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**PROJECT PERFORMANCE ASSESSMENT REPORT**

**AZERBAIJAN REPUBLIC**

**GAS SYSTEM REHABILITATION PROJECT  
(CREDIT 2923-AZ)**

**May 26, 2006**

*Sector, Thematic, and Global Evaluation Group  
Independent Evaluation Group*

## Currency Equivalents (annual averages)

*Currency Unit = Azerbaijanian Manat (AZM)*

2005 (throu Sep)	US\$1.00	4590	Manat
2004	US\$1.00	4913	Manat
2003	US\$1.00	4911	Manat
2002	US\$1.00	4861	Manat
2001	US\$1.00	4657	Manat
2000	US\$1.00	4474	Manat
1999	US\$1.00	4120	Manat
1998	US\$1.00	3869	Manat
1997	US\$1.00	3985	Manat
1996	US\$1.00	4301	Manat

## Abbreviations and Acronyms

BCM	Billion Cubic Meter
CAS	Country Assistance Strategy
CP	Cathodic Protection
ERR	Economic Rate of Return
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
IBRD	International Bank for Reconstruction and Development
ICR	Implementation Completion Report
IDA	International Development Association
JSC	Joint Stock Company
MIE	Ministry of Industry and Energy
IEG	Independent Evaluation Group
PPAR	Project Performance Assessment Report
SAR	Staff Appraisal Report
SOCAR	State Oil Company of Azerbaijan Republic

## Fiscal Year

Government: January 1 – December 31

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**IEG Mission: Enhancing development effectiveness through excellence and independence in evaluation.**

### **About this Report**

The Independent Evaluation Group assesses the programs and activities of the World Bank for two purposes: first, to ensure the integrity of the Bank's self-evaluation process and to verify that the Bank's work is producing the expected results, and second, to help develop improved directions, policies, and procedures through the dissemination of lessons drawn from experience. As part of this work, IEG annually assesses about 25 percent of the Bank's lending operations. In selecting operations for assessment, preference is given to those that are innovative, large, or complex; those that are relevant to upcoming studies or country evaluations; those for which Executive Directors or Bank management have requested assessments; and those that are likely to generate important lessons. The projects, topics, and analytical approaches selected for assessment support larger evaluation studies.

A Project Performance Assessment Report (PPAR) is based on a review of the Implementation Completion Report (a self-evaluation by the responsible Bank department) and fieldwork conducted by IEG. To prepare PPARs, IEG staff examine project files and other documents, interview operational staff, and in most cases visit the borrowing country for onsite discussions with project staff and beneficiaries. The PPAR thereby seeks to validate and augment the information provided in the ICR, as well as examine issues of special interest to broader IEG studies.

Each PPAR is subject to a peer review process and IEG management approval. Once cleared internally, the PPAR is reviewed by the responsible Bank department and amended as necessary. The completed PPAR is then sent to the borrower for review; the borrowers' comments are attached to the document that is sent to the Bank's Board of Executive Directors. After an assessment report has been sent to the Board, it is disclosed to the public.

### **About the IEG Rating System**

The time-tested evaluation methods used by IEG are suited to the broad range of the World Bank's work. The methods offer both rigor and a necessary level of flexibility to adapt to lending instrument, project design, or sectoral approach. IEG evaluators all apply the same basic method to arrive at their project ratings. Following is the definition and rating scale used for each evaluation criterion (more information is available on the IEG website: <http://worldbank.org/oed>).

**Relevance of Objectives:** The extent to which the project's objectives are consistent with the country's current development priorities and with current Bank country and sectoral assistance strategies and corporate goals (expressed in Poverty Reduction Strategy Papers, Country Assistance Strategies, Sector Strategy Papers, Operational Policies). *Possible ratings:* High, Substantial, Modest, Negligible.

**Efficacy:** The extent to which the project's objectives were achieved, or expected to be achieved, taking into account their relative importance. *Possible ratings:* High, Substantial, Modest, Negligible.

**Efficiency:** The extent to which the project achieved, or is expected to achieve, a return higher than the opportunity cost of capital and benefits at least cost compared to alternatives. *Possible ratings:* High, Substantial, Modest, Negligible. This rating is not generally applied to adjustment operations.

**Sustainability:** The resilience to risk of net benefits flows over time. *Possible ratings:* Highly Likely, Likely, Unlikely, Highly Unlikely, Not Evaluable.

**Institutional Development Impact:** The extent to which a project improves the ability of a country or region to make more efficient, equitable and sustainable use of its human, financial, and natural resources through: (a) better definition, stability, transparency, enforceability, and predictability of institutional arrangements and/or (b) better alignment of the mission and capacity of an organization with its mandate, which derives from these institutional arrangements. Institutional Development Impact includes both intended and unintended effects of a project. *Possible ratings:* High, Substantial, Modest, Negligible.

**Outcome:** The extent to which the project's major relevant objectives were achieved, or are expected to be achieved, efficiently. *Possible ratings:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

**Bank Performance:** The extent to which services provided by the Bank ensured quality at entry and supported implementation through appropriate supervision (including ensuring adequate transition arrangements for regular operation of the project). *Possible ratings:* Highly Satisfactory, Satisfactory, Unsatisfactory, Highly Unsatisfactory.

**Borrower Performance:** The extent to which the borrower assumed ownership and responsibility to ensure quality of preparation and implementation, and complied with covenants and agreements, towards the achievement of development objectives and sustainability. *Possible ratings:* Highly Satisfactory, Satisfactory, Unsatisfactory, Highly Unsatisfactory.



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## Principal Ratings

	<i>ICR *</i>	<i>ICR Review *</i>	<i>PPAR</i>
Outcome	Unsatisfactory	Moderately Unsatisfactory	Moderately Unsatisfactory
Sustainability	Likely	Likely	Likely
Institutional Development Impact	Modest	Modest	Modest
Bank Performance	Unsatisfactory	Unsatisfactory	Unsatisfactory
Borrower Performance	Unsatisfactory	Unsatisfactory	Unsatisfactory

\* The Implementation Completion Report (ICR) is a self-evaluation by the responsible operational division of the Bank. The ICR Review is an intermediate Independent Evaluation Group (IEG) product that seeks to independently verify the findings of the ICR.

## Key Staff Responsible

<i>Project</i>	<i>Task Manager/Leader</i>	<i>Division Chief/ Sector Director</i>	<i>Country Director</i>
Appraisal	Michael Levitsky & Margaret Wilson	Jonathan Brown	Yukon Huang
Completion	William Porter	H. Razavi	D. Dowsett-Coirolo



## **Preface**

This is a Project Performance Assessment Report (PPAR) for the Azerbaijan Gas System Rehabilitation Project. An IDA credit of SDR14.1 million (\$20.2 million equivalent) was approved for the project on September 19, 1996; the project became effective March 19, 1997. The credit closed on June 30, 2003, and SDR 1.34 million (\$1.88 million equivalent) was cancelled.

The PPAR presents the findings of a mission to Azerbaijan in April 2005 by the World Bank Independent Evaluation Group (IEG). The mission met with officials of the State Gas Company (Azerigas), State Oil Company of the Azerbaijan Republic (SOCAR), Ministry of Industry and Energy (MIE), Ministry of Economic Development (MED), as well as with private oil and gas companies and Bank Country Office staff. The cooperation and assistance of those individuals is gratefully acknowledged.

The oil and gas sectors are critical to Azerbaijan's economy and are expected to continue to be so for the medium term. Given their importance and the limited capacity of the energy sector entities, an assessment was considered important in order to evaluate the outcomes and sustainability of projects in the two sectors to draw lessons from the experience. Concurrently with this PPAR, IEG also assessed the Petroleum Technical Assistance project.

The PPAR draws on the Staff Appraisal Report (No. 15378-AZ of August 2, 1996), the Implementation Completion Report (No. 27439 of April 9, 2004), and other documents related to the project.

Following standard IEG procedures, copies of the draft PPAR were sent to the government officials and agencies for their review and comments. Comments were taken into account and attached as Annex C.



## Summary

Oil and gas are crucial to Azerbaijan's economy and are expected to remain so over the medium term. Oil production is important for export revenues and as a source of economic growth. And the efficiency of the gas sector is a vital issue for the economy, since gas meets over 60 percent of the country's energy needs.

