

**CENTRAL ASIA REGIONAL:
RESULTS REVIEW AND RESOURCE REQUEST (R4)**

**USAID Regional Mission for Central Asia
Almaty, Kazakstan
April 1997**

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I. OVERVIEW AND FACTORS AFFECTING PROGRAM PERFORMANCE

Most of USAID/CAR's strategic objective frameworks have been developed on a bilateral basis, covering only the particular country in which the activity takes place. However, two strategic objectives are best handled on a regional basis for all Central Asian republics. The first relates to energy, the second to the environment, as described in sections II and III of this Regional R4. The primary justification for this decision is that, although USAID/CAR activities in energy and the environment are country-specific, they involve a significant subset of the CAR republics, requiring their close cooperation. For example, electricity activities involve the republics as a group due to the fact that the dam is in one country, the dispatch center in another, the power purchaser in a third, water-using agriculture in a fourth and a fifth, and the river routes thread through almost all five republics. Hence, contracts and agreements relating to power and water-sharing must emphasize the cooperative use of natural resources on a regional basis. In view of this situation, it is more effective to treat regional issues in energy and the environment under regional strategic objectives. In addition, technical assistance advisors for regional strategic objectives can be shared between countries when and where appropriate.

The development context in which USAID/CAR activities in energy and the environment will occur has not changed significantly over the past year, as described in the overviews for the individual R4s for each Central Asian republic. However, it is important to underscore that the relative isolation of Central Asia and its geographic proximity to nation-states such as Afghanistan and Iran pose serious problems regarding the construction of oil and gas pipelines and the secure and timely passage of oil and gas to the West. Nevertheless, a significant step forward for the entire region in this area was achieved with the signing the agreement by eight international oil companies and Russia, Oman, and Kazakstan in early summer last year to construct a pipeline to transport oil from Western Kazakstan to the Russian Black Sea. In particular, Kazakstan is closer to finally realizing the potential of its vast energy reserves. This agreement also is evidence of renewed cooperation and confidence in the region's governments by international investors, an encouraging sign to US businesses interested in Central Asian energy resources.

II. PROGRESS TOWARD ACHIEVING STRATEGIC OBJECTIVES

Per guidance received from Washington, this section provides performance assessments on the Mission's regional strategic objectives in Central Asia. The specific objectives addressed are as follows:

- SO 1.5 More economically sound and environmentally sustainable energy system as the primary engine of growth for Central Asia

- SO 3.3 Reduction in regional economic and political tensions generated by transboundary environmental issues

SO 1.5 A MORE ECONOMICALLY SOUND AND ENVIRONMENTALLY SUSTAINABLE ENERGY SYSTEM AS THE PRIMARY ENGINE OF GROWTH FOR CENTRAL ASIA

A. OVERVIEW AND FACTORS AFFECTING STRATEGIC OBJECTIVE PERFORMANCE

The R4 tree and Performance Data Table for this Regional Energy Strategic Objective was submitted in draft for review by AID/W in May 1996. This was due to uncertainty about funding for the new oil and gas initiative which delayed the obligation of funds required to initiate development of the workplans. Hence, collection of baseline information on the latest developments in the rapidly evolving CAR energy sector was not initiated until February 1997. Nonetheless, the R4 tree and Performance Data Table have already been modified since May 1996 to incorporate AID/W feedback and selected recommendations from AID/W TDYers.

B. PROGRESS TOWARDS OBJECTIVE

1. Performance Analysis

SO 1.5 A more economically sound and environmentally sustainable energy system as the primary engine of growth for Central Asia - As indicated above, the baseline information and data for the last two of the three performance indicators at the SO level are still being collected. These include: increased regional trade in same energy commodities (oil, gas, coal & power) between Central Asian Republics; and increased export of energy commodities outside of Central Asia.

Information is available, however, on the first SO indicator which deals with international energy companies and financial institutions (IFIs). Kazakhstan is used as a regional proxy to measure progress in attracting private investment in the energy sector. In this regard, it should be noted that USAID has been operating in: a) the power and coal subsectors for the past 3 years; and b) the petroleum subsector for only the past 12 months. For power and coal, no international firms or IFIs were involved in the subsector when the USAID program was initiated. For petroleum, only 12 international firms were operating in Kazakhstan in late 1995. The 1996 performance targets were defined as: 17 for oil and gas, two for power, and one for coal. As of late 1996, the number of international energy firms operating in Kazakhstan increased to: 29 in petroleum, eight in power, and four in coal.

Progress rating: Better than expected at this preliminary stage.

Four intermediate results (IRs) are considered to be of most significance in accomplishing this Regional Energy Strategic Objective. Per the R4 tree the major IRs include: 1.5.1.1 (legal and regulatory environment conducive to private investment in the energy sector), 1.5.2.1 (Central Asian energy sectors restructured), 1.5.3.1 (economically and financially sound energy pricing),

and 1.5.4.1 (regional cooperation in energy trade and investment planning). The performance in each area is described below.

IR 1.5.1.1 Legal and Regulatory Environment Conducive to Private Investment in the Energy Sector - The performance indicator is the establishment of laws, decrees, and implementing rules and regulations (IRRs) that provide transparency, allow entry and exit of investment, and define environmental liability and standards. The unit of measure of the number of decrees, laws, IRRs drafted. The regional target for 1996 was one law, decree, or IRR for the subsectors of oil and gas, coal, and electricity.

By the end of 1996, the President of Kazakstan issued edicts (decrees) for petroleum and electricity. Both decrees support privatization of, and foreign investment in, the oil and gas and power subsectors. The latter decree also provided for the establishment of an independent regulatory entity (IRE). In addition, USAID experts were used to draft a coal law which is now being considered by the Government of Kazakstan.

