RISK ASSESSMENT AND RISK MANAGEMENT PLAN

Risk Description	Risk Assessment	Mitigation Measures or Risk Management Plan
1. New businesses will not connect to the grid and existing businesses will continue to self-generate.	Low	A number of businesses in Auki self-generate electricity. While this guarantees supply and may be cost competitive in the short term, in the medium to long term it is more expensive for businesses to self-generate when considering maintenance and replacement costs for generators. Once the Fiu River hydropower plant is commissioned it will be important for SIEA to communicate with potential customers and alert them to the expanded availability of electricity and better service delivery. SIEA will prepare a communication plan for this purpose.
2. Economic development will create power demand that exceeds installed generation.	Low	Demand projections for the sizing of Fiu River incorporate historical growth trends; anticipated economic projections; and known, firm development proposals. If economic development exceeds projections, supply from Fiu River may be insufficient. Thus, the Fiu River hydropower infrastructure has been oversized to 750 kW to allow for installation of an additional 250 kW generator once demand grows. The hydrological analysis indicates that 750 kW is the maximum size suitable for Fiu River. If demand exceeds 750 kW, SIEA can increase diesel generation or explore other hydropower sites in Malaita Province.
3. Delays in land acquisition may delay project construction.	Medium to high	Land acquisition issues have proved to be the largest single risk to economic infrastructure development in Solomon Islands. Thus, (i) design work will not begin until land acquisition has been completed, (ii) the Malaita Provincial Government will take the lead on arranging consensus among the landowners, (iii) the PMU (through Malaita Provincial Government) will implement the stakeholder consultation and participation plan, and (iv) the PMU (supported by international and national consultants) will ensure that land issues are managed by following the approved resettlement plan. To mitigate the risk of SIEA not being able to supply the Auki grid, the project design assumes that 100% backup diesel generation will be maintained at the existing Auki diesel-fueled power plant.
4. Extended droughts affect hydropower utilization.	Low	Power plant generation (and therefore revenue) is directly related to stream-flow availability. To mitigate the potential for extended periods of drought, more than 1 year of stream flow measured from the site has been correlated with extended periods of meteorological data. The project design and infrastructure sizing includes conservative assumptions about flow availability.
5. Low capacity of local contractors results in low-quality installations.	Low	The local contracting industry in Solomon Islands is small. There is a risk that local contracting companies may be overstretched with other projects or, if local contractors participate, they may not have the expertise to deliver quality infrastructure. To mitigate this, bidding documents will require

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		evidence of ongoing commitments and demonstrated experience in delivery of hydropower construction. To expand the potential contractor base and improve risk mitigation, all procurement will follow international competitive bidding procedures and will be advertised internationally through ADB systems. Outreach to local contractors will have to ensure that they are aware of the bidding. It is envisaged that engineer-procure-construct bidders may include a combination of international and national contractors. The PMU will include experienced international construction engineers to supervise construction.
6. Insufficient financial management capacity within SIEA.	Low	While the financial management assessment has indicated that SIEA has adequate capacity to manage the project, SIEA has not managed an ADB project for over 10 years and will be unfamiliar with ADB systems. The following measures will minimize this potential risk: (i) Project monitoring will be undertaken to ensure that financial management processes are established and followed. (ii) The PMU will be required to maintain separate and adequate project records and accounts. (iii) Independent external auditors acceptable to ADB will audit the consolidated project accounts each year. (iv) Imprest accounts will not be used so as to minimize fund-flow monitoring requirements. (v) An international financial specialist will be included in the PMU to help establish adequate systems. (vi) Capacity-building training in financial management will be provided to SIEA.
7. SIEA staff trained during the 3-year O&M contract are not retained, resulting in lack of capacity for ongoing maintenance	Low	At present, SIEA does not have engineers experienced in hydropower plant O&M. The project design includes a 3-year external O&M contract to transfer capacity to SIEA staff. SIEA staff will be rotated during the 3-year O&M period to ensure enough O&M-trained staff. This will also make sure that technical capacity is maintained if key staff should leave.
8. Insufficient procurement capacity in the PMU to manage ADB procurement procedures.	Low	The procurement capacity assessment indicated that SIEA has adequate capacity for existing operations, but does not have experience with ADB procurement systems or experience with procurement and installation of hydropower plants. Thus, international procurement specialists will be included in the PMU, and PMU staff will be trained on ADB procurement procedures by June 2014.
9. Poor technical input during development of specifications leads to technical failure.	Low	Technical performance of the Fiu River Hydropower Plant depends on adequate preparation of technical specifications. Thus, the PMU will be adequately staffed to ensure that satisfactory technical specifications are prepared for tendering, and qualified supervision consultants will be

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		engaged under a 90:10 quality–cost ratio.
10. Staffing of the PMU is not sufficient to manage project implementation adequately.	Low	Successful implementation hinges on adequate PMU staffing during procurement and installation. Thus, sufficient budget will be allocated to ensure that the PMU will be adequately staffed, and twice-yearly project reviews by ADB will assess the performance of the PMU and the need to revise the terms of reference of the design and supervision consultants.
Overall	**Low**	

ADB = Asian Development Bank, kW = kilowatt, O&M = operation and maintenance, PMU = project management unit, SIEA = Solomon Islands Electricity Authority.
Source: Asian Development Bank.