

ASIAN DEVELOPMENT BANK

PROJECT PROCUREMENT-RELATED REVIEW

Loan 3062-IND: Jaipur Metro Rail Line 1-Phase B Project

This report has been redacted in accordance with Asian Development Bank's Public Communications Policy (PCP) issued in 2011. In particular, it excludes confidential and other information in accordance with paragraph 70 of the PCP.

Office of Anticorruption and Integrity
January 2017

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CURRENCY EQUIVALENTS

(as of 31 July 2016)

Currency unit	=	Indian Rupee (INR)
INR	=	\$0.015
\$1.00	=	INR66.71

ABBREVIATIONS

ADB	-	Asian Development Bank
BER	-	bid evaluation report
CEC	-	consultant evaluation committee
CQS	-	consultants' qualifications selection
DEA	-	Department of Economic Affairs
ICB	-	international competitive bidding
JMRC	-	Jaipur Metro Rail Corporation
OAI	-	ADB Office of Anticorruption and Integrity
PPRR	-	project procurement-related review
SARD	-	ADB South Asia Department
SATC	-	ADB Transport and Communications Division, South Asia Department
TBM	-	tunnel boring machine
TEC	-	tender evaluation committee

NOTE

In this report, \$ refers to US dollars.

A project procurement-related review is

a review undertaken by OAI on ongoing ADB-financed projects to assess compliance with applicable ADB policies, guidelines, and the loan/financing agreements, with a focus on preventing and detecting integrity violations (<http://www.adb.org/site/integrity/integrity-violations>) involving ADB-related activities as defined under ADB's *Anticorruption Policy* as amended (<http://www.adb.org/documents/anticorruption-and-integrity-policies-and-strategies>) and ADB's *Integrity Principles and Guidelines* (<http://www.adb.org/documents/integrity-principles-and-guidelines>) as amended from time to time.

ADB's *Anticorruption Policy* requires all parties, including borrowers, beneficiaries, bidders, consultants, suppliers, contractors, and ADB staff to observe the highest ethical standards when participating in ADB-related activities. The Policy supports ADB's obligation, in accordance with Article 14 (xi) of the Agreement Establishing the Asian Development Bank, to ensure that the proceeds of ADB financing are used only for intended purposes.

The PPRR assesses internal controls in place, identifies irregularities and instances of non-compliance, inspects the project outputs, and recommends enhancements to mitigate or eliminate opportunities for fraud, corruption, or abuse of resources and to help improve development effectiveness of future projects.

A project procurement-related review is not

an investigation of fraud and corruption nor an evaluation to assess development effectiveness of ADB-funded projects. It does not review project outcomes or development impact, which can only be assessed after the completion of a project.

OAI conducts **follow-up reviews** on selected PPRRs to assess the progress of the implementation of PPRR recommendations and to assist the executing/implementing agencies and ADB in addressing remaining recommendations.

EXECUTIVE SUMMARY

1. The Office of Anticorruption and Integrity of the Asian Development Bank (ADB) conducted a project procurement-related review (PPRR) of India's Jaipur Metro Rail Line 1-Phase B Project (the Project). The PPRR fieldwork took place in Jaipur, Rajasthan, India from 16 August to 9 September 2016, with further review and analyses completed subsequent to the fieldwork. This report presents the findings and recommendations from the PPRR.
2. The \$259 million Project aims to improve public transport in Jaipur by reducing congestion and pollution, while preserving the city's cultural heritage and historic architecture. The overall objective of the PPRR is to verify the Projects' compliance with applicable ADB policies, guidelines, and loan agreements with a focus on preventing and detecting integrity violations. Recommendations from the PPRR are intended to strengthen project oversight, enhance internal controls, and optimize project management.
3. Based on the PPRR, Jaipur Metro Rail Corporation (JMRC) has implemented controls to ensure that the Projects' procurement, and financial and asset management generally adhere to the relevant policies, guidelines and loan agreements. The Projects' financial information is adequately maintained, and contracts are implemented accordingly. Good governance structures in place are complemented by JMRC personnel's strong sense of accountability. Good project progress was noted despite challenges due to the Project's complex nature.
4. No major issues would prevent the accomplishment of the Project's objectives. Evaluation of bids and proposals, however, could be further enhanced through stricter observance of ADB policies and guidelines. Among others, this includes providing adequate disclosures in the bidding documents and evaluation reports. Project monitoring can also be improved. In addition to correcting the current method of computing physical progress, available data should be utilized to determine the overall physical progress. Such data should, subsequently, be analyzed against financial progress, and then documented in the Project Monitoring Report. These analyses would assist stakeholders to timely identify and resolve bottlenecks, resulting in better understanding to improve the project's overall progress.
5. All findings were discussed with and acknowledged by JMRC, and their feedback on the preliminary findings submitted to OAI on 20 and 28 September 2016, were incorporated in this report. Recommendations are presented in paragraphs 38-41 of this report. OAI plans to conduct a follow-up review in 2017 to assess the implementation status of recommendations.
6. The PPRR acknowledges that JMRC is a relatively young organization, having been incorporated only in 2010. The organization has benefited largely from regular coordination activities with the general consultant in improving its project management skills. JMRC also expressed positive interest to enhance their skills to identify and mitigate integrity risks. The PPRR team, therefore, provided due diligence and checklists (procurement, financial management, etc.) training during the fieldwork in Jaipur.
7. As the Project is expected to be completed in 2018, lessons learned from this PPRR, if adopted, will strengthen the integrity and transparency of project implementation going forward. If replicated, they will also improve other ADB-financed and/or administered projects in India.
8. The cooperation of JMRC, general consultant, contractor, consultants, Department of Economic Affairs, ADB's India Resident Mission, and ADB's Transport and Communications

Division, South Asia Department in this exercise is much appreciated. OAI values the courtesy and support extended to the PPRR team.