Azerbaijan's economy began a turnaround in 1995, when a decline in oil production was reversed, leading to a resumption of oil exports in 1997. Domestic gas production continued to decline, however, because most of the gas was coming from existing, nearly depleted fields. Gas supply was further constrained by weaknesses in infrastructure to transmit the gas from offshore fields to land and to distribute it to customers. To meet demand, the government was relying on imported gas from Turkmenistan, but imports were stopped in 1997 due to foreign exchange constraints and did not resume until 2001.

The project concept arose from a 1993 Energy Sector Review carried out by the Bank, and from a technical assistance grant Japan provided to the government to help prioritize transmission and distribution. Efficiency improvements were to be achieved by (a) replacing and rehabilitating malfunctioning meters and instruments and leaking pipelines, and (b) reducing the distortion in gas prices, improving the collection rate, and supporting the commercialization of Azerigas (the state-owned utility) by establishing a satisfactory corporate, regulatory, and financial environment.

The project consisted of four components, originally estimated to cost \$24.6 million. At project closure, a total of about \$17 million had been disbursed, over 88 percent of which was for procurement of meters, cathodic protection equipment, coating materials and pipeline, and gas analysis equipment. The balance was disbursed for the procurement of consulting services to help Azerigas with project implementation and to fund audits of Azerigas finances.

The project concept and objectives were consistent with the CAS, but project quality at entry suffered from several shortcomings. The two most important of these were (a) the inclusion of too many policy conditions, many of which the Bank had no leverage to enforce, and (b) the pricing conditions, which focused on the finances of the gas utility, without providing the incentives for improving the operational efficiency of the company and without due consideration to an economic pricing framework.

Although the project achieved most of its physical objectives, the principal objective—to enhance the efficiency of the sector—was only partially achieved. The more efficient use of gas would require an economically efficient pricing structure and a sound financial framework for the gas utility. Until early 2005, the price of gas was below the level needed to fully recover costs, and the bill collection rate was still only about 50 percent. The overall relevance of the project's objective is rated as modest given the limited relevance of the project's objective to the country's weak institutional capacity. The project's efficiency was also modest considering its limited contribution to enhancing the financial efficiency of the gas sector as a whole. Accordingly, project

outcome is rated as moderately unsatisfactory. Institutional development impact was also modest, considering that the only activity aimed at directly supporting capacity building (i.e., the training of Azerigas staff) was canceled.

The project benefits will nevertheless likely be sustained given (i) the government's recent action to raise gas prices to the level of full cost recovery, and (ii) the inevitable need for a more commercial operation of the gas sector to foster private sector investment. The Bank's performance during the preparation of the project was unsatisfactory considering that quality at entry was poor. While the Bank's performance during supervision was satisfactory, its overall performance is rated unsatisfactory considering the negative impact poor quality at entry had on project performance. The implementing agency's performance was satisfactory, but the borrower's overall performance was unsatisfactory as the government did not provide the support needed to raise tariffs and reduce arrears.

The project experience offers three lessons:

- When a policy action is stipulated as a loan condition, conditionality needs to be grounded in realistic, dated covenants and supplemented with monitorable performance indicators to ensure implementation.
- Gas pricing ought to extend beyond the goal of achieving financial viability for the gas utility and move toward economic energy pricing based on opportunity cost principles, including an appropriate pricing structure in relation to alternative fuels.
- The Bank needs to exercise flexibility within the procurement guidelines (including the provision of technical assistance for procurement) to resolve procurement issues, particularly in countries with weak institutional capacity and where such issues concern components whose implementation is crucial to achieving development objectives and increasing institutional capabilities.

Vinod Thomas  
Director-General  
Evaluation

## 1. Country and Sector Background

1.1 Azerbaijan's economy began a turnaround in 1995 and the recovery was progressing well by the time the credit became effective in 1997. Inflation had been reduced from about 400 percent in 1995 to 4 percent in 1997 and the budget deficit fell from about 13 percent of GDP to less than 2 percent during the period. The economic recovery resulted from tightened macroeconomic policies, but also from increased oil production. The first hydrocarbon production sharing agreement was signed in 1994. As oil exports began in 1997, the recovery accelerated and GDP grew at an average of 9 percent per year between 1997 and 2002 (i.e., during the implementation of the project). This growth was led by a surge of foreign direct investment (FDI) mainly in the oil sector, and the resulting rise in oil exports. During this period, more than 20 additional production sharing agreements were signed, including one for the large Shah Deniz gas field.

1.2 While the focus on increased oil and gas production was in line with Bank's first full CAS,<sup>1</sup> by credit effectiveness in early 1997, growth, although impressive, was uneven, and in the Bank's view, the government needed to focus on establishing an appropriate institutional and policy framework aiming at good governance and equitable development, to ensure sustainable broad-based growth.<sup>2</sup>

1.3 To address this concern, the strategy adopted by the 1999 CAS (Report No. 19586-AZ) focused on strengthening the regulatory and business environments. Nonetheless, the priority to increase hydrocarbon production remained unchanged, and continued in the 2003 CAS, which focused on growth beyond the oil sector but also highlighted the need to increase oil and gas production and to efficiently manage the windfall (oil still represents 70 percent of the country's total exports and 50 percent of its budget revenue, or about one-third of GDP from 1997 to 2002).

1.4 The situation in the gas sector was different in that domestic gas production continued to decline because most of the gas was coming from existing, nearly depleted fields. Gas production declined from 6.3 billion cubic meters (bcm) in 1995 to 4.8 bcm in 2003. Considering that natural gas is the main domestic fuel and meets over 60 percent of the country's total energy requirements, Azerbaijan has to import gas at an average of 4 bcm per year to meet its domestic needs (despite having proven reserves of about 30 trillion cubic feet, and with significantly higher potential reserves). Gas imports are expected to continue until the new Shah Deniz field comes on stream on 2006.

1.5 Gas supply was further constrained because the related infrastructure was in poor condition—many parts of the pipeline network were severely corroded, residential consumption was largely unmetered, and meters in many of the industrial and large

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1. Azerbaijan's first full CAS was in 1996 (Report No. 15948-AZ), and covered the period which coincided with the lending period of the Project. The private sector-led growth was one of the four focus areas of the CAS, and concern over delay in oil export was flagged as one of the major risks to recovery.

2. This was also confirmed by OED's Azerbaijan Country Assistance Evaluation (Report no. 21459, dated November 30, 2000), concluding that while the economy had shown strength since 1996, this growth has come mainly from the oil sector.

commercial installations as well as at the city gate stations were either lacking or malfunctioning. Consequently, technical and non-technical losses were high (about 15 percent).

1.6 Further, until recently the gas prices were below the level of cost recovery which had a severe impact on the finances of Azerigas. As a result of a low gas selling price, particularly to residential consumers, and large arrears owed to Azerigas (mostly by state-owned enterprises), new investment in the gas sector had been postponed.

### **The Role of the Bank and Previous Operations in the Sector**

1.7 Azerbaijan became independent in 1991 and joined the Bank in September 1992. Prior to this project, the Bank had two energy sector activities in Azerbaijan. In 1993, it carried out the first review of the sector under the Energy Sector Review (para. 2.1), and in 1995 the Bank approved its first lending for the sector (and for the country), the Petroleum Technical Assistance Project. The Petroleum Technical Assistance Project had been approved by the Bank together with Azerbaijan's first limited CAS. The Gas System Rehabilitation Project was approved by the Bank together with the country's first full CAS (Report No. 15948-AZ of August 27, 1996).

***Box 1. The key conclusions and recommendations of the Energy Sector Review, as they relate to the gas sector, are:***

- *Greater emphasis should be given to the natural gas sub-sector, as this is the main fuel used in the domestic market. Improvement in gas usage and exploitation should be a key aim, so as to reduce the rising burden of gas imports.*
- *Energy prices should be raised towards economic levels, according to a structured program of price increases. The aim should be to raise energy prices to economic levels, or international levels where appropriate, as rapidly as possible, conceivably within one year of the implementation of an economic stabilization program. This program should take account of the social and economic impact of price rises.*
- *The Government should establish an effective energy agency responsible for energy policy making and implementation. Such an agency, or Energy Ministry, should be small but capable of providing leadership in national policy and in energy sector relations with foreign Governments and companies. Regulatory agencies should be set up for oil licensing and for gas and power utilities, which would work in a transparent manner and allow efficient functioning of the entities under their control.*
- *The integrated energy companies in oil, gas and power need to develop along commercial lines. Clear commercial interfaces need to be established between the different stages of energy supply, which reflect the economics of different business units. Management and financial systems need to be strengthened, and staff trained in modern business practices.*

## 2. The Project

### Concept, Objectives, and Design

2.1 The project's original concept arose from the 1993 Energy Sector Review (Report No. 12061-AZ). The main conclusions of the review with respect to the gas sub-sector were the need for more efficient supply and use of this resource and the need to increase domestic gas production to reduce gas imports and lessen the burden on the economy. Some of the measures recommended included reducing gas flaring and losses in the transmission and distribution network, improving end-use efficiency by installing meters, and addressing sectoral issues such as the low price of gas and absence of regulation (see box 1). The project concept was further expanded in 1993 when the Japanese government provided a grant of \$1 million to help Azerbaijan prioritize gas sector investment needs.

