The Pakistan Credit Rating Agency Limited

Independent Power Producer Rating Criteria

Methodology

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Summary

PACRA's methodology documents lay out the umbrella framework guiding its credit ratings. This document provides an overview of PACRA's approach to assigning credit ratings to Independent Power Producers (IPPs) in Pakistan. The structure of IPPs is unlike that of other corporates as they operate in a heavily regulated environment, which insulates them from several business and financial risks. PACRA's analysis, when rating IPPs, focuses primarily on the contractual and regulatory framework surrounding an IPP, and quantitative factors, focusing mainly on financing structure and cash flows. Meanwhile, qualitative factors such as ownership, governance and management supplement the analysis. While standalone credit quality is addressed, PACRA incorporates the relative positioning of an IPP to arrive at the final rating.

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1. Introduction

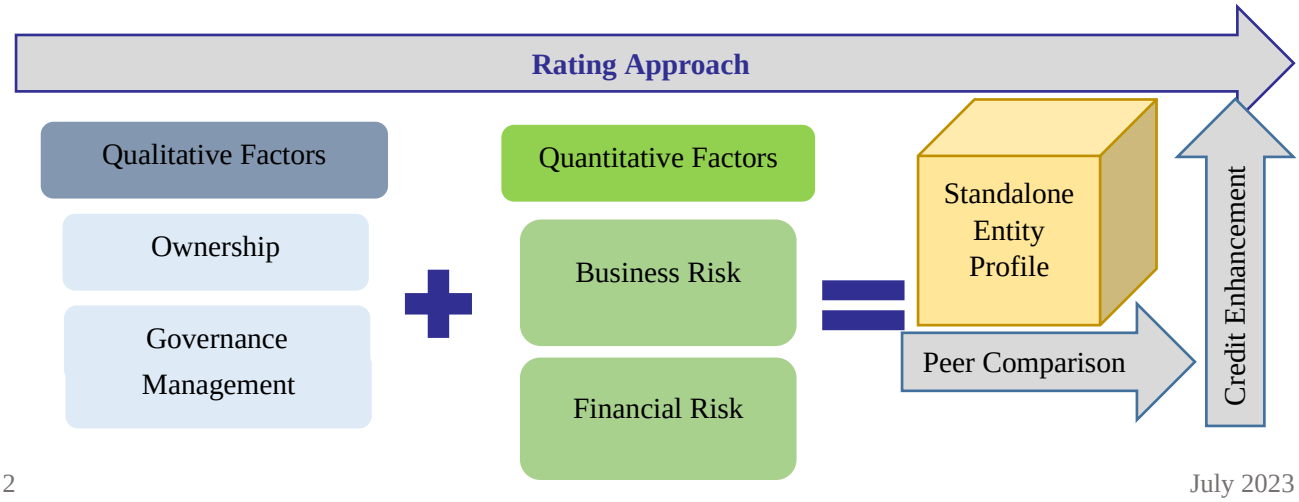
1.1 Scope: This methodology explains PACRA's rating criteria applicable to Independent Power Producers (IPPs). An IPP is an entity that owns facilities to generate electricity. IPPs are special purpose companies. IPPs in Pakistan operate in a regulated environment governed by power purchase agreements (PPA). In the local context, the Central Power Purchasing Agency (CPPA-G) and K-Electric (KE) purchase electricity on behalf of suppliers with K-Electric being significantly more vertically integrated. This particular setup is undergoing a degree of evolution now that the industry is transitioning towards a Competitive Trading Bilateral Contract Market (CTBCM) with CPPA-G embracing its future role as a Market Operator (MO). However, this does not impact pre-existing long term power purchase agreements, just as it continues to empower IPPs in their pursuit of revised contracts with suppliers of its choice. With due regard to the industrial and regulatory landscape, it is notable that this methodology covers all IPPs including: i) Thermal (fuel, gas, and coal), and ii) Renewable (hydel, bagasse, wind, and solar).

