



KORPORATA ENERGETIKE E KOSOVES (KEK) NETWORK AND SUPPLY PROJECT 2007 TO 2013 FINAL REPORT

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Executive Summary

During the 1998-1999 conflict, Kosovo's already-neglected state-owned power system fell into severe disrepair. In addition, the national electric utility, Korporata Energjetike e Kosovës (Kosovo Energy Corporation or KEK), had been poorly maintained and managed for the decade of the 1990s, and in 1999 its new executives lacked the skills and experience needed to run KEK effectively.

The United States Agency for International Development's (USAID) KEK Network and Supply Project was the sixth effort by the international community to help KEK improve its performance. While management teams and advisers from the UK, France/Germany, Sweden, and Ireland, supported by international donors, had made some strides in turning the utility around between 1999 and 2006, Kosovo's energy supply system remained inadequate, unreliable, unprofitable, and environmentally unsound. At the end of this period, donors saw a way forward: unbundling KEK's generation and distribution functions and privatizing them in order to spur new investment in the sector and build the capacity to reduce the utility's commercial and technical losses.

USAID designed the Network and Supply Project to build KEK's capacity and improve its commercial performance, with the ultimate objective of supporting the company's privatization. The project was implemented by Tetra Tech ES, Inc. between December 2006 and July 2013.¹

In 2007, when project personnel arrived in Kosovo, KEK faced a host of problems. Among them:

- Its generation and distribution infrastructure was old (some of its generation units, for example, had design lives of 30 years, but had been operating for over 40 years) and had not been well maintained, resulting in frequent blackouts, high technical losses, and a dependence on imported power.
- Less than three-quarters of the amount billed to customers was collected and customer debt was €300 million. The utility had been accumulating debt at an average rate of €40 million a year.
- KEK did not have access to minority communities to meter, bill, and collect for consumed electricity.

¹ When the project began, the prime contractor on the KEK Project was PA Government Services, Inc. (PAGS). PAGS was acquired in July 2010 by Tetra Tech, Inc. and renamed Tetra Tech ES, Inc.

- Corruption was high among the utility's 7,300 employees.
- Given that the customer base was only about 400,000, the company was overstaffed.
- There was no internal control function that could mount even elementary resistance to the problem of electricity theft.
- KEK could not accurately account for the energy available for sale owing to a lack of metering.
- The opening of the new Sibovc South West mine, which had been expected to ensure the sector's coal supply for 2009 and beyond, was two years behind schedule.
- Political and vested interests' interference in the sector was severe and hampering KEK's ability to function well.

Over the next 6.5 years, Tetra Tech adopted both top-down and bottom-up approaches to delivering technical assistance to KEK. It embedded resident staff within the utility's headquarters in Prishtinë/Priština as well as each of its seven districts; they served as advisors on day-to-day management issues to the managing and division directors. In addition, its experts focused on daily operations at the utility, particularly finance/accounting, field operations, procurement, IT, human resources, and internal controls/anti-corruption. An organization chart showing the positions of the Tetra Tech expatriate advisory team together with their counterparts at KEK is attached at Appendix F of this report.²

Complementing these efforts, Tetra Tech devised a number of demonstration projects to show employees how they could be effective agents of change, implemented both formal and informal training (over 3,200 people received classroom training – some of whom received training in multiple topics), devised transparent rules and regulations for KEK's staff, and instituted regular and consistent reporting within the utility. The project's main accomplishments in assisting KEK management are described below.

Utility Commercial Viability

KEK was in a very difficult financial position in 2007, so the project undertook a series of activities to address issues on both the customer and utility sides of the meter, with an emphasis on strengthening KEK's overall business processes to enable it to operate using international best practices. Tetra Tech supported KEK in the following areas:

- KEK's Regulatory Department through seven tariff reviews

² The organization chart is representative of the team as of August 2012.

