



Completion Report

PUBLIC

Project Number: 50001-004
Technical Assistance Number: 9076
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India: Interstate Natural Gas Pipeline Investment Program

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TECHNICAL ASSISTANCE COMPLETION REPORT

TA Number, Country, and Name: TA 9076-IND: Interstate Natural Gas Pipeline Investment Program		Amount Approved: \$225,000	
		Revised Amount: Not applicable	
Executing Agency: Asian Development Bank	Source of Funding: Technical Assistance Special Fund (TASF-other sources)	Amount Undisbursed: \$136,902.96	Amount Used: \$88,097.04
TA Approval Date: 8 February 2016	TA Signing Date: 8 February 2016	TA Completion Date	
		Original Date: 31 March 2017	Latest Revised Date: 31 March 2018
		Financial Closing Date: 30 June 2018	Number of Extensions: 1
TA Type: Small-scale project preparatory TA		TA Arrangement: Small-scale	

Description

The small-scale project preparatory technical assistance (TA) was carried out to support the due diligence and preparatory work for the proposed investment project, which aimed to construct gas pipelines across six states of India. The project was called MBBVPL to lay down the Mallavaram (Andhra Pradesh), Bhopal (Madhya Pradesh), Bhilwara (Rajasthan), and Vijaipur (Madhya Pradesh) pipelines. GSPL India Transco Limited (GITL) was incorporated in October 2011 to construct, own and operate these natural gas pipelines. GITL was established as a subsidiary of Gujarat State Petronet Limited (GSPL). In April 2012, a joint venture agreement was executed among GSPL, Indian Oil Limited (IOCL), Bharat Petroleum Corporation Limited (BPCL), and Hindustan Petroleum Corporation Limited (HPCL). As a result, GITL's equity is shared by joint venture partners, including GSPL (52%), IOCL (26%), BPCL (11%) and HPCL (11%). The gas pipelines were expected to transmit natural gas from offshore gas blocks in Krishna Godavari, Andhra Pradesh. Then, the gas pipelines were designed to cross India towards the north and west of the country, traversing through six states including Andhra Pradesh, Telangana, Maharashtra, Madhya Pradesh, Rajasthan, and Gujarat with a total length of 1,818 kilometers (km). The first phase of construction planned to go through Mallavaram in Andhra Pradesh to Ramagundam in Telangana and the second phase was supposed to cover the rest of the areas.

The Asian Development Bank (ADB) approved the TA on 8 February 2016 to support the first phase of construction, which was estimated to cost \$300 million. While the TA considered supporting a multitranche financing facility (MFF), the project concept paper was drafted with a \$200 million loan for the first phase only, assuming supplementary finance for the future phase. With each phase, construction was expected to begin once sufficient anchor offtakers are arranged for gas supply, thus minimizing the demand risk. To establish the initial pipeline network from the tap-off point to the sourcing liquified natural gas terminal, GITL entered into a gas transmission agreement with the Ramagundam Fertilizers and Chemicals Limited (RFCL) where the Government of India saw it important to commission RFCL's urea plant for improving self-sufficiency in urea's domestic supply. Subsequently, the MBBVPL project aimed to reach areas having none or negligible natural gas infrastructure to supply gas to the fastest developing industrial zones. Thus, the energy infrastructure was expected to stimulate growth of the service sector, small- and medium-scale industries, and other business opportunities in the areas, and boost investment by major industries, which would generate employment for the local population. The project was also expected to contribute towards India's Intended Nationally Determined Contribution not only by reducing emissions from industrial activities through more use of natural gas that was considered a cleaner fossil fuel, but also by supporting gas-fired power generation that would manage power system variability of aggressive wind and solar power targets in the areas. Despite the projected domestic demand for natural gas, the government identified India's gas infrastructure as inadequate; therefore, the proposed project was aligned to the government's plan to expand the natural gas pipeline network.