USAID played a key role in the Government of Kyrgyzstan's drafting and issuance of a presidential decree creating a similar IRE. Parliament subsequently enacted two draft laws prepared by USAID experts. These laws: a) removed monopoly control of the energy sector by a parastatal; and b) provides for the breakup and privatization of the same parastatal. In addition, initial drafts of IRRs have been prepared to implement the above-mentioned laws in Kyrgyzstan.

The major factors contributing towards the success in Kyrgyzstan include: a) USAID's ability to leverage policy reforms through a major World Bank energy loan; and b) a focused advocacy effort by USAID consultants to obtain the support of Kyrgyz Parliamentarians, the Cabinet of Ministers, and the President. In Kazakstan the major factors for Mission success include: a) local authorities who were receptive to USAID recommendations; and b) the ability to muster the support of foreign petroleum firms operating in Kazakstan and the concerned Ambassadors.

Progress rating: The overall progress under this SO indicator has exceeded expectations and is accorded an excellent rating.

1.5.2.1 Central Asian energy sectors restructured - The performance indicator for this IR is the privatization of major energy sector assets. The unit of measure is the number of state owned assets restructured and privatized. The target for 1996 was one each for the sectors of oil and gas, power, and coal.

By the end of 1996, and under the umbrella of the laws and decrees mentioned in 1.5.1.1, the Government of Kazakstan successfully privatized major components of the petroleum and power subsectors. Approximately one third of all oil pumped in Kazakstan comes from joint venture operations, with another third to be privatized over the next year. Regarding the power subsector, 11 major power plants (equivalent to two-thirds of the national generating capacity) , and four major coal mines have been privatized over this past year along. The Government of

Kazakstan has furthermore privatized several oblast level electricity distribution systems. The estimated value of these assets can be measured in no less than tens of billions of dollars.

Kazakstan's power sector assets had rapidly deteriorated after the fall of the former Soviet Union due to a lack of maintenance expenditures. Since early 1996, the entire system was in danger of complete collapse. This, and the recognition of the immense outlays required to rehabilitate and maintain the system which was documented by earlier USAID analyses, convinced the government of the urgent need to privatize to mobilize the needed investment capital from the international market.

Progress rating: The overall progress for this indicator has far exceeded expectations and is accorded an excellent rating.

1.5.3.1 Economically and Financially Sound Energy Pricing - The performance indicator for this IR is the establishment of energy tariffs and prices that provide for cost recovery and a fair return on investment. The unit of measure is the number of cost and market-based tariffs and prices in place. No 1996 targets are established for this particular IR.

Mission has reservations whether the 1997 target will be realized. This includes at least one cost-based or market-determined tariffs or prices being established for oil, gas, coal and electricity. Based on recent developments and new information, this target may have to be modified in the future. One reason for this is the uncertainty created by the scale and rapidity of privatization of Kazakstan's and Kyrgyzstan's energy sectors which resulted in the unbundling of state energy concerns into smaller and more economically sustainable units. Unfortunately, these new units did not inherit separate and complete balance sheets.

Despite the apparent chaos, this process is expected to speed up the adoption of western accounting practices which is a necessary condition for attaining this IR. USAID has already launched tariff studies in both countries and has supported the successful passage of new laws mandating the use of western accounting standards. At this juncture, the full impact of these massive legal and regulatory reforms is working its way thorough the energy sector.

Progress rating: The overall progress to date for this indicator is guardedly considered to be on track.

1.5.4.1 Regional Cooperation in Energy Trade and Investment Planning - The performance indicator for this IR is the establishment of regional energy trade agreements or infrastructure agreements. The unit of measure is defined as the number of agreements in place. The 1996 targets are five, seven, and three agreements respectively for the energy subsectors of petroleum, power, and coal.

The breakdown of regional energy trade and infrastructure agreements actually signed during 1996 is as follows: petroleum - four; power - six; and coal - two. This minor shortfall is a result of Mission underestimating the difficulties in getting the five Central Asian Republics to

overcome old rivalries and to reach consensus on key energy issues which are of mutual benefit.

The above difficulties are expected to be overcome during the coming year. However, recent developments and new information indicate that the targets for this intermediate result may have to be lowered somewhat in the near future. Nonetheless, the desired result of fostering increased regional cooperation in energy trade and infrastructure planning is still valid and attainable.

Progress rating: The progress to date for this indicator is less than expected.

The IRs above are supported by ongoing and future PPF activities. Specifically, in early 1994 USAID and a U.S.-based NGO called the U.S. Energy Association (USEA) jointly developed the Central Asia Component of the Energy Industry Partnership Program (EIPP) with the ultimate goal of establishing long cooperative relationships between selected U.S. and Central Asian power (electricity) enterprises. These ongoing partnerships, which are described in the next two paragraphs, are scheduled to come to an end in the latter half of CY1997.

With USEA support, Washington Water & Power (WWP) and the Kyrgyz National Energy Holding Company (KNEHC) established a utility partnership in February 1995. Since then, a series of executive exchanges, conferences, and seminars have been held on electricity tariffs and collection, customer relations and metering, and investment project planning. These activities have directly supported the process of privatizing the Kyrgyzstan power sector.

USAID-sponsored energy partnerships are supporting Kazakhstan's transition to a market economy as well. The first partnership was between Cincinnati Gas & Electric (CGE) and Alaugaz Joint-Stock Company. The second is between the New York State Electric & Gas Corporation with the same counterpart. The third was between CGE and Kazakstanenergo; the latter being recently unbundled and privatized. Through fora similar to that used in Kyrgyzstan, information and experience on utility management on a for-profit basis has been transferred from U.S. firms to Kazak counterparts on: natural gas tariffs, power sales, and energy savings.