- The purchase and installation of approximately 133,000 meters
- Instituting electricity payments through the banking system as opposed to in cash
- Increasing billings for energy available for sale from 69% in 2006 to 82% in 2012, and increasing collections from 74% to 91% over the same period
- Instituting collections from minority consumers from virtually 0 to over 21,000 paying customers today, and in the process, increasing collections by more than €19 million
- Developing new supply agreements for KEK's largest customers on terms that were more favorable to KEK
- Reaching debt settlement agreements with a commercial customer that owed more than €4 million to KEK
- Enacting substantial improvements in budgeting and cost control.

As a result of these and other activities, KEK's financial performance improved dramatically. Its losses of more than €25 million had been turned into profits of over €15 million in 2011, its liquidity increased 2.5 times, and KEK has been able to finance – from its own budget – large O&M and capital investment programs to improve the efficiency and effectiveness of its operations.

Corporate Governance

KEK's culture at the beginning of the project was one rife with mismanagement and corruption. This required that the project inculcate a culture of accountability and responsibility at KEK through changes in laws and regulations at the national level and the institution of policies and procedures at the utility level. In this direction, Tetra Tech supported KEK in the following tasks:

- Drafted new company by-laws and a code of governance, and provided training to members of the Board of Directors on their roles and responsibilities.
- Developed and oversaw the enforcement of policies and procedures (over 300 executive orders on labor, employee performance in the districts, discipline for infractions, ethics, redundancy, vehicles, and health and safety).
- Took actions to protect the company's assets, including installing turnstiles at the headquarters building to surveillance cameras and checkpoints throughout the utility,.
- Established internal audit and field enforcement functions, which resulted in the conduct of 550 audits of all aspects of KEK's operations, disciplinary measures against nearly 1,000 employees, the cancellation or re-evaluation of 23 tenders, and the detection of 4,127 cases of electricity theft, unauthorized consumption, fraud and embezzlement. In addition, KEK registered as customers more than 15,000 businesses and households that were consuming electricity without authorization, and disconnected more than 12,000 problematic customers. The

term “problematic customer” was used to describe electricity consumers that 1) were typically suspected of electricity theft or simply in arrears on their electricity payments and 2) would not allow KEK employees to inspect their meters and/or disconnect their electricity. More often than not, such customers would resort to violent behavior against KEK employees.

Together, these and other actions resulted in over €30 million of additional revenue and cost savings for KEK, and instilled a sense of ownership, responsibility, transparency, and accountability in KEK’s employees.

Energy Supply Security

A reliable supply of electricity is essential to any utility’s success. No matter how much KEK improved its billing and collection levels, such efforts would ultimately prove futile unless it had a “commodity” to sell – i.e., a reliable electricity supply. Upon deployment in 2007, Tetra Tech advisors immediately highlighted to USAID and other stakeholders the need to improve KEK’s security of electricity supply if it were to become a viable commercial operation and attract a strategic investor for its distribution and supply business.

When the project began, KEK’s customers experienced frequent loss of power due to large-scale load shedding and frequent outages (commercial firms, for example, had an average of 43 scheduled and unscheduled outages a month, while outages were more frequent for residential customers). Based upon data provided by the KEK Capacity Management Department, the percentage of unserved demand (the ratio of unserved energy to supplied energy plus unserved energy) was 14.03% in 2006.

Generation from KEK units increased every year of the project, reaching an all-time high in 2012, about 200,000 MWh more than the previous record, which was set before the conflict. KEK’s generation is supplemented with imported power, and as billing and collection improved, it has been able to fund more imports through collections than government subsidies. As a result, the level of unserved demand (load shedding) has significantly decreased, providing value to Kosovo’s consumers and a steadier, more reliable power supply. By way of comparison, the percentage of unserved demand for 2012 was 2.61% on a calendar year basis.³ For January through May 2013, it was 0.26%. This improvement was achieved through Tetra Tech’s business process management assistance to an extensive capital improvement program focusing on generation, mines, and distribution. Tetra Tech assisted KEK management in:

- Drafting, negotiating, and concluding contracts totaling nearly €300 million for major capital investments in mines and power plants assets, including capital

³ During the course of the project, the figure for unserved demand was also reported on a US fiscal year basis – these figures are presented in Appendix A.

overhauls of several units of the country's two generating plants.