To initiate the first phase of construction, GITL discussed with Indian commercial banks for project finance but found that such finance would not make the project viable. Thus, GITL saw ADB sovereign finance as crucial. GITL approached ADB through the Department of External Affairs (DEA), Ministry of Finance, Government of India in December 2015 and January 2016. The TA was subsequently prepared on a small scale to jumpstart the due diligence studies for the ensuing loan project. On 1 April 2016, the project concept paper (PCP) meeting was held at ADB, but the paper's approval was conditional upon the DEA screening committee's endorsement of the proposed ADB financing. The concept paper described that GITL would be the borrower for the ADB finance with a sovereign guarantee from India. In the PCP meeting, the Office of the General Counsel addressed its concern if it would be legally possible for Gujarat state's subsidiary (with 52% of GITL's share) to be allowed for direct lending with the sovereign

guarantee from the government while IOCL, BPCL, and HPCL are the central agencies owned by the Indian government. In the draft concept paper, the project was categorized as low risk since the loan amount did not exceed \$200 million, and GITL had experienced project administration staff. Safeguard categories were expected to be classified other than A based on preliminary information, as the pipeline was not expected to traverse any environmentally sensitive areas, densely populated areas are avoided, and most impacts are temporary during construction of underground pipelines.

Expected Impact, Outcome, and Outputs

The expected impact was enhanced natural gas pipeline capacity in India.¹ The outcome was well-prepared tranche 1 investment project supporting India's green energy corridor investment initiative completed. The output was envisaged to be due diligence on environment, social and poverty, financial management, financial and economic analysis, and technical analysis completed. The design and monitoring framework is in Appendix 1.

Implementation Arrangements

ADB was the executing agency, and GITL was the implementing agency for the TA. ADB was responsible for consultant recruitment, monitoring, and evaluation for the technical due diligence, gas sector market analysis, environment and social assessments, and financial and economic analysis. GITL provided staff support for the consultants at the GITL's headquarters and project site.

The TA envisaged 10.5 person-months of inputs from five international individual consultants, including (i) a gas sector specialist, (ii) an environmental specialist, (iii) a social development specialist, (iv) an economist, and (v) a financial specialist. During implementation, the positions of the economist and financial specialists were combined into one position, and a procurement specialist was added to meet GITL's request. These consultants were recruited between April to August 2016. To support data collection in the project site, two national individual consultants for safeguards were additionally hired under another TA.² Prior to and in parallel with the TA implementation, GITL separately asked some specialized firms to conduct preliminary studies, including (i) natural gas demand assessment by EI Technologies Pvt. Ltd, (ii) demand and supply assessment by Mercados Energy Markets Pvt. Ltd, and (iii) zone-wise gas availability and market analysis by ICRA Management Consulting Services Ltd.

The TA completion date was extended for about a year from 31 March 2017 to 3 March 2018 to keep exploring the financing opportunities. At closing, the TA funds were underutilized at 39%.

Conduct of Activities

In the PCP meeting, the draft concept paper listed the key areas for further review and assessment during TA implementation. These included issues on (i) gas availability, (ii) demand and offtake risk (reviewing the detailed business plan and transportation capacity agreements), and (iii) completion and regulatory risk, as the Petroleum and Natural Gas Regulatory Board (PNGRB) requires compliance to timely completion commitments and annual gas transportation targets. The TA helped conduct comprehensive due diligence analysis covering technical, market, financial and economic, environmental, and social aspects. While the due diligence documents were submitted to ADB, they were not used for preparing the envisaged project for ADB finance. As a result, the project was eventually financed by Indian commercial banks. There are three main reasons for this change of the financing plan:

- (i) **Sovereign guarantee issue.** It took 7 months after TA approval for the DEA screening committee to reach the final endorsement for ADB to finance the project. This was mainly because of the complex feature of the state and central entities' ownership composition in GITL. While GITL's majority shareholder was Gujarat state entity's subsidiary (i.e., GSPL), it was not straightforward to ensure the central government's direct guarantee on the state-owned entity. Nevertheless, the screening committee finally endorsed the Indian government's guarantee to GITL based on unique requirements of (i) the MBBVPL project covering six states beyond Gujarat state, and (ii) the national priority of urea production and gas pipeline expansion. However, it was raised later that the government guarantee should be given up to 48% of the project cost in proportion to the total ownership of the central entities (i.e., IOCL, BPCL, and HPCL) while 52% may be counter-guaranteed by the Gujarat state government. Since the Gujarat state government owned company, Gujarat State Petroleum Corporation Limited (GSPC) had only 37.7% of GSPL's entire shares and the rest was owned by other parties, the Gujarat state government hesitated to agree with the counter-guarantee to GITL. Thus, the sovereign guarantee arrangement issue became open-ended, and the project concept paper's approval remained pending.

¹ This was aligned with "*Vision 2030: Natural Gas Infrastructure in India*" formulated by the government's Petroleum and Natural Gas Regulatory Board in 2013.

² ADB. 2013. *Technical Assistance for Improving Safeguard Policy Applications in South Asia Developing Member Countries*. Manila. National consultants were additionally recruited because of data gathering work in extensive project areas across six states of India.

- (ii) **Financing arrangement.** After the PCP meeting, GITL requested ADB to consider a three-tranche MFF to cover the entire MBBVPL project, which was estimated at around \$1 billion in total. Because of the large size investment, DEA requested ADB to cofinance the project's debt equally with the Asian Infrastructure Investment Bank (AIIB). However, GITL was reluctant with foreign exchange risk premium and resultant high hedging cost in borrowing foreign currency loans from ADB and AIIB. Hence, GITL renegotiated with Indian commercial banks and decided to take their loan in Indian rupees eventually.
- (iii) **Project schedule and procurement.** To meet the project commission schedule approved by PNGRB, GITL decided to go ahead with the procurement process for the first phase from late 2016–2017 without using the ADB procurement guideline requirements.

The TA's safeguard assessments in both environment and social aspects were extended to the second phase of construction in the entire MBBVPL project. These activities were undertaken in a participatory approach where GITL's concerned staff joined the field activities that included stakeholders' consultations on compensation, eligibility and entitlement, environmental sensitive areas as well as mitigation measures as required by the ADB safeguard requirements. GITL availed almost all the statutory permissions and clearances from various state and central authorities with a view to develop the entire MBBVPL section. GITL prepared the second phase's procurement.

In relation to the TA's envisaged outcome of a well-prepared tranche 1 investment project, GITL completed the first phase of construction to lay down the gas pipeline from Mallavaram, Andhra Pradesh to Ramagundam, Telangana, on 14 October 2019 prior to the target schedule of 2020. However, the project was not financed by ADB but by Indian commercial banks. Therefore, the TA's outputs were not fully utilized to prepare the said project finance from ADB.

Technical Assistance Assessment Ratings

Criterion	Assessment	Rating
Relevance	The TA is rated <i>less than relevant</i> . The intended TA outcome was aligned with (i) related ADB strategies to support low carbon initiatives for infrastructure, and (ii) the government's <i>Vision 2030: Natural Gas Infrastructure in India</i> in promoting long-term energy security through increasing natural gas infrastructure investment. The rationale was clearly substantiated, and the envisaged loan project was reflected in the county operations business plan. ³ The TA type and design were generally appropriate. However, there was a critical deficiency that was not addressed before the TA was prepared. The sovereign guarantee arrangement and fund flow should have been checked and clarified in advance, considering the sensitive mix of shareholders among the central and state entities. This was a major bottleneck in considering the ADB sovereign finance.	<i>Less than relevant</i>
Effectiveness	The TA is rated <i>less than effective</i> . As the TA's outputs, comprehensive due diligence reports were prepared and submitted to ADB during implementation. The first phase of project construction was physically completed within 2019 prior to the expected schedule. This seemed that the TA's primary objective was achieved. However, despite the TA for project preparation of the ensuing ADB loan, the project was eventually financed by another financing source (i.e., Indian commercial banks). This was because the sovereign guarantee arrangement remained the fundamental bottleneck for ADB finance. As a result, the outputs were not fully utilized for ADB loan processing, and the TA did not fully contribute to achieving the expected outcome of a well-prepared tranche 1 program design.	<i>Less than effective</i>
Efficiency	The TA is rated <i>less than efficient</i> . The implementation of the TA was delayed by almost a year. Funds utilization of 39% was well below the 80% threshold for an <i>efficient</i> rating. This was mainly because the processing of the ensuing loan was not realized. However, the initially targeted investment scope was substantially implemented since the first phase of the gas pipeline was laid down within the timeframe. In addition, indirect benefits resulted from the TA's support for the safeguard assessments, the statutory permissions and clearances, and the capacity building on safeguard areas that was effectively provided to the counterpart staff.	<i>Less than efficient</i>
Overall Assessment	The TA is rated <i>less than successful</i> on account of the ratings of <i>less than relevant</i> , <i>less than effective</i> , and <i>less than efficient</i> . While the envisaged project was aligned with the government's vision for long-term energy security,	<i>Less than successful</i>

