; compliance prior to any works commencing on site including site establishment	NEA PMD, PM supported by PMU	PMU Safeguard Unit support by PISC Review environmental assessment checklists received via contractor and consolidate for onward submission to ADB Consultation will be documented and reported in updated IEE and/or EMRs including photos and records of participants (including gender breakdown data) Review detailed design and prerequisite inputs to confirm	Implement the mitigation measures, comply during detailed design and prior to any works commencing on site including site establishment Provide copies of completed environmental assessment checklists and consultation proformas to PMU/PMD for consolidation Advise PMU of need for pole replacement or other temporary disturbances to private land. Support PMU in the update of the IEE for ADB clearance prior to commencement

					Responsibilities		
Project Activity or Environment Impacts/ Risks	Mitigation Measures	Performance Standard	Budget/ Source	Schedule	Implementati on	Supervision	Contractor
	enumerate any structures within the alignment/site, submit survey report alongside detailed design. - FO Alignment to avoid impacting on rivers/ponds and groundwater sources especially water sources including those used by local communities. - In relation to cumulative impact contractors to liaise with other utilities regarding the timing and extent of other construction works in the same road reserve and ensure plans for installation works are coordinated so emissions/disruption/ disturbance are minimized.	paid prior to commencement of works Pre-condition survey approved before commencement of works Local communities and other concerned stakeholders kept informed throughout project implementation, and aware of construction etc. EA approved detailed designs minimize impacts and risks on EHS during subsequent stages of the project				all measures required by the EMP have been adequately incorporated.	of any works on site
Impacts on biodiversity and important sites and habitats for	No project activities/ sub projects shall be located within legally protected areas per national and international	Final FO network route alignments comply with the	Contractors to reflect in contract costs	Pre-construction stage; compliance	NEA/PMD/District supported by PMU	NEA PMU/Safeguard Unit support by PISC	Implement mitigation measures, comply during

					Responsibilities		
Project Activity or Environment Impacts/Risks	Mitigation Measures	Performance Standard	Budget/Source	Schedule	Implementation	Supervision	Contractor
biodiversity.	regulations to which Nepal is a signatory such as UNESCO World Heritage Sites (Natural or Mixed) - Project activities/sub projects in the Ramsar Sites, National Parks, Buffers, Conservation reserves etc. wildlife corridors will be taken up only with permission If there is an existing permit for the power line, that would be acceptable; otherwise, the necessary permit should be obtained. - Project activities/sub projects in the important bird areas (IBA) and key biodiversity areas (KBA) will be taken up only after the concerned DFO/Forest Department is duly informed and all applicable requirements of the Biodiversity EMP are complied with. - These checks will also involve consultation with local communities since individual trees may be of cultural heritage value to the local communities/Indigenous Peoples that must not be cut or damaged. - DFO and local communities will also be consulted on species occurrence by the field ecologists. - Survey reports will inform the environmental assessment checklist, be part of any site-specific assessment, and be used to update the IEE. - All storage areas and any labor camps will be located inside existing buildings	environmental principles in the IEE/EMP. IEE updated by PISC/NEA and cleared by ADB prior to approval of detailed designs. NEA approved detailed designs minimize impacts and risks on EHS during subsequent stages of the project		prior to any works commencing on site including site establishment		Review environmental assessment checklists received via Contractor/PM and consolidate for onward submission to ADB together with the updated IEE. Review detailed design and prerequisite inputs to confirm all measures required by the EMP have been adequately incorporated.	detailed design and prior to any works commencing on site, including site establishment Provide copies of completed environmental assessment checklists and consultation proformas to PISC/PMU Advise NEA/PMD of need for pole replacement or other temporary disturbances to forest land. Support NEA and PISC in the update of the IEE for ADB clearance prior to commencement of any works on site

					Responsibilities		
Project Activity or Environment Impacts/ Risks	Mitigation Measures	Performance Standard	Budget/ Source	Schedule	Implementation	Supervision	Contractor
	or outside of the high biodiversity value area/natural habitat. - For areas where biodiversity sites (protected areas, buffers, UNESCO site, protected forests, KBA, IBAs, etc) are present, train workers on a code of conduct that specifies entry to these areas is prohibited and measures to ensure that biodiversity is protected. - Demarcate the working area by the contractor and avoidance of encroachment outside this working area. - FO cables to avoid tree crown zone, especially for mature trees. - Road Development Authority will also be consulted.						
Impact on physical cultural resources and aesthetics due to presence of FO cable lines	- No FO network shall be located in the UNESCO World Heritage Sites (Cultural), or the Department of Archaeology of Nepal controlled protected sites, or any protected sites under the buffer area of province/district protected monuments/sites - Demarcation of the working area by the contractor and avoidance of encroachment outside the agreed corridor of impact. - Minimize visual impacts/amount of visual clutter through sensitive route alignment having cognizance of any above ground physical cultural resources adjacent. - Contractors to conduct an inventory (and condition surveys) of physical	NEA approved detailed designs minimize impacts and risks on EHS during subsequent stages of the project Local communities and other concerned stakeholders kept informed throughout project implementation,	Contractors to reflect in contract costs	Pre-construction stage; compliance prior to any works commencing on site including site establishment	NEA PMD /District supported by PMU	NEA PMU/Safeguard Unit support by PISC Review detailed design and prerequisite inputs to confirm all measures required by the EMP have been adequately incorporated.	Implement the mitigation measures, comply during detailed design and prior to any works commencing on site including site establishment of any works on site