A major PPF initiative is proposed for the future. The goal would be to establish a support system for existing and emerging energy regulatory and negotiating bodies and personnel in Central Asia which could ultimately become self-sustainable. Towards this end, USAID would finance partnerships and linkages to US NGOs such as: a) the Interstate Oil and Gas Compact Commission; b) the Association of International Petroleum Negotiators; c) the National Association of Utility Regulatory Commissioners; as well as d) the U.S. Energy Association.

2. Expected Progress through FY 99 and Management Actions

The overall assessment is that the intermediate results which are a necessary and sufficient condition for USAID's Strategic Objective in Energy will indeed be realized in Central Asia. Major progress has already been realized. However, given the enormity of the task and the uncertainty of many exogenous factors, it can be expected that specific targets may not be met on

schedule or may become irrelevant. In such situations, consideration will be given to modifying, eliminating or replacing specific targets.

One very serious concern exists over the financing of the power (electricity) component of the regional energy portfolio. Mission requests to USAID/W for additional funds have been successful. As a consequence, the Mission has taken \$1.7 million (\$0.7 million plus \$1.0 million respectively of FY97 and FY98 funds) from its other portfolios and reallocated it to the regional electricity initiative. However, this is approximately \$2.3 million less than what is needed to complete the energy sector privatization and competitive power pool efforts in Kazakhstan and Kyrgyzstan in FY98 and to maintain the regional electricity trade activity into early FY99. Unless other sources of funding are quickly made available, the Mission has no alternative but to deobligate part of the \$5.0 million for the ongoing petroleum sector activity and reobligate to electricity. Otherwise, USAID's regional legal and regulatory reform activities in electricity will come to a premature end in the last quarter of CY98. The increase in the mortgage for the petroleum component of the energy portfolio will hopefully be temporary and can be eliminated between now and early FY99.

3. Performance Data Tables

<p>OBJECTIVE: A more economically sound and environmentally sustainable energy system as the primary engine of economic growth for Central Asia APPROVED: 5/96 COUNTRY/ORGANIZATION: USAID/CAR</p>				
<p>RESULT NAME: Strategic Objective 1.5</p>				
<p>INDICATOR: a) Increased IFI and private investment in oil, gas, coal, and power.</p>				
<p>UNIT OF MEASURE: Number of private companies or International Financial Institutions (IFIs) with investments in the energy sector.</p> <hr/> <p>SOURCE: Kazakstan Petroleum Association (private sector trade association) and the Ministries of Oil and Gas, Energy and Coal in the Government of Kazakstan (GOK).</p> <hr/> <p>INDICATOR DESCRIPTION: International energy companies and IFIs investing in oil, gas, coal, and power sectors.</p> <hr/> <p>COMMENTS: Kazakstan serves as a regional proxy to measure progress in attracting private sector investment in the energy sector. In this regard, USAID has been operating in: a) the power and coal sectors subsectors for the past three years; and b) the petroleum subsector in Kazakstan for the 14 months. It is expected that this measure will be expanded in the near future to capture the impact of Mission work in the other CAR republics.</p>	<p>YEAR</p>	<p>PLANNED</p>	<p>ACTUAL</p>	
	<p>1995 (B) oil/gas power coal</p>			<p>12-firms 0 0</p>
	<p>1996 oil/gas power coal</p>	<p>17 2 1</p>		<p>29 8 4</p>
	<p>1997 oil/gas power coal</p>	<p>34 9 5</p>		
	<p>1998 oil/gas power coal</p>	<p>39 11 6</p>		
	<p>1999 oil/gas power coal</p>	<p>44 13 7</p>		
	<p>2000 oil/gas power coal</p>	<p>49 15 8</p>		
	<p>2001 oil/gas power coal</p>	<p>54 17 9</p>		
	<p>2002 oil/gas power coal</p>	<p>59 19 10</p>		

OBJECTIVE: A more economically sound and environmentally sustainable energy system as the primary engine of economic growth for Central Asia

APPROVED: 5/96 **COUNTRY/ORGANIZATION:** USAID/CAR

RESULT NAME: Strategic Objective 1.5

INDICATOR: b) Increased regional energy trade between CAR countries

UNIT OF MEASURE: Energy trade is estimated millions of dollars.

SOURCE: The Executive Council for the Interstate Council for Kazakstan, Kyrgyzstan, Uzbekistan; and the Ministries of Oil/Gas, Energy/Coal, and Foreign Affairs.

INDICATOR DESCRIPTION: Expanded trade in oil, gas, coal, and/or electricity.

COMMENTS: The levels and patterns of energy trade among the five republics and with Russia is critical to measuring progress. However, dollar information is difficult to obtain and generally not reliable. Only volume statistics can be considered reliable as much of the trade will be concluded under barter arrangements. For purposes of monitoring, the recorded volumes of trade in terms of oil, gas, coal and electricity will be multiplied by the international price for the same commodities and adjusted for annual inflation.

YEAR	PLANNED	ACTUAL
1995 (B) oil/gas power coal	TBD TBD TBD	TBD TBD TBD
1996 oil/gas power coal	TBD TBD TBD	TBD TBD TBD
1997 oil/gas power coal	TBD TBD TBD	
1998 oil/gas power coal	TBD TBD TBD	
1999 oil/gas power coal	TBD TBD TBD	
2000 oil/gas power coal	TBD TBD TBD	
2001 oil/gas power coal	TBD TBD TBD	
2002 oil/gas power coal	TBD TBD TBD	

OBJECTIVE: A more economically sound and environmentally sustainable energy system as the primary engine of economic growth for Central Asia

APPROVED: 5/96 **COUNTRY/ORGANIZATION:** USAID/CAR

RESULT NAME: Strategic Objective 1.5

INDICATOR: c) Increased export of energy commodities outside the Central Asia Region.

UNIT OF MEASURE: Exports of barrels of oil, cubic meters of gas, and megawatts of electricity.