- Upgrading and concessioning of three small hydro plants.
- Managing over €90 million in projects to construct, reconstruct, or upgrade the network, including substations, transformers, metering, and distribution lines.
- Securing lignite supply by opening an interim supply from another mine and then ensuring that the Sibovc South West mine opened with new or rehabilitated equipment. The new mine produced 1.5 million tons of lignite in 2010 and 6.1 million tons in 2012.

At the project's end, KEK was providing its best service since before the conflict. It is now able to serve practically all of its customer load.

Environmental Improvements

KEK's Kosova A plant is considered to be one of the largest sources of air pollution in Europe. In order to comply with the European Union's Large Combustion Plant Directive for dust and particulate emissions, the project helped replace the old electrostatic precipitators (ESPs) with new ESPs at two of the plant's units; a third is planned for late 2013. New air compressors and a hydraulic ash handling system are also being installed at Kosova A and should be completed by late summer 2013. The new ESPs and compressors are being funded exclusively from KEK's own revenue, while the hydraulic ash transfer system is being funded jointly by KEK (€8.6 million) and the World Bank (€750,000). Additionally, continuous emissions monitoring equipment was installed on the Kosova B plant's units in 2012 using KEK's own revenue.

During Tetra Tech's tenure at KEK, other environmental projects were led by a project implementation unit embedded in KEK and funded by the World Bank and Dutch Government. These projects comprise the 1) stabilization of the ash dumps adjacent to the Kosova A power plant and thereafter, recultivating and cleaning the land through planting greenery and 2) the removal of contaminants at the Kosova A plant's redundant gasification site, which includes the treatment of over 18,000 tons of hazardous chemical materials. Both projects were ongoing in July 2013.

Environmental Compliance

Throughout the project, Tetra Tech performed its work in accordance with the project's Initial Environmental Examination (IEE) as required by USAID's environmental compliance regulations outlined in 22 CFR 216. Amendment No. 4 of the IEE listed a number of conditions to reflect the proactive environmental safeguard approach to which the project was committed. In this respect, it is worth noting the positive impact of the environmental mitigation and monitoring plans (EMMP), which led to Tetra Tech conducting training to raise KEK management's awareness of the importance of

environmental management systems and better equip them to prepare applications for environmental permits going forward.

It should be noted that no equipment for any construction effort described in this report was purchased and no construction work was carried out or implemented whatsoever under the auspices of the project.

KEK Today

KEK's asset value more than doubled during the project period and it is now operating as a commercially viable entity. For the first time, the utility has been able to fund its capital and operating expenses using its own revenues. Some of the project's main accomplishments in this regard include:

- KEK's commercial losses decreased from 31% in 2006 to 18% in 2012.
- Its revenue collected increased from €96 million in 2006 to €212 million in 2012, with minimal increases in prices.
- In 2006, KEK recorded a financial loss of more than €25 million, but in 2011 it enjoyed a profit of over €15 million, while its liquidity increased by a factor of 2.5.
- KEK obtained an unqualified financial auditor's opinion for its FY 2011 financial statements for the first time in its history.
- Rather than solely relying on grants from the government and donor community, KEK funded a significant portion of its capital expenditures utilizing loan agreements (€192.6 million) and cash generated from operations, and no longer uses the overdraft facility with Raiffeisen Bank. A breakdown of capital expenditures between KEK-funded expenses and those derived from either grants or loans from the Government of Kosovo is shown in Figure 13 and Table 23.

The capital investments made in Kosovo's mines between 2008 and 2012 stabilized KEK's mining operation and allowed the utility's fuel supply needs to be met by the new Sibovc South West mine. Also, using its own internal resources, KEK has been improving the capacity and reliability of its generating plants and reducing their environmental impacts.