³ ADB. 2016. *County Operations Business Plan, 2017–2019*. Manila.

Criterion	Assessment	Rating
	the ADB finance was not realized due to the sovereign guarantee arrangement issue.	
Sustainability	GITL is rated A2+ (<i>high safety</i>) with <i>stable outlook</i> by an Indian credit rating agency of Care Edge Ratings as of October 2021. GITL completed the first phase of the MBBVPL project successfully in 2019. While the second phase has not been constructed yet, the technical, financial, operational, and institutional capacity of GITL is <i>likely to be sustainable</i> .	<i>Likely sustainable</i>

Lessons Learned and Recommendations

Design and/or planning	Considering the complex ownership structure of GITL between the central and state governments' entities, their sovereign guarantee arrangement should have been clarified as the basic fund flow scheme acceptable to all the stakeholders, prior to TA preparation. Because of the sovereign guarantee arrangement issue, ADB finance was not realized. Instead, Indian commercial bank financed the project's investment scope. This arrangement should have been carefully checked at the project entry point.
Implementation and/or delivery	While conducting the due diligence studies, the TA considered possible financial structuring on the sovereign guaranteed lending, nonsovereign operations, and cofinancing options. This fundamental direction and the associated risks should have been checked and identified before preparing the TA and the project concept paper. Although the initial safeguard category was assessed other than "A", it was too optimistic to consider the wide range of the entire project areas across six states of India. During the TA implementation, the environmental due diligence studies discovered two areas traversing wildlife sanctuaries, which indicated the environmental category "A". In advance, project preparation should have identified possibilities of associated facilities and extended areas of influence.
Management of staff and consultants	It is best to conduct onsite face to face communications when clarifying procurement and safeguard requirements. A few rounds of such consultations helped remove any uncertainties and difficulties in complying with procurement procedures. The joint site visit was also useful in promoting the safeguard assessment work and in building consensus for mitigation measures on critical project issues.
Stakeholder participation	Participatory approaches are crucial for all levels of stakeholder engagement. For this case, it was critical to ensure consensus between the central and state governments in terms of the government guarantee arrangement. At the institutional level, it was necessary to pay special attention in advance to the ownership of the joint venture between the central and state entities in relation to the guaranteed requirements. At the staff level of the project company, GITL, the collaboration between the staff and consultants was a value-added, particularly during joint activities for safeguard assessments where international standards were introduced and local consultations rolled out. Necessary permissions and clearances were accordingly obtained.
Partnership and cofinancing	DEA requested ADB to cofinance the entire MBBVPL project with AIIB. GITL hesitated to accept the cofinancing due to pricing and currency risks. In the case of project finance, it was better to consider various cofinancing options in advance and clarify benefits of cofinancing such as blended finance to alleviate the borrowing costs and pricing.

Follow-up Actions

While the sovereign guaranteed finance was initially explored, it was stuck due to the sovereign guarantee arrangement between the central and state governments' entities. Nonsovereign operations were additionally considered for the second phase of the MBBVPL project. GITL preferred domestic commercial bank finance eventually. It is recommended for ADB to consider how to make ADB local currency more attractive so that it may help catalyze and facilitate cofinancing with domestic financial institutions for any sizable investments.