SOURCE: The Executive Council for the Interstate Council for Kazakhstan, Kyrgyzstan, Uzbekistan; the Ministries of Oil/Gas, Energy/Coal, and Foreign Affairs; and U.S. Embassies.

INDICATOR DESCRIPTION: Expanded export of oil, gas, coal, and/or electricity outside of the CAR.

COMMENTS: This is an additional indicator which was not captured in the earlier R4 exercise approved in 96 State cable 5697. Dollar information is difficult to obtain and generally not reliable. For purposes of monitoring, the more reliable volume information on oil, gas, and electricity exports will be used. Baseline and performance information for this indicator is currently being collected/copied.

YEAR	PLANNED	ACTUAL
1995 (B) oil/gas power coal	TBD TBD TBD	TBD TBD TBD
1996 oil/gas power coal	TBD TBD TBD	TBD TBD TBD
1997 oil/gas power coal	TBD TBD TBD	
1998 oil/gas power coal	TBD TBD TBD	
1999 oil/gas power coal	TBD TBD TBD	
2000 oil/gas power coal	TBD TBD TBD	
2001 oil/gas power coal	TBD TBD TBD	
2002 oil/gas power coal	TBD TBD TBD	

OBJECTIVE: A more economically sound and environmentally sustainable energy system as the primary engine of economic growth for Central Asia

APPROVED: 5/96 **COUNTRY/ORGANIZATION:** USAID/CAR

RESULT NAME: IR 1.5.1.1 -- Legal and Regulatory environment conducive to private investment in the energy sector.

INDICATOR: Laws and implementing rules and regulations that provide transparency, allow entry and exit of investment, and define environmental liability and standards.

UNIT OF MEASURE: Number of decrees, laws and implementing rules and regulations (IRRs) drafted.

SOURCE: Cabinet of Ministers, Ministries of Oil/Gas and Energy/Coal, Kazakstan Petroleum Association, and U.S. Embassies.

INDICATOR DESCRIPTION: Regulatory and legal regime reform thru introduction of appropriate laws, decrees, and IRRs for oil/gas, coal and electricity.

COMMENTS: Kazakstan and Kyrgyzstan serve as temporary proxies for Central Asia.

YEAR	PLANNED	ACTUAL
1995 (B) oil/gas power coal	0.00	0.00
1996 oil/gas power coal	1 1 1	7 6 1
1997 oil/gas power coal	8 7 2	
1998 oil/gas power coal	9 8 3	
1999 oil/gas power coal	10 9 4	
2000 oil/gas power coal	11 10 5	
2001 oil/gas power coal	12 11 6	
2002 oil/gas power coal	13 12 7	

OBJECTIVE: A more economically sound and environmentally sustainable energy system as the primary engine of economic growth for Central Asia

APPROVED: 5/96 **COUNTRY/ORGANIZATION:** USAID/CAR

RESULT NAME: IR 1.5.2.1 -- Central Asian energy sectors restructured.

INDICATOR: Major energy sector assets privatized.

UNIT OF MEASURE: Number of state owned energy assets privatized.

SOURCE: Cabinet of Ministers, Ministries of Oil/Gas and Energy/Coal, State Privatization & Property Committees, and U.S. Embassies.

INDICATOR DESCRIPTION: Privatization of power system; coal mines; and oil/gas fields, pipelines, and refineries.

COMMENTS: Kazakstan and Kyrgyzstan serve as temporary proxies for Central Asia.

YEAR	PLANNED	ACTUAL
1995 (B) oil/gas power coal	0.00	0.00
1996 oil/gas power coal	1- unit 1 1	0 11 4
1997 oil/gas power coal	2 12 5	
1998 oil/gas power coal	3 13 6	
1999 oil/gas power coal	4 14 7	
2000 oil/gas power coal	6 16 8	
2001 oil/gas power coal	8 16 9	
2002 oil/gas power coal	10 17 10	

OBJECTIVE: A more economically sound and environmentally sustainable energy system as the primary engine of economic growth for Central Asia

APPROVED: 5/96 **COUNTRY/ORGANIZATION:** USAID/CAR

RESULT NAME: IR 1.5.3.1 -- Economically and financially sound energy pricing.

INDICATOR: Energy tariffs and prices provide cost recovery and fair return on investment.

UNIT OF MEASURE: Number of cost and market based tariffs and prices in place.

SOURCE: Cabinet of Ministers, Ministries of Oil/Gas and Energy/Coal; Kazakstan Petroleum Association and other private sector sources; public record (publications, announcements, etc); and U.S. Embassies.

INDICATOR DESCRIPTION: Energy tariffs and prices determined on a cost of service and/or market basis.

COMMENTS: Kazakstan and Kyrgyzstan serve as temporary proxies for Central Asia.

YEAR	PLANNED	ACTUAL
1995 (B) oil/gas power coal	0.00	0.00
1996 oil/gas power coal	0.00	0.00
1997 oil/gas power coal	1 1 1	
1998 oil/gas power coal	2 2 2	
1999 oil/gas power coal	3 3 3	
2000 oil/gas power coal	4 4 4	
2001 oil/gas power coal	5 5 5	
2002 oil/gas power coal	6 6 6	

OBJECTIVE: A more economically sound and environmentally sustainable energy system as the primary engine of economic growth for Central Asia

APPROVED: 5/96 **COUNTRY/ORGANIZATION:** USAID/CAR

RESULT NAME: IR 1.5.4.1 -- Regional cooperation in energy trade and investment planning.

INDICATOR: Regional energy trade or infrastructure agreements.

UNIT OF MEASURE: Number of agreements.

SOURCE: The Executive Sub-Committee for the Interstate Committee of Kazakstan, Kyrgyzstan, and Uzbekistan; and the Interstate Council for the Aral Sea.

INDICATOR DESCRIPTION: Bilateral, trilateral, or region wide agreements for regional energy trade and infrastructure development.

COMMENTS: None.

