

Chapter 4

Prevention and the solution measures taken to reduce environment impact

The development of the photovoltaic power farm project by Solar Power (Korat 2) Co., Ltd. and the project operation after completion of construction will result in very low environmental impact because the solar farm is surrounded by rice fields with few residents. The construction phase is short so the impact will be minor and for a very limited period. The only impact will be from soil surface disturbance, and transportation etc. In this regards, SPC has developed procedures for reducing any environmental impact. However, a long term monitoring plan has not been developed because overall, there will be no long term impact on environment.

4.1 Prevention and solution measures for reducing any impact

The environmental impact assessment described in chapter 3, was divided into 2 phases, construction and operation. Therefore SPC has developed the necessary prevention and solution measures for reducing the impact on air quality, noise, soil surface disturbance, water quality, transportation, occupational hygiene and safety. The proposed measures for construction and operation phases are summarized in Table 4.1 and 4.2, respectively.

Table 4.1 Prevention and solution measures for reducing impact during construction phase.

The 6 MW Photovoltaic Power farm Project, Solar Power (Korat 2) Col., Ltd., Mahachai Sub-District, Pla Pak District, Nakorn Phanom Province.

Environmental resources and values	Preventive measures for reducing impacts	Implemented places	Duration
1. Air quality	- Spray water on roads and field in construction site to reduce diffused dust during dry season at least twice a day (morning-after noon) - Maintain all machine and engine to be in good order in order to reduce emitted exhaust from construction equipment and trucks. - Cover trucks with canvas or plastic sheets during transporting into project area and clean transported truck wheels by using wood stick to hammer all mud out and injecting water to prevent dirt falling outside project area.	Construction site Construction site Material transporting trucks/ Equipment	Entire construction phase Entire construction phase Entire construction phase
2. Noise	- Should strictly conduct noisy construction activities during 8.00-17.00 hrs. - Provide workers with ear muff or ear plug to wear when working in noisy construction site such as pile driving, foundation adjustment, etc. - Inspect equipment and machine regularly to ensure maximum working capacity. - Develop a plan to avoid simultaneous operating heavy machine, which is noise origin.	Construction site	Entire construction phase
3. Soil surface water quality	- Build water drainage surrounding photovoltaic module location in order to collect water from any project activities and drain into project pond.	Construction site	Entire construction phase
4. Transportation	- Install safety alarm before reaching construction site - Limit construction material truck speed on main road to not over 60 km. /hrs. - In case of transporting loaded construction material in-out construction site, strict measures have to be provide to drivers in order to take special careful, especially during passing communities and construction site. - Assign drivers to strictly comply with traffic rules and regulations.	Road used as material/ equipment transporting route	All period of construction
5. Water Utilization	- Provide workers with clean and sufficient consumption water.	Construction site	Entire construction phase
6. Water draining and flood prevention	- Build temporary water drainage and connecting it to public drainage of Mahachai Sub-District Administration Organization for draining rain out of construction site.	Construction site	Entire construction phase

Environmental resources and values	Preventive measures for reducing impacts	Implemented places	Duration
7. Management of trash, garbage and construction residue	- Prepare certain area for order storing construction materials. - Provide strong, durable, and unleaky garbage bins with covers to prevent fly and contagion. - Reusable residue from construction activities should be reused in order to get maximum benefit or sold to recycle factory in order to get rid of all residue in construction site. - Develop measures to prevent garbage disposing into adjacent water drainage, waste water pipe and any water sources.	- Spreading within construction site	Entire construction phase
8. Economic-social conditions	- Employment will consider local labor as the first. - Conduct public relation to inform community about project operation and preventive measures on environmental impact as well as complaining procedure in case of people are regularly annoyed by project operation.	Construction area, Construction area of project and surrounding community	Entire construction phase

Table 4.2 Prevention and solution measures for reducing impacts in construction phase.

The 6 MW photovoltaic Power Plant Project, Solar Power (Korat 2) Col., Ltd., Mahachai Sub-District, Pla Pak District, Nakorn Phanom Province.

Environmental resources and values	Preventive measures for reducing impacts	Implemented places	Duration
1. General measures	- Comply with the preventive measures for reducing environmental impact and monitoring measures. - Strictly adhere to the environmental quality as proposed in the report of the Environmental Impact assessment of the Photovoltaic Power Plant Project.	Project area	Entire construction phase
2. Air quality	- Regularly inspect performance of any control systems to ensure its efficiency.	Project area	Entire construction phase
3. Noisiness	- Control workers' working hours in noisy area in accordance with promulgations of Ministry of Labor and other related laws.	Project area	Entire construction phase
4. Water quality	- Drain waste water into treatment pond in the project area.	Project area	Entire construction phase
5. Management of garbage from office and staff activities	- General garbage from office buildings will be collected and reusable garbage will be cumulatively separated for selling to recycle material buyer. Hazardous community garbage will be separately collected, up to certain amount, and delivered to the competence company or authority for further treatment.	Project area	Entire construction phase
6. Economic –Social conditions and project public relation	- Give priority to local employment and develop a practical plan for dealing with community's complaint. Provide concerning staff with training to know practice procedure when receiving community's complaint, by both written and in person. - Regularly conduct public relation to make community knowing about the project operation as well as measures for preventing environmental impact.	Project area and communities surrounding project area	Entire construction phase

4.2 Environmental quality monitoring plan

Environmental quality monitoring is considered as a process of surveillance and inspection of the efficiency and appropriateness measures for preventing and reducing environmental impact as well used as support data for project post evaluation. It is also used for improving more appropriate measures for preventing, solving and reducing impacts. Environmental quality index related to impact by the project has to be regularly and continuously monitored in order to observe and indicate trend of possibly environmental impact problems for immediate preparing preventive measures.

The overall impact from the project will be low. In this regards, standard for reducing environmental impact has already been developed. However, monitoring plan has not been developed because, overall, the project will have little impact on environment.