1.1.1 As noted previously, IPPs operate in a market transitioning from a single buyer market to one based around bilateral trade agreements. CPPA-G currently remains the key buyer of electricity from IPPs operating in Pakistan, but is now shifting towards its regulatorily obliged role of functioning as a Market Operator. KE, likewise, buys electricity in its respective geography. IPPs negotiate a tariff (or accept upfront tariff) with the regulator, National Electric Power Regulatory Authority (NEPRA). This, however, is subject to reconsideration once tariffs are decided through independent auctions (post CTBCM's implementation) between market participants, assuming that they are approved of by NEPRA in conjunction with the Independent Auction Administrator (IAA). With consideration to the above, NEPRA has put in place various rules and regulations to govern all segments of the power sector, including generation, transmission, and distribution. IPPs are generally insulated from underlying economic risks through long-term PPAs (spanning 25-30 years) with underlying take-or-pay contracts, supported by explicit government guarantees subject to conditions mentioned therein.

1.1.2 The 2021 National Electricity Policy drafted by NEPRA indicated the move towards a more competitive market design whereby IPPs would be able to sell directly to consumers. However, this development, while underway, is yet to translate as a sound and sustainable implementation mechanism.

1.1.3 The magnitude and relevance of risks vary for IPPs at different stages in their lifecycle. For example, for an IPP in its pre-COD stage, the completion risk would be in focus. Meanwhile, other things remaining the same, for an operational IPP, performance risk would be in focus while completion risk would not be relevant.

1.2 Rating Framework: PACRA's risk analysis for IPPs begins with looking at its profile. Here, PACRA studies the contractual framework underlying a particular IPP, to determine the risks retained in the project and those that are a pass-through, as well as the regulatory framework applying to the IPP. Following this, PACRA looks at the ownership, governance and management aspects. This is followed by evaluation of three key areas: completion risk (in case of pre-COD), performance risk (in case of post-COD) and financial risk.



2. Profile

2.1 Background: PACRA reviews the background of the entity to understand its evolution from where it started to where it currently stands. We analyze how and through what means the entity has achieved the desired expansion. PACRA looks at the progress of the entity from its historical past. The progress of the entity helps PACRA in determining the ability of the entity to successfully realize its strategy and completing greenfield or brown field projects. The significant factor here for PACRA is to assess whether the entity has achieved the desired expansion through organic growth or acquisitions. Meanwhile, the source of funding for desired growth is also critical.

2.2 Principal Project Agreements: All IPPs in Pakistan are governed by project agreements (Implementation Agreement, PPA and Fuel Supply Agreement/Gas Supply Agreement) that need to be carefully analyzed. The Project Agreements serve as a basis for an evaluation of: i) regulatory risk, and ii) compensation to the IPPs if there is non-performance to any of these agreements. PACRA extracts and examines the salient points within these agreements that would have a bearing on the IPP's risk profile.

2.2.1 Power Purchase Agreement (PPA): A PPA is entered into between the IPPs and the power purchaser(s). The terms of the contract, clarity of risks assumed by the power purchaser and the IPP, insurance coverage under the PPA, pre-mature termination clauses and its impact on various stakeholders, are key areas to review. PACRA also assesses performance requirements and associated penalties (liquidated damages) in the event of non-performance, or due to force majeure, and its impact on the project. PACRA looks at the provision for step-in rights for either the purchasing utility, or the bondholders/lenders, in the event of default by the project shareholders.

2.2.2 Implementation Agreement (IA): This agreement takes place between the IPP and the Government of Pakistan (GoP). The IA determines how the PPA is governed. Furthermore, the IA mentions various types of support to be provided by GoP, including facilitating company contractors, security protection, GoP guarantee etc. It also mentions the obligations of the project company for project construction and subsequent operations. Meanwhile, restriction on transfer of shares, force majeure, mechanism to give notice to GoP of power purchaser's default, dispute resolution et cetera are also important clauses that are stated in the IA.