2.2 The original objectives of the project were to (a) promote more efficient use of gas and reduce non-technical losses by expanding and upgrading gas metering at major customers and city gate stations; (b) improve physical accounting for gas and encourage an improved commercial basis for gas trading through upgrading of gas measurement; (c) ensure the efficient operation and preserve the value of the existing pipeline assets through investment in cathodic protection, gas analysis, and leak detection equipment; and (d) support the commercialization of Azerigas and further development of the sector through technical assistance, training programs, and the acquisition of modern office equipment. The related policy agenda focused on: (a) establishing a satisfactory corporate, regulatory, and financial environment to support the commercialization of Azerigas; and (b) reducing distortions in gas pricing to bring prices towards economic levels through pricing reforms, supplemented by metering for residential customers.

2.3 The thrust of the project objectives was consistent with the CAS. One of the four key areas that was the focus of the 1996 CAS was to establish a policy and institutional framework conducive to efficient and equitable private sector-led sustainable growth. The Gas System Rehabilitation Project had intended to support reforms (corporatization of the utility, development of a regulatory framework, and tariff reform) and rehabilitate the dilapidated gas system.

2.4 Considering that upstream gas activities (including production) were the responsibility of SOCAR,<sup>3</sup> the Japan technical assistance focused on the gas transmission and distribution network. The entire network was in a poor state of repair with outdated metering equipment and severe corrosion problems, which resulted in high technical and non-technical losses. Thus, the Japan grant provided the basis for the project's design by identifying areas in which to reduce the high gas losses, improve the efficiency of use, and lower the high cost of maintaining the network's operational integrity.

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3. The Ministry of Fuel and Energy was established in August 2001 and subsequently was replaced by the Ministry of Industry and Energy in December 2004.

## Components and Implementation

2.5 The project as originally envisioned was based on a \$100 million IBRD loan. However, when it was concluded that Azerbaijan qualified for IDA credit, the project was downsized to use IDA resources. The project was downsized by selecting only those components that would have an early impact on the financial recovery of Azerbaijan.

2.6 The project's total cost was estimated at \$24.6 million, with a base case cost of \$19.6 million. From the original credit amount of \$20.2 million equivalent (SDR14.3 million),<sup>4</sup> about \$1.88 million was cancelled. From the total disbursed amount of \$17 million, \$15 million was disbursed for procurement of goods and \$2 million for procurement of consultants. The project had four components (see Annex B).

- a) Metering. This component, about 56 percent (\$11 million) of the project's base cost, was to procure meters (rotary, flow, turbine, orifice, and diaphragm-type) to replace existing meters that were malfunctioning or to be installed where none existed at city gate stations and at industrial and large commercial plants. Most of these meters (2,170) have been installed, with the industrial and large commercial consumers representing about three-quarters of the installed meters. About 120 diaphragm-type meters have not been installed yet, mainly because the industries for which the meters were intended are currently inactive. The associated equipment for meter testing and installation has also been purchased and is in operation. In addition, about 55,000 household meters have been purchased, using the credit savings resulting from the appreciation of the SDR relative to the dollar. Approximately 34,000 of these meters have been installed.

A total of about \$9.0 million has been disbursed under this component, 41 percent for rotary meters, 27 percent for diaphragm meters, 24 percent for flow meters, and the balance for the orifice and turbine meters as well as for meter testing and installation equipment.

- b) Cathodic Protection (CP). This component, about 24 percent (\$4.8 million) of the project base cost, was to procure cathodic protection equipment including 233 CP stations and 33 current drainage stations, coated pipes, and regular pipes. The purpose of this equipment and material was to replace existing coated gas pipelines that have been badly corroded or to enhance the protection of existing line coatings against future corrosion. A total of about \$5.01 million was disbursed under this component, including \$3.0 million for the coated pipelines, \$1.5 million for the CP equipment, and \$0.6 million for regular pipelines.
- c) Gas Analysis Equipment. This component, 7 percent (\$1.4 million) of the project's base cost, was intended to procure gas leak detection equipment (\$0.42 million), gas quality analysis equipment (\$0.56 million), and computer software and hardware for network modeling (\$0.42 million).

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4. The final credit amount was about \$21 million, as the result of appreciation of the SDR.

The gas leak detection and gas quality analysis equipment have been purchased and are in operation (for a total of about \$1.06 million). The computer software and hardware were not procured because the lowest evaluated bidder was rejected by the Bank due to inadequate technical capacity.

- d) Azerigas Corporatization Support. This component, 12 percent (\$2.4 million) of the project's base cost, was to provide consultancy services to assist in project implementation (\$1.4 million), training to Azerigas staff (\$0.250 million), and finance the cost of office equipment and other provisions to help with the commercialization of Azerigas (\$750 million). Most of this component was not implemented. The training activity, which was to familiarize Azerigas staff with modern commercial operations such as planning, budgeting, finance, and accounting, was not implemented—because (according to the officials) the Bank advised Azerigas that training abroad was not permitted under the Bank guidelines. From about \$2 million disbursed under this component, \$1.6 million was used for consulting services to help Azerigas implement the project, \$0.4 million was used for the audit services for 1999-2002, and \$88,000 was used to purchase office equipment and furniture.

## Quality at Entry

2.7 The technical aspects of the project's design were sound. They were based on a relatively detailed evaluation carried out by the expert consultants funded by the Japanese grant. However, the quality of the project at entry suffered from several shortcomings that had an impact on the achievement of the project's main developmental objective—to enhance the efficiency of the gas sector. Enhancing efficiency of the gas sector would have required (in addition to improvement in the physical infrastructure and reduction in the system gas losses) improvement in the financial position of Azerigas through an increase in the price of gas and through the reduction of arrears, as well as the development of a legal and regulatory framework for the gas sector. None of these key policy measures materialized during project implementation.

2.8 First, too many policy conditions were attached to the project, for most of which the Bank had no meaningful leverage. A few that had an agreed recourse, such as a dated covenant, the timeframe was unrealistic. For example, in addition to the financial covenants, the project had 6 policy conditions; (a) the preparation of a schedule to extend gas metering to cover all residential customers (some 750,000), (b) a schedule to increase the residential gas price to a level not less than the cost of gas purchased by Azerigas, (c) a program financed by the borrower to mitigate the effect of gas price increases on low-income household, (d) the corporatization of Azerigas as a joint stock company, (e) the implementation of the action plan on gas payments (i.e., dealing with substantial arrears of Azerigas), and (f) to maintain gas prices at (i) not less than their (then) current level in real terms, and (ii) a level to ensure an average operating margin of at least \$4 per thousand cubic meters.

2.9 On conditions a, b, and c, the borrower was to (1) submit plans by December 31, 1996 (or about three months after the approval of the project but three months before effectiveness), (2) agree with the Bank on these plans by January 31, 1997, and (3) subsequently take all measures to implement them. But there were no dated covenants for the implementation of the measures, or even agreed performance indicators. It is not clear what leverage the Bank had to ensure the implementation of such policy objectives. With regard to implementation of the action plan to reduce (and eventually eliminate) the Azerigas arrears, it was unrealistic to expect that the collection rate would improve from 45 percent to 75 percent by June 30, 1997 (three months after project effectiveness), and to 90 percent by December 31, 1997. The collection rate is still about 50 percent, the lowest among all the countries in the Commonwealth of Independent States.<sup>5</sup>

2.10 Second, the pricing conditions seem to have been designed in isolation, focusing only on the finances of Azerigas. The project has two pricing covenants: (i) to adjust gas prices to ensure Azerigas has an average operating margin of \$4 per thousand cubic meters; and (ii) to increase the residential gas price to at least the level at which gas is purchased (i.e., from SOCAR). While these covenants may have helped Azerigas to address its precarious finances in the short term, the first covenant is a potential disincentive for the company to operate efficiently—because the project is guaranteeing a margin for Azerigas without the necessary qualifications for operational efficiency. The second covenant may not be in line with economic pricing because if SOCAR, as the supplier of gas, decides to increase the price to a higher level, the project requires Azerigas to raise the price to that level, even though that level may be higher than the opportunity cost of gas. Further, the issue of relative pricing, such as between the prices of gas and electricity, gas and kerosene, and gas and LPG, need to be taken into account.