					Responsibilities		
Project Activity or Environment Impacts/ Risks	Mitigation Measures	Performance Standard	Budget/ Source	Schedule	Implementation	Supervision	Contractor
	cultural resources in and adjacent to the FO alignment in 25m prior to the start of any works. Inventory to be conducted in consultation with local communities including indigenous peoples prior to the start of any works including site clearance along all FO line routes. Demarcation of physical cultural resources such as heritage trees or shrines to be avoided and retained.	and aware of installation etc.					

Community health and safety risk from SCADA/FO equipment mobilization, installation activities, traffic congestions, as a result of passing along/houses in builtup areas, busy/congested settlements, etc.	- Identified Poles for the FO Network to be located away from the banks of rivers/streams and outside of their flood/inundation zones, as well depressions that can get waterlogged - Contractors to identify presence of and avoid locating existing poles for FO on any unstable land. For any FO lines routes in complex terrain conduct geotechnical/slope stability analysis and identify slope stability measures during detailed design to minimize the risk of Poles/Cable uprooting/collapse or landslide occurrence. - H&S plan for FO line works to include a Traffic Management sub-plan considering both the safety of pedestrians and vehicles and need to avoid traffic congestion (especially along narrow roads, or in complex terrain); it is to be developed in consultation with relevant local authorities to ensure proper execution of traffic controls including where temporary blockage of one lane of the road or footpath is needed for installation/trenching. - Traffic management will need to be done in consultation with the affected communities to ensure they are aware of likely disruption. - Post warning signs and manage traffic movements to protect the travelling public and its workers as necessary and ensure drivers obey road rules and travel at a safe speed given the nature of local roads and size of vehicles involved. Road safety and warning signs must be posted at 500m, 100m, and immediately in advance of the FO line works at least two weeks prior to the works commencing to inform the public of	EA approved. CEMP and subplans to minimize impacts and risks to Community Health and Safety during subsequent stages of the project. Compliance with ICNRP community EMF exposure levels (reference and peak values)	Contractors to reflect in contract costs	Pre-construction stage; compliance prior to any works commencing on site including site establishment	NEA PMD /District supported by PMU	NEA PMU/Safeguard Unit support by PISC Review detailed design and prerequisite inputs to confirm all measures required by the EMP have been adequately incorporated.	Implement the mitigation measures, comply during detailed design and prior to any works commencing on site including site establishment of any works on site
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					Responsibilities		
Project Activity or Environment Impacts/ Risks	Mitigation Measures	Performance Standard	Budget/ Source	Schedule	Implementation	Supervision	Contractor
	turning vehicles and the temporary blockage of one lane of the road during tower/line installation works. - Cut/trimmed vegetation, and FO cables, and other equipment will need to be stored outside of habitation, not block access or road use/footpath. - Contractors will be required to ensure that safe access ways to public and private amenities (including schools, hospitals, public health centres, clinics, places of worship (temples, shrines) etc.) are maintained throughout the construction period.						
Pre-Construction Enabling Works, Construction, and Commissioning Phases							
FO network installation preparation, – temporary disturbance or accidental damage to agricultural crops, and natural vegetation. Presence of workers; storage of material/ equipment; any clearance of vegetation and trimming of trees (along FO network) trimming of vegetation and trees during O&M.	- Comply with the EMP, including ECOP, and contractors' approved CEMP during construction works - Works at all sites in and within 500m of areas of high biodiversity value (PAs UNESCO sites, Conservation Forests, Sanctuaries, Marine National Parks, National Parks, Strict National Reserves, National Reserves, Buffer Zones, Jungle Corridor, National Heritage Wilderness Areas, wildlife corridors and KBAs/IBAs) and supporting natural habitat will only be carried out under ecological supervision to minimize disturbance - Use existing access roads to access work sites, in areas where access is restricted use manual labor to transport, install towers/UG FO lines; no access tracks permitted in forest	Compliance with GoN regulations and guidelines 100% of existing public and private property left in same condition as prior to construction. EMP/CEMP requirements successfully implemented as determined through regular site checks, photographic record etc.	Contractors to reflect in contract costs	Prepare during pre-construction and comply throughout construction stage (mobilization, construction, and commissioning works)	PMD SCADA PIU supported by PMU	NEA PMU/Safeguard Unit support by PISC	Implement mitigation measures for the duration of construction

