Environmental Monitoring Report

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Semestral Report (July-December 2021)
February 2022

Cambodia: National Solar Park Project

Prepared by the Electricité Du Cambodge (EDC) and the Asian Development Bank.

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CONSULTING SERVICES FOR PROJECT IMPLEMENTATION CONSULTANT
FOR NATIONAL SOLAR PARK PROJECT

CONTRACT NO. CS-NSPP-ADB-EDC-2020-01
ADB LOAN NO. 3789-CAM (COL)

SEMI-ANNUAL ENVIRONMENTAL MONITORING REPORT N° 2 (JULY TO DECEMBER 2021)

February 2022

Prepared by Project Management Unit of the EDC under technical supports from JOINT VENTURE OF NEWJEC INC. AND CHEANG ENGINEERING CONSULTANTS CO., LTD

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1 ENVIRONMENTAL SAFEGUARDS SUMMARY

1.1 Summary of Project Progress

1. The second Semi-annual Environment Monitoring Report (SEMR) covers the period of July to December 2021 for National Solar Park Project (Transmission line and Substations) in the provinces of Kampong Chhnang and Kampong Speu, ADB Loan No 3789 - CAM (COL). The SEMR has been prepared to fulfil the safeguard policy requirement of ADB.
2. The SEMR is prepared by PIC and checked by SEPRO/EDC.
3. The following table gives a brief summary of the project progress for contract award, construction and key activities in this reporting period:

Table 1: Summary of Project Progress

Safeguards Category	Environment	B	
Reporting Period:	July to December 2021	Date Last Report Issued: February 24, 2022	Not applicable
Contracts Awarded to Date:	Substation and Towers of Transmission Line– pre-construction period (design stage in progress)		
Construction Progress to Date:	The physical construction progress is as follows: - The package including substations, GS6 substation, and 230 kV transmission line has been contracted with Xian Electric Engineer Co. Ltd on 04 March 2020. - The civil works have been started by middle of April 2021 for the substation and by Middle of June 2021 for the tower. - The progress of the overall physical/construction works including the national solar park for period from July – December 2021, the GS6 substation, the transmission line and access road are completed 45%. Details of the construction progress are: (i) National Solar Park Substation is completed 40%; (ii) GS6 substation is completed 0%; (iii) Transmission line is completed 35%; and (iv) access road is completed 0%.		
Key Sub-project Activities in this Reporting Period:	Project name: National Solar Park Components: Substation, GS6 Substation (upgrade), and 230kV Transmission Line. For general status and progress: - Final Report of ISEIA, dated on 29 July, 2021. - Final approval of the IESIA and license from MoE was issued in September 2021 (as attached in annex 1) - Approve CEMP report 30 July, 2021. - Resubmit for Approval on Cable Trench drawing on 29 July, 2021. - Invitation for EMP Training on 1 December 2021. - Submission of additional service for procurement of substation equipment utilizing loan saving for NSP on 19 Aug 2021. - Submission of Monthly report No.16 on 24 Aug 2021 - Arrival Notice for consultant of National Solar Park on 27 Aug 2021 - Resubmission for Approval on Solar Park S/S layout and section drawing on 30 Aug 2021. - RFC the 22kv switchgear data sheet, technical specification and drawing on 30 Aug 2021.		

	- Submission for Approval on work schedule of National Solar Park on 30 August 2021. - RFC the Gantry and Outdoor steel support structure drawing - Submission for Approval on work schedule of NSP on 02 Sept. 2021. - Submission for Approval on 115kv line equipment support drawing on 06 Sept. 2021. - Submission of Monthly Progress Report (MPR) No.17 (August,2021) on 13 Sept. 2021. - Submit the Approval on Solar Park Substation control building electrical and Mechanical Drawing on 29 Sept. 2021. - Submit the Approved on Solar Park Substation Control Building Architectural drawing on 29 Sept. 2021. - Submit the Approval on Solar Park Substation Structural of Control Building drawing 29 Sept. 2021. - Submit the Approval on solar park substation control building of Water supply and drainage system drawing on 29 Sept. 2021. - Submit the Approval on drainage system drawing on 29 Sept. 2021. - Submit the Approval on Motorcycle Parking drawing on 29 Sept. 2021. - Invitation for EMP Training on 10 November 2021. - Request to contractor (Xian Electric Engineering) to assign the construction Manager on 12 November 2021. - Departure Notice for International consultant for NSP on 09 Dec 2021. - Approved with Condition on tower grounding drawing revised C on 13 Dec 2021. - Submit Monthly report No.20 (November 2021) on 14 Dec 2021. - Approved with condition on 115kv outdoor equipment foundation rev B on 22 Dec 2021. - Return for Correction on GS6 S/S switchyard section and string drawing on 24 Dec 2021. - Approved with Condition on Bored pile foundation design drawing on 28 Dec 2021. - Return for Correction on Bored pile foundation calculation on 30 Dec 2021. - Submit CAP implementation report section 1, 2 and 3 on 30 Dec 2021. - EMP Training on 1 December 2021 (Minute of Meeting was attached in annex 2).
Report prepared by:	PIC (Project Implementation Consultant)
Report checked by:	SEPRO/EDC

4. The Environmental Monitoring Report (EMR) findings are based on progress reports and site visits between July and December 2021 as follows:
    - Reviewing the previous monthly/environmental reports that prepared by the contractor:
    - Reviewing monthly/environmental report of the contractor:
        - Screen the issues that happened in the field and the result of environmental mitigation measures performed by the contractor;
        - Find out the compliance with EMP in the IEE report and Cambodia's regulation and law.

- Site monitoring: Use environmental monitoring checklist, consultation (directly ask the question to the project workers and people living nearby the project sites), and visual: During the field observation on environmental mitigation measure that implemented or rectified by the contractor, Xian Electric Engineer Co. Ltd. This methodology also has been applied for other environmental monitoring items, and the degree of impact has been recorded and photographed to prove the impacts (good or bad) are used.

5. All works in the Construction stage are proceeding in accordance with the provisions of the EMP, such as review of monitoring report format, regulatory compliance action plan and camp layout review and preparation of site camp and approval by local authorities.
6. The Environmental Management Plan (EMP) is successfully being implemented by the Contractor through the PIC (Environmental Consultant) engaged by the executive agency. Based on ADB advice, a Construction Environmental Management Plan (CEMP) should be developed and approved by the PMU. PIC, therefore, asked the contractor to develop the CEMP immediately. The CEMP was finalized and approved on 30 July 2021.
7. For this second semi-annual report, from July to December 2021, the construction activities will be ongoing progress works for substations and most transmission-line parts. As the result, the progress of the overall physical/construction works including the national solar park, the GS6 substation, the transmission line and access road are completed 45%. Details of the construction progress are: (i) National Solar Park Substation is completed 40%; (ii) GS6 substation is completed 0%; (iii) Transmission line is completed 35%; and (iv) access road is completed 0%.
8. Various proactive measures are being taken to implement the project in compliance with requirements, prevent damages to heritage structures, coordinate with relevant agencies, communicates with the public, and address the grievance of the local residents. Areas such as public communications, documents, and reporting need further enhancement.