2.11 Finally, although the risks identified by the project were broadly consistent with those in the CAS, the mitigation measures envisioned by the project were not adequate. For example, the project correctly identified one of the risks being the extent of the government's commitment to carry out the necessary reforms. However, the project relied on weak factors to mitigate the risks. Namely, the mere initiation of critical reforms before Board approval was accepted by the Bank as a valid mitigation measure; or, because the role of gas in the economy was critical, it was assumed that the dialogue between the Bank and the government will remain strong.

2.12 Given the country and sector conditions, it would have been unrealistic to achieve these significant policy objectives under this single modest operation, particularly considering the experience with the Petroleum Technical Assistance (PTA) project (for example, under PTA project the Government agreed to pass a petroleum law but did not implement it).

2.13 There was no formal review of quality at entry by the Quality Assurance Group. However, *this assessment rates the project's quality at entry as **unsatisfactory***.

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5. Accounts receivable is an issue, particularly in the energy sector, for social and political reasons. Enterprises which provide essential services (i.e., district heating and water supply) are often unable to collect in a timely manner. In turn, these enterprises are running substantial arrears among themselves and with SOCAR.

## Project Results

### *Relevance*

2.14 The project's objectives aimed to help improve the efficiency of the gas use in the country and, as the result, to benefit from its economic utilization and from reduction in gas imports. This overarching objective continues to be consistent with the developing priorities of the country and the Bank's country assistance strategy. Three of the four strategic goals outlined in the latest CAS relates to the oil and gas sector. Namely, helping the country to realize its oil and gas potential, improving access to services, and managing the oil and gas windfalls. Improving the efficiency of gas supply and utilization will increase the country's gas supply. Increased gas supply, together with more efficient and reliable gas-related infrastructure, will provide more access to gas, particularly for small households. The efficient and transparent management of oil and gas windfalls could help to finance some gas infrastructure needs. A more efficient gas sector will help with macro stability through gains in economic benefits associated with gas utilization and through the reduction in gas imports. Thus the objectives for the most part continue to be relevant to the current development priorities at both the country and sectoral levels. However, the project's demanding design was not highly relevant to the country's weak institutional capacity, particularly with respect to readiness to reform. Therefore, overall *this assessment rates the project objectives as **modestly relevant**.*

### *Efficacy*

2.15 The physical objectives of the project were mostly achieved. However, the objectives as a whole met with major shortcomings. The extent to which each objective was achieved is discussed below.

- a) Promote more efficient use of gas and reduce non-technical losses by expanding and upgrading gas metering at major customers and city gate stations. The industrial and large commercial customers, as well as the city gate stations have been furnished with functioning meters. Except for some of the diaphragm-type industrial meters, virtually all meters have been installed (para. 2.6a).<sup>6</sup> Therefore, the achievement of physical objective of this component has been substantial. However, the more efficient use of gas—the focal objective of the project—would require using an efficiency pricing structure and establishing a viable financial system. Until early 2005, the average price of gas was below the level needed to fully recover its costs (para. 2.22), and the collection rate was still at 47-50 percent. The resolution of these two issues was central to a more efficient use of gas and would have had a profound impact on improving the

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6. As discussed in para 2.6a, substantial numbers of residential meters have not been installed. However, the installation of residential meters was not part of the original scope of work.

finances of Azerigas.<sup>7</sup> During project implementation, neither of the two was resolved.<sup>8</sup>

With regard to reduction in losses, there has been in fact some reduction in losses. The staff appraisal report (SAR) indicates that the total losses (technical and non-technical) were about 15 percent before the project implementation.<sup>9</sup> Azerigas confirms that the average current losses in transmission and distribution system are about 7-8 percent.<sup>10</sup>

With regard to sector policies, the project had very little impact since no gas legislation or regulation had been adopted, despite the government's commitment (as stated in the SAR).

Based on the above, the extent that this objective has been achieved is rated as **modest**.

- b) Improve physical accounting for gas and encourage an improved commercial basis for gas trading through upgrading of gas measurement. Although this is listed as a separate objective, this assessment agrees with the ICR that this objective is part of objective a. Improving the physical accounting of the gas and upgrading gas measurement are achieved through use of a more accurate instrumentation and metering, and through better meter testing equipment. These are all covered under objective a. Therefore, as in that objective, the physical achievement of this objective is rated as substantial, but the achievements with respect to financial, economic, and sectoral aspects of this objective are rated as modest. Accordingly, *the extent that this objective has been achieved is rated as modest.*
- c) Ensure the efficient operation and preserve the value of the existing pipeline assets through investment in cathodic protection, gas analysis, and leak detection equipment. The physical activities under this component have been mostly completed. The cathodic protection and the associated drainage stations have all been installed. Substantial quantities of coated and uncoated pipelines have also

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7. In early 2003, only 30% of the cost of gas supply was recovered. The collection rate was 47% and the weighted average tariff was approximately \$20 per mcm (compared with the estimated supply cost of \$32 per mcm). Although the tariff has since increased and has reached to the level of cost recovery, the collection rate is still about 50%.

8. The Implementing Agency in its comments of April 26, 2006 (see the entire comments in Annex C) states that the result of 2004 shows that the collection rate was 73.7%, and that the reason it declined back to 47%-50% in 2005 was due to increase in the price of gas to the full-cost-recovery level in 2005.

9. The basis of this value and the breakdown between technical and non-technical losses before and after the project implementations are not clear. The MOP indicates that the total of technical and non-technical losses is at least 15 percent. The SAR provides for the system-wide non-technical losses to be 10 percent. The ICR provides that total losses have been reduced to 6.9 percent (page 10), and technical losses has been reduced to 7.9 percent (page 11).

10. The Implementing Agency in its comments of April 26, 2006 (see the entire comments in Annex C) states that the losses in 1997 were 14.3% and in 2005 were 6.2%.

been installed, to replace and rehabilitate the badly corroded existing pipes. The leak detection and gas quality analysis equipment have all also been purchased and installed (para.2.6c). The only item under this component that was not implemented was the procurement and installation of computer software and hardware for network modeling. The reduction in *technical* losses, to whatever extent, is the direct result of completion of activities under this component. As the result, *the extent that this objective has been achieved is rated as **substantial***.

- d) Support the commercialization of Azerigas and further development of the sector through technical assistance, training programs, and the acquisition of modern office equipment. It is not clear in what way the project expected to achieve a meaningful commercialization of Azerigas— one of the main objectives of the project—through this component. The government, through Presidential Decree of May 1996, had already announced the registration of Azerigas as a Joint Stock Company (JSC). Azerigas became a JSC immediately after the credit was approved. Since, there has been no further action with respect to commercialization of Azerigas. The amounts disbursed under this category were used to fund (i) the consultants, to help Azerigas in project implementation, (ii) the auditors, for auditing the finances of Azerigas for the period 1997-2000, and (iii) the purchase of some office equipment. Even the training under this component was not implemented. Besides, the principle issue in commercialization of Azerigas was the need to put the company in a sound financial position. The two key elements essential in this regard were the adequate level of tariffs and a viable collection rate, neither of which were implemented during this project. Therefore, *the extent that this objective has been achieved is rated as **negligible***.

2.16 Considering the above, *the overall efficacy of the project is rated as **modest***, because while the physical objectives were met, there were significant shortcomings in the areas that profoundly affect efficient and economic utilization of natural gas.

