



800 Megawatt Independent Power Plant Karachi, Pakistan

Note: This Risk Mitigation Analysis has been completed based on World Bank Standards and Guidelines and the best available information at the time. No representations, warranties or guarantees are made as to the accuracy or completeness of the data contained herein. No solicitation is being made based on the data. Potential Investors or Lenders are advised to refer to actual contract documents and their own respective counsel for all matters concerning the risks and benefits of the project.

RISK MATRIX

RISK MITIGATION ANALYSIS				
RISK	REASON	REMEDY	CONSEQUENCES FOR LENDERS	CONSEQUENCES FOR INVESTORS
CONSTRUCTION PERIOD				
Cost Overrun	Within Construction Consortium Control	Included in Fixed Price Lump Sum Contract.	No Effect	No Effect
	Outside Construction Consortium Control:			
	-Insured event	Proceeds of insurance policy including business interruption insurance.	No Effect to Minimal Effect. One Percent Policy Deductible is within Contingency. Draw on standby finance if insurance policy exhausted. Debt cover factors reduced if standby debt used.	No Effect to Minimal Effect. Return eroded by servicing of stand-by finance if policy limits exceeded.
	- Uninsured force majeure (Example: Disease/Plague, etc)	Draw on stand-by finance.	Debt cover factors reduced if stand-by debt used	Return eroded by servicing of stand-by finance
	- Ground conditions	EPC Contract warrants condition and design appropriateness.	No Effect.	No Effect.



RISK MITIGATION ANALYSIS				
RISK	REASON	REMEDY	CONSEQUENCES FOR LENDERS	CONSEQUENCES FOR INVESTORS
	- Owner variation orders	Not permitted without Lender and Investor Approval. If approved and in excess of contingency draw on stand-by finance. Term sheet limits scope of variations by Owner.	No Effect to Minimal Effect. Debt cover factors reduced if stand-by debt used in excess of project contingencies.	No Effect to Minimal Effect. Return eroded by servicing of stand-by finance if stand-by debt used in excess of project contingencies.
	- Changes of law, delays in obtaining approvals or permits, increased taxes	Power Purchase Agreement Adjusts Tariff to compensate. IRR is guaranteed under PPA.	No Effect	No Effect.
Delay in Completion	Within Construction Consortium Control	Costs are a pass through to EPC under contract.	No Effect.	No Effect.
	Insured Force Majeure	Proceeds from business interruption insurance policy.	No Effect to Minimal Effect. Standby finance drawn if insurance policy exhausted; debt cover factors reduced if standby debt finance used.	No Effect to Minimal Effect. To extent ability to pay dividends is postponed, return eroded.
	- Ground conditions	EPC Contract warrants condition and design appropriateness.	No Effect.	No Effect.
Failure of Plant to meet Performance Specifications at Completion Tests as result of fault by Construction Consortium	Capacity shortfall	Penalties payable by Construction Consortium up to full value of contract supplemented by E&O insurance. Remediation corrects construction errors causing Capacity Shortfall.	No effect	No Effect based on remediation. Return reduced if penalties and EPC Insurance from Construction Consortium exhausted. Capacity Payment Adjusted per PPA.
	Heat Rate shortfalls	Penalties payable by Construction Consortium up to full value of contract supplemented by E&O insurance.	No Effect based on remediation. Debt cover factors reduced otherwise. If Construction Consortium fails to	No Effect based on remediation. Otherwise return reduced by cost of additional fuel if exceeds fuel contingency.



RISK MITIGATION ANALYSIS				
RISK	REASON	REMEDY	CONSEQUENCES FOR LENDERS	CONSEQUENCES FOR INVESTORS
		Remediation corrects construction errors causing Heat Rate Shortfall.	remedy defect, credit risk on Construction Consortium.	
Operating Costs Overrun	Costs exceed original estimates, not insurance or Force Majeure event	O&M contract warrants costs.	No Effect.	No Effect.
	Insurance costs exceed original estimates	Long Term 10 year contract protects investors and lenders during 10 year loan. Standby finance drawn pending Tariff adjustment.	No Effect. Debt cover factors slightly reduced depending on timing effect.	No Effect
Increased Financing Costs	Interest rate increase	Fixed interest rate for 10 year term.	No effect.	No Effect
	Adverse exchange rate change	Pass through to Government under PPA.	No Effect.	No Effect.
	Adverse exchange in terms of finance	Pass through to Government under PPA.	No Effect.	No Effect
Government	Minor changes in tax, law, customs, legal requirements, environmental standards	Pass through to Government under PPA. Tariff adjustment (if during construction period, standby finance drawn).	No Effect. Stand-by finance could be required. No effect on Debt Service Cover Factor.	No Effect.
	Expropriation, nationalization, consents withdrawn, interference causing severe prejudice	Political Risk Insurance responds. Owner entitled to terminate as Government default	No Effect.	No Effect. Termination would reduce returns per PPA.
	Fundamental breach by the Government, under agreements	Political Risk Insurance responds. Owner entitled to terminate as Government default.	No Effect. If owner terminates, loan repaid or assumed as Compensation.	If Government defaults and Owner terminates, Compensation paid for termination. Termination would reduce returns per PPA. Political Risk Insurance responds.