1.2 Summary of EMP Implementation

9. EMP implementation is summarized in the following points for this reporting period:
   - Provision of first aid kit, fire extinguishers and PPE were done.
   - Waste lubricants and oil are kept in and kept at a proper place.
   - Water tank for clean water storage was provided and installed in camp site;
   - Traffic signage were installed to ensure people's safety guidelines to the construction zones;
   - Personal protective equipment (PPE) were provided to all the workers;
   - Dust control: Water is sprayed by water truck to control dust in the construction area. Condition of Air quality, Noise and vibration levels were good due to the site observation; Dust control was implemented;
   - COVID-19 precautionary measures were being implemented
   - There are no water body or water source nearby the worksite of substation, so, water pollution is not identified;
   - Solid and liquid wastes were properly managed and disposed
   - Campsite/Worker's Camp were provided for workers

Water was regularly sprayed to avoid dust in the worksite

Drilling well for worker at the worksite

Clean Water tank for washing clothes and other consumption in worksite/Camp site

Toilets are installed at the site

Waste bins were provided at the workste

1.3 Summary of EMP Monitoring

10. EMP monitoring during the construction period was currently being established. Xian Electric Engineer Co. Ltd is just fully mobilized at the project sites in April 2021 for substation and middle of June 2021 for the tower. For this second Semi-Annual Environmental Monitoring Report is from July to December 2021. The progress of the overall physical/construction works including the national solar park, the GS6 substation, the transmission line and access road are completed 45%. Details of the construction progress are: (i) National Solar Park Substation is completed 40%; (ii) GS6 substation is completed 0%; (iii) Transmission line is completed 35%; and (iv) access road is completed 0%.

11. EMP monitoring is summarised in the following points, for this reporting period from July to December 2021:

    a) A number of Monitoring Visits to Construction Sites and wider area:
        - Three visits by PMO/SEPRO/ EDC
        - Two visits by PIC. The following concerns were highlights of the following site visits;

    b) Site inspection:
        - Site inspection at GS6 substation for preparing survey and extension design work.
        - Site inspection of transmission line route for preparing transmission line route survey
        - Site inspection at new substation for preparing drawings of location of NSP substation
        - Site Inspection of transmission line for approval of Section 2
        - Site inspection of transmission line for approval of Section 1
        - Site inspection of transmission line for starting Flat Plan survey for Sections 1 and 2
        - Site inspection of transmission line for approval of Flat Plan Drawing for Sections 1&2
        - Site inspection at GS6 substation for preparing dead end tower design work.
        - Site inspection of Standard Penetration Test (SPT) and Dinamic Cone Penetration (DCP) test for Sections 1 and 2.
        - Site inspection at NSP substation for proposing new NSP location.
        - PIC Conducted site inspection together with the contractor on 28 November 2020.
        - PIC site inspection for checking the progress of Constitution work on July 30, 2021
        - PIC site inspection for checking the progress of Constitution work on August 31, 2021
        - PIC site inspection for checking the progress of Constitution work on September 22, 2021
        - PIC site inspection for checking the progress of construction work on October 17, 2021.
        - PIC site inspection for checking the progress of construction work on 24 November, 2021.
        - PIC site inspection for checking the progress of construction work on 29 December, 2021

1.4 Summary of Complaints, Issues and Corrective Action

12. No grievance case reported in the period of July-December 2021.

Conclusions:

13. Contractors should continue the implementation of the Environmental Monitoring Plan, perform self-monitoring, highly considering all of the sub plans in the CEMP that approved on 30 July 2021. Monthly Reports with proper documentation should be submitted to PIC and SEPRO/EDC. The actions recommendations during this monitoring period should be implemented in the next reporting period. There were no significant environmental impacts observed during the reporting period, and a few short-coming on follow-up with regulatory agencies, regular technical support by PIC's environment consultants, public communications, documentation, and reporting were observed for which necessary corrective measures have to be taken.

2 SAFEGUARDS STAFF, TRAINING AND DOCUMENTATION

2.1 Implementation Arrangements

14. The environmental management plan (EMP) was defines the institutions and responsibilities for environmental safeguards and EMP implementation.

    1) EDC is the executing agency (EA) of the project: EA is overall project management to ensure that project complies with loan covenant.
    2) PMO. PMO have formed Social, Environment and Public Relations Office (SEPRO) in charge of the social and environmental issues and also to monitor the EMP implementation for the whole Project. The PMO leaders and staff in charge of each package, are aware of responsibilities of the implementation of environmental impacts mitigation measures. The PMO staffs are in close coordination with PIC, thus compliance to the Update EMP is gradually improving.
    3) PIC Consultants. Provide support to the PMO and the Contractors through close inspection of implementation of the environmental management measures and daily compliance at site. The consultant regularly submits reports to SEPRO/EDC on monitoring of EMP implementation and compliance of Contractors, which serve as the bases for PMO to provide close guidance at site.
    4) Contractors: try to provide staff in charge of environment and safety to ensure that CEMP is prepared and follow-up. Some of the assigned personnel, however; still have not spent sufficient time for environmental management activities or have not regularly stayed on site., therefore; The PIC consultants provided an orientation training on environment safeguards including the monitoring system to PMO, SEPRO and Contractors on 1st December 2021 as planned.

15. The roles and responsibilities of the different in EMP implementation and monitoring are described in the table below

Table 2: The roles and responsibilities of the different in EMP implementation and monitoring

Agency	Roles/ Responsibilities
Electricite du Cambodge (Executing Agency)	- Responsible for overall supervision and monitoring of the project implementation - Establish the PMO with sufficient staff and appropriate qualification - Ensure implementation of the safeguards planning document is compliant with the loan and grant covenants - Provision of counterpart staff, operational support and budget for project activities - Ensure compliance with all loan and grant covenants
Project Management Office (within EDC)	In coordination with PIC - Responsible for day-to-day project management and supervision - Implement project in accordance with the legal agreements - Coordinate with line ministries to ensure smooth and efficient implementation of the project - Responsible for procurement of goods, works and services - Secure technical and safeguard approvals for all civil works prior to contract award - Ensure compliance with all loan and grant covenants - Implement/comply with safeguards requirements detailed in the safeguard - documents - Responsible for submission of reports, including submission of summary of financial and project accounts and annual financial statements, and safeguards monitoring report

Agency	Roles/ Responsibilities
Social, Environment and Public Relations Office (SEPRO)	In coordination with PMO and PIC - Ensure compliance with ADB safeguards requirements - Ensure compliance and consistency of safeguards documents with the government policy, legal and administrative framework across all jurisdictions--national, state and local - Responsible for overall coordination and reporting for various project activities - Responsible for overall implementation of safeguards requirements
Project Implementation Consultant (PIC)	- Responsible for preparation of safeguards documents - Ensure compliance with safeguards requirements through effective implementation and monitoring of social and environmental safeguards - The PIC will: (a) update, as necessary, the Initial Environmental Examination (IEE), Environmental Management Plan (EMP), and Land Acquisition and Resettlement Plan (LARP), and, after obtaining ADB's approval, oversee their implementation; and (b) supervise the design, supply, installation, and commissioning of the solar park infrastructure works by the EPC contractor. - Project performance monitoring and evaluation, including preparation of progress reports and completion report - The PIC will recruit and manage a local registered firm, who will work with EDC to prepare and submit an Initial Environmental Impact Assessment (IEIA) or full EIA for the solar park infrastructure to the Ministry of Environment (MOE) for clearance and approval, as required, prior to any civil works contract awards.
Contractor	- Preparation of CEMP, and conduct monitoring environmental items basically and follow-up all activities at the project sites, camp site, and other material yards. - Daily/Weekly and monthly monitoring - Monthly Environmental Health, and Safety (EHS) monitoring report - Provide sufficient budget and human resources for the implementation of the EMP/CEMP - Ensure proper and timely implementation of required pre-construction and construction mitigation measures in the EMP/CEMP - Implement additional environmental mitigation measures, as necessary.