2.3 Regulatory Framework: In the local context, IPPs are governed by the power policies of National Electric and Power Regulatory Authority (NEPRA). These policies lay out the guidelines for power generations projects, of which two key components are tariffs and terms of PPAs. PACRA analyses each IPP with reference to the relevant power policy applicable to it and changes that have occurred in the regulatory framework that would impact IPPs in Pre-COD and Post-COD phases when they are operational. PACRA considers the merit order based on nature of fuel (renewable, gas, coal, etc.) and its impact on the IPP, if any, in its evaluation, especially for new IPPs.

Key Features of Power Policy

Power Policy 1994

- Levelized tariff US$ 0.059 (US$ 0.065 for first 10 years)
- Incentive of US$ 0.025 in first 10 years-if COD by1997
- Performance of fuel supplier guaranteed, if public sector
- For Hydel Power Projects (over 20 MW), ROE was allowed upto25%
- Tariff component of Capacity Price & Energy Price
- PPA for 15-30 years introduced

Power Policy 1998

- Corporatization of WAPDA, Privatization of KESC, demand 25000 MW -2008
- Exploiting local coal and hydropower potential
- International Competitive Bidding (ICB) introduced
- Unsolicited bids for hydropower & local coal projects
- No guarantee by Govt. on fuel supply
- Co-Gen allowed but restricted to 5% in a year
- Water Use Charge -by Provincial & AJK Govts.
- Hydel Power Projects & local coal projected provided 90% First Year Allowance
- Off grid solutions introduced, NEPRA may allow policy deviations

Power Policy 2002

- Referred to surplus power in 90's - harmful for Economy
- Installed capacity at 17664 MW (31% IPP), half population deprived
- Four Projects mode (a) private, (b) public, (c) P3, (d) public sector & divested,
- ICB for solicited sites, Negotiated/ICB for Raw sites
- JV allowed with main international sponsor
- GOP guarantee for Implementation Agreement, Power Purchase Agreement, Fuel Supply Agreement, Coal Supply Agreement, Water Use License
- Water Use Charge was fixed at Rs. 0.15/kwh
- Dispatch as per Economic criteria
- Integrated power projects in policy

Re Power Policy 2006

- For small hydropower (less than 50 MW), Wind & Solar Projects
- De-regulated Hydel Power Projects (5MW) and Net metering Projects (1MW)
- Mandatory purchase by NTDCL/CPPA
- Road map for Short Term (2008), Medium Term (2012), Long Term (after 2012)
- Targets a minimum RE of 9700 MW by 2030
- Net metering allowed for surplus generation
- Allowed three modes of tariff Negotiated, Competitive and UF Tariffs. Wind/Hydrology risk by PP

Power Policy 2015

- Four Projects mode (a) private, (b) public, (c) P3, (d) public sector & divested,
- PPIB & Provincial Agencies to implement the policy
- Small Hydel Power Projects, UFT as announced by NEPRA
- Water Use Charge of Rs. 0.425/kwh to be paid to province/AJK (NHP)
- Alternate modes, introduced for fast track
- Attractive IRR/ROE shall be allowed by NEPRA
- IPPs Incentives to be available to public sector projects

Power Policy 2021

- Shift towards creating competitive wholesale market for power
- Expansion in generation capacity to be on competitive and least cost basis
- Greater reliance on local energy sources – renewable and non-renewable
- Alignment of adjustments in generation-end tariff with the consumer-end tariff
- Incorporation of distributed generation (consumers connected to the grid) with distribution companies in line with electricity markets worldwide

3. Qualitative Factors

3.1 Qualitative assessment helps to establish the sustainability of the rating in the foreseeable future. Qualitative considerations here refer to rating factors which do not pertain to an entity's business or financial risk. Rather, they focus more on internal processes, people and systems, and thus are essential to incorporate a forward-looking perspective into rating opinions. This section is meant to provide a brief overview of how PACRA generally factors qualitative considerations into its assessment, insofar as they can impact an issuer's ability to meet financial obligations. PACRA's detailed approach undertaken to conduct this analysis is documented in its methodology titled "Qualitative Considerations".

