

# Biodiversity Action Plan and Biodiversity Off-set Management Plan (Appendix D)

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## Sarulla Geothermal Power Development Project (Republic of Indonesia)

Prepared by Sarulla Operations Limited for the Asian Development Bank

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# Appendix D. Method Statement for Site Clearance



**METHOD STATEMENT  
FOR  
SITE CLEARING IN FOREST AREAS**

IPON-ICW-MS-010

Rev. 02

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**SARULLA GEOTHERMAL POWER PROJECT**


**FOR ICW**

**METHOD STATEMENT**

**FOR**


**SITE CLEARING IN FOREST AREAS**

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## 1 Responsibilities & Definitions

### 1.1 Responsibilities

The Contractor's construction manager has the overall responsibility for implementation of all functions as construction testing and inspection in this procedure.

The Contractor's field engineer has the direct responsibility for the implementation of construction in this procedure.

The Contractor's laboratory engineer has the direct responsibility for the implementation of testing in this procedure.

The Contractor's QC engineer has direct responsibility for the implementation of inspection in this procedure

The Biodiversity Team has the responsibility to supervise construction operations and record and monitor any infringements and incidents, and make sure that corrective actions are being taken, in such responsibility includes immediate stoppage of the operation in case of emergency. For the avoidance of doubt, the Biodiversity Team's responsibility is limited to environmental matters.

### 1.2 Definitions


Company	:	Sarulla Operations Ltd
Contractor	:	Hyundai Engineering & Construction CO., LTD. / PT. PP
Biodiversity Team	:	HSE Manager, Environmental Division of Company and Contractor, and External Ecologist (by Company)

## 2 Methodology for Wildlife

### 2.1 Scope of Work

This procedure establishes material and construction requirements for the earthworks to be carried out at early site preparation stage and during construction for ICW for Sarulla Geothermal power project, Indonesia.

For Site clearing work in forest areas, Company and Contractor should follow government regulations and company requirements. The wildlife will be maintained and managed as per government regulations. An experienced Ecologist will be present at all times to supervise all clearing and resulting earthworks operations.

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## 2.2 Site Clearing Procedure

Site clearing shall be done in a way to minimize impact on the environment.

### 2.2.1. Pre-Clearing

A survey will be carried out by the Biodiversity Team in the areas to be cleared prior to land clearing operations, in order to determine that no priority species are present. Preventive pre-clearing monitoring will be undertaken no more than 48 hours before the start of clearance works, to make sure that no key wildlife species, nor their nests or burrows, are present in the area. Before clearing activities commence, all construction and operation staff (including contractors) to be made aware of the importance of forest habitats as well as protected and threatened plants and animals within the Project Area as well as details of the Company's site systems and regulations to protect biodiversity. All staff to be made aware of personal obligations to comply with Company's biodiversity policy.


### 2.2.2. During Clearing

Immediately after commencing clearing activities, the access to the clearing area will be limited to project personnel only to prevent hunting and illegal logging. This can be realized by constructing a fence / gate / a guarded access barrier at the entrance of access road to the forest areas. During clearing, the Biodiversity Team will be present at all times to supervise the clearing activities and to monitor the presence of priority species, as to prevent or minimize negative impact on the critical habitat. A pre-site clearing reconnaissance survey will be undertaken by the Biodiversity Team on a daily basis in advance of the construction teams (i.e. moving ahead in front of the clearing operations). This is to guarantee that no priority species are present in the area which is being cleared that day.

Several regulations need to be enforced during clearing operations:

- Avoid the use of open fires
- Avoid irresponsible littering of cigarettes and any other waste
- Avoid pollution by leakage of fuel tanks or oil of any equipment used at the site, or during repairs
- Prohibit the use of firearms and hunting weapons
- Prohibit the capture or killing of any wildlife by the workers

Any encounter with wildlife needs to be reported directly to the Biodiversity Team. The Biodiversity Team will then decide on the necessary actions. According to the mitigation hierarchy, it is better to avoid, than to reduce Impact, and better to reduce impact than to mitigate conflicts resulting from these impacts. Therefore, depending on the nature of the wildlife encounters, these actions may include, but are not limited to:

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- Temporary suspension of work to allow wildlife species to move away
- Actively drive wildlife species away by creating noise (WWF 2007)
- Immobilizing and capturing of the animal
- Translocation<sup>1</sup> of wild animal species (rescue)
- Collection (rescue) of rare and/or protected epiphytical orchid species

Any injured wild animal species should be transferred to the nearest wildlife rescue centre for immediate veterinary treatment and rehabilitation. Species such as Orangutans, Gibbons and Siamangs that need to be translocated are first anesthetized and secured with a net, before being placed in a cage and transported. Only skilled operators from orangutan sanctuaries or rehabilitation centers (working in coordination with authorities such as BKSDA) should carry out such procedures. The nearest wildlife rescue centre is the Sumatran Orangutan Conservation Program (SOCP).

