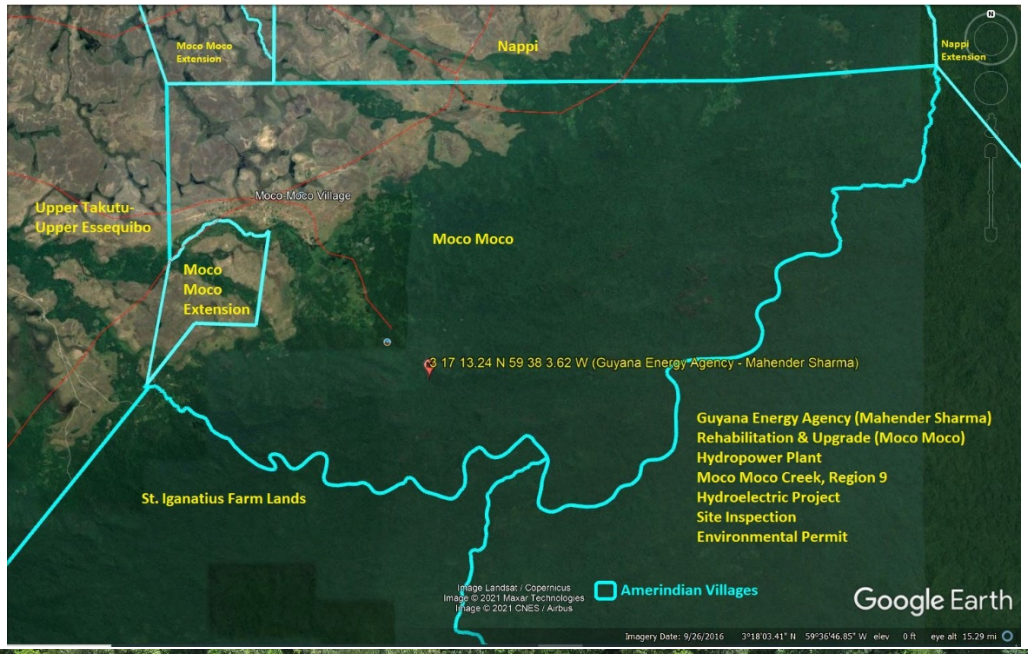
Environmental Impacts Screening Decision

Rehabilitation & Upgrade (Moco Moco) Hydropower Plant (Moco Moco)



Project Location and Components

The GEA and the Hinterland Electrification Company Inc. (HECI) is proposing to rehabilitate the defunct 500 kW Moco Moco Hydropower plant to an installed capacity of 700 kW. The site was developed in the year 1999 based on an agreement between the Government of Guyana and the People Republic of China. However, the plant went out of operation in the year 2003 due to a landslide along the penstock alignment due to heavy rainfall. It is located on the Moco Moco creek on the Kanuku Mountains at approximately 20 km from the Town of Lethem in Regio 9 (Upper Takatu – Upper Essequibo) and 500 km from the Capital city of Guyana (Georgetown) at coordinates 3º 18'N, 59º 38'E.

Rehabilitation of Moco Moco Hydropower Plant will ensure a reliable supply of electricity in the Town of Lethem and surrounding villages from a renewable energy source, and it will do so without generating significant greenhouse gasses. Additionally, the Hydro-Power Plant (HPP) will increase the share of renewable energy sources within the country's electrical generation system in the context of sustainable energy development. The rehabilitation will seek to maintain the current location of the existing hydraulic structure (weir), headrace, forebay, powerhouse, step up substation and tailwater canal. However, the penstock alignment will be determined when the Geotechnical and Topographical surveys are completed. As such, water will be extracted from the left bank of the Moco Moco creek.

Environmental impact screening

The EPA's screening concludes that the impacts arising from the construction and operational phases of the project are minor, localized, and acceptable, with the only identifiable significant environmental impact being Water Quality during the construction phase. An EMP will be prepared providing measures to avoid, prevent and mitigate impacts during the construction and operation phases.

- The project is an upgrade and rehabilitation of the defunct 500 kW Moco Moco Hydropower plant to an installed capacity of 700 kW. This upgrade will have a positive impact since it will ensure a reliable supply of electricity in the Town of Lethem and surrounding villages.
- Noise impacts will be low to moderate, short-term, and localized throughout the construction of the main (dams, powerhouse, diversion tunnel) and associated (transmission line) project facilities. The project is located downwind of the Moco Moco Community.
- Impacts from dust pollution will be low to moderate and primarily during construction and short term and localized. Because the community/residents are so far away from the project site, they will be unaffected.
- The proposed project is not in close vicinity of any protected areas. However, impacts on fish species composition and numbers, impacts on terrestrial fauna and sensitive habitats will be affected. Project activities will have low to moderate effects on the existing ecological or biological (flora or fauna) biodiversity of the river at the project area during construction. These impacts are anticipated to be short term. Additionally, pre-construction ecological surveys and associated assessments of the project footprints to establish a robust baseline will be conducted. Impacts on the environment associated with the physical dredging of the area and subsequent increased short-lived sedimentation will have a neutral to low impact on the River fauna and flora due to the area is subjected to fluctuation in sedimentation due to wet and dry seasons.
- Impacts of the project on the magnitude and mitigation of floods, landslides and other potential emergencies will be low to moderate and is likely to happen intermittently overtime, however, appropriate emergency plans and maintenance of a high level of staff preparedness for emergencies will be implemented.
- A requirement is the preparation of a pre-construction, construction and operational EMP to manage environmental impacts arising from the project along with a corresponding schedule and monitoring of mitigation measures to ensure potential impacts are maintained at insignificant levels. It will include the institutional arrangements for implementing the EMP to ensure its effectiveness.

Conclusion and recommendations

To manage the project's environmental impacts, a comprehensive EMP will be necessary, as well as a corresponding timeline and monitoring of mitigation actions to ensure that any consequences are kept to a minimum. It must also include a construction schedule so that the project can be properly monitored.

The EPA concludes that there are no significant impacts nor is the project deemed environmentally sensitive. Impacts arising from the construction and operational phases of the project are minor, localized, and acceptable.

The planned project will provide a reliable supply of electricity from a renewable energy source to the town of Lethem and adjacent settlements. In the perspective of sustainable energy development, the Hydro-Power Plant (HPP) will also boost the share of renewable energy sources in the country's electrical generation system.