3.2 Incorporating the potential impact of qualitative considerations into the rating opinion can be challenging because it is generally inferred or estimated based on information which may not be standardized and is difficult to quantify. This often requires some degree of subjectivity and analyst judgement, supplemented by PACRA's own experience and experience of the underlying entity or other entities with similar risks. Three factors underlying PACRA's qualitative analysis at entity level include: Ownership, Governance and Management. The scope of analysis for each category is briefly described below.

3.3 **Ownership:** This section provides an overview of the risks pertaining to the structure and stability of the entity's ownership structure, owners' experience and prowess in the entity's industry, and willingness and ability to extend extraordinary financial support in distressful circumstances. The minimum equity requirement to finance IPPs in Pakistan is 20-25%. Hence, the shareholders present the first source of risk for these projects. The shareholders' previous involvement with power projects that have been built and operated successfully is evaluated. Successful experience in building and/or operating power plants is considered positively. However, if the building and operations of the plant are outsourced to an expert, it may act as a mitigant for shareholders' lack of experience, depending upon the strength of the expert. PACRA looks for evidence of the shareholders' commitment to the project. If the shareholders' have significant resources and time already invested in the project, they are less likely to abandon it. Higher levels of upfront equity investments are considered a positive factor. The strategic and reputational importance of the project to the shareholders is also considered. Commitment may be in the form of an undertaking to cover cost overruns, and/or to provide liquidity support during the life of the project.

3.4 **Governance:** This section provides an overview of the risks pertaining to the Board of Director's role in establishing a robust oversight and control framework to ensure appropriate management oversight, alignment between shareholder and management objectives, transparency in reporting and disclosures, and adherence to applicable regulatory requirements.

3.5 Management: This section provides an overview of the risks pertaining to the management team's proficiency in executing strategy, maintaining strong information systems and utilizing the same for efficient decision making, and ensuring adherence to the entity's ethical and quality standards.

4. Completion Risk

4.1 Construction Risk: Generally, construction risk is the risk that the IPP project is not completed on time, within the scheduled budget and up to the required performance standards. In reviewing these risks, PACRA considers factors such as the appointed contractors, projected costs, delay risk, and other terms of the construction contract.

Construction Risk

Thermal Power Projects

- Risk associated with physical construction of the power plant and process parameters.
- Construction risk of the supporting infrastructure, depending on the nature of the project, for example, railway siding for coal transportation, in case of coal-based power plants.
- If the EPC is awarded to multiple contractors, then coordination between them becomes increasingly important.

Renewable Energy Power Projects

- Risk associated with physical construction of a plant and design operating parameters.
- Critical components:
  - Solar: Solar modules
  - Wind: Wind turbine
- Transmission line availability and access risk

4.2 Engineering, Procurement and Construction (EPC) Contract: The EPC Contract governs the contractual relationship between the IPP and the turnkey contractor. It outlines the scope of work, rights and responsibilities, the construction period during which the contractor is responsible for design, construction, completion and commissioning of the power complex as well as the turnkey contract price. EPC constitutes major portion of the total project cost. Hence, a lump sum fixed price contract would be favorable to the IPP as the first layer of protection against cost overrun arising from any unexpected increase in variable contract costing above the budgeted cost. Basically, the EPC contract should ensure that the IPP is protected against any cost overrun and delay risk, as these risks have been passed on to the turnkey contractor. PACRA would evaluate that there are enough cash reserves and credit lines available to cover instances of cost overruns/delays.

4.2.1 In-house vs. Outsourced: In case the project company's management decides to keep the EPC function in-house to be executed by own team, experience of the team would become important in addition to shareholders' ability to absorb escalated costs in case of project delays. However, PACRA considers this arrangement as relatively risky compared to a contract entered into with an established EPC contractor. When the EPC is outsourced to a contractor, the track record of the EPC contractor in both the local and the foreign market is examined. An EPC contractor of international repute with a long-standing local EPC experience is rated higher as compared to one with similar international credentials but lack of operating experience in Pakistan, or in any other emerging economy.

