PRIVATE POWER PRODUCERS RATING METHODOLOGY

FRAMEWORK

This methodology discusses the criteria for rating power producers. Power projects are capital intensive requiring huge funding which are generally met by publicly issued debt or other sources. Hence, a rating methodology for Power Producers is designed to facilitate appropriate credit risk assessment with regards to the characteristics of the power sector. The overall credit risk profile of the sector is affected by various sector specific issues like delay in land acquisition and statutory clearance, political and regulatory issues etc. The rating looks at a time horizon over the life of the debt instrument being rated and covers following areas throughout the process.

1. *Detailed Project Evaluation*

- The nature of power project along with its technical characteristics
- Promoters composition and financial flexibility
- Project's generation capacity
- Project/ Site Location
- Implementation modality
- Infrastructure and Technical arrangements
- Selling and Distribution modality
- Economic considerations
- Other necessary factors

2. *Project Funding Risk*

The risk is associated with the impact on a project's cash flow from higher cost. Given the capital intensive nature of the projects, such project tends to have high leverage. The capital structure is evaluated and assessed whether the project's debt equity is in line with similar other projects having similar complexity and size. Infomerics Nepal also considers the extent to which funds have been infused in the form of debt and equity and the likelihood of balance funding being available in time, so that there is no delay in project execution on account of cash flows issues. Also, the sponsors' financial strength and promoter's financial flexibility is an important risk mitigator in case of shortfall in funding and other contingent factors.

3. *Construction Risk*

It refers to the risk associated with the construction of the power projects. Delay in construction of either power plant or evacuation line may lead to time and cost overruns. Fixed price, fixed time contract with a reputed contractor, with adequate clauses for liquidated damages are the mitigants against construction risk.

4. *Power Purchase Agreement (PPA), Demand supply and other factors*

PPA is a principal agreement in case of power projects. Infomerics Nepal looks at the minimum off-take of power committed by the purchaser and the incentives and penalties based on the cut-off Plant Load Factor (PLF) to be achieved. The demand-supply situation in the area to be serviced is assessed. Various terms and conditions to be met before commissioning of the project, clearances and agreements with different agencies and consequences of non-fulfilment of stipulated conditions are evaluated. The tariff rates, construction within proposed schedule, penalties for late completion, achievement of projected capacity are some major points considered. The tariff rates are critical factors to determine project's adequacy to ensure the profitability and debt servicing capability at both minimum and high performance level.

5. *Management Structure and Management Quality*

Management is evaluated from various perspective such as; financial capability, experience in the industry, track record in implementing and operating large projects and availability of technical manpower. Some of the additional factors to consider are:

- Experience and qualification of the management team/promoters
- Attitude of management/ promoters in risk taking
- Management/ Promoters commitment towards the business
- Companies policy on funding, interest and forex risk

- Company's plan on new projects establishment, expansion or acquisition

6. *Implementation Risk*

Issues related to land acquisition and environmental clearances, and delays in awarding contracts may hamper timely implementation. Terrain complexity enhances risk. While segments passing through plain terrain are easy to execute, those near hills, forests or rivers are more complex. Following factors are analysed in this regard:

- Funding tie ups
- Project capacity to raise additional resources in case of cost overruns
- Cushion provided in the financing plan and construction schedule for possible delays
- Contractor's capability, based on technical and financial strengths as well as past experience
- Appointment of reputed contractors and selection of best possible equipment increases the chances of successful and timely implementation of a project
- Political risks
- Environmental issues
- Monitoring the progress with regards to the initial cost and time estimates to determine the effect of variations from schedule on the ability to meet debt servicing obligations.

7. *Operational Risk*

Operational risk is associated with various factors after project comes into operations and the following factors are considered in this regard:

- Technology used
- High plant availability, which is not only dependent on the technology used, but also on processes adopted for regular maintenance, and adequate fuel supply. Higher availability increases generating capability
- Plant efficiency: Low auxiliary consumption, plant heat rates and specific primary and secondary fuel consumption norms ensure that lesser quantity of fuel is used, thus reducing variable cost.

- Administrative efficiency: Apart from fuel related expenses, minimization of other expenses such as employee cost, interest and finance charges, is also necessary to keep the generation cost low. Both plant and administrative efficiency parameters should be benchmarked against those of other generators to analyze the relative efficiency.
- Dedicated fuel linkages to the power plant
- Reliability of the transportation system to carry fuel from the source to the plant
- Flexibility of the plant to use alternative fuels; and in case of hydro- electric power plants, the variability of rainfall in the catchment area and its impact on capacity utilisation.
- Operation & Management arrangements
- Fuel cost risk- this arises when the project is unable to pass on the rising cost of fuel to the purchaser, especially in case of fixed tariff Power Purchase Agreements.
- Environmental Issues: The type of fuel, location of plant and technology used can dictate the cost incurred over environmental issues at the construction and operational stages. In fact, in extreme cases, non-compliance with environmental norms can put continuance of operations at risk.

8. Financial Analysis

The project's ability to service debt is determined through a thorough analysis of the projected operations. It would involve critical examination of the underlying assumptions, location of possible stress points and the extent of flexibility available to tide over difficulties. The financial analysis takes into account the following factors:

- Profitability and Earning capacity of the project
- Liquidity and cash flow adequacy
- Capitalisation structure and leverage ratio
- Coverage ratios esp. ICR and DSCR
- Financial flexibility

Each of the factors above and their linkages is analysed to arrive at the overall assessment of credit quality. Further peer comparisons are also taken into effect for carrying out the financial analysis.

RATING SCALE WITH DEFINITIONS

Infomerics Nepal's Long Term Debt Instruments Rating Scale

Long term rating scale-All debt instruments with original maturity exceeding one year.

Symbols	Rating Definitions
IRN AAA	Instruments with this rating are considered to have the highest degree of safety regarding timely servicing of financial obligations and carry lowest credit risk.
IRN AA	Instruments with this rating are considered to have the high degree of safety regarding timely servicing of financial obligations and carry very low credit risk.
IRN A	Instruments with this rating are considered to have the adequate degree of safety regarding timely servicing of financial obligations and carry low credit risk.
IRN BBB	Instruments with this rating are considered to have the moderate degree of safety regarding timely servicing of financial obligations and carry moderate credit risk.
IRN BB	Instruments with this rating are considered to have the moderate risk of default regarding timely servicing of financial obligations.
IRN B	Instruments with this rating are considered to have the high risk of default regarding timely servicing of financial obligations.
IRN C	Instruments with this rating are considered to have the very high risk of default regarding timely servicing of financial obligations.
IRN D	Instruments with this rating are in default or are expected to be in default soon.

Note: Modifiers {"+" (plus) / "- "(minus)} can be used with the rating symbols for the categories IRN AA to IRN C, which will reflect the comparative standing within the category.

Infomerics Nepal's Short Term Debt Instruments Rating Scale

Short term rating scale: All Instruments with original maturity of up to one year.

Symbols	Rating Definitions
IRN A1	Instrument with this rating are considered to have a very strong degree of safety regarding timely payment of financial obligations and carry lowest credit risk.
IRN A2	Instrument with this rating are considered to have a strong degree of safety regarding timely payment of financial obligations and carry low credit risk.
IRN A3	Instrument with this rating are considered to have a moderate of safety regarding timely payment of financial obligations and carry higher credit risk as compared to instruments rated in the two higher categories.
IRN A4	Instrument with this rating are considered to have minimal degree of safety regarding timely payment of financial obligations and carry very high credit risk and are susceptible to default.
IRN D	Instruments with this rating are in default or expected to be in default on maturity.

Note: Modifier {"+" (plus)} can be used with the rating symbols for the categories IRN A1 to IRN A4, which reflects the comparative standing within the category.