I. OVERVIEW

1. The Office of Anticorruption and Integrity (OAI) of the Asian Development Bank (ADB) conducted a project procurement-related review (PPRR) of the Jaipur Metro Rail Line 1-Phase B Project under Loan 3062-IND (the Project) in Jaipur, Rajasthan, India from 16 August 2016 to 9 September 2016.¹ This report presents the findings and recommendations resulting from the PPRR.

2. The overall objective of the PPRR is to verify compliance with applicable ADB policies, guidelines and the loan agreement, focusing on preventing and detecting integrity violations, by the executing agency and ADB stakeholders involved in project implementation. The Project's vulnerabilities and risks in the areas of procurement, financial management, and asset management were identified through the review of all contracts awarded for this Project as of 31 July 2016.

Background

3. Relevant highlights of the Project reviewed are provided in **Table 1** below, while funding sources are depicted in **Figure 1**.

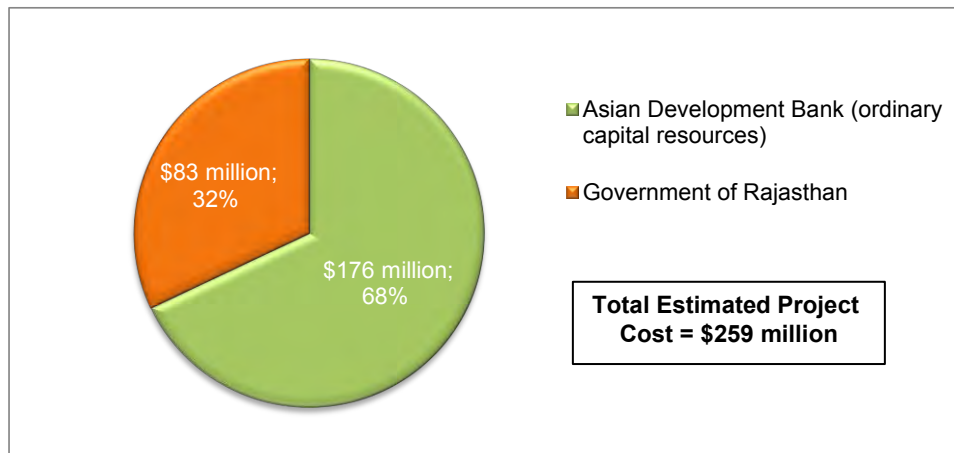
Table 1: Project at a Glance

Project title	Jaipur Metro Rail Line 1-Phase B Project
Loan/grant number	Loan 3062-IND
Total estimated project cost	\$259 million
Link to India's 2013-2017 Country Partnership Strategy	The project supports the environmentally sustainable growth strategic pillar through focus on sustainable transport
Executing agency	Government of Rajasthan acting through the Urban Development and Housing Department and Jaipur Metro Rail Corporation (JMRC)
Project impact	Improved public transport in Jaipur
Project outcome	Improved mass rapid transit system in Jaipur
Overall physical progress of ICB civil works contract ²	41%
Disbursements level ³	46%

¹ OAI was assisted by PricewaterhouseCoopers, India (collectively, the PPRR team) in this PPRR.

² Based on the contractor's July 2016 monthly progress report submitted to JMRC through the general consultant.

³ See footnote 2.

Figure 1: Funding Sources for the Project**PPRR Scope**

4. The PPRR covered all three contracts awarded and related expenditures for these contracts under the Project (Loan 3062-IND) as of the PPRR cut-off date.⁴ These comprised one international competitive bidding (ICB) civil works contract and two consulting services contracts procured through consultants' qualification selection (CQS).

5. The PPRR:

- a. Assessed the project team's internal controls and capacity. This included interviewing key officers and personnel to understand their functions and responsibilities on procurement procedures, financial management system, and disbursements. It also included reviewing the organizational structure, experience and qualifications of key project staff, and segregation of duties;
- b. Verified the procurement processes and the related documentation. This covered all stages of procurement from preparation of bidding documents to contract awards;
- c. Examined the appropriateness of project expenditures and the related supporting documents; and
- d. Inspected the works relating to a civil works contract. This also included inspection of site safety, quality assurance and control procedures, and project management.

II. OBSERVATIONS**PROJECT'S STRENGTHS**

6. **Significant physical progress despite challenges.** Significant physical progress was achieved by the Project despite various challenges encountered during actual construction works. As of July 2016, physical progress was at 41% with respect to the ICB civil works

⁴ The PPRR cut-off date is 31 July 2016.

contracts.⁵ Although there were significant delays⁶ because of unforeseen problems and the complex nature of the works, implementation speed has significantly increased since the two tunnel boring machines (TBMs) were installed and became operational.⁷

7. **Strong governance structure is in place.** The management and staff of JMRC have a strong sense of Project accountability. The roles and responsibilities of staff and consultants in procurement, finance, and project supervision were clearly defined. Documents on day-to-day monitoring and supervision showed JMRC personnel's keen attention to details and high level of commitment to the Project. For example, variation orders were extensively deliberated by operations and finance staff, and the general consultant prior to approval. There was documentation that indicated JMRC also held coordination meetings with various government agencies and other project stakeholders to ensure full support of the Project.

8. **Ensured adequate protection of heritage structures of Jaipur City.** Heritage structures in Jaipur were preserved and maintained with due care. A heritage consultant was engaged to conduct a baseline survey of the heritage sites and to regularly monitor the status of these sites throughout the construction period.⁸ JMRC also apprised the residents of Jaipur of the Project's benefits through information campaigns, including screening of a short infomercial in public cinemas. In addition, the local Civil Defense team was engaged to assist in safeguarding the affected areas during the relocation period. These initiatives helped to address the anxieties over damages to the heritage structures, especially, of the affected local communities in Jaipur.