4.2.2 Parts of a Standard EPC Contract:

a) Off Shore Equipment Supply Contract
b) Onshore – Construction contract

Generally, both Onshore and Offshore contracts, are executed with the same party as it is more conducive to facilitate coordination and synergies. This is the case in Pakistan. However, there is no contractual binding in this regard and these two contracts may be executed with different parties.

4.2.3 Performance Bonds and Guarantees: An important part of the EPC is the performance guarantee underlying the assurance to achieve timely COD by the EPC Contractor.

4.2.4 Early Completion Incentives: The existence of early completion incentives, reasonable liquidated damage provision and sufficient insurance coverages provide some protections in the event of unexpected delays, damages or overruns. Early completion incentives are justified by the debt-servicing cushion that may accrue to the company as per its contractual obligations.

4.2.5 Independent (Lenders') Engineer's Report: During the construction period, PACRA monitors the construction progress by examining the construction progress report prepared by an engineering consultant, which is responsible for overseeing and monitoring the construction progress. This report becomes critical as the IPP is nearing COD.

4.2.6 Project Funds Agreement: The PFA is an agreement between the IPP, equity financiers, debt financiers, the project-monitoring bank, and the security trustee. The finalization of the agreement coincides with the financial close. PACRA carefully studies the form of shareholder equity support along with loan agreements/committed bond funds, performance guarantees, included in PFA.

4.3 Delay in COD: In case of delay in commissioning of the plant, PACRA analyzes the coverage provided by the EPC contract and the charge of liquidated damages (LDs) that can be passed on to the contractor. In case the shareholders have to meet the LDs (or a portion of it), PACRA incorporates it accordingly in its rating analysis.

5. Performance Risk

5.1 PACRA evaluates challenges relating to the operation and maintenance of the power plant to assess performance risk. The quality and provisions pertaining to Operations & Maintenance (O&M) need to be factored in adequately, even before COD. The operation and maintenance risk is the risk that the project will result in lower-than-expected productivity or net electrical output as a result of unplanned outages and/or failure to meet performance standards. PACRA assesses the experience and responsibilities of the power plant operator.

5.2 Operations and Maintenance (O&M) Contract: This contract mentions understanding of the operator's relationship to project owners, the scope of work, and its rights and responsibilities. PACRA looks for measures to cover instances where the operator's performance is below the required performance standards, perhaps in the form of performance guarantees and associated liquidated damages and ability to be replaced, if necessary.

5.2.1 In-house vs. Outsourced: In case the company decides to assemble an in-house O&M team, the experience profile of the team is important to analyze. Nevertheless, the risk is considered higher compared to outsourcing it to an established contractor as financial losses that may arise due to any operational hitch are to be absorbed by the project company. If the O&M activities are to be contracted-out, PACRA takes note of the arrangement to manage these sub-contractors. If the contractors are in default of their obligations set out in the O&M agreement, PACRA expects some form of compensation to be set out in the agreement.

5.2.2 Experience and credibility of operator: PACRA assesses the experience and track record of the operator in operating similar power plants as well as the latest financial position of the operator. PACRA takes note of the existence of technical support and spare parts from the major equipment suppliers at the power plant.

5.2.3 Plant performance: The assessment on the plant's performance in adherence to the key performance measures such as plant availability, dependable capacity, efficiency (amount of energy produced per component of fuel), and emissions need to be carried out. The effects on cash flows as a result of higher operating costs, penalty payments under the PPA, which should be covered by liquidated damages claimable from the operator, and loss of revenue due to breakdown of machinery or force majeure events shall also be analyzed. The motivation/incentives for operator such as performance-based compensation and the importance of the project to the operator are also looked at. The type of power plant and the technology used in these plants to some extent influence the operating risks.