16. The specific roles and responsible persons are required to be filled in order to meet the EMP requirements. The following table gives the status of the key specific roles for EMP implementation:

Table 3: Status of Environmental Safeguard Roles

Safeguards Role	Status & Comment			
PIC-Project Consultant Environmental Specialist	**Date Started:**	26 March 2020	Full Time/Part Time	[PT]
	Comment	- Mr. Shusuke Minato - Mr. Chheang You		
SEPRO	**Date Started:**	18 September 2019	Full Time/Part Time	[FT]
	Comment	- Mr. Mao Visal		
PMO GRM Focal Point	**Date Started:**	18 September 2019	Full Time/Part Time	[FT]
	Comment	- Mr. Salim for Transmission Line - Mr. Im Am for Substation		

Safeguards Role	Status & Comment			
Contractor	**Date Started:**	4 March 2020	Full Time/Part Time	[FT]
	Comment	-		
Environmental Monitoring Consultant (EMC)	**Date Started:**	N/A	Full Time/Part Time	[FT]
	Comment	Not yet hired by the Consultant during the report period		
Contractor Environment Health & safety Staff	**Date Started:**	4 March 2020	Full Time	[FT]
	Comment	- Mr. Theng Samrith(for transmission line) - Mr. Keang (for substation)		
GRM Focal Person	**Date Started:**	18 September 2019	Full Time	[FT]
	Comment	- Mr. Bin Sopheakda for SEPRO - Mr. Theng Samrith for contractor		

17. The project concludes that the environmental safeguards roles are in the process of filling up. The Environment, H& S position for Xian Electric Engineer Co. Ltd, the contractor for the substation, transmission line and upgrade GS6.

2.2 Monitoring and reporting System on Environmental Safeguards

18. PMO/SEPRO will establish a system to monitor environmental safeguards of the project including monitoring the indicators set out in the monitoring plan of the EMP. Safeguard team will comprise Social expert, Environmental expert and Technical expert. PMO under technical support from the PIC will prepare quarterly environmental monitoring and semi-annual monitoring report and submit to ADB.

19. The Semi-annual Environmental Monitoring Report (SEMR) will be continuously conducted and updated every 6 months during the construction stage whenever there are adjustments in design or revision in construction methodology to ensure that the mitigation measures are appropriate for the potential impacts. The SEMR for project has been updating due to changes in the project's scopes and monitoring the progressive works to ensure minor environmental negative impacts and people satisfactorily. The PIC consultants provided an orientation training on environment safeguards including the monitoring system to PMO, SEPRO and Contractors on 1st December 2021 as planned.

Table 4: Schedule of Reporting

No.	Activity/Task	2021				2022			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
I	**Understanding the Project and Setting the Schedule**								
1.1	Field visit								
1.2	Update IEEs/EMPs								
1.3	Update CEMP outline for the Contractors and approved by EDC								
II	**Environmental Management Training and Environmental Instruments Monitoring**								
3.1	Provided an orientation training on environment safeguards including the monitoring system to PMO, SEPRO and Contractors on 1st December 2021 as planned.								
3.2	Refresher training on the implementation of the EMP and GRM								
III	**Environmental Monitoring of Construction Impacts**								

No.	Activity/Task	2021				2022			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
4.1	Periodic instrument monitoring 6 months								
4.2	Works with contractors to complete CEMP								
4.3	Visual monitoring and inspection of constructors 'environment management								
4.4	Quarterly report								
4.5	Semi-annual Environmental Monitoring report unit project end								

2.3 Training & Capacity Building

20. The following table gives the environmental safeguards training courses that have been completed during this reporting period. The training courses was hold on 1st December 2021. The minute of meeting was attached in the annex 2.

Table 5: Environmental Safeguards Training Provided and Planned

Training Course Title	Training Date	Participants	Training Provider
Orientation/ training for EMP and GRM Implementation	1st December 2021 (finished)	EDC, PIC, Contractors	PIC's International Environmental Specialist and National Environmental Specialist

2.4 ADB Approvals

21. The following table gives information on the status of the safeguards documents. During this reporting period the safeguard documents of this project is in progress.

Table 6: Status of Environmental Safeguards Documents

Environmental Documents	Update Issued (Latest Version)	Submitted to EDC	Submitted to ADB	Comments
Draft IEE	04 May 2021	04 May 2021	21 May 2021	Not yet finalized due to pending issue in the integration of the bird deflectors into the design and final design of the access road to solar park
Updated EMP	19 March 2021	19 March 2021	24 May 2021	Not yet finalized due to pending issue of the integration of the bird deflectors into the design and final design of the access road to solar park

2.5 National Approvals

22. Final IESIA report will be submit to MOE at the end of July 2021 and Final approval of the IESIA and license from MoE will be expected in September 2021..

23. The following table gives an update on the necessary national approvals required for the project to proceed.

Table 7: Approval of MOE for Submitted Report

Documents	Submitted to MOE	Approved By MOE:	Status – if not approved	Comment
IESIA Report	February 2021	16 September 2021	Approved	Final approval of the IESIA and license from MoE will be expected in September 2021 (as attached in annex 1)

2.6 Construction Environmental Management Plan (CEMP) Approvals

24. As mentioned in the table 2 above, the updated EMP was submitted on May 24, 2021. CEMP will be prepared and submitted by contractor. The CEMP was approved on 30 July 2021.

Table 8: Approval of CEMP

Civil Works Package/ Subproject	CEMP Given to SEPRO/EDC	Approved By SEPRO/EDC PMO:	Comment:
Solar Park project (substation and Transmission Line)	-on progress after updated EMP approval	-Approved on 30 July 2021	-

3 EMP IMPLEMENTATION

3.1 General Note on the Environmental Performance

25. The following table gives the environmental impact mitigation measures in the Borrower (Project) EMP and how the project is progressing with implementing the mitigation measures for project.
26. The evidence for the compliance is through a combination of:
    c) Site visits to observe site practices;
    d) Consultation with affected people;
    e) Regular monthly environmental report from Xian Electric Engineer Co. Ltd, the contractor for the construction of substation, Transmission Line and upgrade GS6.
27. Performance monitoring is required to assess the overall performance of the EMP. A performance monitoring system is normally developed by the EA for the entire subproject. Select indicators of major components of the environment that will be affected primarily by the construction phase are showed from the mitigation and monitoring plans.

3.2 Status of EMP Implementation (Mitigation Measures)

28. This section presents the compliance status of Environmental Management and Monitoring Plans under implementation stage.