9. **Adequate records management system.** JMRC implemented good documentation practices, as indicated by adequate records-retention. For example, internal note sheets⁹ were enormously helpful during the PRRR. They gave clear understanding of how the procurement and contract administration issues were dealt with. Payment files also showed that a system for keeping paper trails for financial transactions, which follows the interim payment certificates and withdrawal applications, was in place and strictly followed. All requested documents for the PRRR were provided by JMRC within two working days.

10. **Adequate monitoring of site works.** The ICB civil works contractor implements real time monitoring of tunneling works using online monitoring software. This contributed to accurate data capture and timely identification of bottlenecks in respect of tunneling works. As observed during site visits, works were done in a skillful manner and appropriate safety procedures were generally in place. The general consultant witnessed and approved in-house testing of equipment, which was adequately documented. Materials testing were carried out by a third party laboratory.

⁵ Time elapsed is 989 days reckoned from the notice to proceed dated 15 October 2013 until 30 June 2016.

⁶ Major delays were attributed to the discovery of uncharted utilities and two historic water tanks in the station areas. Some design modifications were also adopted by the contractor. The Project was about 18-months behind schedule based on the first Quarterly Progress Report submitted to ADB by JMRC.

⁷ Based on the accelerated program of works dated 30 November 2015, both TBMs became operational on 19 June 2015 after commencement of the initial drive of TBM on the same date.

⁸ Among others, the expert is responsible for coordinating necessary procedures if any historical/traditional artifacts are found during tunneling/digging works. The consultant was also tasked to advise JMRC on appropriate technical measures to be adopted to prevent damages to heritage structures, and to recommend appropriate mitigation or restoration measures. Instructions regarding proper handling of heritage elements in civil structures above ground, and proper inventory and turnover of recovered archaeological objects to a local museum were relayed by the consultant to the contractor through JMRC.

⁹ These pertain to internal memos, and both handwritten and typewritten comments documenting the results of deliberations by JMRC personnel of project implementation issues.

11. **Provision of appropriate work facilities.** Labor camp was kept in a hygienic condition with all necessary facilities provided to the workers.

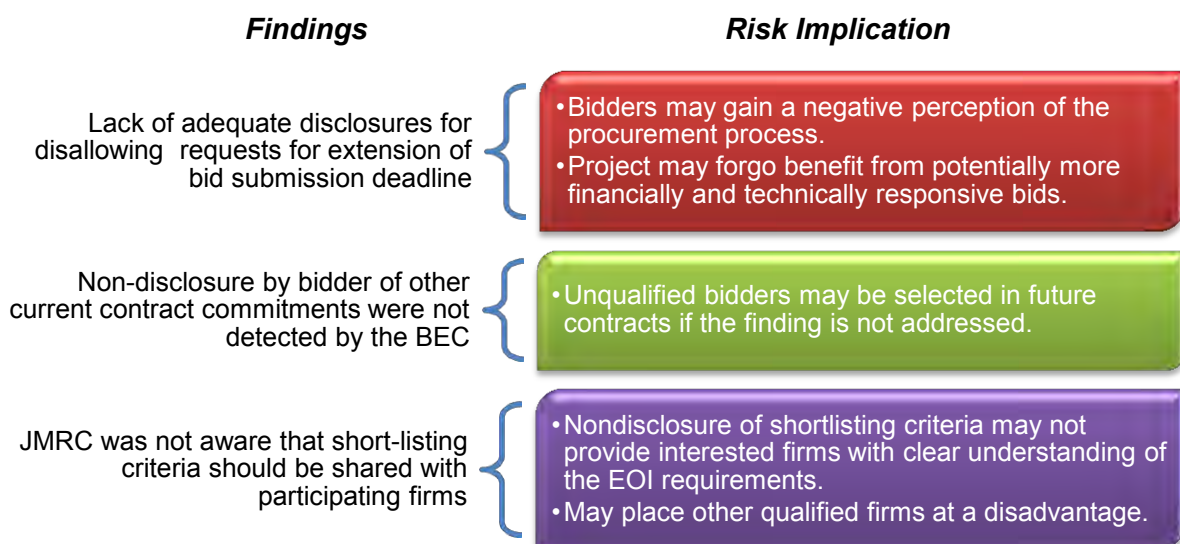
PROJECTS' VULNERABILITIES

12. There are a total of eleven findings noted in the three contracts reviewed. They comprise four findings in procurement, one in financial management and disbursements, and six in asset management – and, are presented accordingly. These findings may not be considered as major issues; however, they may result in financial loss if they recur. Some of these issues have already been addressed by JMRC after discussions of the preliminary findings with the PPRR team.

A. Procurement

13. There were deficiencies noted in disclosures, evaluation, and delegation of authority to negotiate and sign the contract as summarized in **Figure 2**.

Figure 2: Summary of Major Procurement Findings



ICB Civil Works Contract

14. **Reason(s) for non-extension of bid submission deadline needs disclosure.** The ADB *Procurement Guidelines*¹⁰ recommend that not less than six weeks should be given to bidders to prepare their bids, from the date of publication of the invitation to bid or the date when bidding documents are available, whichever is later. The bid preparation duration may be adjusted with due consideration of the particular circumstances of the project and the magnitude and complexity of the contract.

15. JMRC received 18 requests from 14 bidders¹¹ for extension of bid submission deadline prior to and after the pre-bid meeting. JMRC, however, did not agree to any of these requests

¹⁰ ADB Procurement Guidelines, para. 2.44 Time for Preparation of Bids

¹¹ At least four potential bidders submitted extension of submission deadline requests twice.

nor provided justification for denying extension in its reply to bidders.¹² The requested time extension ranged from 2 to 8 weeks. Majority of the reasons cited the complex nature of the Project requiring completion of prior detailed site surveys and data collection to prepare more competitive bids. Out of the 26 bidders, who purchased bidding documents, only 3 submitted bids. One bidder was disqualified due to non-responsiveness of its bid to financial capacity requirements.