All records and sightings of wildlife, including records of injured or killed animals, will be submitted to the Biodiversity Team for further analysis and reporting.


### 2.2.3. Clearing Procedure

1. In order to avoid the wild life becoming trapped or isolated in fragments inside the working area, the proper penetration into the forest area should be as indicated in the picture below (**Fig. 1**).



**Figure 1:** A drawing showing the proper way to clear a forest area

<sup>1</sup> Translocation of wildlife should be considered as a last resort, when no other options for the survival of the individual animals exists.

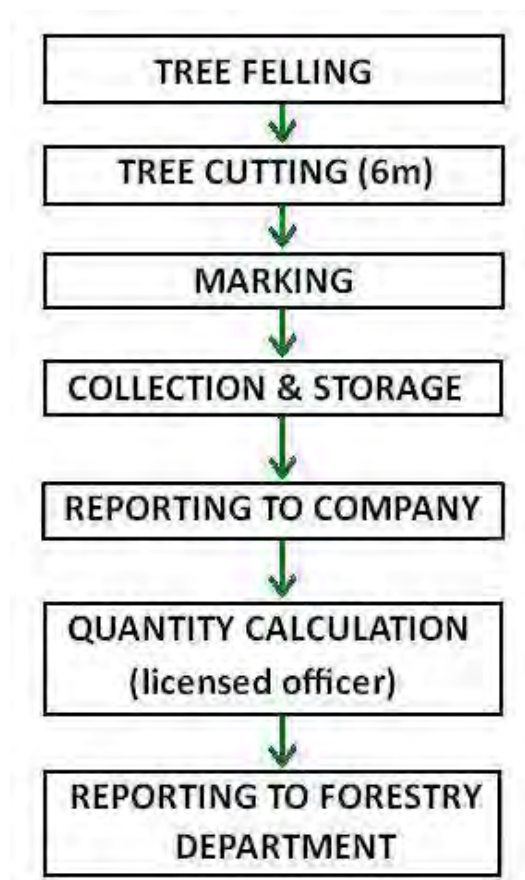
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2. The direction of the site clearing will be initiated by an excavator from the outside to inside the forest area, and sweeping will be done in steps by dozers until the outer borders are reached.
3. During site clearing activity, the Biodiversity Team will observe and supervise to make sure that wild animals have the opportunity to escape from the working area.

### 2.3 Communication Line


During the activities in forest area, the contractor must reporting any findings of wildlife to the Biodiversity Team, who subsequently reports back to the Company. The Company directly reports to related department.(Balai Konservasi Sumber Daya Alam - **BKSDA**).

## 3 Procedure for Felling of Trees



**Figure 2:**  
A flow- diagram  
of the stages of  
tree felling



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### **3.1 Felling and Cutting of Trees**

The felling of trees is done by using heavy equipment (excavator) and cutting by chainsaw, in accordance to safety procedures. Logs need to be subsequently cut into pieces of 6 meters length. Waste such as braches and leaves need to be stacked along the road, at a safe distance.

### **3.2 Collection & Storage**

All trees with diameter >20cm that have been felled and cut by the Contractor shall be collected in a temporary storage area. The purpose is to avoid local people to collect these trees and taking them out of the forest area. All trees shall be collected and sorted according to size. The individual marks should be clearly visible.

### **3.3 Marking**

Felled and cut trees need to be individually marked and registered. Data sheets need to state ID numbers (marks), the diameter, length, and additional relevant details.

### **3.4 Reporting to Company**

All calculation data shall be submitted to Company for their record.

### **3.5 Quantity Calculation**

The exact quantity of the timber is calculated by a licensed Forestry Officer as required by the Forestry Department. The Company will contact this licensed officer. The data will be used by the government to investigate how many trees have already been felled for formal uses.

### **3.6 Report to Forestry Department**

The Company will report the data from the licensed officer to the Forestry Department. Hereafter, the logs will be moved to a safe storage area outside the forest.

### **3.7 Usage Plan of the Timber**

The collected timber will be used by the Company for internal use and for community awareness and development programs.

## **4 Important References**

WWF-Indonesia. 2007. *Guidelines for the Better Management Practices on Avoidance, Mitigation and Management of Human-Orangutan Conflict in and around Oil Palm Plantations*. WWF, Jakarta.