					Responsibilities		
Project Activity or Environment Impacts/Risks	Mitigation Measures	Performance Standard	Budget/Source	Schedule	Implementation	Supervision	Contractor
Protected areas, and UNESCO sites will be avoided but not Protected Forests/KBAs/IBAs. Many threatened and restricted-range-restricted species occur in Nepal (refer disclosed IEE) and need detailed survey during FO line route surveys/screening. Unintended disturbance to vegetation and trees outside FO line/alignment due to installation works; risk of spread of invasive species with species transferred in/out/through the PAI during vehicle movements; potential for accidental forest fire or illegal cutting of trees or collection of non-timber forest products by workers.	and other natural habitat, or in steep terrain. • Demarcate the working area and avoid encroachment outside the working area. • Demarcate mature trees, Heritage Trees or other trees to be avoided and retained. • Follow design drawings and implement careful construction practices to avoid damage to vegetation outside the working area. • Only fell marked trees within the working area, and only after joint verification and approval of the tree list by EA. • Undertake works requiring tree cutting/trimming outside the bird breeding season. Before cutting/trimming trees, check for presence of the nesting birds or roosting bats and – if found – delay cutting/trimming. • Remove invasive plant species (identified based on survey during detailed design phase by Licensor and its contractor's ecologist) during site clearance, without use of chemicals. • Store cut vegetation away from the roadside. Any vegetation material not handed over to the landowner will be immediately removed from site for disposal by a licensed waste management contractor once cutting works are completed.	No outstanding biodiversity or property damage related grievances from local communities or other interested stakeholders					

Project Activity or Environment Impacts/ Risks	Mitigation Measures	Performance Standard	Budget/ Source	Schedule	Responsibilities		
					Implementati on	Supervision	Contractor
Wildlife. Disturbance of wildlife from works and from labor influx in area; noise; light; dust; etc. Trimming of trees can affect nesting birds, during O&M. A number of threatened and endemic species occur in Nepal, and confirmation of presence/absence needs detailed survey during FO line/route/site surveys. Project avoiding undertaking works in protected areas and where greatest potential for disturbance to wildlife exists Potential wildlife mortality during installation/O&M, e.g., increased risk of road accidents, or illegal hunting and poaching by workers	- Promptly revegetate disturbed areas on completion of works with plant species native to area/Sri Lanka. - No construction works from one hour before sunset to one hour after sunrise in sunrise within 500m of natural habitat settings, outside human settlements/in rural areas away from the roads, and within 500m of protected areas, Forest, or KBA/IBAs, etc.. - Follow the wildlife identification and rescue protocol. - All unanticipated damage to vegetation will be restored to pre-project condition and/or compensated at the cost of the contractor in line with the entitlement matrix.						

					Responsibilities		
Project Activity or Environment Impacts/ Risks	Mitigation Measures	Performance Standard	Budget/ Source	Schedule	Implementation	Supervision	Contractor
Generation of dust, noise and general disturbance and disruption to affected communities Air: air pollution emissions from vehicles travelling to/from project sites and additional emissions from traffic congestion where roads are blocked Noise: Presence of construction workers generating noise, material mobilization, and construction vehicles travelling to/from project sites etc.	- Comply with the EMP including ECoP during construction works and contractors' approved CEMP including Material Management Plan (MMP) and Pollution Prevention Plan (PPP) sub-plans - Provide at least fifteen days advance notice to local community through town/village heads about the schedule of and details of planned works and continue to undertake consultation with affected persons. - Ensure all stationary emission sources are maintained in good working order in accordance with manufacturer instructions and have passed applicable green sticker emission tests. - Open burning of wastes/garbage generated by project-related activities to be strictly prohibited - Impose speed limits on project vehicles to minimize the spread of dust from roads along areas where sensitive receptors are located (residences, commercial, schools, clinics, PCR/temples, etc.) - During night no works will be permitted, contractors working hours will be 7 am – 7 pm, unless in commercial zones with dense urban areas for reasons of road safety and avoiding traffic congestion it is otherwise agreed in writing with the municipal authorities and following consultation with all adjacent	Compliance with GoN regulations and guidelines including emission standards No increase in existing background air pollution levels Compliance with noise levels: Industrial Zone: Daytime limit is 75 dBA, Nighttime: 70 dBA; Commercial Zone: Daytime 65 dBA, Nighttime 55 dBA; Residential Zone: Daytime 55 dBA, Nighttime 45 dBA; Silence Zone (Schools/Hospitals): Daytime 50 dBA, Nighttime 40 dBA.	Contractors to reflect in contract costs	Prepare during pre-construction and comply throughout construction stage (mobilization, construction, and commissioning works)	PMD SCADA PIU supported by PMU	NEA PMU/Safeguard Unit support by PISC	Implement mitigation measures for the duration of construction