16. No reasons to deny requests for bid submission deadline extension may have resulted in negative perception of the procurement process by bidders, and limited the number of potentially more financially and technically responsive bids. The bid preparation time allotted to bidders, however, complied with the minimum six weeks suggested by the ADB *Procurement Guidelines*.

17. The ADB SATC had been made aware, upon review and approval of a bid addendum, that several requests for extension of bid submission deadline were received by JMRC prior to and on the date of the pre-bid meeting.¹³ JMRC, however, had not fully disclosed to ADB SATC the significant number of requests for extension received.

Finding addressed

18. JMRC explained that participating bidders have similarly taken part in other biddings for tunneling projects of the general consultant, thus, may well be aware of the Project's complexities. Notwithstanding, JMRC has subsequently issued an office order in September 2016 requiring justification for denying requests for extension of bid submissions, as well as all procurement-related decisions, to be included in the bid evaluation report to improve its clarity.

19. ***Non-disclosure by bidder of all its contract commitments not noted by evaluation committee.*** The bidding documents of the ICB contract requires disclosure of an aggregate financial resources requirement in bid Form FIN-4, which is the sum of the bidder's: (i) current commitments¹⁴ and (ii) financial resources requirement of the contract amounting to \$6 million.

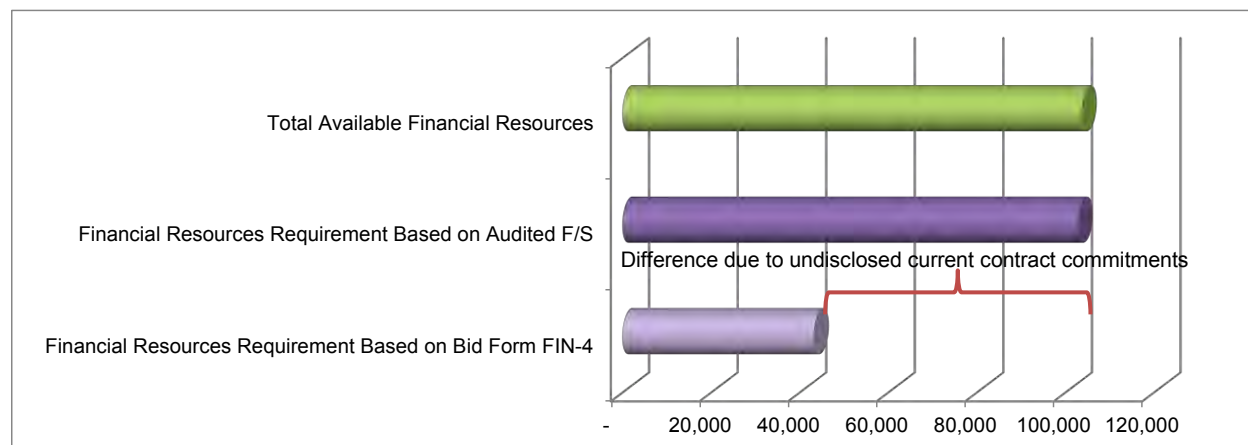
20. The tender evaluation committee (TEC) did not detect nondisclosure by the winning bidder in its bid Form FIN-4 of 18 out of its 28 ongoing major contracts indicated in the financial statements notes supporting the bidder's submission. Instead, the TEC used only the figures provided by the bidder in Form FIN-4. JMRC explained that they did not have any reason to doubt the propriety of the bid submissions, since the participating bidders were not sanctioned by ADB. The evaluation outcome would not have changed had these major ongoing contracts been included in the analysis of the bidder's financial capacity. Although the Project experienced delays in implementation, there was no evidence of financial difficulties of the contractor. **Figure 3** below depicts the volume of ongoing contractual commitments that were not disclosed by the winning bidder.

¹² This includes requests received subsequent to the pre-bid meeting. Replies to bidder requests for extension were provided by JMRC in Addendum 2 and in letter replies to individual bidders.

¹³ JMRC submitted to ADB Addendum 2, which contains pre-bid queries and JMRC's responses, on 10 July 2013. ADB gave its no-objection to Addendum 2 on 11 July 2013.

¹⁴ For purposes of determining current contract obligations, disclosures should be made of current commitments on all contracts that have been awarded, or for which a letter of intent or acceptance has been received, or for contracts approaching completion, but for which an unqualified, full completion certificate has yet to be received. Similarly, material financial obligations that could affect implementation of the contract under bidding also needs to be disclosed to the employer.

Figure 3: Comparison of Winning Bidder's Financial Resources Requirements Against Available Financial Resources



Consultants' Qualifications Selection Contracts

21. **JMRC was not aware that the shortlisting criteria need to be included in invitation for EOIs.** ADB's Project Administration Instructions¹⁵ (PAIs) requires that criteria for assessing expressions of interest (EOIs), among others, should be included in the invitation for EOIs. For recruitment of consultants, shortlisting criteria is particularly critical when the CQS method is used. Under the method, shortlisted firms are effectively ranked. Then, only the first ranked firm is subsequently requested to submit a technical and financial proposal.¹⁶ This is subject to technical and financial compliance to the Project's requirements, and successful contract negotiations. The executing agency is allowed to exercise discretion during the evaluation of EOIs. But, adequate disclosures of evaluation parameters to participating firms enhance the credibility of the procurement process.