Tetra Tech's direct support for the privatization of KEK's electricity distribution and supply function began in late 2008. Initial assistance consisted of strategy formulation, and then progressed to taking all of the steps necessary to prepare the utility for legal unbundling, and continued through support to KEK's management throughout the tender and unbundling process. This process concluded on 8 May 2013, when KEK's

distribution, network, and supply functions were sold to a private investor, a Turkish consortium.

KEK's and KEDS's Future

KEK's mining and generation plants remain in public ownership and control. Eventually, its generation and mining operations may also be divested, but the timing and outcome of this are uncertain. However, there is a real risk that in the absence of support, KEK could revert to its pre-2007 way of operating and reverse the gains made since that time. To ensure its sustainability, it is recommended that continued training and mentoring be provided to KEK's management for the foreseeable future, that the company be allowed to pay competitive salaries for highly qualified individuals, and that steps be taken to shield all employees from improper external interference. This report presents seven specific potential near- and mid-term strategies to consider for KEK.

In the near term, KEDS (the Kosovo Electricity Distribution and Supply Company, which was spun off from KEK and privatized in May 2013) must focus on accelerating the reduction in commercial losses by building on the reforms initiated during Tetra Tech's tenure at KEK. This objective is critical given the ambitious commercial loss reduction targets prescribed by Kosovo's Energy Regulatory Office (ERO) for the next four years. In this context, the next scheduled tariff review in 2014 is also likely to be challenging – the ERO has already committed that it will make certain corrections to its 2013 tariff decision next year, which would result in a considerable tariff increase. Based on Tetra Tech's experience, it will be extremely difficult to garner the requisite political will to support such a tariff increase, particularly if it coincides with an election year. However, if the KEDS privatization is to be successful and sustainable, tariffs must be cost-reflective.

KEDS will also be keeping a watchful eye on the ongoing EU-facilitated dialogue in Brussels between Kosovo and Serbia insofar as it concerns the electricity situation in northern Kosovo, where the majority of residents are Kosov Serbs. Ultimately, any resolution on this difficult issue should not prejudice KEDS's legal or financial position.

Contents

1.	Introduction.....	1
1.1	Background on Kosovo’s Energy Sector.....	1
1.2	Contract Objectives and Modifications.....	8
1.3	Report Contents.....	9
2.	Project Implementation.....	11
2.1	Governing Principles.....	11
2.2	Implementation Approaches.....	12
2.3	Results against Indicators.....	21
3.	Transforming KEK into a Commercially Viable Utility.....	25
3.1	KEK’s Billing and Collections Performance.....	27
3.2	Payment Enforcement, Consumer Education, and Payment Methods ...	29
3.3	Resolving Other Impediments to Commercialization.....	33
3.4	Tariffs.....	39
3.5	Metering.....	44
3.6	Regularizing Minority Communities.....	47
3.7	Social Subsidy.....	50
3.8	Loans and Credits.....	51
3.9	Budgeting and Cost Control.....	52
4.	Improving Corporate Governance.....	55
4.1	Improving Internal Policies and Procedures.....	57
4.2	Forming the Internal Audit Office and Field Enforcement Department....	59
4.3	Implementation and Control of New Procedures.....	60
4.4	Protecting Utility Assets.....	61
4.5	Helping KEK Gain Management Independence.....	65
5.	Strengthening the Security of Kosovo’s Energy Supply.....	67
5.1	Increasing the Reliability and Availability of Generating Units.....	69
5.2	Upgrading the Network.....	74
5.3	Ensuring Adequate Power through Imports and Trade.....	77
5.4	Reducing Outages.....	77
6.	Implementing Environmental Improvements.....	80

