

RISK ASSESSMENT AND RISK MANAGEMENT PLAN

Risk Description	Risk Assessment	Mitigation Measures or Management Plan
Reduction in diesel use by the power sector may be offset by increases in other sectors.	Moderate	Motivation of small industries and tourism sectors to use secure and affordable electricity instead of diesel generation; assumption that the growth of fossil fuel consumption in the transport sector will be stable in the future, due to the high migration overseas of Samoans.
Land ownership and environmental issues delay implementation	Moderate	Engagement of a turnkey contractor staffed with social and environmental safeguards specialists, which will coordinate closely with ADB and EPC on conducting all safeguards policies properly.
SHPs are customized equipment, which can cause long delivery times. Therefore, implementation could be delayed leading to cost overruns.	Moderate	Inclusion of positive incentives in turnkey contract and bidding documents, such as price bonuses for early commissioning; advance procurement for the SHP rehabilitation component; adequate contingencies, e.g., price variation to be built into the bid documents before initiation of procurement actions.
Possible shortage of technical qualified staff in implementing agencies could adversely affect the implementation schedule of the project.	Low	The staffing shortage will be mitigated by the capacity augmentation provided by the project management consultant team, including a project manager to administrate the project, a project leader to implement the project, a project coordinator to coordinate logistics, a safeguards expert to facilitate land and resettlement aspects, and a financial specialist for managing financial aspects during tender process.
EPC staff might leave the company after completing the knowledge transfer program	Low	Provide newly qualified staff with monetary and professional incentives to remain in the company, such as bonuses, and possibility to manage the newly constructed and rehabilitated SHPs.
Support, performance, and coordination at EPC could be inadequate	Low	Adequate capacity building program provided by the consultancy component of the turnkey contractor, which will be conducted for at least 2 years after commissioning.
Low exposure to development of hydropower projects of counterpart local agencies can adversely affect project implementation.	Low	EPC has good field experience in implementing hydropower systems. The project owner's engineers engaged for the project will support the learning process and facilitate the necessary coordination.
Integrating the hydropower systems into the existing grid and achieving grid stability could pose technical challenges.	Low	Grid stability can be maintained through stable grid voltage and frequency. Technical risks regarding stability of the integration of hydropower energy systems into the existing grid do not exist. However, when the water flow is low, adequate synchronizing and protection devices should automatically disconnect the equipment from the grid.

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The hydropower systems and equipment may not be operated and properly maintained.	Low	This risk can be lowered through a long-term capacity development program to be implemented right after the tender process. A long-term service agreement with a reputable international services firm will reduce the risk to a minimum level. In addition, EPC will be requested to report regularly on its O&M activities. The training will include EPC and project management teams, and will be carried out by the project owner's engineers.
Decommissioning of equipment could adversely affect the environment.	Low	The project includes an environmental management plan.
Overall	Low	

ADB = Asian Development Bank, EPC = Electric Power Corporation, MOF = Ministry of Finance, O&M = operation and maintenance, SHPs = small hydropower plants.
Source: Asian Development Bank estimates