YEAR	PLANNED	ACTUAL
1995 (B) oil/gas power coal		4 - agreements 3 2
1996 oil/gas power coal	5 7 3	4 6 2
1997 oil/gas power coal	6 8 4	
1998 oil/gas power coal	7 9 5	
1999 oil/gas power coal	8 10 6	
2000 oil/gas power coal	8 10 6	
2001 oil/gas power coal	8 10 6	
2002 oil/gas power coal	8 10 6	

SO 3.3 REDUCTION IN REGIONAL ECONOMIC AND POLITICAL TENSIONS GENERATED BY TRANSBOUNDARY ENVIRONMENTAL ISSUES

A. OVERVIEW AND FACTORS AFFECTING STRATEGIC OBJECTIVE PERFORMANCE

The primary focus of USAID/CAR's environment program is the Aral Sea Initiative which has two components. The first is to improve the reliability, quality, and quantity of potable water available to populations hardest hit by the Aral Sea disaster. The majority of this work has been successfully completed and is now drawing to a close. As a result, USAID is widely recognized as the first of the donors to provide visible, on-the-ground assistance to communities in the area.

The second component of the program is the regional cooperation component which brings policymakers from all five republics together to discuss common concerns of managing water in the Aral Sea Basin. Despite significant progress to date, substantial work remains in the regional cooperation component in order to ensure a solid, working foundation for policies that will both support sustainable water management in the Aral Sea Basin and promote regional political stability and economic growth. Besides the Aral Sea program, USAID is financing limited legal and regulatory activities in urban and industrial pollution abatement.

The R4 Tree and Performance Data Table for the Mission's Environment Objective were submitted to USAID/W for review in May 1996. After the review, the Mission received numerous recommendations for improving the documents. In August, further inputs were received during the TDY Almaty of a ENI/EEUD staff member. The R4 Tree and Performance Data Table contained in this document have been: a) modified to incorporate USAID/W recommendations; and b) further streamlined and simplified to facilitate monitoring and reporting.

B. PROGRESS TOWARDS OBJECTIVE

1. Performance Analysis

SO 3.3 Reduction in regional economic and political tensions generated by transboundary environmental issues-The ENI Bureau strategic objective is to reduced environmental risks in public health. Due to the unique circumstances of Central Asia and given the overarching geopolitical concerns being addressed by the Office of the Vice President's Aral Sea Initiative, the Mission strategic objective (MO) is as stated above.

Water management in the Aral Sea Basin is identified as the greatest environmental issue with transboundary impact in Central Asia. Increased regional cooperation in water management and related industrial and urban pollution abatement is the performance indicator. To reduce tensions in this area, short and long-term regional agreements on water management and related pollution abatement are critical and have been identified as proxy variables for measuring progress.

In this regard, six short-term agreements on water sharing and use were signed in 1995 and seven in 1996. The actual number exceeded the target in both years. All agreements were annual or seasonal in nature and represented the first such agreements signed by the Central Asian Republics since the fall of the former Soviet Union. No long-term agreements were expected in 1995 or 1996. It is hoped that at least one long-term agreement will be place by 1998 for management of all, or a major part, of at least one of the two major rivers in the Aral Sea Basin. The list follows below.

Dates, Titles, and Places of Signing Short-term Water Use Agreements

C	June 95:	Toctogul Cascade Water Sharing between Kazakstan, Kyrgyzstan and Uzbekistan (Bishkek).
C	Feb. 95:	Protocol of the Interstate Coordination Water Management Commission of Kazakstan, Kyrgyzstan, Uzbekistan and Tajikistan for the Syr Darya and Amu Darya Rivers (Shymkent).
C	April 95:	Water and Energy Sharing Protocol between Kazakstan and Uzbekistan (Tashkent).
C	June 95:	Protocol of the Interstate Water Managment Commission of Kazakstan, Kyrgyzstan, Uzbekistan, Tajikistan and Turkmenistan (Buhara) covering the Syr Darya and Amu Darya rivers.
C	July 95:	Protocol of Negotiations between Government Delegations of Kazakstan and Uzbekistan on Water and Energy Sharing (Tashkent).
C	Dec. 95:	Toctogul Cascade Water Sharing between Kazakstan, Kyrgyzstan and Uzbekistan (Bishkek);
C	Jan. 96:	Protocol of the Interstate Coordination Water Management Commission of the Central Asian Republics on Water Sharing (Chardjev, Turkmenistan).
C	April 96:	Water & Energy Protocol of the Council of Prime Ministers of Kazakstan, Kyrgyzstan and Uzbekistan (Tashkent).
C	April 96:	Agreement on Water and Energy Sharing, and Construction and Operation of Gas Pipelines in Central Asia between Kazakstan, Uzbekistan and Kyrgyzstan (Tashkent).
C	May 96:	Statement of Water and Energy Use by Heads of Government for Kazakstan, Uzbekistan and Kyrgyzstan (Bishkek).
C	May 96:	Protocol of the Meeting of the Govts. of Kazakstan and Kyrgyzstan on Water Sharing during Vegetation Period of 1996 (Bishkek).
C	Aug. 96:	Protocol of the Working Conference of the Reps. of the Water and Energy Sectors of the Republics of Kazakstan, Kyrgyzstan, Tajikistan, and Uzbekistan (Bishkek).
C	Aug. 96:	Protocol of the Interstate Coordination Water Management Commission of the Central Asian Republics (Bishkek).

Progress rating: Satisfactory at this stage.

Two sets of intermediate results (IRs) are of primary significance in accomplishing this strategic objective. Per the R4 tree these include: 3.3.1 and 3.3.2 (mitigation of negative environmental

impacts of the Aral Sea disaster on local populations) and 3.3.3 and 3.3.4 (development of a legal and regulatory framework conducive to reducing environmental risks to public health).