7.	KEK Today	85
7.1	KEK: A Commercial Enterprise	85
7.2	KEK's Distribution and Supply Privatization	94
7.3	Post-privatization Support.....	98
7.4	KEK and KEDS Going Forward	99
7.5	The KRPP Transaction	101
8.	Project Environmental Compliance	103
9.	Project Collaboration	113
9.1	US Government Assistance Programs	113
9.2	Other Donor Programs and Stakeholders.....	116
9.3	Government of Kosovo and Other Entities.....	120
9.4	Outreach: Presentations and Site Visits.....	123
10.	Problems Encountered and Lessons Learned.....	124
10.1	Interference in KEK's Board of Directors	124
10.2	Failure to Regularize Consumers North of the Iber/Ibar River	124
10.3	Lack of Cost-Reflective Tariffs	125
10.4	Persistent Corruption	126
10.5	Lack of a Project Champion.....	127
11.	Recommendations	128
11.1	Actions to Address Systemic Weaknesses in KEK	128
11.2	Near- and Short-Term Options to Ensure the Sustainability of KEK.....	130

Annexes

A	Results against Indicators	136
B	Staffing	150
C	Press Releases/Flyers.....	152
D	Sample Reports from Quarter 1 2013.....	154
E	Project Organization Chart	157
F	Kos-GIRO Poster and Flyer.....	158
G	Project Success Stories.....	159

Tables and Figures

Tables

1	Main assistance to KEK from donors other than USAID, 1999-2006	2
2	Kosovo electricity sector key data as of 31 December 2006	5
3	KEK Project contract modifications	9
4	Long-term personnel roles	13
5	District performance improvements	15
5.1	Pristinë/Priština district performance	15
5.2	Prizren district performance	15
5.3	Pejë/Peć district performance	16
5.4	Ferizaj/Uroševac district performance	16
5.5	Gjilan/Gnjilane district performance	16
5.6	Mitrovicë/Mitrovica district performance	16
5.7	Gjakovë/Đakovica district performance	16
6	Definition of indicators	22
7	Results of the performance-based management system	24
8	Main accomplishments: supported KEK management in commercialization	25
9	Disconnections and collections	30
10	Tools and reports developed for the CCP by KEK IT with Tetra Tech's support	38
11	History of retail tariff increases in Kosovo	40
12	ERO licensee documentation requirements for 2012 tariff application	41
13	Main accomplishments: supported KEK management on corporate governance	55
14	Main accomplishments: policies and procedures	57
15	Main accomplishments: asset protection	62
16	Main accomplishments: supported KEK management to strengthen energy supply	67
17	KEK distribution upgrades	76
18	Average time customers loads were load shed from 2006 to 2012 and in 2013	79
19	Main accomplishments: Assisted KEK on environmental improvements	80
20	Average emissions from the Kosova A and B plants, 2008 (mg/Nm ³)	81
21	Main accomplishments: KEK today	85
22	KEK's billing and collection – 5 months ended May	89
23	Breakdown of funding sources for KEK capex, 2007-2012	93
24	Environmental mitigation and monitoring plan implementation	106
25	Environmental indicator	112

Figures

1	Composition of the available energy in GWh.....	28
2	Composition of the available energy in percentage	29
3	The growth in usage and Euro amount of Kos-GIRO payments: 2008-2013.....	32
4	Source of KEK electricity collections over time (Euros)	32
5	Source of KEK electricity collections over time (percentage)	33
6	Selection of average European electricity tariffs, January – June 2011	40
7	KEK cash collections 2006 to 2012	87
8	Number of customer payments per year, 2006 to 2012.....	88
9	KEK's billing and collection performance, 2006-2012.....	88
10	KEK's billing and collection performance, year-to-date May 2006-2013.....	90
11	Improvements in KEK generation output, 2006-2012	92
12	Reduction in grants to KEK, 2004 to 2012.....	92
13	Breakdown of funding sources for KEK capex, 2007 -2012	93
14	Unbundling of KEK: 2005 - 2013	98
15	Imports and subsidies for Kosovo: 2008 to 2017.....	100

Acronyms

ADF-A	Ash disposal facility at Kosova A
AEAI	Advanced Engineering Associates International
AMR	Automated meter reading
CapEx	Capital expenditures
CAS	Computerized accounting system
CCP	Customer Care Package
CEMS	Continuous emissions monitoring system
CLRP	Clean-up and Land Reclamation Project
CMP	Complimentary Mining Plan
DUOS	Distribution Use of System Tariff
EAR	European Agency for Reconstruction
EDD	Environmental due diligence
EH&S	Environmental health and safety
EMMP	Environmental mitigation and monitoring plan
EPS	Elektroprivreda Srbije - the state-owned electric utility power company in Serbia
ERO	Energy Regulatory Office
ESBI	Electricity Supply Board International (Ireland)
ESP	Electrostatic precipitator
EU	European Union
EULEX	European Union Rule of Law Mission in Kosovo (the international civil and police presence in Kosovo since 2008; it operates under the umbrella of UNMIK)
FY	Fiscal year
IDP	Internally displaced persons
IEE	Initial Environmental Examination
IFC	International Finance Corporation
IMF	International Monetary Fund
KCB	Kosovo Central Budget
KEDP	Kosovo Economic Development Project
KEDS	Kosovo Electricity Distribution and Supply Company
KEK	Korporata Energjetike e Kosovës or Kosovo Energy Corporation
KFOR	NATO peacekeeping force in Kosovo

KfW	Kreditanstalt für Wiederaufbau, the German development agency
KOSTT	Transmission system and market operator
KRPP	Kosova e Re Power Plant (also referred to as Kosova C or New Kosovo Power Plant/NKPP)
KTA	Kosovo Trust Agency
kWh	Kilowatt hour
MCR	Ministry of Communities and Returns
MED	Ministry of Economic Development
MEF	Ministry of Economy and Finance
MEM	Ministry of Energy and Mines
MLSW	Ministry of Labor and Social Welfare
MoU	Memorandum of understanding
MW	Mega Watt
MWh	Mega Watt hour
O&M	Operations and maintenance
OpEx	Operating expenditures
OSCE	Organization for Security and Cooperation in Europe
PISG	Provisional Institutions of Self Government
PIU	Project Implementation Unit
POE	Publicly owned enterprise
RTK	Radio Television Kosovo
SRSG	Special Representative of the UN Secretary General in Kosovo
SSW	Sibovc South West Mine
UNMIK	United Nations Mission in Kosovo (Kosovo's interim administrator from 1999-2008)
USAID	United States Agency for International Development
USEA	US Energy Association
US	United States Kosovo Force
KFOR	
VAT	Value-added tax

1 Introduction

USAID's KEK Network and Supply Project aimed to build the capacity of the national electric utility Korporata Energjetike e Kosovës (Kosovo Energy Corporation or KEK) and improve its commercial performance, with the ultimate objective of supporting the company's privatization. The project ran from 18 December 2006 (project personnel arrived in country in January 2007) through 31 July 2013. Its prime contractor was Tetra Tech ES, Inc.⁴ Subcontractors included:

- Pierce Atwood LLP (legal and regulatory)
- Financial Stimulus, Ltd. (billing and collections, customer service)
- Hunton and Williams (legal and regulatory)
- PA Consulting Group (back office management support)
- Energy Management Consulting Services (regulatory)
- H&M Engineering (hydropower)
- LawCraft LLC (legal and regulatory).

This introduction provides a brief background on the state of Kosovo's electricity sector in the period following the 1998-1999 conflict and at the time when the project began, followed by a summary of the contract for the implementation of the KEK Network and Supply Project and the changes made to the contract over the years.

1.1 Background on Kosovo's Energy Sector

History of the Sector

Kosovo is a small country with a relatively small power system, serving only about 400,000 customers today.

During the 1998-1999 conflict Kosovo's state-owned power system, which had long suffered from neglect, fell into severe disrepair. Its generation and distribution infrastructure was old and had not been maintained; its generation units, for example, had design lives of 30 years, but some units had been operating for over 40 years. As a result, Kosovo experienced high technical losses, frequent blackouts, and a dependence on imported power.