					Responsibilities		
Project Activity or Environment Impacts/ Risks	Mitigation Measures	Performance Standard	Budget/ Source	Schedule	Implementation	Supervision	Contractor
	residents/occupants of buildings to avoid noise nuisance - If air and noise standards/ guideline levels are exceeded, an increase in existing background air pollution or noise (>3dB) levels is recorded where they were already exceeded or complaints are received contractors will be required to implement additional noise mitigation - Sound levels received by workers must not be over 85 dB(A) during continuation of 8 working hours without wearing PPE.	Strictly Enforce the No-Horn Regulation: Implemented heavily in Kathmandu Valley, this rule bans vehicular honking except in strict emergencies. EMP/CEMP requirements successfully implemented as determined through regular site checks, photographic record etc. No outstanding dust, noise and general disturbance and disruption grievances from local communities or other interested stakeholders					
Use of water resources including potable water supply for workers.	Comply with the EMP including ECOP during construction works and contractors' approved CEMP including MMP and PPP sub-plans	Compliance with GoN regulations and guidelines	Contractors to reflect in contract costs	Prepare during pre-construction and comply	PMD SCADA PIU supported by PMU	NEA PMU/Safeguard Unit support by PISC	Implement mitigation measures for the duration of construction

					Responsibilities		
Project Activity or Environment Impacts/ Risks	Mitigation Measures	Performance Standard	Budget/ Source	Schedule	Implementation	Supervision	Contractor
Open defecation or disposal of untreated sanitary effluent from workers sanitation (and any septic tank) to surface or ground water causing water pollution.	- Records of generated waste, and transfer records will be kept by the contractors. Contractors will keep copies of the waste management company's licenses on file at the site office. - Document all volumes and types of wastes generated and removed off site (inert, solid, hazardous) using transfer notes, to be taken by licensed waste contractors who should reuse/recycle or dispose of the waste according to type to suitably licensed and engineered waste management facilities. - Construction activities must not limit the availability of or restrict access to water sources used by local communities for drinking or hygiene purposes. - No construction material, solid waste, toxic or hazardous material to be poured or thrown into drains or waterbodies for dilution or disposal.	No deterioration in soil and water quality from baseline levels EMP/CEMP requirements successfully implemented as determined through regular site checks, photographic record etc. No outstanding grievances from local communities or other interested stakeholders		throughout construction stage (mobilization , construction, and commissioning works)			
Generation of construction wastes use of hazardous materials Disposal of inert soil inappropriately on land or in nearby water bodies Disposal of solid wastes (cable off	Comply with the EMP including ECOP during construction works and contractors' approved CEMP including PPP and construction waste management plan (CWMP) sub-plans, following the General EHS Guidelines including on the use and storage of any fuel, oil, and chemical including prevention and control of hazards associated with spill prevention, emergency response, clean up and contaminated soil remediation.	Compliance with GoN regulations and guidelines including discharge standards No deterioration in soil and water quality from baseline levels	Contractors to reflect in contract costs	Prepare during pre-construction and comply throughout construction stage (mobilization , construction, and	PMD SCADA PIU supported by PMU	NEA PMU/Safeguard Unit support by PISC	Implement mitigation measures for the duration of construction