IRs 3.3.1 & 3.3.2 Mitigation of negative environmental impacts of the Aral Sea disaster on local populations - These focus mainly on the potable water and public health and sanitation components of the USG's Aral Sea Program being implemented in Uzbekistan, Kazakstan, and Turkmenistan. In Uzbekistan, USAID provided and installed chlorination and laboratory equipment, and conducted training and management improvements to two main water treatment plants, both located at the Tuyumayun reservoir on opposite sides of the Amu Darya river, servicing Karakalpakstan and Khorezm Oblast. At least 200,000 people should benefit from potable water improvements and another 100,000 through the public health program.

In Kazakstan, USAID improved wells and pipelines, provided lab equipment, and conducted public health and sanitation seminars in the Kyzyl-Orda Oblast. Wellfield rehabilitation and chlorination equipment installation began in June of 1995 and, except for a few minor activities, have been completed. A total of 7 pump stations, 32 water wells, and 5 laboratories have been improved along the 200-kilometer Aralsk- Sorbulack Federal pipeline system resulting in a doubling of capacity and a 60% reduction in energy consumption. At least 200,000 people now benefit from improvements in potable water and an equal number from public health activities.

In Turkmenistan, USAID activities were located in the Turkmenbashi Etrap, close to the Aral Sea and near the Uzbek frontier. Activities include providing a reverse osmosis water treatment plant and water quality monitoring equipment as well as a public health and sanitation program. At least 100,000 people benefit from improvements in potable water and 200,000 should benefit as a result of the public health program. The reverse osmosis unit is installed and operational and the Government of Turkmenistan took over full control in April 1997.

Progress rating: Excellent, despite major logistical difficulties of operating in the remote Aral Sea disaster zone. This has been a successful activity that has achieved its objectives. The majority of the potable water activities will have been completed by September 1997.

IRs 3.3.3 & 3.3.4 Development of a legal and regulatory framework conducive to reducing environmental risks to public health - The USAID Regional Cooperation Program has been active in Central Asia for the last two and a quarter years. The program has been providing technical assistance and training in sustainable water management. The focus for the past year has been on the use of economic tools in water resources management, and more specifically, on water pricing. These two IRs pertain to the preparation of appropriate national laws, decrees, and/or implementing rules and regulations (IRRs) supporting: a) sustainable water management in the Central Asian region; and b) in other topics of environmental concern such as urban and industrial pollution.

The targets and actual results are presented in the Performance Tables and are broken down by country for these two categories. In the case of water management, the actual results exceeded the targeted levels of 1995 and 1996. The only Central Asian Republic which did not initiate legal and regulatory reform in water management during this period was Turkmenistan. In other

environmental areas, efforts to date have been limited to Kazakstan and Uzbekistan and have exceeded the targets. In 1995 and 1996, legislation, decrees, and IRRs were drafted for air pollution, environmental insurance, emissions trading, environmental audits, and water user associations.

Necessary activities for reforming the policy regime for sustainable environmental management are analysis and advocacy. Under this IR, the Mission has used tours, workshops, seminars, and conferences to transfer information on free market approaches to environmental management. Regional conferences on selected policy topics were used to identify progressive decision makers and reform advocacy groups. These were followed by fora to provide more focused information, analysis, and training for selected groups and individuals. As a result, these individuals and groups are becoming more effective in conducting policy analysis and advocacy.

The resolutions generated in these events provided a mandate for attendees to pursue key issues with their respective governments. In water management, the primary focus has been on water pricing, standards, and economic tradeoffs in using water for energy generation instead of irrigation. The success of these activities is key to the successful drafting and passage of new environmental legislation, decrees, and IRRs in the five republics and the concluding of regional agreements for water sharing and energy trade. Some of the more notable resolutions include:

Protocols, Agreements, and Public Announcements

- C Jan. 96: Protocol of the Interstate Coordination Water Mgt. Commission of the Central Asian Republics on Water Sharing (Chardjev, Turkmenistan).
- C April 96: Water & Energy Protocol of the Council of Prime Ministers of Kazakstan, Kyrgyzstan and Uzbekistan (Tashkent).
- C April 96: Agreement on Water and Energy Sharing in Central Asia between Kazakstan, Uzbekistan and Kyrgyzstan (Tashkent).
- C May 96: Statement of Water and Energy Use by Heads of Government for Kazakstan, Uzbekistan and Kyrgyzstan (Bishkek).

One activity of the program is to assist to the CAR governments in reaching a long-term agreement on the Toctogul Reservoir. This agreement is necessary for ensuring adequate supplies of water for agriculture and energy and reducing the potential for conflict. The agreement will also secure future World Bank assistance and attract investment into the region. Significant progress has been made working through the Interstate Council of Kazakstan, Kyrgyzstan and Uzbekistan (ICKKU). In December 1996, for example, members of the group adopted principles for a long-term energy and water user agreement which are currently under review and will be used to draft the agreement in 1997.

In support of regional cooperation in water management in the Aral Sea Basin, the Mission has financed ten applied demonstration projects in sustainable water management. These projects are listed below. The results were presented at a December regional workshop of CAR policy

makers and will contribute to the signing of the regional agreement for management of the Toctagul Reservoir.

Demonstration Projects

- C Short-term Runoff Forecasting of the Amu Darya River;
- C Creating an Optimal Water Quality Observation Network for the Aral Sea;
- C Water Quality Monitoring at the Epicenter of the Aral Sea Ecological Disaster Area;
- C Assessments of the Impacts of Human Activity on the Upstream Syr Darya Basin;
- C Evaluating Impacts of Falling Aral Sea Levels on the Moisture Content of Surrounding Areas;
- C Forecasts of Aral Sea Levels Using Probability Analysis;
- C Scientifically Based Methods of Water Pricing;
- C Water Quality Standards for the Syr Darya River Basin;
- C Pricing Water During the Transition to Paid Water Use in Central Asia Republics; and
- C Economic Damage Evaluation in Water Use.