5.3 Resource Risk: Ensuring reliable supply of fuel/resources and dynamics of change in resource costs is also examined. In case of non-renewable IPPs, PACRA evaluates the fuel supply agreement with fuel suppliers. A long-term supply agreement is desirable as well as the existence of take-or-pay clause. Alternative fuel sources and a list of alternative fuel supplies are evaluated by PACRA to determine the risk of over dependence on any one supplier. The ability to pass through fuel cost escalations to the off-taker such as GoP is also desirable from the rating's point of view. In latest PPAs, the GoP does not guarantee the fuel supplier's obligations. However, the risk is a pass-through to the fuel supplier and, hence, the fuel supplier pays the requisite LDs to the IPP, in the event of non-performance on the fuel supply agreement. However, this practice has not been tested and IPPs remain majorly responsible for payment of LDs in case of closure of plant.

5.3.1 Renewable energy IPPs face the risk of variability in availability of the required natural resources, and therefore, the effective energy output may show an inconsistent pattern. PACRA reviews the PPAs to ascertain if the resource variability risk is assumed by the IPP or the power purchaser. In recent PPAs resource variability risk is assumed by the IPPs. PACRA analyzes historical trend of resource availability and compare the performance of the IPP with other similar power producers situated within same location.

Fuel Supply Risk

Thermal Power Projects

- Risks of the sources of fuel supply, distance from the source, reserve availability, contractual obligation of the seller and price of supply.
- Evaluation of the water availability as per allocation approved by the Government in relation to the water requirement for the project, sources of supply, track record of water availability and storage capacity at the power plant site.

Renewable Energy Power Projects

- Risk of variability in availability of resources:
- Solar: Solar irradiation, which is susceptible to weather conditions at the project location. Geographically diversified operations are desirable.
- Wind: wind speed, which is susceptible to weather conditions at the project location. Geographically diversified operations are desirable.
- Bagasse: Availability of sufficient crop, particularly off-season

5.4 Insurance Cover: PACRA analyzes the comprehensiveness of insurance coverage for the IPP against various risk factors including plant and machinery damage, business interruption losses, and/or losses due to

any force majeure events. Risk ratings may take comfort in cases where insurance package adequately covers the identified risks; although this may not result in higher rating.

6. Financial Risk

6.1 Off-Taker Risk: The off-taker for IPPs are CPPA-G / K-Electric. The credit strength in terms of the ability and willingness of the off-taker to pay its obligations are assessed. In Pakistan, the GoP, under its sovereign guarantee, covers all obligations of the aforementioned power purchasers provided that IPPs meet their performance parameters. As is the case of any other sovereign, GoP is not likely to default on its local currency obligations. This acts as a mitigant of financial risk related to the off taker. However, as a consequence of the transition towards CTBCM, PACRA gives due regard to the ability of an IPP to secure power purchase agreements with suppliers (DISCOs) with sound recoverability and efficiency prospects. Although contracts with DISCOs shall continue to be backed by sovereign guarantees, those with higher creditworthiness will be preferred in terms of recovery of dues. Consequently, the duration of the agreements through CTBCM, the diversity among purchasers, and the likelihood of early termination by the purchaser are all elements factored into the evaluation process.

6.2 Financing Structure: The IPP's structure should spell out the principal terms, conditions and covenants of the debt facility, such as repayment pattern, security, and designated accounts. Terms, conditions and covenants under the issue structure are directed towards ensuring the solvency of the project and the requirement of the IPP to manage its cash flows and service its debt obligations. Certain structural features and covenants that may provide comfort to assess credit protection include:

6.2.1 Minimum Debt Service Coverage Ratio (DSCR): This is the minimum coverage of debt service by revenues generated by the IPP.

6.2.2 Debt repayment schedule: PACRA shall monitor the debt repayment schedule over the duration of the facility and whether the payments have been made according to the schedule. Timeliness in meeting both principal and interest payments is considered important.

6.2.3 Designated accounts: The designated accounts to be opened and maintained include the finance service account, finance service reserve account, operating account, escrow account, disbursement account, etc. PACRA shall understand the functions and workings of such accounts, the minimum balance requirement in the designated accounts (if any), et cetera, considering that they serve to address the liquidity risk associated with the project.

6.2.4 Maximum Debt to Equity ratio: PACRA monitors the trend in debt-to-equity ratio historically and that forecasted for the entire period of the facility.