### *Efficiency*

2.17 The SAR estimated an average economic rate of return of 47 percent for a base case, ranging from 21 percent for the replacement meters to 74 percent for city gate instrumentation replacement. This assessment did not reevaluate the economic rate of return (ERR), but reviewed the ICR for recalculation of the ERR and found the assumptions and methodology to be sound and acceptable. The ICR recalculation shows the ERRs of 24% and 44%, depending on whether the gas volume is based on a reduced flow (which prevailed between 1995 and 1999 due to Government's decision to ban gas import from Turkmenistan), or the recently increased gas flow after the resumption of import. In either case, the rate of return is substantially higher than the opportunity cost of capital and therefore the project's efficiency from investment standpoint is substantial.<sup>11</sup> However, this investment-based efficiency gain could easily be offset by the

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11. The Implementing Agency in its comments of April 26, 2006 (see the entire comments in Annex C) states that "the highest economic rate return may be only 15-20% because the purchasing and selling of

larger inefficiencies resulting from sectoral distortions, such as low collection rate and the low level of prices which until recently were below the level of full cost recovery. Therefore, *the overall efficiency of the project is rated as modest.*

### ***Outcome***

2.18 The focal objective of the project was to address the high losses, low efficiency of use, and high cost of maintaining the operating integrity of the network. From the policy perspectives, the objectives were to improve (a) the financial position of Azerigas, particularly through an efficiency pricing and reducing the accounts receivable, and (b) the corporate and regulatory environments, through (i) corporatization and commercialization of Azerigas with a view to be fully unbundled, and (ii) the development of a legal and regulatory framework for the gas sector. These, which were all critical elements in introducing a market-based sector organization and attracting private sector participation, were implicit in the objectives of the project.

2.19 This is an ambitious, wide-ranging array of objectives that embraces virtually the entire spectrum of reform initiatives. None of these were implemented during this project. Full cost-recovery did not begin until early 2005. The arrears continue to be a major issue. The corporation has not moved beyond the establishment of Azerigas as a JSC. No gas law has been adopted and there is no regulatory agency. Given that the overall relevance of the project objectives were modest, the extent that the project has achieved its main objective is modest, and the efficiency of the project is modest, *this assessment rates the overall outcome of the project as moderately unsatisfactory.*

### ***Institutional Development Impact***

2.20 The intended impact of the project on the institutional development of the sector has been negligible. The only activity in direct support of the capacity building was the training of Azerigas staff in finance, accounting, budgeting, planning, and marketing. Training component was not implemented because the Bank declined to accept the borrower's proposal on the ground that (according to officials) training had to be carried out only in Azerbaijan. This was a major setback given that the training of the staff in the above areas would have added substantial capabilities to the sector.

2.21 However, there were unintended impacts of the project on the institutional development of the Azerigas and the gas sector. These included (a) the exposure of the Azerigas staff to financial accounting and financial management, through number of audits that were carried out on the company's finances between 1997 and 2000, and (b) the interactions between the staff and the consultants regarding implementation issues, and with the Bank on project's economics, financial, environmental, and procurement issues. Thus, although to a limited extent, the project increased Azerigas ability to use its human resources more effectively. *The institutional development impact of the project is therefore rated as modest.*

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natural gas is belonged to the utility where the rate of return is very low.” [Explanatory note: the values referred to in the SAR and the ICR are for economic internal rate of return, to be distinguished from financial internal rate of return].

## *Sustainability*

2.22 The financial sustainability of the project will depend on the extent to which the cost of gas supply will be fully recovered; that is, a tariff level that includes the cost of gas from upstream suppliers (now, SOCAR), the costs of transmission and distribution, and a reasonable rate of return. But for Azerigas, sustainability will also depend on a viable collection rate of such a tariff. The tariff was increased (again) in March 2005 and currently it is at a full cost-recovery level.<sup>12</sup> While in the short term this level may fluctuate slightly, over the long term it is expected to be maintained considering that the government seems determined to operate the sector on a commercial basis. Besides, given the investment needs of the gas sector, it is difficult to envision a different approach. With respect to the collection rate, it is still substantially low and, despite some progress (mostly through SACII), the collection rate lags behind most of the countries in the region (para.2.9). If the low collection rate does not reach the 80-90 percent level, then the effect of full cost recovery would be diminished rapidly. However, given the latest price increase (to the level of full cost recovery) and the acute need for private investment to meet the significant investment requirements in the gas sector, the Government is committed to pave the way for a fully commercial operation of the gas sector. Once the sector is in a sound financial position, the unbundling and full corporatization could easily follow.

2.23 The project's technical sustainability is likely given the competency of the technical staff. The project's components have contributed to reducing the technical losses stemming from leakage, and from malfunctioning meters and instrumentations. Therefore, *this assessment rates the project's sustainability as **likely**.*

## **Bank Performance**

2.24 **Lending.** The Energy Sector Review provided the sectoral policy framework for the project's design, and the Japanese grant provided the design for the physical components of the project by identifying priority investment needs in gas transmission and distribution. But the quality of the project at entry suffered from several shortcomings, including numerous policy conditions and the unrealistic timeframe to achieve them (para.2.8). There were ample opportunities to resolve those shortcomings, given that from the time of the Project Concept Document to the effectiveness of the credit a period of three years had elapsed, during which many issues related to institutional weaknesses and limited extent of the government's commitments had already become apparent. Further, the Petroleum Technical Assistance project was under the implementation at the time and many of the issues associated with that project (particularly those related to quality at entry) had already surfaced. Yet, the design of this project did not fully take into account the lessons learned and prepared an ambitious framework from the policy and reform standpoints. *This assessment rates the Bank's performance during lending as **unsatisfactory**.*

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12. The Implementing Agency in its comments of April 26, 2006 (see the entire comments in Annex C) states that "at the suggestion of Azerigas in 2005 the gas selling price has been made 200,000 Manat (US\$43.5, without VAT) per 1000 m<sup>3</sup> for all consumer groups."

2.25 **Implementation.** The project had only two “soft” components: (i) training of Azerigas staff (in planning, budgeting, finance, accounting, marketing and human resource management) to facilitate its commercialization (para. 2.6d), and (ii) procurement of computer software and hardware for network modeling, to assist Azerigas to strengthen its capacity in the important technical area of carrying out the analysis of the system capacity and design (para. 2.6c). However, despite the long implementation period (about 6 and a half years, including a 2-year extension), neither of the two components were implemented because of procurement issues and timing. The Bank should have found ways to resolve the procurement issues of these two components, given that these activities were important for commercialization of Azerigas and given the experience it had gained from the Petroleum Technical Assistance project. For example, the Bank could have helped to develop a mutually satisfactory training program to permit the training of some of Azerigas staff to take place abroad. Or, Bank supervision could have included a technical specialist in the area of computer software and hardware for network modeling. Having such expertise involved in creating technical specifications might have ensured that all bidders had the minimum technical capacity required (to avoid the lowest evaluated bidder being rejected due to inadequate technical capacity).

2.26 Nonetheless, taking into account the high level of efforts by the Bank during project implementation (over 90% of the funds have been disbursed and most of the physical components were successfully completed), *this assessment rates the Bank’s overall performance during implementation as satisfactory.* However, considering the Bank unsatisfactory performance during lending, --which had significantly higher impact on project performance--*the Bank’s overall performance is rated as unsatisfactory.*

### **Borrower Performance**

2.27 **Preparation.** The implementing agency fully participated in the technical preparation of the project. The level of its resources and staffing seems to have been adequate during the preparation of the project. However, Azerigas should have provided a more realistic assessment of the covenanted conditions related to the financial aspects of the projects, including the time required to raise the gas tariff and to improve the collection rate to the levels agreed under the project. Nonetheless, taking into account the implementing agency’s unfamiliarity with the Bank, and the fact that raising tariffs (and to some extent, improving the collection rate) was outside the control of the implementing agency, *this assessment rates the performance of the implementing agency during preparation of the project as satisfactory.*

2.28 During preparation, the borrower did not seem to have given due consideration to the project’s conditions with respect to financial and policy requirements. The government should have been aware of the extent of its commitments to raise the tariff (particularly for low-income households), and the challenges it would face in attempting to eliminate the arrears in a short period of time. The government agreed with various covenants related to these issues but subsequently did not fully provide the supporting actions. *The government’s performance during preparation of the project is rated as unsatisfactory.*

2.29 **Implementation and Compliance.** The implementing agency provided adequate management guidance and resources to carry out the project. But the two year-implementation delay, which resulted in the extension of the closing date by two years, was partly the responsibility of the implementing agency.<sup>13</sup> Even if due consideration is given to some of the procurement problems encountered during the implementation, the installation of some of the meters is still not completed. *Thus, the performance of the implementing agency during implementation has been only **satisfactory**.*