Besides water management, the Mission program promoted legal and regulatory reform in pollution abatement through the provision of technical assistance for designing and drafting policies, laws, implementing rules and regulations; and economic incentive mechanisms. Accomplishments in Kazakhstan include: GOK approval of municipal legislation for an Almaty pilot emissions trading program, launching a GOK initiative for developing a national environmental action plan with multiple donor funding, and drafting of major segments of a new national environmental law for nature protection. In early FY96, the geographic focus was expanded from Kazakhstan to include Uzbekistan. Regarding the latter, USAID technical assistance was instrumental in the recent passage of a Clean Air Act in Parliament. Working with officials from the Uzbekistan Ministry of Nature Protection, USAID experts helped develop and review the 30 articles which make up the law. The legislation sets a framework for future air pollution laws by setting standards and a means for enforcement. An example is requirements for types of fuels and the naming of agencies responsible for developing regulations and for carrying out the mandates.

Progress rating: Satisfactory, however, a great deal remains to be done if the Mission Objective of reducing regional economic and political tensions generated by transboundary environmental issues in Central Asia is to be realized.

The IRs above are supported by ongoing partnerships activities. USAID activities in regional cooperation in sustainable water management in the Aral Sea Basin have been ongoing for the past 24 months. In this regard, two major US/CAR partnerships have been established. The first is the Regional Water Allocation Models for the Amy Darya River Basin. The University of Texas and counterparts in each of the Central Asian Republics are cooperating in a joint modeling effort that compares various water allocation scenarios in the region, based on different economic and hydrological criteria and the development of various options. The second is the Integrated Data Management for the Syr Darya River Basin. A U.S. research organization, the

Research Triangle Institute, and counterparts in Kazakhstan, Kyrgyzstan and Uzbekistan are cooperating in the development of a water pollution emissions management and decision support system. This effort utilizes much of USAID's previous work on a similar model developed for the Danube River system in Eastern Europe.

For all these activities, donor coordination is essential to achieve maximum impact. In this regard, USAID water supply improvement activities have leveraged significant support from other donors. In Kazakhstan, the World Bank has committed \$7 million to a Pilot Water Project to extend the USAID improvements in Kyzyl-Orda oblast, with \$30 million planned by FY99. In Turkmenistan, 18 trucks have been supplied by the World Bank to deliver water from the USAID-built plant to area communities. Also, a \$30 million Water Supply and Sanitation project is planned for FY97 for improved water supply, public health and water management in Turkmenistan in the same Dashkhovaz region as the USAID project. In a February 1997 meeting of the Interstate Council for Aral Sea, the World Bank announced that the conditionality for releasing loans totaling up to \$380 million was the signing of major long-term regional agreements or treaties for the management of the Toctagul Reservoir. This has been a major objective of the USAID regional cooperation program.

2. Expected Progress Through 1999 and Management Actions

Following is a list of activities planned for the Regional Water Cooperation Component of the Aral Sea Program needed to achieve the goals of the Mission's Strategic Objective for the environment:

- C Develop long term international contract or agreement, working with ICCKU and ICAS, on the Toctagul Reservoir water releases for the Syr Darya.
- C Develop long term international contracts or agreements, working with ICCKU and ICAS, on other multiple-use reservoirs on the Syr Darya and Amu Darya rivers and their tributaries.
- C Provide training to CAR groups on negotiating skills for regional cooperation in water use and related energy issues.
- C Provide assistance on specific water pricing methodologies through workshops dealing with the implementation of water pricing laws.
- C Provide training on economic methods for water resources management.
- C Train local water managers and economists, including members of the Sustainable Development Commission of ICAS, on water allocation models to be used as a basis for future cooperative water sharing agreements on pricing and water quality.
- C Conduct donor coordinators meetings on water management and Aral Sea programs with the goal of turning programs into regional treaties and agreements.
- C Develop Partnerships between regional Central Asian organizations like ICAS and ICKKU with entities such as the International Boundary and Water Commission for the Colorado River Basin and the International Joint Commission for the Columbia River Basin.

Future progress in these areas could be jeopardized by funding constraints. Currently, the USAID environment portfolio has been zeroed out in terms of new FY 96 and 97 funding. In addition to the potable water and public sanitation activities which are in the final phase, the smaller elements of the Mission's environment portfolio such as waste minimization, environmental NGO's, emissions trading and work on clean air legislation will have to come to an end by mid year 1997. The same funding constraints will moreover force the shut down the regional cooperation for sustainable water management component of the USAID Aral Sea Program. It is with respect to this last activity that the Mission is greatly concerned and has requested additional funding from USAID/W. The lack of additional financing may preclude part or all of the expected progress over the next year of the regional water cooperation component. In this regard, it should be noted that the World Bank is expecting USAID technical assistance to facilitate the establishment of a long-term regional agreement for the Toctogul Reservoir which is a conditionality for major loans to address the problems of the Aral Sea.

3. Performance Data Tables

OBJECTIVE: Strategic Objective 3.3-Reduced Environmental Risks in Public Health			
APPROVED: 1/11/93 COUNTRY/ORGANIZATION: USAID/Central Asia			
RESULT NAME: Mission Objective 3.3: Reduction in regional economic and political tensions generated by transboundary environmental issues.			
INDICATOR: Increased regional cooperation in water resources management in the Aral Sea Basin and industrial and urban pollution abatement.			
UNIT OF MEASURE: Number of energy/water agreements <hr/> SOURCE: Tracking by USAID staff <hr/> INDICATOR DESCRIPTION: Short and long term bilateral, trilateral, and regional agreements on transboundary environmental issues. <hr/> COMMENTS: The initial long term agreement is for the Toktogul reservoir for the Naryn-Syr Darya Cascade. This will lead to broader agreements including all of the Syr Darya and the Amu Darya, the 2 major river systems feeding the Aral Sea.	YEAR	PLANNED	ACTUAL
	1995	short term 2 long term 0	6 0
	1996	short term 4 long term 0	7 0
	1997	short term 4 long term 0	
	1998	short term 5 long term 1	
	1999	short term 5 long term 2	
	2000	short term 5 long term 3	

OBJECTIVE: Reduction in regional economic and political tensions generated by transboundary environmental issues.

APPROVED: 5/96 **COUNTRY/ORGANIZATION:** USAID/Central Asia

RESULT NAME: IRs 3.3.1 & 3.3.2 -- Mitigation of negative impacts of the Aral Sea disaster on local populations.

INDICATOR: Improved: a) reliability of potable water; and b) adoption of sound sanitation practices.

UNIT OF MEASURE:

Number of people benefited (cumulative)

SOURCE:

Tracking by USAID staff

INDICATOR DESCRIPTION:

Populations with improved access to a) potable water and b) public health education and information

COMMENTS:

Activities to end no later than September 1997.

YEAR	PLANNED	ACTUAL
1995	Water 0 Health 0	0 0
1996	Water .44M Health .40M	.5M .5M
1997	Water .5 Health .4	

OBJECTIVE: Reduction in regional economic and political tensions generated by transboundary environmental issues.

APPROVED: 5/96 **COUNTRY/ORGANIZATION:** USAID/Central Asia

RESULT NAME: IRs 3.3.3 & 3.3.4 -- Legal and regulatory framework conducive for reducing environmental risks to the public health

INDICATOR: Legal and regulatory regime supports sustainable environmental management.

UNIT OF MEASURE:	YEAR	PLANNED	ACTUAL
<p>Number of decrees, laws and IRRs.</p> <hr/> <p>SOURCE:</p> <p>Contractors and USAID staff</p> <hr/> <p>INDICATOR DESCRIPTION:</p> <p>Laws or decrees which bring about regional water sharing or water pricing.</p> <hr/> <p>COMMENTS: For 1997 the main goal in water is the signing of a long term agreement on the Toctogul Reservoir</p>	1995	<p><u>Water</u> Kazak 1 5 Uzbek 0 0 Kyrg 0 0 Tajik 0 0 Turk 0 0 <u>Other</u> Kazak 1 5 Uzbek 0 0</p>	
	1996	<p><u>Water</u> Kazak 2 2 Uzbek 0 0 Kyrg 1 1 Tajik 1 2 Turk 0 0 <u>Other</u> Kazak 3 4 Uzbek 1 2</p>	
	1997	<p><u>Water</u> Kazak 1 Uzbek 1 Kyrg 1 Tajik 1 Turk 1 <u>Other</u> Kazak 4 Uzbek 2</p>	
	1998	<p><u>Water</u> Kazak 1 Uzbek 1 Kyrg 1 Tajik 1 Turk 1 <u>Other</u> Kazak AC Uzbek AC</p>	

	1999	<u>Water</u> Kazak 1 Uzbek 1 Kyrg 1 Tajik 1 Turk 1 <u>Other</u> Kazak AC Uzbek AC	
	2000	<u>Water</u> Kazak 1 Uzbek 1 Kyrg 1 Tajik 1 Turk 1 <u>Other</u> Kazak AC Uzbek AC	

III. STATUS OF THE MANAGEMENT CONTRACT

The Management Contract agreed to by the Mission and Washington during last spring's R4 reviews has been altered for the regional strategic objectives, as follows:

A. Strategic Objective Changes or Refinements - The Mission has changed the focus of the Regional Energy Strategic Objective 1.5, to more fully reflect the role that energy will play in the economic development of Central Asia, as described in this Regional R4. Concomitant with this change are major alterations in the R4 tree and tables. The Mission has also changed the wording and revised the R4 for the Regional Environmental Strategic Objective 3.3. In contrast to last year, it focuses on transboundary issues rather than just improved air, water, and waste management practices.

B. Partnership For Freedom - As indicated in the discussion of individual strategic objectives, the Mission sponsors active partnerships in the energy sector and in the environment partnerships throughout Central Asia. These partnerships strongly complement our technical assistance efforts and will serve to continue our work even when USAID/CAR is no longer in Central Asia. In the future, we will seek opportunities to use partnerships when and where appropriate as an effective tool to amplify the impact of our ongoing programs in energy and the environment.

C. Phase-Out Dates - USAID/CAR presented its framework for transition in the CAR countries in a cable sent to Washington in September 1996. In this document, the Mission argued that the entire CAR region should continue to be funded under the FSA (or other funds set aside for the former Soviet Union) for as long as possible. The Mission also argued that the end of FSA funding should not herald the end of an official USG technical cooperation presence. In addition, the Mission stated that phase-out should occur on a regional basis so as not to send the wrong political signal to the affected countries. Finally, the Mission noted that the current program in Central Asia fits well in the DA menu of activities and that a shift to DA funding at some later date would not entail any dramatic changes in ongoing activities. These issues will need to be further discussed in Washington during the formal R4 review process.

D. Environmental Compliance-Environmental issues requiring IEEs and EAs rarely emerge in USAID/CAR's program in Central Asia. At this time, we are not aware of the need for any environmental impact assessments for FY98.

IV. RESOURCE REQUIREMENTS

Funding levels for FY 1998 and beyond are provided in the accompanying annexes. The country levels have been decided by Washington, but the Mission has determined how to best share limited resources among competing strategic objectives. In this connection, the tables reveal that the Energy Strategic Objective will continue to be funded at modest levels for the next five years, thus continuing Mission efforts to restructure the industry along competitive lines and create an

attractive investment environment. Environment, also, will receive modest funding for policy-oriented activities.