3.2.1 Compliance with the EMP during the Pre-Construction Stage

29. All the subprojects require to specify in the EMP with respect to: (i) design measures and public disclosure; (ii) project boundaries/location and change alignment; (iii) environmentally responsible procurement; (iv) allocation, staff mobilization and environmental capacity development; (v) unexploded ordnances of all construction sites; (vi) updating EMP, and reporting.

3.2.2 Compliance with the EMP during the Construction Stage

30. Through continual monitoring, instructions and guidance provided by the PIC consultant, the implementation of environmental impact mitigation measures by the construction contractors is good. There are still shortcomings however, thus compliance will be continuously monitored and improved (see the table of Status of EMP Compliance below).

31. During this stage CEMP has been prepared and updated by the Contractor (Xian Electric Engineer Co. Ltd.). However, based on discussion meeting with the Contractor at site, they have strong commitment to comply all contracts as signed in the bidding documents and contract awards. To be noted that CEMP was approved on 30 July 2021 after resubmitted early July 2021 to EDC and PIC.

Table 9: Status of EMP Compliance

EMP Requirement (Mitigation Measure)	Compliance & Description (Yes, No, Partial)	Comment or Further Explanation if Needed	Reasons for Not Full Compliance
1. Work camps	Complied-Yes	• Accommodation was prepared at campsite.	
2. Toilet	Complied-Yes	• Separate water closet (toilet) with septic for male and female workers • Wash/bathing area	
3. Air quality, Noise and Vibration	Complied-Yes	• Access road in Worksite of substation was well managed to spray water to avoid dust. • There were any noise and vibration identified in the worksite.	

		• Most of the construction site of towers were far from the residential area. • Contractor was not working at night to avoid disturbing the residential people.	 	
4. Waste management	Complied-Yes	• Rubbish bin was provided at the worksite.		
	Complied-No	• Solid wastes were piled at outside the worksite of substation that need to be well managed.		Waste at outside the fence of substation that needs to be well managed.
	Complied-No	• All of the construction materials and other as scaffolding and platform need to be kept tidy.		Contractor need to move these materials to keep at the warehouse or safe place before and after construction.

	Complied-No	• There were some wastes of tree remaining at the IP3 that need to be removed.		Contractor shall remove the waste of tree to avoid impact on paddy rice field.
5. First Aid	Complied-Yes	• First aid kit		
6. PPE	Complied-Yes	• Provision of workers' PPE and uniforms at the worksite of substation and foundation of tower of transmission line		
7. Temperature check	Complied	Contractor provided alcohol at the construction and campsite, and PPE (including face-mask) to all workers. Workers have been checked their temperature daily before starting works.		

32. Most of the EMP subplans are assessed 'Compliant' as the measures are currently implemented. For item assessed as 'Partial', measures are implemented however some minor improvement has to be made.

33. Health and Safety Performance: The following table gives the Health and Safety impact mitigation measures in the Borrower EMP and how the project is progressing with implementing the mitigation measures.

Table 10:Summary of Potential Environmental Impact

Pre-construction Phase
(i) Substation
1) Land acquisition and resettlement, addressed by Resettlement Action Plan (RAP). 2) Land clearing. 3) Detailed Engineering Design (DED)-(Minimize negative environmental impacts)
(ii) Transmission line
1) Land acquisition and resettlement, addressed by RAP. 2) Land clearing. 3) DED (Minimize negative environmental impacts)
Construction Phase
(i) Substation
1) Civil works (e.g., dust, air pollution, noise, solid & liquid waste, erosion, sedimentation, local flooding, land & surface water pollution). 2) Environment, Health and Safety (e.g., no safety vest, no traffic sign, no first aid kit, no PPE for workers use, and bad living environment, unsafe camp site, no clean water, and no bathroom or toilet for workers). 3) Civil disturbance (e.g., increased traffic, reduced access, disrupted business and community activity, social issues from migrant workers, worker and public accidents). 4) Potential impacts including accident, disease transmission, bad living environment and other risk to workers and mechanical during construction.
(ii) Transmission line
1) Increase in dust emissions from site construction, noise arising from construction of the site facilities. 2) Environment, Health and Safety (e.g., no safe belt, no safety vest, no traffic sign, no first aid kit, no PPE for workers use, and bad living environment, unsafe camp site, no clean water, and no bathroom or toilet for workers). 3) Worker camp (bad living environment, no safe clean water, illegal waste disposal, no waste bin, no sanitary toilet) 4) Civil disturbance (e.g., increased traffic, reduced access, disrupted business and community activity, social issues from migrant workers, worker and public accidents). 5) Potential impacts including accident, disease transmission, illegal waste disposal and other risk to workers.
Post-Construction/Operation Phase
(i) Substation
1) Poor Maintenance and management the system 2) No or insufficient training program on maintenance and operation

3)	Environment, Health and Safety (EHS): Potential impacts including accident, disease transmission, bad living environment and other risk to workers, technician and operator during operation.
(ii)	Transmission line
1)	Environment, Health and Safety (EHS): cause of accident to local people and staffs because of miss of news about dangers of project and other risk to workers, technician and operator during operation.
2)	Issues on maintenance and operation if insufficient training program on maintenance, operation and safety to workers and operational staffs, particularly working at high areas.

Table 11: Issues for Further Action

Issue	Required Action	Responsibility and Timing	Resolution
Old Issues from Previous Reports			
CEMP Approval	PMO approval	Contractor/PIC 30 July 2021	Approved
New Issues from This Report			
Update IEE/EMP	ADB approval	PMO/PIC Q1-2022	
Solid waste as mention in the table 9 above.	Contractor shall properly manage and remove.	Contractor December 21, 2021	

3.3 Health and Safety Performance

34. The following table gives the Health and Safety impact mitigation measures in the Borrower EMP and how the project is progressing with implementing the mitigation measures, for all subprojects.

Table 12: **Status of Health and Safety Compliance**

No.	Health and Safety Requirement	Compliance & Description (Yes, No, Partial)	Comment or Further Explanation if Needed	Reasons for Not Full Compliance
1	Measures against COVID-19 pandemic in terms of preventive measures	Yes	Workers are provided with Facemasks, alcohol (for spraying hand) at the project sites, also temperature check daily	None
2	Individual worker has to be protected with helmet and safety boots	Yes	Workers are provided with uniform and applicable PPEs including safe vest, boot, face-mask.	None
3	First Aid Kit	yes	First Aid Kit available in site offices and worker camps	None

4	Solid waste management	no	There were some solid waste at out site of the substation worksite and some wastes from trees at the foundation worksite of tower (IP3)	

35. The health and safety measures have been implemented in order to prevent accidents and health hazards. The worker safety is ensured by providing safety PPEs (helmets, jackets, boots, face mask etc.). Also the hygienic conditions and facilities such as availability of sufficient water, electricity, mosquito nets, separate toilets for man and woman, etc.