2.30 With regard to borrower performance during the implementation of the project (including its compliance with the covenants), the government did not provide the necessary support to put in place an efficiency pricing structure, or to cause acceleration in the collection rate. The government's policies at sectoral level were also not supportive of the project's implementation efforts, such as the lack of progress in gas legislation and regulation. *The government's performance in support of project implementation is rated as **negligible**.*

2.31 Consequently, the implementing agency's overall performance is rated as satisfactory, but the borrower performance is rated as unsatisfactory. Given the importance of the policy actions in relation to the efficient utilization of gas in the country and the lack of progress in the critical policy areas, *the overall performance of the borrower is rated as **unsatisfactory**.*

### 3. Lessons Learned

3.1 The main lessons from the evaluations are as follows;

- When a policy action is stipulated as a loan condition, the conditionality needs to be grounded in realistic dated covenants and supplemented with monitorable performance indicators to ensure its implementation.
- Gas pricing should extend beyond the goal of achieving financial viability for the gas utility and move toward economic energy pricing based on opportunity cost principles, including an appropriate pricing structure in relation to alternative fuels.
- The Bank needs to use the utmost flexibility within the procurement guidelines (including the provision of technical assistance for procurement) to resolve procurement issues, particularly in countries with weak institutional capacity and

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13. The Implementing Agency in its comments of April 26, 2006 (see the entire comments in Annex C) states that "delay noted in this item happened due to objective reasons which did not depend from the implementing agency ---." [Explanatory note: the Bank has accepted this, and the implementing agency's performance during the implementation has been rated Satisfactory, as well as its overall performance (para. 2.31). However, the Borrower's overall performance remains Unsatisfactory, as explained in para. 2.31].

where such issues concern components whose implementation is crucial to achieving development objectives and increasing institutional capabilities.

## Annex A. Basic Data Sheet

### GAS SYSTEM REHABILITATION PROJECT (CREDIT 2923-AZ)

#### Key Project Data (amounts in US\$ million)

	<i>Appraisal Estimate</i>	<i>Actual</i>	<i>Actual as % of appraisal estimate</i>
Original commitment	20.2	-----	-----
Total cancellation	-----	1.88	-----
Total project cost	24.60	18.32	75%

#### Project Dates

	<i>Original</i>	<i>Actual</i>
Departure of Appraisal Mission		11/21/1995
Board approval		9/19/1996
Signing		10/02/1996
Effectiveness		03/19/1997
Closing date	06/30/2001	06/30/2003

#### Staff Inputs (staff weeks)

	<i>Actual/Latest Estimate</i>	
	<i>N° Staff weeks</i>	<i>US\$('000)</i>
Preappraisal	Not Available	
Appraisal/Negotiation	Not Available	391.79
Negotiations	Not Available	
Supervision	Not Available	541.45
Other	Not Available	
Total	Not Available	923.24

## Mission Data

	<i>Date (month/year)</i>	<i>No. of persons</i>	<i>Specializations represented</i>	<i>Performance Rating</i>	
				<i>Implementation Progress</i>	<i>Development Objectives</i>
Identification/ Preparation	2/94	1	Task Manager		
Identification/ Preparation	6/94	4	Task Manager(1), Operations Officer (1), Oil/Gas Specialist (2)		
Identification/ Preparation	11/94	2	Oil/Gas Specialist (2)		
Identification/ Preparation	1/95	3	Task Manager (1), Oil/Gas Specialist (2)		
Identification/ Preparation	03/95	2	Task Manager (1), Consultant (1)		
Identification/ Preparation	05/95	4	Task Manager (1), Financial Analyst (1), Oil/Gas Specialist (2)		
Identification/ Preparation	09/95 (Preappraisal)	5	Task Manager (1), Financial Analyst (1), Oil/Gas Specialist (2) Consultant (1)		
Identification/ Preparation	10/95				
Appraisal/ Negotiation	01/96 (Appraisal)	5	Task Manger (1), Oil/Gas Specialist (1), financial Analyst (1), Consultant (2)		
Appraisal/ Negotiation	04/96	4	Task Manager (1), Consultant (2), Institutional Specialist (1)		
Appraisal/ Negotiation	06/96	1	Task Manager		
Appraisal/ Negotiation	07/96	1	Financial Analyst (1)		
Supervision	10/18/96	5	Prin. Oper. Officer (1); Co-task Manager (2); Oil/Gas Specialist (1), Consultant (1)	HS	HS
Supervision	02/01/97	3	Technical (1); Task Manager (1); Financial/Inst'l (1)	S	S
Supervision	09/07/97	2	Technical Procurement (1); Team Leader (1)	S	S
Supervision	06/20/98	1	Task Manager	S	U
Supervision	02/06/99	3	Task Team leader (1); Oil & Gas Specialist (1); Operations Officer (1)	S	S
Supervision	06/09/99	3	Team Leader (1); Oil & Gas Specialist (1); Operations Officer (1)	S	S
Supervision	06/09/99	3	Team Leader (1); Operations Officer (1); Technical/Procurement (1)	S	S
Supervision	12/12/2000	2	Task Team Leader (1); project officer (1)	S	S
Supervision	04/29/2001	2	Task Manager (1); Operations Officer (1)	S	S
Supervision	01/18/2002	3	TTL (1); FMS (1); Operations Officer (1)	S	S
Supervision	10/11/2002	3	TTL (1); Operations Adviser (1); FMS (1)	S	U
Completion	11/2003	2	TTL (1); Operations Officer (1); FMS (1)		

## Annex B. Project Components, Allocated Costs and Actual Disbursements

	Components	Amount Originally Allocated	Amount and % of total Disbursed
<b>I) Meters</b>			
a)	City gate stations	\$2.30 million	
b)	Industrial and large commercial consumers	\$8.10 million	
c)	Meter testing equipment	\$0.50 million	
d)	Installation equipment	\$0.15 million	
	<b>Total Component I</b>	<b>\$11.05 million</b>	<b>\$8.90 million (53%)</b>
<b>II) Cathodic Protection</b>			
a)	Rehabilitation and new Pipelines	\$4.80 million	
	<b>Total Component II</b>	<b>\$4.80 million</b>	<b>\$5.10 million (30%)</b>
<b>III) Analytical Equipment</b>			
a)	Leak detection equipment	\$0.42 million	
b)	Gas quality testing equipment	\$0.56 million	
c)	Computers for network modeling	\$0.42 million	
	<b>Total Component III</b>	<b>\$1.40 million</b>	<b>\$1.10 million (5%)</b>
<b>IV) Corporatization Support</b>			
a)	Assistance in project implementation	\$1.40 million	
b)	Training of Azerigas staff	\$0.25 million	
c)	Upgrading office equipment	\$.25 million	
d)	Other commercialization costs	\$0.50 million	
	<b>Total Component IV</b>	<b>\$2.40 million</b>	<b>\$2.00 million (12%)</b>
<b>Total Base Cost and Disbursed</b>		<b>\$19.60 million</b>	<b>\$17.10 million (87%)</b>
Contingencies		\$5.00 million	
<b>Total Project Cost</b>		<b>\$24.60 million</b>	



## Annex C. Borrower Comments

Azerbaijan Republic  
Ministry of Industry and Energy  
Azerigaz Close Joint-Stock Company

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2006

*To Mr. Fernando Manibog*

*cc:*

*To Mr. Alain Barbu, Manager, Sector,  
Thematic and Global Evaluation Division  
(Independent Evaluation Group)*

*Dear Sirs!*

Due to the “Project Performance Assessment Report” in the context of “Azerbaijan Republic – Petroleum Technical Assistance Project (Credit 2708-AZ)” represented by your letter dated January 31, 2006 is not related to us we have not any comments.

Chairman

A. Melikov

**IEG Mission:**

The preliminary project performance assessment under Azerbaijan Republic – Gas System Rehabilitation Project (Credit 2923-AZ).

**About Report:**

As aware of this clause the IEG assesses the “Bank's lending operations” at the rate of about 25 percent. If the Group also assessed the project performance under “Gas System Rehabilitation Project” at the rate of 25 percent and based on that is drawing the conclusion such point of view would not be accepted. Because, come to some conclusion based on the conditions of the 1/4 part of all performance it is impossible to conduct the final evaluation and as we understand this figure should be 40-50 percent.