Project Activity or Environment Impacts/ Risks	Mitigation Measures	Performance Standard	Budget/ Source	Schedule	Responsibilities		
					Implementati on	Supervision	Contractor
cut, packaging) inappropriately on land or in nearby water bodies Disposal of hazardous wastes like fiber optics off cuts- as the microscopic glass shards pose severe skin, eye, and ingestion hazards rather than chemical toxicity inappropriately on land or in nearby water bodies	- Managing fibre optic off-cuts - immediate on-site containment in puncture-proof, labelled sharps containers. Splicing crews must wear safety glasses and nitrile gloves, using sticky tape instead of brooms to collect stray fibres to prevent them from becoming airborne. Once sealed, these containers to be double-bagged and sent to approved industrial landfills for final disposal. - No incinerated or burned openly due to the toxic fumes released by the plastic cable jackets. - Fuel, oil, and chemicals used to be kept under lock and key and stored in labelled, sealed containers on drip trays to provide secondary containment. In designated storage areas, they will be located on an impermeable surface and be under cover. - Provide spill prevention kits (sorberent pads, loose sorberent material, etc.) at storage areas and other at-risk locations within clearly labelled containers. - Provision of designated hard standing areas for equipment servicing, refuelling and wash down at least 50m from watercourses, with drainage directed through oil and grease interceptors before being discharged into a settling pond prior to discharge offsite. - No wastewater will be discharged	EMP/CEMP requirements successfully implemented as determined through regular site checks, photographic record etc. No outstanding pollution or waste related grievances from local communities or other interested stakeholders		commissioning works)			

Project Activity or Environment Impacts/ Risks	Mitigation Measures	Performance Standard	Budget/ Source	Schedule	Responsibilities		
					Implementati on	Supervision	Contractor
	direct to surface waterbodies or groundwater without adequate treatment. • Use of pit latrines will be prohibited as will be open defecation and urination and uncivil use of roads or private premises by construction workers. • For the transient works provision of adequate on-site temporary sanitation facilities (one toilet per six workers) that do not allow untreated disposal of sewage to adjacent water bodies e.g., portable toilets where the wastewater generated is enclosed in a container and will later be taken offsite for wastewater treatment and disposal. In urban areas arrangements for access to alternative sanitary facilities (e.g., existing public toilets) that do not allow untreated disposal of sewage to adjacent water bodies may be provided. • Minimize waste generation, restrict use of plastics and polyethene and use recyclable/biodegradable materials during construction to the extent possible. • Collect and transport construction waste to appropriately engineered and licensed solid/hazardous waste management facilities, including: • E-Waste/FO waste Management: Doko Recyclers (Bhaktapur/Lalitpur): They operate specialized mechanical wire-strippers and						

					Responsibilities		
Project Activity or Environment Impacts/ Risks	Mitigation Measures	Performance Standard	Budget/ Source	Schedule	Implementation	Supervision	Contractor
	cable processing units. They can safely strip the outer armor and jackets of the cable mechanically without resorting to open burning, which is a major environmental hazard across the country.						
Occupational health and safety of workers – falls, accidents during loading and unloading activities, working along/beside roads, exposure to increased noise etc. Unsanitary and unhealthy working conditions including at overnight accommodation provided by employer, leading to H&S incidents/accidents e.g., slips, trips, falls from height/poles, electrocution during FO installation in electrical poles, SS installations, working along or within running road, working in complex terrain prone to landslides, heavy	- Comply with the EMP including ECOP as well as following the agreed detailed design, complying with approved CEMP including H&S and labor management sub-plans and the IFC EHS General Guidelines in relation to occupational health including the IFC EHS Guideline on Construction and Demolition and the IFC Telecommunications Guidelines, and the ILO safety and health in construction guidelines and avoid H&S incidents by taking a “zero tolerance” approach to the works. - The power supply to the relevant poles/lines shall be cut off, wherever necessary, during FO cable installation to ensure the safety of personnel and equipment. - Contractor is responsible for ensuring H&S of everyone on construction site including visitors and sub-contractor workers regardless they have been formally or informally employed. - Ensure adequate health and safety supervision is always on site - Require workers to confirm they have seen and understood the requirements of the health and safety plan before proceeding with the work.	Compliance with GoN regulations and guidelines No fatalities or lost time incidents 100% of H&S incidents including near miss recorded, immediately investigated, and corrective action taken to prevent repeat. EMP/CEMP requirements successfully implemented as determined through regular site checks, photographic record etc. No outstanding health and safety	Contractors to reflect in contract costs	Prepare during pre-construction and comply throughout construction stage (mobilization, construction, and commissioning works)	PMD SCADA PIU supported by PMU	NEA PMU/Safeguard Unit support by PISC	Implement mitigation measures for the duration of construction Any incidents and how they were handled, will be reported in monthly progress reports by the contractor to the EA. Any long-term absences of safeguards staff will be approved by EA within 7 days of receiving official applications with CV of nominated alternate or replacement. CV may be declined if not comparable to the original staff.