Table 13: Health and Safety Issues

Issue	Required Action	Responsibility and Timing	Resolution
Old Issues from Previous Reports			
None			
New Issues from This Report			
Solid waste management	Need to well manage and properly disposal.	There were some solid wastes at out site of the substation worksite and some wastes from trees at the foundation worksite of tower (IP3)	

4. EMP MONITORING

3.4 Environmental Quality Monitoring

36. Environmental quality monitoring requirements are defined in the Monitoring Plan section of the EMP. The following table gives a summary of the environmental quality monitoring requirements.

Table 14: EMP Environmental Quality Monitoring Requirements

Environmental Issue Monitored	Location	Parameters/Method	Frequency	Responsible Organisation
Occupational Health and Safety (OHS) Training	Substation	OHS training log book	Monthly during civil works	Supervision by PIC/SEPRO-PMO/EDC Implementation: Contractor C-EHS
Danger and warning signs (traffic, electricity) for safety of	Substation Access roads / road easements affected by	Ocular inspection / spot checks	Weekly	Supervision by PIC/SEPROPMO/EDC

Environmental Issue Monitored	Location	Parameters/Method	Frequency	Responsible Organisation
workers and the community	delivery of equipment and construction material			Implementation: Contractor C-EHS
Information Disclosure, Participation and Consultation – Distribution of FAQs/ PIB – Community Awareness Program on safety issues / Training in Emergency Response Plan (ERPs) Grievances received / resolution, if any	Communities in and around the Substation	Consultation log book	Once during civil works	Supervision by PIC/SEPROPMO/EDC Implementation: Contractor C-EHS
Loss of habitat	Substation Transmission line alignment Temporary access roads / road easements affected by delivery of equipment and construction material	Ocular inspection	Once before the start of site preparation and civil works, and once after completion of civil works	Supervision by PIC/SEPROPMO/EDC Implementation: Contractor C-EHS
Erosion, spoil control measures such as silt traps, planting and/or sowing soil binding grass	Substation Transmission line alignment Temporary access roads / road easements affected by delivery of equipment and construction material	Ocular inspection	Weekly, and once after completion of spoil disposal	Supervision by PIC/SEPROPMO/EDC Implementation: Contractor C-EHS
Air Quality and fugitive dust Spraying of water to opened land areas and before movement of construction vehicles	Substation Transmission line alignment Temporary access roads / road easements affected by delivery of equipment and	• Hand held/ portable air monitoring devices • Ocular inspection/spot checks Parameters as CO, NO2, SO2, O3, TSP,	Bi-monthly during civil works and once after completion of civil works	Supervision by PIC/SEPROPMO/EDC Implementation: Contractor

Environmental Issue Monitored	Location	Parameters/Method	Frequency	Responsible Organisation
	construction material	Pb, PM10, PM2.5 need to be tested every six months in construction stage, especially at the new substation.	Every day at substation, along transmission line alignment during dry season and weekly during wet season Every semester in construction stage	C-EHS, cooperated with third party or laboratory
Noise and vibration level	Substation Transmission line alignment Temporary access roads / road easements affected by delivery of equipment and construction material	• Noise monitoring using hand-held/portable devices • Ocular inspection/ spot checks	Bi-monthly during civil works and once after completion of civil works (only upon commissioning of the substation) Weekly The results shall be compared with result tested by tool of laboratory of MoE once in construction stage	Supervision by PIC/SEPROPMO/EDC Implementation: Contractor C-EHS, cooperated with third party or laboratory
Smoke belching construction vehicles (emissions)	Substation Transmission line alignment Temporary access roads / road easements affected by delivery of equipment and construction material	Ocular inspection / spot checking	Weekly	Supervision by PIC/SEPROPMO/EDC Implementation: Contractor C-EHS

Environmental Issue Monitored	Location	Parameters/Method	Frequency	Responsible Organisation
Qualitative surface water; Qualitative turbidity levels	Substation Transmission line alignment Temporary access roads / road easements affected by delivery of equipment and construction material	Surface water parameters pH , TDS, TSS, DO, BOD5, COD, Oil and Grease, Detergent, SO4, TN, TP, Pb, As, Cd, Fe, Hg, Total Coliform	Every 6 months for results from laboratory Continuously daily observations recorded in site diary	Supervision by PIC/SEPROPMO/EDC Implementation: Contractor C-EHS, cooperated with third party or laboratory
Quality of transformer oil	Substation	Material Safety Data Sheet (MSDSs) – compliance to IS: 1866: Code of Practice for Electrical Maintenance and Supervision of Mineral Insulating Oil in Equipment	Once	Supervision by PIC/SEPROPMO/EDC Implementation: Contractor C-EHS
Waste management	Transmission alignment Workers' camps, Sorting and Recycling area Controlled Area set up for Hazardous Material storage area Qualitative level of unmanaged and uncontained worker (domestic) and construction solid waste for all construction places	Ocular inspection / spot checks Public complaint, grievance case	Weekly	Supervision by PIC/SEPROPMO/EDC Implementation: Contractor C-EHS
All equipment used is PCB free	Substation	Certification checks	Bi-annually	Supervision by PIC/SEPROPMO/EDC Implementation: Contractor C-EHS

Environmental Issue Monitored	Location	Parameters/Method	Frequency	Responsible Organisation
Occupational Health and Safety (OHS) Training	Substation	OHS training log book	Monthly during civil works	Supervision by PIC/SEPROPMO/EDC Implementation: Contractor C-EHS
Provision of sanitary facilities and wash areas, safe drinking water and garbage bins	Substation	Ocular inspection / spot checks	Once	Supervision by PIC/SEPROPMO/EDC Implementation: Contractor C-EHS
Danger and warning signs (traffic, electricity) for safety of workers and the community	Substation Access roads / road easements affected by delivery of equipment and construction material	Ocular inspection / spot checks	Weekly	Supervision by PIC/SEPROPMO/EDC Implementation: Contractor C-EHS
Information Disclosure, Participation and Consultation – Distribution of FAQs/ PIB – Community Awareness Program on safety issues / Training in ERPs Grievances received / resolution, if any	Communities in and around Substation	Consultation log book	Once during civil works	Supervision by PIC/SEPROPMO/EDC Implementation: Contractor C-EHS
Orientation of Project Staff, Contractors / Sub-contractor(s), Workers, Facility Operators	Project area of influence	• Number of participants • Duration of briefing and orientation exercise	Once	PIC
Maintenance of Sanitary facilities and wash areas, safe drinking water and garbage bins	Substation	Ocular inspection / spot checks	Monthly	Facility Operator / Contractor / C-EHS PIC[1]

[1]PIC role in implementation activities during operation phase will be limited to its contract duration.