**About the IEG Rating System:**

The given rating table does not consider in any case the difference in the period before the credit agreement period, i.e. between the approval and implementation period when there has been the objective changes in demand for gas. I.e. in all countries static (changeability) and dynamic (unchangeability) characters of the reasons that is creating a basis for allocation of the credits are not considered. Hence the main factor for the estimation of the results of the credit – the objectivity has been lost.

As a result of it the evaluation of the credit components implementation assesses by only the former and in the majority cases by the already non-existent criterion and thus this evaluation define only the ratings. In order to avoid such mistakes in further it is obligatory to consider in the evaluation system the objective changes between the dates of the allocation and closeout of credit by some definitely coefficient.

For example, the following factors negatively influences on increasing of losses such as: the quantity of gas has been provided for checking of the tightness and purging of gas pipelines in 2001-2005 during the works in accordance with renewal of gas supplying to the districts which were not provided from 1997-99, malfunctioning or partial functioning of the large-scale industrial enterprises, installation of gas meters that were calculated and bought before for large volumes of gas and so on. At the same time in spite of its specificity (technical, economic, technological and so on) the components of the evaluation system are not based on any calculations where the comparison of indexes are considered and is determined only on the imagined basis and this standpoint is not acceptable.

On the other hand as can be seen from the allocation direction of credit proceeds on components in general it is possible to consider the credit as the large-scale investment project in gas sector.

From this point of view there were not carried out any estimation activities by group and therefore the main parameters such as the cost-effectiveness and return of investment unreasonably wholly remain outside of the evaluation activities. It is clear during the evaluation process the group used immeasurable, imagined character and in the majority cases to the non analyzed data and therefore it can't be enough to receive the objective results.

## **1- Country and Sector Background**

### **Clause 1.5. Should be added after the first paragraph:**

At the same time as a result of the conducted overhaul of the main and distribution gas pipeline, modernization and reconstruction of a gas infrastructure by Azeriqaz and Government of country during 2001-2005 the technical and non-technical losses were substantially decreased and in 2005 its level has made 6,8 percent.

In addition, in 2003-2004 almost 90 percent of all gas consumers such as industrial, utility and budget organizations were supplied with meters and on January 1, 2006 almost 316 thousand meters are operated by the residential consumer group and during 2006 it is planned to install 500 thousand meters additionally. As a result of it during 2002-2004 the gas supply has been renewed to the 32 districts which didn't receive gas since 1994 and in 17 districts the number of residential gas consumers was substantially increased.

1.6. Should be added in brackets: (and on residents).

Currently as a result of the cost-tariff regulation at the suggestion of Azeriqaz in 2005 the gas selling price has made 200 thousand manta (43, 5\$) (without VAT) per 1000 m<sup>3</sup> for all consumer groups.

2.6. item a), the last paragraph:

2.50 Thousand meters were installed in 2005 and these works will be continued in future and it's planned to install 500 thousand meters additionally in 2006.

b) Cathodic Protection.

Under this component the cathodic protection station is installed and is already in operation.

### **Quality at Entry.**

2.7 Should be added:

At the same time the Government of Azerbaijan Republic created the Fuel and Energy Ministry – the regulation structure in power-gas sector including natural gas sector and in 2005 at the suggestion of Azeriqaz JSC the wholesale and retail gas selling prices were achieved on cost-recovery level.

2.8.

a) The appropriate schedule to extend gas metering to cover all residential customers groups were presented to the government by Azeriqaz JSC and this proposal were approved by the corresponding decisions of the Cabinet of Ministry of Azerbaijan Republic

According to these decisions Azeriqaz JSC have to buy and install 200 thousand meters in 2005 and 500 thousand meters in 2006 in the housing fond of republic. Already 250 thousand meters were bought by Azeriqaz JSC and these meters are in operation at present time. The activities on this point in progress and almost 500 thousand meters will be installed in 2006. 316103 meters are existing in the housing fond (residents) on January 1, 2006.

b) The increasing schedule of the gas selling price for the residential consumer group are already developed and provided to the Tariff Council and as a result of it the prices were regulated from the first quarter of 2005.

c) According to this issue the appropriate program were developed and this program were admitted by government and the effect of gas price increases on low-income household were eliminated by the allocation of proceedings from State Budget as a indirect subsidy and as a result of it the debts were decreased substantially.

d) Covering the period of 2004-2005 these subsidies were mutual accounted between Azeriqaz JSC and SOCAR for gas supplied and between SOCAR's debts to budget. When the gas selling prices were increased this issue already has found the solution.

e) The debts of all large-scale enterprises are already returned by Azeriqaz JSC (without frozen debts) and the gas payments from these organizations are 90-100 percent.

f) At the suggestion of Azeriqaz the purchasing and selling gas prices was considered by Tariff Council and the proposed price were adopted as a real (230 thousand manat per 1000 m<sup>3</sup> (with VAT), i.e., 51\$ for all consumer group).

2.9. According to the results of 2004 the collection rate for the selling gas is achieved 73,7%. It is clear that Azeriqaz JSC fully met the important terms for the credit allocation.

### **Efficacy.**

2.15.

a) At the beginning of 2005 (March) the gas selling price was achieved to the sufficient needed to fully recover its production and transmission costs (i.e. operation

costs) and only therefore (i.e. the selling price was increased 6,6 time from 35,56 manat to 236 manat) the collection rate was 47-50% and it is absolutely normal if consider that 2005 was the first selling price year.

As shown the report the main goal of the price regulation (drastic increase) was establishing a viable financial system of Azeriqaz financial position rather than the increasing of the collection rate. And this goal is already reached. In accordance with the results of 2005 against the losses as was in previous years it were received the profit.

It is clear that during the implementation period both issues were settled successfully. Particularly consider that only this result is the main requirement for credit terms the evaluation rate under this component should be assessed as “High”.

Notwithstanding the fact that the collection rate for gas was still 47-50 % in 2005 at the same time this rate in comparison with 2004 was increased onto 145104,3 mln. manat (in old manat). (in 2004 – 279106,1 mln. manat, in 2005 – 424210,4 mln. manat). In regard with losses there has been reached the drastic declines. So if as based on reports before the project implementation period the losses in 1996 and 1997 accordingly were 14,3 % and 785,5 mln. m3 as natural and 14,3% and 700,9 mln. m3. And this index was reduced during the credit implementation and closeout years. According to the given reports this component should receive the highest estimation.

Using the credit proceeds the procurement activities of the gas meters for residential consumers was begun in 2004 and completed in 2005. The explanatory information list about the efficacy (including economic efficiency) of gas meters for residents was given by Azeriqaz JSC and the meters were installed fully. To come to any conclusion about the collection rate of the gas selling price it is necessary to receive the credit and to compare the results during the ensuing years. Then the gas selling price should consider or compare with the same level (for example, according to 2005). Consequently the comparison should be conducted from the credit approval year (in 1997) to 2005.

As a result of the both issue considered in the project were implemented in full.

With regard to reduction in losses, there has been drastic reduction in losses rather than some. For example, if all technical losses level in comparison with all received gas was 14,3% in 1997, then in 2005 this figure has made 6, 2% (see table). As shown of it for coming to some conclusion and carry out the evaluation under this component it is necessary to reference to the same reports and this reference shows that all losses in comparison with 1997 were reduced twice.

According to this reports the achievement of physical objective of this component as shown in item a should be evaluated as high rather than satisfactory. At the same time since 1997 there were adopted a lot of legislative acts which regulates the gas sector and forms the legal basis for implementation of works. As a result the achievement of this objective should be evaluated as substantial.

b) This objective also has been rated as modest, but as shown from the given text the all objectives are achieved and even this assessment agrees with the ICR.

But the achievements with respect to financial, economic, and sectoral aspects of this objective were rated as modest. It should be note that the any evaluation of the results with respect to financial and economic could be carry out by the following parameters:

- Only on the basis of any parateres;
- On the basis of calculations and reports confirming the same parameters;
- By compare with the achieved parameters on cash flow between the years which referring to previous and reporting period;
- Which calculation method was used;
- Application the rates which consider the time factor (discounting) (to take into account that an expenditure of the credit proceeds was carried out during the several years).

Only considering all of these terms mentioned above and based on the economic parameters the evaluation may be carried out and rated. Nevertheless no any economic parameters were given neither in the text nor in the attachments and based on it to evaluate these factor is not correct. It should be noted that under this component Azeriqaz JSC used the more accurate instrumentation and metering, and better meter testing equipment. Since the credit ranting period (1997) till nowadays the following actions was realized by Azeriqaz JSC:

At present time it is in use the computerized test table in the Azeriqazsazlama JSC which is subordinate to Azeriqaz JSC; the all metering equipments on that table have passed the State test and the State Agency on Standardization, Metrology and Patent of Azerbaijani Republic was participated in these works. As a result (this is the main objective of work) the all measurement instrumentations which are currently being use at consumers and calculate the physical gas flow are under full control and they passes the State test on timely basis.

c) It is clear that under this component it was not implemented only 1 item and based on that the physical achievement of this objective should be rated as substantial at least and even though as High rather than as satisfactory. Simple calculation shows that if to take as 100 % performance of all works that for outstanding 1 item this percent can make 10 % and consequently 90 % of the implemented level is too high than the “satisfactory” rate.

d) Notwithstanding that the basic factors for the general evaluation of this item are really exist completely or in general they were belonged to Azeriqaz JSC. The evaluation based on this is not correct. With respect to the commercialization of

Azerigas JSC the sufficient decrees were issued by President and Government and they already implemented:

1. By the corresponding decrees of the President of Azerbaijan Republic some enterprises and organizations entering into Azeriqaz JSC structure and not engaged in receiving, transmitting, storage and distribution of natural gas were opened for privatization. 4 organizations were already privatized according to the data on January 1, 2006.
2. With the changing of status of Azeriqaz in 1992 the subsidizing of any activities from the government has been stopped and at present time this organization works on self-supporting and self-financing basis.
3. By anew regulation of the gas selling prices during 2004-2005 period, with increasing of the prices and creation the opportunity to cost recovery (bringing to the adequate level) and to make the profit – all of these has created the financial and economic basis of commercialization of Azerigas and consequently it has been received the profit in 2005. So the achievements as shown in item b were reached at the rate of 70% and hence the evaluation of the achievements should be considered as satisfactory.

2.16. The mentioned above consider that the rate of the overall efficacy of the project should be as substantial rather than as modest and the significant achievements were reached in both efficient and economic utilization of natural gas (increasing of tariff, cessation of subsidizing, profit earning and so on).

**Efficiency:**

2.17 It is not clear on what basis and areas the SAR estimated an average economic rate of return of 47 percent. Because rate of return should be determined on each area separately and it's so high rate is not correct and this approach is not accepted too. These arguments are based on to the following:

1. The highest economic rate of return may be only on 15-20% because the purchasing and selling of natural gas is belonged to the utility where the rate of return is very low.
2. The earning profit is very high progress in 2005 given that gas sector always was under the Government subsidizing (i.e. during Soviet period) and there never was realized a profit.

2.18. The high rate of losses given in that clause and meaning as the focal objectives of the project is a result of low efficiency of use, and high cost of maintaining the operating integrity of the network All issues with regard to this are already implemented:

1. The rate of losses was reduced and in comparison with the project start date the losses decreased substantially (see relative clause).

2. The high cost of maintaining the operating integrity of the network is not confirmed and this is not compare with some standard costs. At the same time since 2004-2005 the Tariff Council approved the standard costs level for the maintaining of network and currently all activities of Azeriqaz JSC are based in the framework of these standards.

In addition some objectives (improving of the financial position of Azeriqaz JSC, activities regarding cost-recovery and so on) listed in this clause were implemented also. The high accounts receivable were frozen by the corresponding decrees and the resolution of this issue doesn't concern to the Azeriqaz JSC's authority. At the same time in this clause was emphasizing that "all critical elements in introducing a market-based sector organization and attracting private sector participation, were implicit in the objectives of the project".

It should be noted that the draft version of the project was developed in 1995-1996 when Azerbaijan Republic made the first steps with respect to the market-based economy. And therefore at that time it was not real to define the objectives exactly, comprehensively and clearly.

2.19. The project objectives were reached whenever possible:

1. The cost-recovery was reached in 2004 only, i.e. before the early 2005. So by results of 2004 were received total selling gas of about 4060,0 MCM amounted to 378872,2 mln. AZM, i.e. as and the payment for gas was 279106,1 mln. AZM, i.e. almost 73,7%.
2. The frozen debts, i.e. the debts were put a veto on them collection by the President's and government's decrees also is considered in it (see clause 2.18). So the accounts receivable is collecting and the main factor for the evaluation of this objective is avoiding of accumulation the accounts receivable rather than the collecting them. By results of 2004 the accounts receivable was amounted total 99766.1 mln. AZm, i.e. as the percent of the accounts receivable has made 26.3%.
3. In item d) is given the comprehensively information about the changing activities of Azeriqaz after the establishment as a JSC. And this objective is reached.

By rated the overall relevance of the project objectives, the achievement of its main objective, and the efficiency of the project as high, the rates the overall outcome of the project should be evaluated as satisfactory and the grounds for such assumption is given in the current comment.

### **Institutional Development Impact.**

2.20 According to this component after each audit the comprehensively action and proposal plan were submitted to the Bank by Azeriqaz JSC.

## **Sustainability**

2.22 After the increasing of price in 2005 the collection will reach the 80-90 percent level only in 2006-2007 and Azeriqaz already considered it on the estimate for 2006.

2.23 The project's components made the effective and sufficient contribution. Therefore, based on that the project's sustainability should be rated as substantially.

## **Borrower Performance**

### 2.27. Preparation

Azeriqaz JSC submitted to the Tariff Council the corresponding proposals for the increasing of the tariff during requested time and the improving of the collection rate to the level which agreed in the project and the first rise was only on November, 2004 and the second was on March, 2005. Given that the implementation of these issues really depend from the price rising and consider that the collection from budget organizations and residents which really impact to the collection rate is outside of the control of Azeriqaz JSC the assessment in this item could be rated as substantially.

### 2.29 Implementation and Compliance.

The delay noted in this item happened due to the objective reasons which didn't depend from the implementing agency (i.e. the activities of other organizations) and arose during implementation. Therefore the implementing agency is not partly responsible for it. The installation of the meters (industrial and residential) is fully completed. Based on this the performance of the implementing agency during implementation should be rated as satisfactory.

2.30 For the achievement of the objectives mentioned in this clause the government provided the necessary support and made all efforts and its explanation is given at the items above. Based on this the government's performance in support of project implementation should be rated as satisfactory

2.31. Given the importance of the policy in relation to the efficient utilization of gas in the country and the elimination lacks of performance on reduction of debts, its efficiency, the rate of collection debts for gas supplied in comparison with the project start, the positive results of the tariff-price policy, the account level of the physical gas (see the explanation of items above) the overall performance of the borrower should be rated as substantially.

## **Lessons Learned.**

3.1 The results from the evaluations are as follows:

- The requirements specified in this item could not be considered for 10 years

(1996-2006) forward from the moment of credit receiving and consequently these terms was to be accepted as conditional. Moreover it is very important to consider that 1996 was the transition year for the market-based economy and such conditions are already available in 2006. I.e. to carry out analysis of the objectives and their qualitative and quantity indicators stipulated for 1996 in 2006 is of a biased character.

- The wholesale and retail prices of gas adopted in 2005 meet all of these requirements and they were determined according to the strategic goals and alternative cost principles (cost-recovery+profit).
- At the same time to resolve the procurement issues it is very obligatory to consider the following terms during the evaluation process: time factor, duration of legalization process, development of its legal relevance, removal the different between the country rules and Bank's guidelines and in most cases for removing of these lacks the authority of legislative body must be take into account. In addition it's necessary to pay attention to the following:
  1. With the Bank's approval beginning at the first year of the credit receiving it was carried out the review of Azeriqaz JSC and the audit of the corporate reports. The results of audit for each year were submitted to the management in the letter form by audit firm.
  2. According to the results of the audit Azeriqaz JSC submitted the official letter to the Bank where the reasonableness proposals were given, the unexecuted reasons were defined and were made some comments. However all these proposals and the official letter was not be considered by the Bank and they are not reflected in the present report.
  3. Generally the estimation of any project including the mentioned credit the investment, long-term and sizeable activities have to be implemented in accordance with the following rules:
    - a) If all performance relate to the project and its various components are executed in full and according to the annual results received after the project closeout (except the case when the achievement of objectives will take up some years). If the proposals and comments of Azeriqaz JSC would be taken into consideration the implementation of some activities and components would be in full and the results would be the positive.

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