Project Activity or Environment Impacts/ Risks	Mitigation Measures	Performance Standard	Budget/ Source	Schedule	Responsibilities		
					Implementati on	Supervision	Contractor
rainfall, flooding, working along major rivers, drowning, earthquake and human health impacts from noise, ponding of water for mosquitos, spread of communicable diseases	- Each transient work gang will have with them on site at all times canned drinking water, first aid kit and fire extinguisher (in case of forest fires) - FO Installation equipment/ SS RTU, panel/system installations used on or around the site will be modern and fitted with appropriate safety devices. - Ensure good housekeeping at construction site, storage areas, staff accommodation, etc. -- to be kept neat and tidy, e.g., no materials, equipment, trash laying around, cleanup worksites so that they are free of debris on daily basis. - Enforce GoN Workplace Noise Standards: - Standard Limit: The maximum Permissive Exposure Limits (PEL) is 90 dBA for an 8-hour workday. - Exchange Rate: A 5 dBA exchange rate applies. If noise increases by 5 dBA, safe exposure time cuts exactly in half. 95 dBA is allowed for a maximum of 4 hours. 100 dBA is allowed for a maximum of 2 hours. - Absolute Ceiling: No worker exposure exceeding 115 dBA is permitted under any circumstances.	grievances from workers					
Community health and safety risk from equipment mobilization,	Comply with the EMP including ECOP as well as following the agreed detailed design, complying with approved CEMP including H&S and	Compliance with GoN regulations and guidelines	Contractors to reflect in contract costs	Prepare during pre-construction	PMD SCADA PIU supported by PMU	NEA PMU/Safeguard Unit support by PISC	Implement mitigation measures for the duration of

Project Activity or Environment Impacts/ Risks	Mitigation Measures	Performance Standard	Budget/ Source	Schedule	Responsibilities		
					Implementati on	Supervision	Contractor
installation activities, traffic congestions, as a result of FO network passing alongside houses, busy/congested settlements or sensitive land uses like schools, hospitals, etc. Risks to community due to installation activities including traffic, storage of materials/cables along roadside and private lands, inappropriate disposal of wastes, noise, etc. Spread of communicable diseases including HIV/AIDS, and other STDs from presence of migrant workers especially in rural area with risks increased due to transitory nature of the FO network line works	traffic management sub-plans and the IFC EHS General Guidelines in relation to community H&S • Provide hazard warning signage, and security presence whilst working in areas accessible to the public. • Transport equipment only during non-rush hours i.e., avoid the hours of 6am to 8 am and 4pm to 6 pm with the timing of works planned in conjunction with other construction works to minimize the cumulative impacts they may cause traffic congestion. • In dense urban areas or on busy roads installation works affecting footpaths and roads to avoid rush hours i.e., avoid the hours of 6am to 8 am and 4pm to 6 pm. • Stockpiling of FO cable reels etc. only in designated areas where no access or road use will be blocked. • Temporary pedestrian and traffic diversions are to be put in place per the approved traffic management plan. • Ensure that safe access ways to public and private amenities (including schools) are maintained, safe alternative routes provided and clearly signed where there are temporary diversions or blockages. • Safety guides should be provided where works are on footpaths or in locations of pedestrian crossings to help guide pedestrians, especially vulnerable persons, safely around the working area.	No fatalities or lost time incidents 100% of H&S incidents including near miss recorded, immediately investigated, and corrective action taken to prevent repeat. EMP/CEMP requirements successfully implemented as determined through regular site checks, photographic record etc. No outstanding health and safety grievances from local communities or other interested stakeholders		and comply throughout construction stage (mobilization , construction, and commissioning works)			construction

Project Activity or Environment Impacts/ Risks	Mitigation Measures	Performance Standard	Budget/ Source	Schedule	Responsibilities		
					Implementati on	Supervision	Contractor
Community interactions and conflict with project workers including sexual exploitation, abuse, and harassment from presence of migrant workers Direct or indirect damage to private property and road surfaces; see RIPP for further assessment of land acquisition and temporary damages Stress on use of community resources and services e.g., water supplies, hospitals Traffic congestion including cumulative impacts if existing road works / other activities taking place in parallel with FO line works adjacent to roads Employment and micro level economic	- Safe access to property, footpaths and roads should be maintained and safe alternative routes and access provided and clearly signed where there are temporary diversions or blockages. - Road safety standards and norms to be strictly implemented by contractor, construction vehicles to strictly follow GoN road regulations - On completion of construction works roads must be left by the contractors in no poorer condition than when construction started. - For congested and narrow roads flagmen should be utilized to warn road users of the situation. - Where the execution of the works requires single-lane operation/beside public road the contractor will provide and maintain all necessary barriers, warning signs and traffic control signals to the satisfaction of the Local authority. Wherever traffic diversions, warning signs, traffic control signals, barriers and the like are required, the contractor will install them prior to commencing the work, in that area. - Upon completion of the works for which the temporary traffic arrangements or diversions have been made, the contractor shall remove all temporary installations and signs and reinstate all affected roads/sections and other structures or installations to the conditions that existed before the work started.						

					Responsibilities		
Project Activity or Environment Impacts/ Risks	Mitigation Measures	Performance Standard	Budget/ Source	Schedule	Implementation	Supervision	Contractor
development opportunities from provision of accommodation for workers etc.	For schools and templates adjacent to FO alignment, ensure workers do not loiter outside of PCR/temples/churches, etc. and school/college gates; avoiding movement of materials to site and works during school start/finish times and any gathering in temples.						
Risks of damages to physical cultural resources FO during installation.	Comply with the EMP including ECoP during construction works and contractors' approved CEMP including chance find procedures.	Compliance with GoN regulations and guidelines EMP/CEMP requirements successfully implemented as determined through regular site checks, photographic record etc. No outstanding property grievances from local communities or other interested stakeholders	Contractors to reflect in contract costs	Prepare during pre-construction and comply throughout construction stage (mobilization, construction, and commissioning works)	PMD SCADA PIU supported by PMU	NEA PMU/Safeguard Unit support by PISC	Implement mitigation measures for the duration of construction
Operational and Maintenance Phase							
EHS impacts and risks of the project during O&M in general including occupational and	During maintenance activities mitigation measures applicable to the installation phase are also applicable to NEA maintenance workers or contractors and are to be followed.	Compliance with GoN regulations and guidelines	NEA internal cost	Prepare during pre-construction/ construction	NEA SCADA PIU	NEA PMD/PMU/Safeguard Unit	NA

Project Activity or Environment Impacts/ Risks	Mitigation Measures	Performance Standard	Budget/ Source	Schedule	Responsibilities		
					Implementati on	Supervision	Contractor
community health and safety risks	- Carry out regular inspections on the FO Network and periodic maintenance to ensure that integrity of the pole and FO network is in good condition. - Regular pruning or lopping of trees ensure the integrity and safety of the FO network/cable. - Removal of invasive plant species growing/climbers in Towers during routine vegetation maintenance in an ecologically sound manner - Prohibit the use of herbicides, pesticides or burning to control any vegetation growth or to manage vegetation waste. - O&M to be performed only by suitably qualified and experienced workers who are regularly trained staff of NEA or a contactor under supervision of a Health and Safety Officer with an appropriately equipped first aid kit immediately available for use - Restricting working at height only by workers who are trained and certified to do so. - O&M workers to be given required PPE and other requisite safety equipment. - Workers to observe guidelines to minimum approach distances for tools, vehicles, pruning, and other activities. - Testing of structural integrity of poles prior to proceeding with the work and the use of fall protection measures such as harnesses, tool bags, ropes etc.	No fatalities or lost time incidents 100% of H&S incidents including near miss recorded, immediately investigated, and corrective action taken to prevent repeat. Compliance with safety clearances along OH distribution lines EMP requirements successfully implemented as determined through regular site checks, photographic record etc. No outstanding grievances from local communities or other interested stakeholders		phase and comply throughout O&M			

Project Activity or Environment Impacts/ Risks					Responsibilities		
	Mitigation Measures	Performance Standard	Budget/ Source	Schedule	Implementati on	Supervision	Contractor
	• Proper grounding and deactivation of live power lines when working on FO poles near power lines. • In the event of an incident such as pole toppling/ buckling/leaning NEA staff/community must immediately notify the nearest NEA office for handling measures: technical O&M staffing to inspect and repair. • In case of fire events, and other related situations, given the NEA may not be available immediately in rural locations the community should be educated with respect to emergency response with 24/7 emergency contact numbers for NEA included on signs; NEA will need to ensure this is manned 24/7 to ensure that it is effective reporting route.						

TABLE 3: NEA DIGITAL NETWORK AND SCADA EXPANSION PROJECT ENVIRONMENTAL MONITORING MATRIX

Project Activity or Environment Impacts/ Risks	Project Stage	Monitoring Parameters	Method of Monitoring including Standards/ Guidelines	Frequency and Timing	Location	Performance Standard	Overall Implementation responsibility (NEA PMD/PMU/SCADA PIU)	Supervision of Contractors works (PMD/PMU/SCADA PIU/PISC Safeguards Unit)
Health and Safety – incidents	Pre-Construction Enabling Works, Construction, and Commissioning	Records of health and safety incidents	Keep records of near miss, minor, lost time, and fatal health and safety incidents related to the project, compile records from construction sites Carry out interviews with workers and the community to identify if any unrecorded incidents occurred.	Monthly	FO installation sites, Distribution Substations, DCC Buildings, Billing Stations, Data Center and Disaster Recovery Center including temporary construction facilities	Zero lost time incidents or fatalities (among workers and community) For 100% lost time incidents or fatalities immediate action taken to avoid repeat or escalation of situation	Contractor to undertake monitoring and report to NEA PMD in monthly and quarterly progress reports.	Check monitoring being undertaken and document compliance in EMR
	Operation and Maintenance			Monthly	All FO network lines, poles buildings/centers	All incidents including minor and near miss dealt with in accordance with EMP with lessons learnt for future 100% lost time and fatalities reported to PMD within 24 hours and ADB within 48 hours	PMD/SCADA PIU to undertake monitoring and report monthly to NEA headquarters	Check monitoring being undertaken and document compliance in EMR
Drinking water supplies	Pre-construction preparations	Nepal's National Drinking Water Quality Standards (NDWQS) 2079 drinking water parameters (full suite)	Water sample is to be taken in a clean, non-contaminated, well-sealed container and tested within the next 48 hours by accredited laboratory	One time for baseline (before work starts) establishment to ensure source of water suitable as drinking water	Sources of drinking water for construction/ operation of project for which supplier is unable to provide copies of drinking water tests to confirm compliance.	NDWQS 2079 drinking water parameters	Contractor to undertake monitoring and report to NEA/PMD in monthly and quarterly progress reports.	Check monitoring being undertaken and document compliance in EMR

Project Activity or Environment Impacts/ Risks	Project Stage	Monitoring Parameters	Method of Monitoring including Standards/ Guidelines	Frequency and Timing	Location	Performance Standard	Overall Implementation responsibility (NEA PMD/PMU/SCADA PIU)	Supervision of Contractors works (PMD/PMU/SCADA PIU/PISC Safeguards Unit)
	Pre-Construction Enabling Works, Construction, and Commissioning			Quarterly				
Water resources	Pre-Construction Enabling Works, Construction, and Commissioning, Operational and Maintenance	Water volume used and source	Keep records of all water used and source.	Ongoing	Installation sites, FO alignments, SS, centers, including temporary construction facilities	No grievance received during construction or operation regarding conflict with other water users	Contractor to undertake monitoring and report to PMD in monthly and quarterly progress reports.	Check monitoring being undertaken and document compliance in EMR
Hazardous materials– incidents	Pre-Construction Enabling Works, Construction, and Commissioning, Operational and Maintenance	Pollution incidents	Records of pollution incidents (e.g., type of material spilled, amount in kg or m ³ , and action taken to clean up) Carry out visual inspection and interviews with workers and the community to identify if any unrecorded incidents occurred	Weekly	FO Line and SS installation sites, including temporary construction facilities, storage areas	Zero major incidents occurred. Minor incidents responded to in accordance with EMP with lessons learnt for future.	Contractor to undertake monitoring and report to PMD in monthly and quarterly progress reports.	Check monitoring being undertaken and document compliance in EMR
Waste Generation	Pre-Construction Enabling Works, Construction, and Commissioning, Operational and Maintenance	Volume of waste generated, and disposal route	Keep records of all types of materials used and wastes produced by type, volume/weight. Document waste disposal through transfer notes including type, volume/ weight, transport provider, intermediaries if any and final treatment	Monthly	FO Line and SS installation sites, including temporary construction facilities, storage areas	Transfer of 100% of construction wastes documented, and all wastes disposed of in an environmentally safe and sound manner in accordance with IFC General EHS Guidelines	Contractor to undertake monitoring and report to PMD in monthly and quarterly progress reports.	Check monitoring being undertaken and document compliance in EMR

Project Activity or Environment Impacts/ Risks	Project Stage	Monitoring Parameters	Method of Monitoring including Standards/ Guidelines	Frequency and Timing	Location	Performance Standard	Overall Implementation responsibility (NEA PMD/PMU/SCADA PIU)	Supervision of Contractors works (PMD/PMU/SCADA PIU/PISC Safeguards Unit)
Vegetation Loss / Wildlife Disturbance	Pre-construction preparations	Habitats, presence of notable flora and fauna pre-construction	Habitat walkover survey by field ecologist with specialist ecology surveys if required for natural and critical habitat assessment	One time for baseline establishment prior to the start of any activity on site	FO network area/sites, including temporary construction facilities	Only types of habitats documented including no natural habitat and number of trees needing to be trimmed/pruned through appropriate detailed design. No damage to other habitats/trees/vegetation outside the FO network sites Zero biodiversity incidents occurred. No loss of CR/EN/VU species of flora and fauna including critical habitat species. Temporarily disturbed areas restored to at least pre-project construction condition.	Contractor to undertake monitoring and report to PMD in monthly and quarterly progress reports.	Check monitoring being undertaken and document compliance in EMR