Environmental Issue Monitored	Location	Parameters/Method	Frequency	Responsible Organisation
Maintenance of water retention pond, drainage lines	Substation	Operation & Maintenance log sheet	Monthly	Facility Operator / Contractor / C-EHS PIC
Waste management collection, transport and disposal	Substation	• Operation & Maintenance log sheet • Spot checks	Monthly	Facility Operator / Contractor / C-EHS PIC
Maintenance of SOP e.g. for hazardous materials and register of activities involving hazardous materials Maintenance of MSDSs	Substation	Operation & Maintenance log sheet	Monthly	Facility Operator / Contractor / C-EHS PIC
Occupational health, and safety	Substation	Number of incidents/ accidents /near-miss / fatalities	Semi-annually	Facility Operator / Contractor / C-EHS PIC
Community health and Safety Community Awareness Program on safety issues / Training in Emergency Response Plan (ERPs) Grievances received / resolution, if any	Communities in and around the solar park	• Consultation • Log book	Once at commence ment of operation	Facility Operator / Contractor / C-EHS / C-GRM PIC
Vegetation planting, maintenance of hedge growth and field margins, re-seeding of site	Substation, Access roads	Ocular inspection	Quarterly	Facility Operator / Contractor / C-EHS PIC
Bird /Bat collision /electrocution	In and around the Substation/solar park	• Spot checks / observation • Log sheet (carcass counts with taxonomic composition) Operation & Maintenance log sheet	Monthly	Facility Operator / Contractor / C-EHS PIC

Environmental Issue Monitored	Location	Parameters/Method	Frequency	Responsible Organisation
Orientation of Project Staff, Contractors / Sub-contractor(s), Workers	Project area of influence	• Number of participants Duration of briefing and orientation exercise	Once	PIC
Failure of transmission towers	Along the transmission line alignment	Operation & Maintenance log sheet	Monthly	Facility (power system) operator / Contractor / C-EHS
Occupational health, and safety	Along the transmission line alignment	Number of incidents/ accidents /near-miss / fatalities	Semi-annually	Facility (power system) operator / Contractor / C-EHS
Community health and Safety – Community Awareness Program on safety issues / Training in Emergency Response Plan (ERPs) Grievances received / resolution, if any	Communities located along the transmission line alignment	• Consultation log book	Once at commence ment of operation	Facility (power system) operator / Contractor / C-EHS
Electro-magnetic field (EMF[2])	Along the transmission line alignment Substation	Hand held EMF field meters	Annually	Facility (power system) operator / Contractor / C-EHS
Vegetation planting, maintenance of hedges and field margins, re-seeding of sites	Along the transmission line alignment	Ocular inspection	Quarterly	Facility (power system) operator / Contractor / C-EHS
Bird /Bat collision /electrocution	Along the transmission alignment	Spot checks / observation Log sheet (carcass counts with taxonomic composition	Monthly	Facility (power system) operator / Contractor / C-EHS
Pilferage of cables	Along the transmission alignment	Ocular inspection Operation & Maintenance log sheet	Quarterly	Facility (power system) operator / Contractor / C-EHS

37. The above table gives information on the environmental quality monitoring to be implemented by Xian Electric Engineer Co. Ltd. This contractor just started their works at substation in April 2021, while transmission line was in the middle of June 2021. Environmental Quality Monitoring (analysis / sampling) has not been conducted by contractor, Xian Electric Engineer Co. Ltd during this reporting period; however, project has conducted analysis and sampling for air quality, noise and

[2] EMF Electro-magnetic field

vibration in September 2020 for the IESIA. The baseline data is summarized and shown in the tables below.

3.5 Construction Phase Affected People Consultation

38. Consultation with local people were not conducted during the SEMR reporting Period because NO complaint was reported either verbally or recorded in the GRM records regarding environmental issues during this SEMR reporting period.

4 COMPLAINTS, ISSUES, CORRECTIVE ACTION

4.1 Information Disclosure

39. The following table gives information on any information disclosure activities undertaken. The subproject components were introduced to the public and key stakeholders during initial consultation meetings for the transmission line designs and substation, and then again for the DED for project which included verbal and visual presentations of all components of project.

40. The series of consultative meetings for environment for the DED of the project was conducted in March and June 2021 with villagers, villages, Sangkat/communes along the ROW and Substation. Project Information Booklet (PIB) has been prepared and distributed to the communities and local authority.

41. The following table gives information on any information disclosure activities undertaken before construction works started.

4.2 Grievance Redress Mechanism

42. Due to the procedures defined for grievance redress in EMP are:

- A project specific GRM is established as part of this EMP to receive and manage any public concerns or issues that may arise due to the project. The GRM comprises: (i) a set of clear procedures developed by the PMO to receive, record and address any concerns which are raised; (ii) specific contact details for individuals at the PMO / SEPRO and contractors.

- The GRC is expected to: (i) resolve issues on land acquisition (if any), compensation to temporary damages to crops, orchards, trees and other use of land such as temporary / permanent areas for transmission towers / ROW; (ii) resolve issues on dust, noise, vibration, construction related nuisances to APs, households or public; (iii) convene once a month to review complaints lodged (if any); (iv) record the grievances and resolve the issues within the stipulated time from the date the grievance was filed; and (v) report to the complainant(s)/APs the status of grievance resolution and the decisions made or action taken. All contractors including contractor appointed GRM focal person ("C-GRM") and work staff will be briefed by the PIC on GRM.

- The grievance redress process applies to environmental issues and includes four steps may be elevated to the ADB as a last resort, as follows:

Step 1

Any complaints by an AP / complainant can be presented to the Contractor, commune council via village or commune chief, either verbally in person or in writing. The Contractor, village or commune chief will be obliged to provide immediate written receipt of the complaint and take it forward in a written format and share with PMO. The contractor will resolve the issue within one week through negotiation.

Step 2

If or when the AP / complainant is not satisfied with the action or decision of the contractor, the AP / complainant will take the issue to PMO / SEPRO via the commune council. In all cases, the grievances will be recorded in writing and then forwarded to the PMO/SEPRO. SEPRO will have 15 days to resolve the complaint through negotiation. If the issue is not handled within 15 days, or if the complainant is not satisfied with the result, he/she can bring the issue to the District office.

Step 3

The district office has 15 days to negotiate the complaint and bring it into a resolution. If the complaint cannot be resolved in a way that is satisfactory to all parties, the District office will bring the issue to the provincial GRC.

Step 4

The Provincial GRC will meet the AP/ complainant and try to resolve the issue. Within 30 days of the submission of the complaint to the GRC, it has to take a decision and inform in written both the AP/ complainant and PMO / SEPRO of the decision

43. Based on site inspection and the contractor's monthly progress reports from July-December 2021, there were no complaint from villagers.

44. Summary:

- Number of new grievances, if any, since last monitoring period: 0
- Number of grievances resolved: not applicable
- Number of outstanding grievances: N/A

Table 15: Type of grievances by the relevant stakeholders within the project areas

Type of Grievance	Details (Date, person, address, contact details, etc.)	Required Action, Responsibility and Timing	Resolution
Old Issues from Previous Reports			
None			
New Issues from This Report			
None			

5 CONCLUSIONS & RECOMMENDATIONS

5.1 Conclusions

45. In general, the implementation of environmental management measures during pre-construction and construction phases as in the EMP are currently taken into account and assessed to be compliant. Environmental Safeguard document such as the IEE and EMP has been updating based on the DED documents and the documents are in progress. Environmental mitigation measures have progressed and maintained momentum, recognizing the implementation of the Project in line with the Environmental Safeguard Framework. Contractor/subcontractors are required to mitigate environmental impact and the monitoring is being conducted by environmental consultants of PIC and PMO/SEPRO of EDC.

46. COVID 19 measures implemented in the project site. Contractor provided a face-mask and alcohol to workers and checked workers' temperature daily. As planned, formal training on EMP were carried out on 1st December 2021.