22. In two CQS contracts, the shortlisting criteria had not been included in the request for EOIs. This may result in non-detection of inconsistencies and/or errors in the EOI evaluation process. In one isolated instance, a potential error was noted in the score given to a proposed expert during the shortlisting.¹⁷ The lack of detailed narrative (to support a given score) linking to the shortlisting criteria, may cast doubts on JMRC's discretion during evaluation of the participating consulting firms' experience.

23. JMRC explained that they adopted ADB's standard templates and adhered to procedures prescribed in the PAIs. JMRC deemed it unnecessary to further disclose the shortlisting criteria to the participating firms. This is based on ADB's approval on a no-objection basis to the request for EOIs,¹⁸ and absence of specific ADB guidance on additional disclosures

¹⁵ PAIs outline the policies and procedures to be observed by ADB Staff when implementing ADB-financed projects, and are used in conjunction with the ADB *Procurement Guidelines* and *Guidelines on Use of Consultants*. The PAIs applicable at the time the subject consultancy contracts were awarded were those issued on 18 October 2010.

¹⁶ PAI 2.03 para. 52 lists the 10 steps that are followed when selecting a firm using the CQS method.

¹⁷ The relevant experience of a proposed expert provided by a losing firm was given a lower score in comparison to the experience of the proposed expert of the winning firm.

¹⁸ As indicated in Project Administration Instructions 2.05 paras. 12 and 13, post-approval is required for EOI evaluation criteria, among other documents, which will form part of the executing agency's Submission 1. Shortlisting criteria formed part of Submission 1 in both CQS contracts examined.

to be made. However, the PPRR team noted that the use of weights for the evaluation criteria in the ADB templates is not mandatory. Thus, this could be further revised to reflect JMRC's preferences. Even if bidders had access to ADB's relevant guidelines and PAIs, which JMRC asserted, the participating firms would still not be fully informed of the evaluation criteria that the CEC emphasized on during the shortlisting process.

24. ***Authority to negotiate and sign contracts needs to be ensured.*** The ADB *Guidelines on Use of Consultants*¹⁹ requires joint venture entities, who participate in the bidding process, to appoint a representative who will represent the association. In a CQS contract, the power of attorney conferred by the joint venture entity to the proprietor of one of the joint venture members was delegated to the representative of the other joint venture member. This was done through a letter. The letter was not in a letterhead and not notarized. Thus, it is defective. The said representative negotiated and signed the contract on behalf of the winning consulting joint venture firm. There was no evidence to suggest the authenticity of the letter to delegate the authority, was being questioned. There were not any contractual issues between the joint venture members that subsequently arose after the contract signing.

Finding partially addressed

25. Subsequent to the PPRR fieldwork, on 8 September 2016, JRMC requested for a post facto notarized letter from the authorized JV representative authorizing the other JV proprietor to negotiate and sign the contract. The PPRR team has yet to receive a copy of the post facto notarized letter.

B. Financial Management and Disbursements

26. Contractors' and consultants' claims were promptly paid and in accordance with contract terms. However, there was an exception to the processing of claims from a number of experts of a consulting firm, as described below.

27. ***Need to improve substantiation of consultants' claims.*** In a time-based CQS contract, JMRC was required²⁰ to pay the consulting firm (i) remuneration on the basis of time actually spent by each expert in the performance of services after the commencement date of the services, and (ii) reimbursable expenses that were actually and reasonably incurred by the consulting firm in the performance of services such as per diems, travel expenses, and others. All such costs shall be paid based on the rates prescribed in the contract.

28. Review of consultant's billings for the same time-based CQS contract showed that JMRC relied on the summary sheets. These were prepared by the consultant. There was no review on claims against detailed timesheets, which showed the actual number of hours worked. Thus, in one invoice, claims for remuneration by two experts for a one month period including Christmas holidays were paid. In another invoice, while the expert did not claim for per diem on a holiday, the same was inadvertently paid by JMRC.

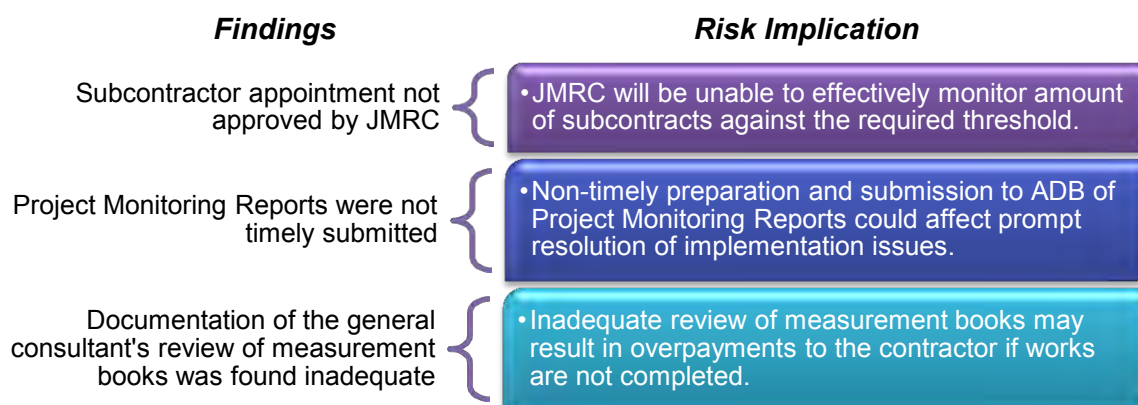
¹⁹ Para. 1.14 Associations between Consultants

²⁰ General Conditions of Contract, para. 17.2 Client's Payment Obligation

C. Asset Management

29. Project outputs for the ICB civil works contract were generally in order, except for the issues identified below and summarized in **Figure 4**. JMRC, in collaboration with the general consultant and the contractor, took action to rectify some of the deficiencies. This was subsequent to the PPRR's asset inspection, and as discussed in the finding addressed sections, where applicable.