Prepared by:
Kaoru Ogino

Designation and Division:
Principal Energy Specialist, Energy Sector, South Asia Department

DESIGN AND MONITORING FRAMEWORK

Impact(s) Enhanced natural gas transmission system capacity in India. ^a		
Results Chain	Performance Indicators with Targets and Baselines	Achievements
Outcome A well-prepared tranche 1 investment project supporting India's green energy corridor investment initiative completed.	Investment project design completed, and clearances obtained.	Partly achieved. GITL completed the first phase of construction, which was equivalent to the tranche 1 investment to lay down the gas pipeline from Mallavaram, Andhra Pradesh to Ramagundam, Telangana on 14 October 2019, prior to the target schedule of 2020. However, since the project was not financed by ADB but by Indian commercial banks, the outcome is considered partly achieved.
Output Due diligence on environment, social and poverty, financial management, financial and economic analysis, and technical analysis completed.	Due diligence reports (environment, social and poverty, financial management, financial and economic analysis, and technical analysis) submitted to ADB by June 2016.	Partly achieved. The TA conducted comprehensive due diligence analysis covering technical, market, financial and economic, environmental, and social aspects. While the documents were submitted to ADB (later than the target of June 2016), the reports were not used for the envisaged loan processing. Notwithstanding, the TA was able to produce the required due diligences; and through the safeguard assessments was able to help GITL improve its capacity and obtain related permissions and clearances. For these reasons, the output is considered partly achieved.
Actual Key Activities with Milestones		
Output. Due diligence on environment, social and poverty, financial management, financial and economic analysis, and technical analysis completed. <ol style="list-style-type: none"> 1.1 Individual consultants recruited (April–May 2016). 1.2 Proposed investments reviewed, assessed, and inputted by ADB technical consultants (May 2016). 1.3 Initial safeguards due diligence (environment, social and indigenous people) for the proposed investments to categorize the tranche 1 project including concurrence from ADB chief compliance officer carried out (April 2016). 1.4 Safeguards due diligence and requisite environmental assessment, resettlement plan and indigenous peoples assessment in conformity with ADB's Safeguard Policy Statement (2009) studied (February 2017). 1.5 Data and audited reports from GITL and GSPL used, financial management assessment of GITL and GSPL conducted (November 2016). 1.6 Demand analysis data, tranche 1 project cost estimates, and Indian economic data taken, and financial and economic analysis of the proposed investments conducted (June 2016). 1.7 Draft final TA reports reviewed and submitted (December 2017). 1.8 TA reports finalized (February 2018). 		
Actual Inputs		
Asian Development Bank: \$88,097.04		

ADB = Asian Development Bank, EIA = environmental impact assessment, GITL = GSPL India Transco Limited, GSPL = Gujarat State Petronet Limited, IEE = initial environmental examination, TA = technical assistance.

^a Government of India, Petroleum and Natural Gas Regulatory Board. 2013. *Vision 2030: Natural Gas Infrastructure in India*. New Delhi.

Source: Asian Development Bank.

TECHNICAL ASSISTANCE COST**Table A2.1: Technical Assistance Cost by Activity**
(\$'000)

Item	Amount		
	Original	Revised	Actual
1. Consultants	195.1	000.0	77.7
2. Studies	20.0	000.0	10.4
3. Miscellaneous TA administration	1.0	000.0	0.0
4. Contingency	8.9	000.0	0.0
Total	225.0	000.0	88.1

TA = technical assistance.

Source: Asian Development Bank estimates.

Table A2.2: Technical Assistance Cost by Fund
(\$'000)

	TASF-other sources	Total Cost
1. Original	225.0	225.0
2. Revised	0.0	0.0
3. Actual	88.1	88.1
4. Unused	136.9	136.9

TASF = Technical Assistance Special Fund

Source: Asian Development Bank estimates.