47. The contractor provided PPEs including hard hat, jacket, face-mask and boot to all worker and also found the first aid kit available at the construction and campsite.

48. For this period (from July – December 2021), the progress of the overall physical/construction works including the national solar park, the GS6 substation, the transmission line and access road are completed 45% by December 2021 of this 2nd Semi-Annual Monitoring Report of Environment. Details of the construction progress are: (i) National Solar Park Substation is completed 40%; (ii) GS6 substation is completed 0%; (iii) Transmission line is completed 35%; and (iv) access road is completed 0%.

5.2 Recommendation

49. Active areas for improvement and continuation of good practice over the next six months include the following:

    - Overall improvement of environmental performance needs to be monitored.
    - Update the IEE/EMP based on a Detailed Engineering Design (DED) and the bird deflector to minimize risks to birds.
    - Ensure CEMP is updated and approved by EDC/PMU.

- Ensuring public awareness of the GRM is provided to all affected people, community and local authority.
- The PIC's environmental consultants supervise the monitoring of implementing mitigation measures during this construction stage.
- Ensuring a training on EMP and GRM, including a monitoring system, will be provided as planned.
- Ensuring that the contractor complies with all safety training requirements for all construction sites to ensure workers are equipped with the knowledge and PPE to safely undertake the work.
- Ensuring contractor carries out the good practice of Covid-19 following the MoH's and EMP guidance;
- Ensuring safety signs in areas of public access in order to protect community health and safety.
- Ensuring the simple Environmental GRM signboard with contact details is disclosed at all active construction and worker's campsites.
- Submitting SEMR-Jan-June 2022 to ADB by 15 July 2022.

6 Annex:

Annex 1: Approval License from MoE

ព្រះរាជាណាចក្រកម្ពុជា
ជាតិ សាសនា ព្រះមហាក្សត្រ

ក្រសួងបរិស្ថាន
លេខ:១៤៦០/ស.ប.ស.ប.ស

សូមគោរពជូន
ឯកឧត្តមរដ្ឋមន្ត្រីប្រតិភូអមនាយករដ្ឋមន្ត្រី
អគ្គនាយកអគ្គិសនីកម្ពុជា

កម្មវត្ថុ ៖ ការណែនាំនិត្យ និងផ្តល់យោបល់លើរបាយការណ៍វាយតម្លៃហេតុប៉ះពាល់បរិស្ថាន និងសង្គមដំបូង (IESIA) សម្រាប់គម្រោងខ្សែបញ្ជូនអគ្គិសនីតង់ស្យុង ២៣០គីឡូវ៉ុល ពីអនុស្ថានីយអគ្គិសនីខាងជើងរាជធានីភ្នំពេញ (GS6) ទៅអនុស្ថានីយអគ្គិសនីថាមពលព្រះអាទិត្យ នៅស្រុកទឹកផុស ខេត្តកំពង់ឆ្នាំង នៅខេត្តកំពង់ស្ពឺ និងខេត្តកំពង់ឆ្នាំង របស់អគ្គិសនីកម្ពុជា

យោង ៖
- ព្រះរាជក្រមលេខ នស/រកម/១២៩៦/៣៦ ចុះថ្ងៃទី២៤ ខែធ្នូ ឆ្នាំ១៩៩៦ ដែលប្រកាសឱ្យប្រើច្បាប់ស្តីពីកិច្ចការពារបរិស្ថាន និងការគ្រប់គ្រងធនធានធម្មជាតិ
- អនុក្រឹត្យលេខ៧២ អនក្រ.បក ចុះថ្ងៃទី១១ ខែសីហា ឆ្នាំ១៩៩៩ ស្តីពីកិច្ចដំណើរការវាយតម្លៃហេតុប៉ះពាល់បរិស្ថាន
- លិខិតលេខ៦៦៦ សជណ ប.ស្ត ចុះថ្ងៃទី១៩ ខែឧសភា ឆ្នាំ២០២១ របស់ក្រសួងបរិស្ថាន
- លិខិតលេខ៥៥៤៦ លស.អក.ផយគ ចុះថ្ងៃទី១៨ ខែសីហា ឆ្នាំ២០២១ របស់អគ្គិសនីកម្ពុជា
- លិខិតលេខ០៩៤១ លស.អក.ផយក ចុះថ្ងៃទី៨ ខែកុម្ភៈ ឆ្នាំ២០២១ របស់អគ្គិសនីកម្ពុជា
- លិខិតលេខ៨៦៤៩ លស.អក.ផយក ចុះថ្ងៃទី១៩ ខែវិច្ឆិកា ឆ្នាំ២០២០ របស់អគ្គិសនីកម្ពុជា
- លិខិតលេខ១៨៦៤ រ.ហ.ប.ស្ត ចុះថ្ងៃទី៣០ ខែធ្នូ ឆ្នាំ២០២០ របស់នាយកដ្ឋានវាយតម្លៃហេតុប៉ះពាល់បរិស្ថាននៃក្រសួងបរិស្ថាន

សេចក្តីដូចមានចែងក្នុងកម្មវត្ថុ និងយោងខាងលើ ខ្ញុំសូមគោរពជម្រាបជូន **ឯកឧត្តមរដ្ឋមន្ត្រីប្រតិភូអមនាយករដ្ឋមន្ត្រី** មេត្តាជ្រាបថា ក្រសួងបរិស្ថានឯកភាពលើរបាយការណ៍វាយតម្លៃហេតុប៉ះពាល់បរិស្ថាន និងសង្គមដំបូង (IESIA) សម្រាប់គម្រោងខ្សែបញ្ជូនអគ្គិសនីតង់ស្យុង ២៣០គីឡូវ៉ុល ពីអនុស្ថានីយអគ្គិសនីខាងជើងរាជធានីភ្នំពេញ (GS6) ទៅអនុស្ថានីយអគ្គិសនីថាមពលព្រះអាទិត្យ នៅស្រុកទឹកផុស ខេត្តកំពង់ឆ្នាំង មានទីតាំងស្ថិតនៅក្នុងភូមិសាស្ត្រខេត្តកំពង់ស្ពឺ និងខេត្តកំពង់ឆ្នាំង របស់អគ្គិសនីកម្ពុជា (ម្ចាស់គម្រោង) ដោយម្ចាស់គម្រោងត្រូវគោរពតាមកិច្ចសន្យាការពារបរិស្ថានលេខ៦០១១ អក.ផយគ ចុះថ្ងៃទី៧ ខែកញ្ញា ឆ្នាំ២០២១ របស់អគ្គិសនីកម្ពុជា។

អាស្រ័យដូចបានគោរពជម្រាបជូនខាងលើ សូម **ឯកឧត្តមរដ្ឋមន្ត្រីប្រតិភូអមនាយករដ្ឋមន្ត្រី** មេត្តាជ្រាប និងចាត់ចែងដោយក្តីអនុគ្រោះ។

សូម **ឯកឧត្តមរដ្ឋមន្ត្រីប្រតិភូអមនាយករដ្ឋមន្ត្រី** មេត្តាទទួលនូវសេចក្តីគោរពពីខ្ញុំ។

