

RISK ASSESSMENT AND RISK MANAGEMENT PLAN

Risk Description	Risk Assessment	Mitigation Measures and Risk Management Plan
Public Financial Management		
Weak corporate governance due to lack of a functioning Board of Directors	Medium	A Board of Directors is to be appointed in accordance with the JPCL Articles of Association; the number of directors duly elected and holding office in the Board should not fall below the minimum number stipulated in the JPCL articles of association.
Uncertain financial viability of JPCL contributes to project financial risks	Medium	A financial viability rehabilitation roadmap will improve JPCL's financial sustainability. Performance benchmarks will be monitored as part of the financial covenants in the loan agreement.
Inadequate internal audit function	Medium	Qualified internal audit experts will be recruited. The Audit and Finance Committee of JPCL's newly appointed Board of Directors will comprise members with adequate qualification and expertise to ensure effective supervision.
JPCL receives insufficient payments to cover operations costs	High	At least 1 month of fuel costs and 1 year of maintenance costs will be kept in a separate escrow account, to be opened by JPCL in a bank satisfactory to ADB and the EPC contractor. A portion of the tariff, after payment of fuel costs, will be deposited every month for the first year, until the targeted amount for the subsequent year's O&M costs have been deposited into the escrow account.
The enabling environment for private sector investment is insufficient	Medium	The National Power Policy sets out actions to improve the enabling environment for private sector investment in the power sector. ADB will continue to support this effort through policy dialogue by supporting the programmatic approach agreed to by the government and the IMF.
Procurement		
Procurement delays and poor implementation quality due to weak project management capacity	Medium	The project implementation consultant will help develop capacity and oversee procurement. Project management and project implementation units will be engaged to ensure smooth project implementation. Familiarization and related training on project administration and implementation will be extended to the executing and implementing agencies.
Cost overruns due to the lack of competition for the EPC contract and unforeseen circumstances in the international market	Low	Cost estimates prepared by the feasibility study consultant have considered price escalation. The qualification requirements for the EPC contractor will be clearly defined to avoid participation by unqualified firms. A road show will be organized to encourage the participation of well-known EPC firms. Qualified PICs will be selected to ensure proper supervision throughout the project implementation.

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Operation and Maintenance		
Imported and domestic coal cannot be safely delivered to the plant by rail on a timely basis	High	The government will ensure an adequate number of engines and wagons are operational prior to the start of coal deliveries, and that there are dedicated rolling stock for the project. Discussions are ongoing with Pakistan Railways to undertake feasibility studies to upgrade the railway track in two sections to double track. PIC will explore options for private sector operation of the railway system for coal delivery to the project site. Bin Qasim Port has confirmed the availability of facilities for handling imported coal.
Drastic increase in coal price	Low	A medium-term coal purchase agreement for a minimum 3-year period will be in place before the EPC contract award.
There is insufficient water for the power plant	Low	The Sindh Irrigation Department has confirmed the availability of water from the Indus River.
The O&M capacity of JPCL may not be sufficient to efficiently and appropriately use the coal-fired power unit	Medium	Onsite and offsite training of technical staff will be provided to develop and enhance the capability and knowledge of the staff regarding coal-fired power plant O&M practices. As a condition of the 5-year O&M contract, responsibility will be gradually shifted from international to national staff. Within the 5-year period, national staff will go through more than one maintenance cycle.
Government decides to change to cheaper, dirtier coal	High	Medium-term coal supply agreements covering a minimum of 3 years will be signed in advance for local and imported coal. Use of imported low-sulfur coal will be a covenant in the loan agreement. An operational support contract with performance assurance and PICs for monitoring will be in place for the first 5 years of operation, to ensure the coal mix is as designed. Using below-specification coal would degrade the unit and decrease efficiency.
Safeguard		
There are no buyers for the ash	Low	JPCL has signed a preliminary MOU with cement companies regarding their interest in purchasing ash from the plant. If a purchase agreement has not been signed, JPCL will undertake to purchase 200 acres of land (in addition to the 100 acres already purchased); this will occur no later than 2 years prior to project commissioning, and would be sufficient for ash disposal for more than 20 years. The estimated monetary impact on the project return is minimal.
Environmental benefits not realized due to mismanagement	High	Adherence to environmental safeguards will be included in the loan covenants. In addition to monitoring of compliance with national standards by the Sindh Environmental Protection Agency, environmental safeguard staff and consultants will be

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		recruited to monitor implementation of the EMP. Third party audit will also be used to ensure the environmental benefits are realized.
Ash not handled and disposed of properly	Medium	An Ash Management Plan satisfactory to ADB will be a condition for contract award and will be monitored by the PIC as part of EMP implementation.
Sustainability		
Lack of cost recovery in the energy and power sectors costs render operations unsustainable	High	The government has identified the power sector as a priority and has undertaken difficult measures as the first steps in implementing the National Power Policy. Power sector sustainability and subsidy reduction were agreed to through the IMF program in September 2013.
Overall	Medium	The mitigation actions proposed will ensure that the risks are minimized, particularly by the engagement of project management unit and implementation consultants.

ADB = Asian Development Bank, EMP = environment mitigation plan, EPC = engineering, procurement, and construction, IMF = International Monetary Fund, JPCL = Jamshoro Power Company Limited, MOU = memorandum of understanding, O&M = operation and maintenance, PIC = project implementation consultant.
Source: Asian Development Bank.