Figure 4: Summary of Major Asset Management Findings



30. **Subcontractor appointment not approved by JMRC.** The contract agreement requires²¹ that each major subcontract amounting to more than INR5 million or equivalent in other currency be pre-approved by JMRC before any payments can be made to the subcontractor. Further subcontracted works, excluding design work, shall not exceed 50% of the contract value. To monitor compliance with this requirement, the contractor shall provide copies of the subcontract agreements to the general consultant, and the latter should certify that cumulative value of subcontracts awarded so far does not exceed the 50% threshold. JMRC did not approve any of the subcontracts awarded by the contractor, which contravenes the contract provisions. The list of subcontractor names provided by the general consultant to the PPRR team contained at least 30 firms that had contract values of more than INR5 million. In aggregate, it is equivalent to about 30% of the ICB contract amount. JMRC and the general consultant explained that the definition of subcontracting needs to be clarified, since the same is unclear in the contract. The PPRR noted that at least 4 versions of the subcontractor list had been provided during the review, where a significant number of firms were earlier treated as vendors.

31. **Need to improve project monitoring through prompt submission of Project Monitoring Reports.** Under the Project Administration Manual,²² JMRC is required to submit to ADB Project Monitoring Reports covering physical and financial progress no later than 45 days from the end of each quarter. JMRC has not promptly submitted Project Monitoring Reports to ADB. The first Project Monitoring Report ending June 2016 was submitted only on 19 September 2016.²³ Physical progress was reported for major components of the Project, and

²¹ Section 8 – Particular Conditions of Contract, Sub-Clause 4.4 Subcontractors

²² Project Administration Manual [September 2013], para. 22, Table 1: Project Financial Statements: Financial Reporting Arrangements, item (ix) Arrangements for interim financial reporting

²³ The contract agreement was signed on 5 October 2013, while significant physical works started in July 2015 based on the fifth quarterly Environment and Social Monitoring Report submitted to ADB.

there was no contract-wise measurement of the overall physical project progress. Based on the feedback received from the ADB SATC, JMRC is currently working with the general consultant on how to monitor the overall physical progress versus the outputs in the Project's design and monitoring framework.

32. Furthermore, while the financial progress had been reported in the Project Monitoring Report, the same was not analyzed against physical progress. This was identified as an area for improvement in future reporting. Absence of such analysis may have resulted in non-detection of the notable variance between physical and financial progress in the contractor's monthly progress reports. For example, physical and financial progress were at 40.94% and 45.88%, respectively, as of the end of June 2016. The difference was due to the inappropriate basis in computing physical progress, i.e., based on man-days instead of bill of quantity line items. In addition, although both of the contractor's monthly reports and JMRC's Project Monitoring Report covered progress as of June 2016, JMRC did not follow the same reporting method using percentages.²⁴

33. **Controls over review of measurement books need to be enhanced.** Good internal controls suggest that competent authority should review contractor's billings and their supporting document in payment processing. In the case of the ICB contract, the contractor submitted measurement books to the general consultant for review prior to raising invoices. The general consultant subsequently used information from the measurement books, along with the invoice, to prepare interim payment certificates. The PPRR, however, noted that the documentation of the general consultant's review of measurement books was inadequate—the names and designation of the general consultant's staff reviewing the same were not affixed in some pages.

34. Going forward, the general consultant committed to ensure that the name and designation of staff reviewing the measurement books will be stamped in all the pages using a stamping tool.

35. **Lack of clarity on the project completion schedule.** Based on the latest extension of time (EOT) document²⁵ approved by JMRC, the current project completion date is 1 May 2018. This covers delays of only up to 31 December 2015. The PPRR noted that there were ongoing discussions between JMRC, the general consultant, and the contractor on a revised completion date. The earlier proposed revised dates of completion of works were not accepted by JMRC and the general consultant. For example, the accelerated program of works submitted by the contractor showing estimated completion date of 31 July 2018²⁶ was not approved. The contractor has yet to submit a new EOT to the general consultant and JMRC for approval. The absence of a revised project completion date taking into account delays encountered in 2016 risks difficult and/or erroneous monitoring of project completion.

36. **Room for improvement in the contractor's warehousing and other procedures at site.** Based on PPRR engineer's inspection of batching plant and construction sites, improvements to warehousing and inventory management could be made, as outlined below. It

²⁴ The contractor's monthly report reported progress in percentage terms, while the Project Monitoring Report showed financial and physical progress, respectively, in terms of absolute monetary amounts and metric units (e.g., square meters, running meters, and number of units).

²⁵ This is a formal document that establishes the extended date of completion of works. It also effectively prevents the contractor from being assessed for liquidated damages. The latest version is EOT 2.

²⁶ However, the contractor had disclosed in its August 2016 monthly report that the projected date of completion of works is in March 2019.

is noteworthy that JMRC, in coordination with the general consultant, has taken immediate steps to rectify these shortcomings as shown in **Figures 5 to 15**. They will be examined in a follow-up review in 2017.

- a. The stacking of the cement bags in the storeroom was disorderly and not systematic, as there was no proper segregation of different types of cements being used.



Figures 5 and 6: Improper stacking and segregation of cement bags in the storeroom.



Figures 7 and 8: A system was put in place to stack cement bags according to type with sufficient clearance for convenient access and retrieval.

- b. There was a gap in the separator walls for the 10 mm and 20 mm aggregates, which can result in the mixing of said aggregates.



Figure 9: Broken separator wall at casting yard can lead to mixing of aggregates.

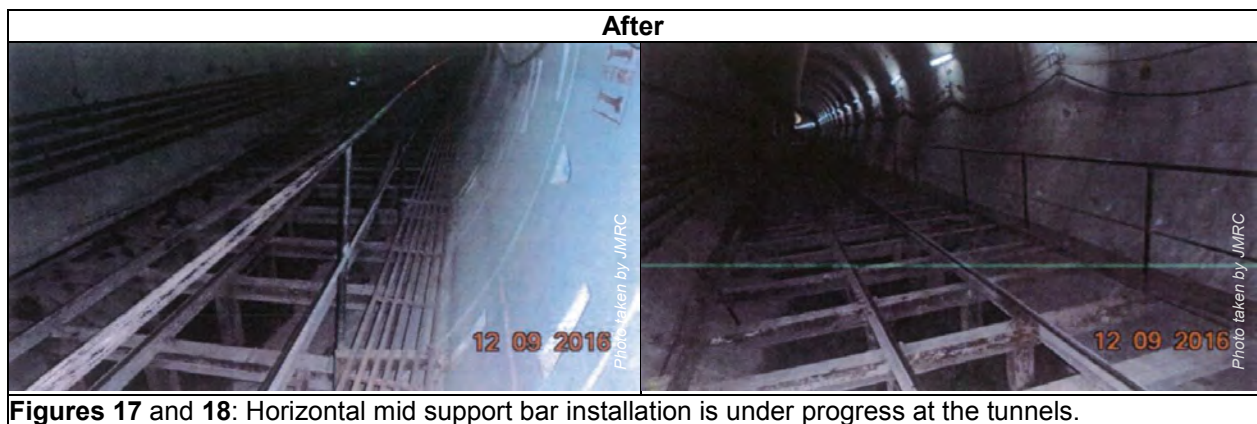
Figure 10: The gaps on the separator walls were closed at the casting yard in Bhankrota.

- c. Reinforcement bars were lying in the open and not properly covered which led to rusting. However, they were neatly stacked and adequately accessible.

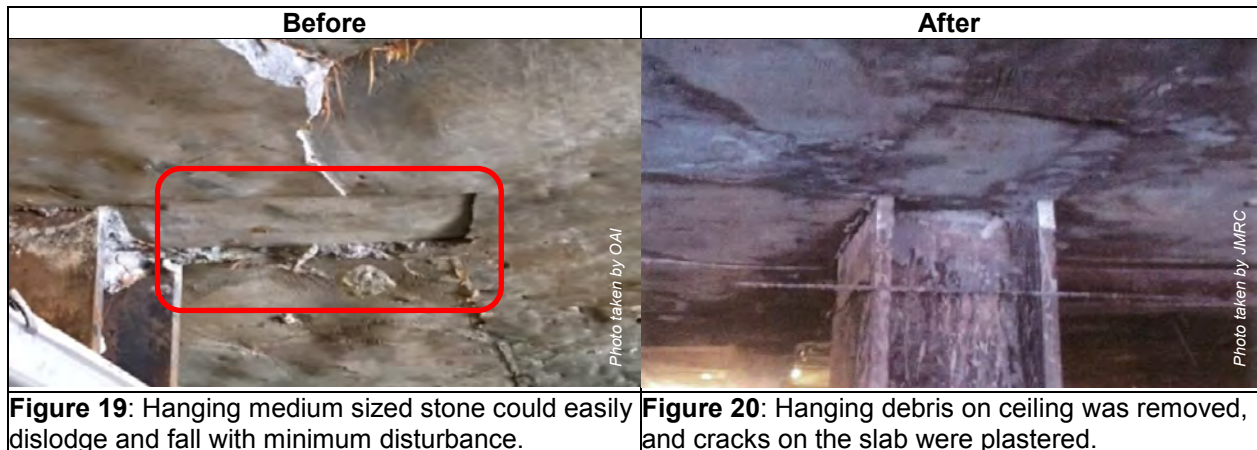


37. **Safety issues at site.** There were safety concerns that were noted during the inspection of tunneling works and stations, and these are discussed briefly below. JMRC, in coordination with the general consultant, has also promptly implemented measures to rectify these shortcomings as shown in **Figures 16 to 24**, which will be examined in a follow-up review in 2017.

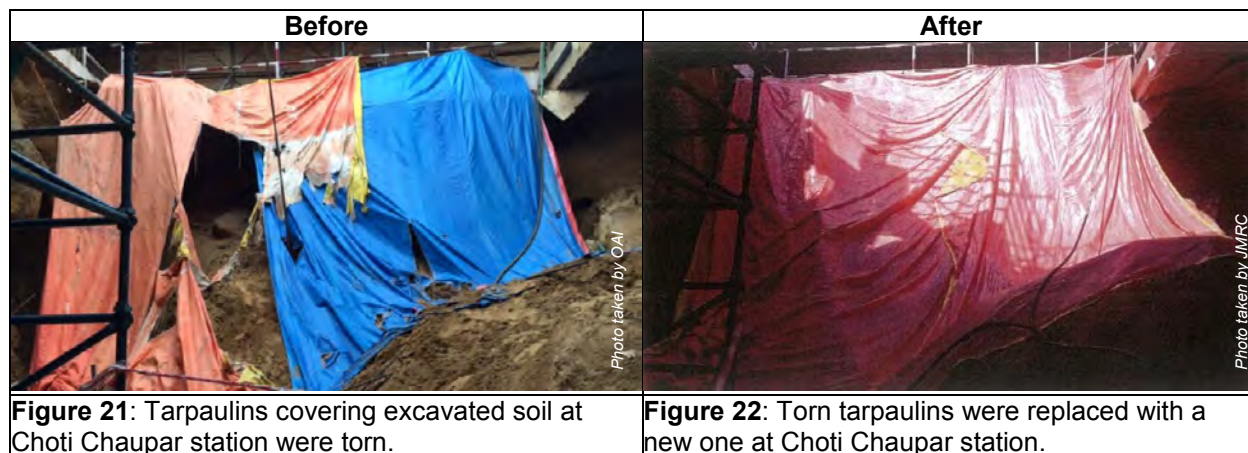
- a. The temporary walkway structures in the tunnels contained large gaps between the bottom and top portions of the hand rails, which is a safety concern.