ថ្ងៃ[illegible] ១០ រោច ខែ[illegible] ឆ្នាំឆ្លូវ ត្រីស័ក ព.ស.២៥៦៥
រាជធានីភ្នំពេញ ថ្ងៃទី១៣ ខែ[illegible] ឆ្នាំ២០២១

រ.ជ. រដ្ឋមន្ត្រី
រដ្ឋលេខាធិការ

ចម្លងជូន:
- ទីស្តីការគណៈរដ្ឋមន្ត្រី
- ក្រសួងសេដ្ឋកិច្ច និងហិរញ្ញវត្ថុ
- ក្រសួងរៀបចំដែនដី នគរូបនីយកម្ម និងសំណង់
- ក្រសួងសាធារណការ និងដឹកជញ្ជូន
- ក្រសួងរ៉ែ និងថាមពល
- ក្រសួងកសិកម្ម រុក្ខាប្រមាញ់ និងនេសាទ
- រដ្ឋបាលខេត្តកំពង់ស្ពឺ និងខេត្តកំពង់ឆ្នាំង
- មន្ទីរបរិស្ថានខេត្តកំពង់ស្ពឺ និងខេត្តកំពង់ឆ្នាំង
- ឯកសារ កាលប្បវត្តិ

សាបូ-អូហ្សាណូ

អាគារលេខ៤ តេជោ ដីឡូលេខ503 ផ្លូវកៅស៊ូអមចាត់ទន្លេចាសាក់ សង្កាត់ទន្លេចាសាក់ ខណ្ឌចំការមន ភ្នំពេញ ទូរស័ព្ទ: 023 235 004 / 023 235 006

Annex 2: Minute of meeting, pictures and attendant list in Training

- 1. MM

Topic: EMP Training
Location: Meeting room of Administration Office of DEC
Date: 1st December 2021
Time: 9:00-12AM
1:30-5:00PM

There are 38 participants in this training. The attendant list and pictures of training are in the attachment.

Name	Idea, comment and question
Mr. Chen Sophanna SEPRO	- Thank you for the brief lectures of the main concept of EMP and RGM; - Please you kindly give some example as the case to let all of participants understand in this training; - Today it is good that contractor is joining the training and we have the time to PMO, SEPRO, contractor and PIC to have time talk, if contractor is not clear or not understand about EMP and some subplans in their CEMP. - We used to face with some cases of waste disposal as the remain wastes from concrete mixing truck that local people always complained to EDC. So, today contractor is participating, we hope that this project will not face with this matter.
Mr. Chea Vuthy SEPRO	- The public meeting is really important for dissemination the project implementation and their concern. - Actually, we did three times as usual that it is during study the IESIA, IOL, and DMS/LARP. - Today, it is good that all of the concern office and department joined together here, so I would like to suggest PIC to explain the role of contract, PMO, SEPRO and PIC in the contraction stage, especially, to implement EMP.
Mr. Sok Salim PMO	- Project dissemination to local people and authorities will do again during project implementation of construction. Actually, we always informed to local authorities and local people about the schedule of construction, also we also provided the information boat and sticker (broacher) to let people know.
Mr. Sorn Sopheaktra PMO	- Related to the birds' condition, it looks too far from this area.
Mr. Bin Sopheakda SEPRO	- Sure, the boundary of Important Bird Area (IBA) is about 18 Km away from this project location. Then due to the information of birds that mentioned in the survey report were also far from project site.
Mr. Youn Pheak Kdey	- We are contractor from XD/SNKRP. It is good time to join in this training for EMP. Actually we already follow the EMP and Prepared the CEMP to submit EDC and PIC since July 2021. WE also got the approval on the CEMP on 2 August 2021. - We also got the advises from PMO/SEPRO and PIC. - We will keep contact and cooperation with site engineer of PMO.
Mr. Chan Tumm Mako PMO	- In case that project was completed the contraction, then it time to energize. Before they energize, some team suggested to cut more trees that it is high and near the ROW. And all of the compensation were ended before and during construction. So, who will respond to give this compensation, if EDC cut these trees that they are not in the ROW?
Mr. Mao Visal SEPRO	- The case that Mr. Sophanna raised from the beginning is not in this project. But, in case it happens in this project, what is the solution?

Name	Idea, comment and question
	Please PIC advises in order to all participants here understand their roles. - Sometime, farmer agreed contractor to dispose their waste from concrete mixing truck on their farm/rice field for short time, but latter season of planting coming, but contractor did not respond to collect or clean their waste, thus, farmer will complain to EDC. So, what is the solution? It shall be PMO to use GRM?

- 2. Attendant list

List of Attendance: EMP Training Session for Cambodia Solar Park Project

Date of Training: December 1st, 2021
Venue: EDC Meeting Room

No.	Name	Organization	E-mail	Signature
1				
2	Un Narun	EDC		
3	K. Murai	PIC	muraikz@newjec.com	
4	MAO VISAL	SEPRO/EDC	maovisal1971@gmail.com	
5	SOR Pengly	PMO1/EDC		
6	Jeugt. Pascal	PIC		
7	Phorn Vy	EDC	vyphorn4upp@gmail.com	
8	Chan Chetra	ICO/EDC		
9	Chea Vuthy	Sepro/EDC	Vuthychea58@gmail	
10	Chea Sithin	Sepro/EDC		
11	BUN VIREAK	Sepro/EDC		
12	Son Sopheaktra	EDC/PMO1	[illegible]	
13	LONG SO CHAN	EDC/PMO1		
14	SOM MANET			
15	CHAN TUMMARO	EDC. PMO1		
16	Seng Sovan	EDC PMO1		
17	Thy. Bunthan	EDC/PMO1		
18	Chen Jophanna	EDC		
19	SOEM KOSAL	EDC/Sepro		
20	Khout Sarun	EDC/PMO1		
21	CHIN CHUMNEAN	EDC/Sepro		
22	LAO SIMITONG	EDC/Sepro		
23	VONG RAMO.	EDC/Sepro.		
24	DIN SAKAL	EDC/Sepro		
25	Heang Pantha	EDC/MIS		
26	Yoan Pheakkdey	XD/SNHRP	[illegible]	
27	Kouch Hanghok	XD/SNKRP	kouch.hanghok@gmail.com	

List of Attendance: EMP Training Session for Cambodia Solar Park Project

Date of Training: December 1st, 2021
Venue: EDC Meeting Room

No.	Name	Organization	E-mail	Signature
26	Sok Seilim	EDC		
27	Sun Veasna	EDC		
28	Meas Phol	EDC		
29	ROS Nita	EDC		
30	Chhay Lyheang	EDC		
31	Sambath Chariya	EDC		
32	TUY-SITHA	EDC-PMU2		
33	THONG Sokhom	EDC · SEPRO	Sokhom.sepro@gmail.com	
34	Bin Sopheakda	EDC/SEPRO	Sopheakdabin@yahoo.com	
35	BAN Vanny	EDC		
36	Penh Sophea	EDC	sopheapenh@gmail.com	
37	Kaing Samedy	EDC	Samedyaitc@gmail	Samedy
38	Sour Chheamyou	PIC	cyousour@gmail.com	
39	Shinsako Minato	PIC		
40	Shigeru SAI	PIC		
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- 3. Pictures of training: