Indian railway electrification and workshop modernization project

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India: Indian Railway Electrification and Workshop Modernization Project (Loan 2417-IN)

The Implementation Completion Report (ICR) on the India Indian Railway Electrification and Workshop Modernization project (Loan 2417-IN, approved in FY 84) was prepared by the South Asia Regional Office, with no Appendix B contributed by the Borrower. The loan for US$280.7 million equivalent was approved on May 17, 1984, and closed on March 31, 1993, two and one-half years later than the original schedule. A balance of US$8.4 million was canceled.

The project, the third in a series of four Bank-supported technology transfer projects for Indian Railways (IR) commencing in 1978, aimed to: (a) increase capacity to meet growing traffic demand; (b) improve utilization of locomotives, rolling stock, and track; (c) improve costeffectiveness; (d) utilize energy-efficient traction; (e) improve indigenous manufacturing of electrification components; and (f) strengthen the organization selected operational areas. These objectives were to be pursued by: (i) helping complete a large railway electrification program; (ii) the modernization of six workshops, an equipment manufacturing plant, and 37 maintenance depots; and (iii) the adoption of a computer-based Operations Information System (OIS).

The physical investments were completed essentially within the initial cost estimate in US dollars, even though substantial time overruns occurred. The OIS, the project's major institutional component, was not implemented due to opposition by IR's regional managers and labor. Electrification—representing at completion close to 80 percent of total project costs—was the centerpiece of IR's investment program. Despite actual traffic volumes surpassing appraisal projections, its benefits fell short of expectations for two main reasons: (i) the collapse of oil prices, that reduced the energy cost savings of electric locomotives when compared to the existing diesel locomotives; and, (ii) IR's failure to import high efficiency electric locomotives. In addition, electricity shortages throughout India further thwarted the advantages of electrification. On balance, the project's rate of return came to only seven percent, versus an appraisal estimate of 25 percent.

The main lesson of this project—and previous ones—is that the Indian Government's and the IR's resistance to technology transfer appears as the main obstacle to modernizing the railway's facilities, equipment and operations. For the railway to ameliorate its efficiency, it will have to be able to make technological choices based on operational needs, rather than on the requirement to procure from its own manufacturing units. In light of past experience, the Bank should not envisage further lending to IR until commitments are made at the highest levels of government to reform the railway structure and management, starting by the separation of its industrial functions from the core transport services.

The ICR is of high quality. It contains an excellent overview of the current series of railway projects in India, and a crisp synthesis of lessons learned. It includes a detailed, albeit tentative, assessment of the project's economic return. The ICR rates the project outcome as unsatisfactory due to the low return of electrification and the failure to advance the OIS component, the project's sustainability as uncertain, and its institutional development as partial. It rates the Bank's performance as satisfactory. The Operations Evaluation Department (OED) disagrees with two of the ratings: since the OIS component was the key to the project's institutional objective, and there was no progress on it, institutional development should be rated as negligible; due to the inability of the Bank to correctly assess the electrification component, and to anticipate the potential implementation problems despite its long involvement with IR, OED rates the Bank's performance as unsatisfactory.

No audit is planned.