6.2.5 Legal structure, credit enhancements and other financial covenants: PACRA examines other features including legal structure, any measures to minimize cash leakage and tighter ring-fenced mechanism to provide additional protection to lenders.

6.3 Liquidity Risk: In the local environment, this risk is critical to analyze. IPPs suffer due to the relatively weak financial discipline of the power purchaser(s). Electricity distribution companies (DISCOs) are subject to substantial losses (both technical and theft) and risk of non-payment by the consumers, as a result of which, payments to power purchasers are delayed. This structural risk gives rise to circular debt as the power purchaser,

accordingly, adjusts its cash payments to IPPs. Therefore, payment to IPPs can exhibit significant volatility. So, despite the IPPs' funding cost being a pass-through one, extended payment delays force IPPs to manage their liquidity requirements through either shareholder loans or short-term borrowings. Therefore, PACRA closely monitors and obtains updated information regarding upcoming financial repayments and available resources to meet short-term needs.

6.4 Working Capital: Analysis of working capital management is important part of financial risk assessment. PACRA analyses the number of days cover provided by available financing to cover working capital requirements. Any portion of working capital requirement financed through equity is considered positive. While repayment of commercial obligations as per contractual terms is considered important, availability of un-utilized lines is taken into account.

6.5 Coverages: PACRA assesses cashflow projections of the IPP over the tenure of the financing facility, based on the financial forecast of the project, including the assumptions underlying the forecast (e.g.; inflation, interest rates, tax rates and planned capital expenditure). Based on the financial forecasts, PACRA sensitizes the cash flow projections under several scenarios including best-case scenario on break-even basis. The sensitized cashflow projections are then matched against the debt repayment schedule of the project to ascertain the DSCR, a key indicator of the debt servicing ability of the company. The objective is to determine the DSCR or how much revenue is needed to cover debt service and operating expenses. The DSCR under each scenario and the year in which the minimum DSCR would occur are noted and explanation obtained for the trend observed. PACRA shall also compare the DSCR with the minimum DSCR as required by the financial covenant. The higher the DSCR under the various stressed scenarios, the lower the risk of financial default. Throughout the tenure of the finance facility, PACRA determines the adequacy of the DSCR.

6.5.1 Force Majeure Risk: Where force majeure clauses are present in PPA(s), PACRA looks at whether there are provisions to limit the IPP's liability in such instances. If these include payment of certain compensation, PACRA assesses the quantum of the compensation relative to the IPP's outstanding debt burden to gauge its adequacy, since this can impact the overall financial flexibility of the IPP.

6.6 Capital Structure: IPPs are usually structured on an 80:20 or 75:25 debt to equity basis. The equity requirement is to ensure commitment on the part of the project's shareholders. Projects with high equity participation are viewed positively as they are likely to have greater financial flexibility. Meanwhile, the average cost of debt and the foreign exchange component in debt are also considered.

Independent Power Producer Rating Criteria

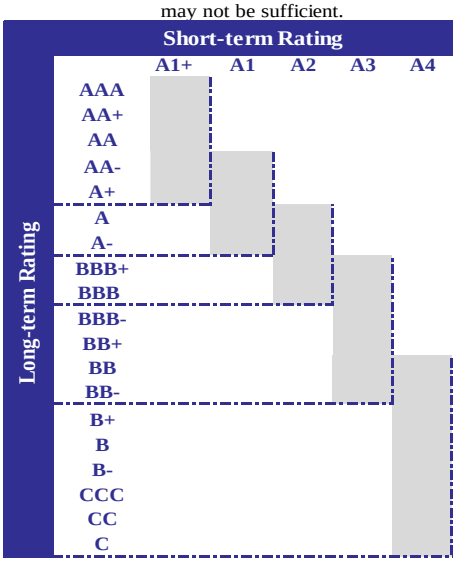
Scale

Credit Rating

Credit rating reflects forward-looking opinion on credit worthiness of underlying entity or instrument; more specifically it covers relative ability to honor financial obligations. The primary factor being captured on the rating scale is relative likelihood of default.

Long-term Rating	
Scale	**Definition**
AAA	**Highest credit quality.** Lowest expectation of credit risk. Indicate exceptionally strong capacity for timely payment of financial commitments
AA+ AA AA-	**Very high credit quality.** Very low expectation of credit risk. Indicate very strong capacity for timely payment of financial commitments. This capacity is not significantly vulnerable to foreseeable events.
A+ A A-	**High credit quality.** Low expectation of credit risk. The capacity for timely payment of financial commitments is considered strong. This capacity may, nevertheless, be vulnerable to changes in circumstances or in economic conditions.
BBB+ BBB BBB-	**Good credit quality.** Currently a low expectation of credit risk. The capacity for timely payment of financial commitments is considered adequate, but adverse changes in circumstances and in economic conditions are more likely to impair this capacity.
BB+ BB BB-	**Moderate risk.** Possibility of credit risk developing. There is a possibility of credit risk developing, particularly as a result of adverse economic or business changes over time; however, business or financial alternatives may be available to allow financial commitments to be met.
B+ B B-	**High credit risk.** A limited margin of safety remains against credit risk. Financial commitments are currently being met; however, capacity for continued payment is contingent upon a sustained, favorable business and economic environment.
CCC CC C	**Very high credit risk.** Substantial credit risk "CCC" Default is a real possibility. Capacity for meeting financial commitments is solely reliant upon sustained, favorable business or economic developments. "CC" Rating indicates that default of some kind appears probable. "C" Ratings signal imminent default.
D	Obligations are currently in default.

Short-term Rating	
Scale	**Definition**
A1+	The highest capacity for timely repayment.
A1	A strong capacity for timely repayment.
A2	A satisfactory capacity for timely repayment. This may be susceptible to adverse changes in business, economic, or financial conditions.
A3	An adequate capacity for timely repayment. Such capacity is susceptible to adverse changes in business, economic, or financial
A4	The capacity for timely repayment is more susceptible to adverse changes in business, economic, or financial conditions. Liquidity may not be sufficient.



**The correlation shown is indicative and, in certain cases, may not hold.*

Outlook (Stable, Positive, Negative, Developing) Indicates the potential and direction of a rating over the intermediate term in response to trends in economic and/or fundamental business/financial conditions. It is not necessarily a precursor to a rating change. 'Stable' outlook means a rating is not likely to change. 'Positive' means it may be raised. 'Negative' means it may be lowered. Where the trends have conflicting elements, the outlook may be described as 'Developing'.

Rating Watch Alerts to the possibility of a rating change subsequent to, or, in anticipation of some material identifiable event with indeterminable rating implications. But it does not mean that a rating change is inevitable. A watch should be resolved within foreseeable future, but may continue if underlying circumstances are not settled. Rating watch may accompany rating outlook of the respective opinion.

Suspension It is not possible to update an opinion due to lack of requisite information. Opinion should be resumed in foreseeable future. However, if this does not happen within six (6) months, the rating should be considered withdrawn.

Withdrawn A rating is withdrawn on a) termination of rating mandate, b) the debt instrument is redeemed, c) the rating remains suspended for six months, d) the entity/issuer defaults., or/and e) PACRA finds it impractical to surveill the opinion due to lack of requisite information.

Harmonization A change in rating due to revision in applicable methodology or underlying scale.

Surveillance. Surveillance on a publicly disseminated rating opinion is carried out on an ongoing basis till it is formally suspended or withdrawn. A comprehensive surveillance of rating opinion is carried out at least once every six months. However, a rating opinion may be reviewed in the intervening period if it is necessitated by any material happening.

Note. This scale is applicable to the following methodology(s):

a) Broker Entity Rating
b) Corporate Rating
c) Debt Instrument Rating
d) Financial Institution Rating
e) Holding Company Rating
f) Independent Power Producer Rating
g) Microfinance Institution Rating
h) Non-Banking Finance Companies Rating