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RISK	REASON	REMEDY	CONSEQUENCES FOR LENDERS	CONSEQUENCES FOR INVESTORS
OPERATION PERIOD				
Operating Costs Overrun	As a result of changes in regulations	Tariff adjustment	No effect	No effect
	At Owner's request and beyond contingencies. (examples: increased or new security measures or new maintenance procedures to improve heat rates.)	No adjustment to Tariff.	No effect based on offsetting benefits. Debt cover factors reduced if no offsetting benefit.	No effect based on offsetting benefits. Returns reduced if no offsetting benefit.
	As result of failure by the operator	No adjustment to Tariff. Penalties payable by the operator	No Effect or Minimal Effect. Debt cover factors reduced if penalties exhausted	No Effect or Minimal Effect. Return reduced if penalties exhausted.
Inflation, Adverse Change in Cost of Finance, Exchange or Interest Rate Rates		Tariff adjusted by indices. Small possibility that movements in indices do not exactly match changes in actual costs.	No Effect or Minimal Effect. Debt cover factors could be reduced/increased based on timing.	No effect or Minimal Effect. Possibility of erosion/increase in return
Foreign Exchange Non-Availability/ Non-Convertibility		Political Risk Insurance responds. Government guarantees availability of foreign exchange. If Government defaults Owner can terminate.	No Effect.	No Effect.
Failure to Make Available Sufficient Foreign Exchange	Government default	Political Risk Insurance responds. Government guarantees availability of foreign exchange. If Government defaults Owner can terminate.	No Effect or If Owner terminates, loan is repaid or assumed as Compensation	No Effect or Compensation paid for termination.



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RISK	REASON	REMEDY	CONSEQUENCES FOR LENDERS	CONSEQUENCES FOR INVESTORS
Failure of purchaser of power (State owned utility) to Perform Obligations		Political Risk Insurance responds. Government guarantees performance. If defaults under guarantee, Owner can terminate.	No effect if Government pays under guarantee. If Government defaults under guarantee and Owner terminates, loan repaid or assumed as Compensation.	No effect based on Political Risk Insurance and/or if Government pays under guarantee. If Government defaults under guarantee and Owner terminates, Compensation paid to termination.
Forced Outage, De-Rate or Temporary Shortfall in Capacity, Deterioration in Heat Rate	Owner's fault	O&M contractor warranties performance. Penalties payable by Owner and Capacity Payment reduced per PPA.	No Effect based on recovery from O&M contractor. If O&M warranty fails to repay penalties it may completely erode shareholders returns, possibility of insufficient cash. Debt service Escrow Account to be drawn down.	Any penalty not paid by O&M contractor will erode return for investors.
Forced Outage or Temporary Shortfall in Capacity	Purchaser of electricity's fault	Capacity Purchase Price payable anyway.	No effect	No effect
	Force majeure event	Political Risk Insurance Responds. Capacity Purchase Price paid by Government anyway.	No Effect. Government guarantees default by Purchaser. If Government defaults, Owner terminates and loan repaid or assumed as Compensation	No Effect. If Government defaults, Owner can terminate. Compensation for termination paid by Government
Increased Fuel Costs (not arising from higher Heat Rate deterioration than Base Case)	Increase in price of Fuel.	All fuel cost are passed through to Government.	No Effect.	No Effect.



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Boiler and Machinery Failure	Insured event	Insurance proceeds for physical reinstatement and business interruption cover for debt service costs.	No effect unless insurance policy exhausted and standby debt finance used	No Effect or Reduction in return if insurance policy exhausted
Failure of the Operator to Perform Obligations	The Operator's breach of Operations and Maintenance Agreement	Penalties payable by the Operator.	No Effect or Debt cover factors reduced if the Operator's penalties exhausted and standby debt finance used.	No Effect or Debt cover factors reduced if the Operator's penalties exhausted and standby debt finance used
Environmental Incidents Caused by the Operator	The Operator's breach of Operations and Maintenance Agreement	Indemnity from the Operator.	No Effect or Debt cover factors reduced if the Operator's penalties exhausted and standby debt finance used.	No Effect or Debt cover factors reduced if the Operator's penalties exhausted and standby debt finance used