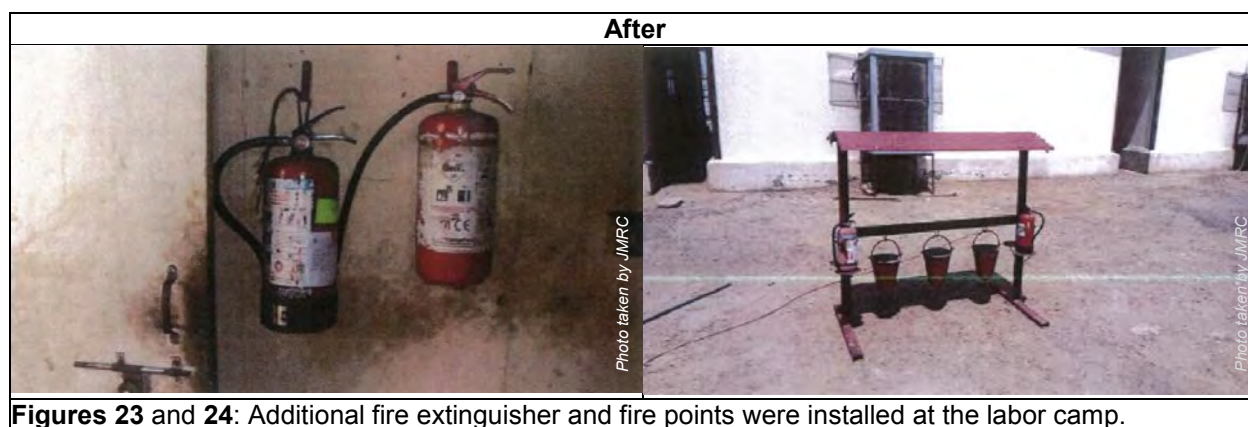
- b. A medium sized stone was hanging from the ceiling of the top slab at Choti Chaupar station.



- c. A pile of excavated soil at the Choti Chaupar station was covered with torn tarpaulins. The soil may become mud slurry and erode due to rains.



- d. Only one fire extinguisher was available in the canteen of the labor camp.



III. RECOMMENDATIONS

38. To enhance clarity of bid evaluation reports and add rigor to bid evaluations in future biddings, it is recommended that:

The TEC and CEC:

- i. adequately reflects any procurement-related decisions in the bid evaluation report. In particular, justification should be provided for disallowing requests for time extension of bid submission, if any, in the bid evaluation report and in separate replies to bidders' requests for clarifications (**paras. 14-17**);
- ii. carefully reviews bid forms against supporting documents, and seeks clarifications from bidders for any discrepancies noted (**paras. 19-20**);
- iii. ensures that shortlisting criteria are included in the invitation for EOIs and provided to participating firms (**paras. 21-23**); and

- iv. ensures that, in future recruitment of consultants, contracts should be negotiated and signed only by persons identified in the power of attorney (**para. 24**).
39. To ensure that payments are made only for payments of eligible expenses, JMRC needs to require consultants to submit detailed timesheets, travel-related documents, and other appropriate receipts, and substantiate the supporting documents against their claims (**paras. 27-28**).
40. To address the asset management findings in this PPRR, JMRC needs to:
- a. ensure that all subcontractors approved by the general consultant are appropriately put up for JMRC's final approval. In discussions with the general consultant, JMRC should define 'subcontractors' more clearly (**para. 30**);
 - b. ensure prompt preparation and submission to ADB of Project Monitoring Reports, calculate physical progress on the basis of bill of quantity line items, and undertake analyses of physical against financial progress to enhance project monitoring (**paras. 31-32**);
 - c. ensure that the name, designation, and signature are indicated by the general consultant official reviewing the measurement books (**paras. 33-34**);
 - d. expedite the processing of civil works contractor's request for extension of time of completion of works (**para. 35**); and
 - e. monitor completion of rectification works to warehousing and safety issues noted at site (**paras. 36-37**).
41. It is also recommended that ADB SATC monitors JMRC's implementation of the recommendations in this report and application of lessons learned from the PPRR to future similar projects. OAI needs to be periodically updated of the JMRC's progress in implementing the recommendations.

IV. CONCLUDING REMARKS

42. Strong procurement capacity and oversight of the executing agencies and compliance with relevant guidelines are crucial to i) deter fraud and corruption, ii) mitigate risk of improper use of project funds, and iii) maximize development effectiveness. While shortcomings were noted, the PPRR observed indications of strong commitment of the JMRC staff, which was led by the tone from the top, to effectively manage day-to-day project activities. JMRC's dedication to continue improving their controls was further evident during the discussion of PPRR findings. Its prompt action to address most of the findings immediately after the PPRR fieldwork and its efforts to ensure that activities are in line with project objectives are acknowledged. Notwithstanding, JMRC's capacity may be further enhanced, with assistance from ADB, through trainings on procurement and financial management to increase awareness of ADB's policies and guidelines.

43. The application of lessons learned and recommendations from this PPRR will enhance the implementation of the remainder of the Project, as well as new similar projects. The PPRR team encourages SARD to continue to work with the Government of India to strengthen its

commitment in promoting transparency and accountability. Implementation of recommendations in this report can only augment results achieved to date.

44. The PPRR team acknowledges and thanks officers and personnel of the JMRC, the general consultant, and Department of Economic Affairs for their cooperation and assistance during the PPRR. The PPRR team appreciates the support received from ADB's SATC and its India Resident Mission in the planning and execution of the PPRR. OAI remains available to discuss matters in this report or issues that may affect the integrity of project implementation.