For the next seven years, KEK was under the administration of UNMIK (the United Nations Mission in Kosovo) Pillar IV's Kosovo Trust Agency (KTA). Owing to poor billing and collection practices, political interference in the sector, and a host of other

⁴ Please see note 1.

problems, KEK⁵ relied on the international donor community for both budget support and technical expertise. Power imports and other sector expenditures represented a major drain on the Kosovo budget; this situation hampered Kosovo’s economic development. These problems were partly fueled by a general perception among the public that it was not necessary to pay one’s electricity bills, which contrasted to the relatively good payment discipline that existed during the 1990s.

Table 1 shows the principal technical assistance provided to KEK by donors in the period 1999-2006; their support was largely in the form of advisory services or a management contract.

Table 1. Main assistance to KEK from donors other than USAID, 1999-2006

1999-2001	Management and technical assistance: Mott McDonald (UK) led a consortium in association with three other UK companies: Scottish and Southern Energy, National Grid, and Taylor Woodrow
2001-2002	Technical assistance: Électricité de France and RWE (Germany)
2002-2004	Management and technical assistance: SwedPower (Sweden)
2004-2006	Turnaround management contract: Electricity Supply Board of Ireland (ESBI), supported by subcontractors TSI/ESCO (South Africa) and Vattenfall Europe
2000-2006	Technical assistance in mining, generation, and network and supply: European Union (through the European Agency for Reconstruction)

USAID began providing assistance to Kosovo shortly after the conflict ended in 1999. Its involvement in the sector remained limited until 2000, when the European Agency for Reconstruction (EAR) asked it to co-fund the development of a billing and collection system. Over the next three years, USAID’s Institutional Strengthening Project – a component of the Community Infrastructure Support Program – developed a system for billing and collections known as the Customer Care Package. USAID’s assistance until 2005 focused on helping establish Kosovo’s energy regulator, and developing energy legislation and energy policy. In 2005, it funded the Kosovo Economic Development Project (KEDP), whose energy component provided advisory services to the new Ministry of Energy and Mines (MEM). In 2007, the Economic Management for Stability and Growth Project was launched as a successor to KEDP; this project advised the MEM on issues surrounding the development of a new coal plant.

USAID, the European Union (EU), World Bank and others in the international community saw that unbundling KEK’s generation and distribution functions and

⁵ After hostilities ceased in 1999, KEK began operating Kosovo’s energy sector and assets, which incorporated five core businesses: lignite mines, power generation, transmission network, distribution network, and supply. A partial restructuring of the energy sector was completed in November 2005 and resulted in the creation of two new operating companies:

- KEK, which included lignite mining, power generation assets, the distribution network, and the supply business
- The transmission system and market operator (KOSTT, J.S.C.).

privatizing them would spur new investment in the sector and with it, build the capacity to reduce the utility's commercial and technical losses. As a signatory to the Energy Community Treaty for South-East Europe, Kosovo's energy sector reform and restructuring were to comply with the Treaty's requirements as well as EU environmental standards and market opening obligations.

USAID's goal for Kosovo's energy sector thus became helping to ensure an adequate, reliable, economic, and environmentally sound energy supply. It also sought to support the privatization of KEK's distribution functions (distribution and supply, or KEDS) to a strategic investor.

The KEK Network and Supply Project team was mobilized in January 2007 to provide institutional support to KEK and prepare it for privatization. In parallel, it launched the KEDS Project to provide the MEM with advisory services on the privatization of KEK. In 2011 MEM was reconfigured into the Ministry of Economic Development (MED). MED retained the original MEM portfolio and was also responsible for economic development and the oversight of publicly owned enterprises, including KEK.

It is worth noting that once the KEK Network and Supply Project began, all other donor management and technical assistance to KEK ceased. Also, while pre-existing donor-funded capital investment projects were completed (e.g., Swiss Cooperation Office for the Gjilan/Gnjilane V substation, KfW and EAR for the refurbishment of mining equipment, the World Bank/Dutch Government for its clean up and land reclamation project at the Kosova A power plant), no new projects were initiated.

The Baseline - Conditions when the KEK Network and Supply Project Began

In March 2007, Tetra Tech assessed the status of Kosovo's electricity sector and that of KEK in order to establish a baseline for the project. The findings of this review were presented to KEK's Board of Directors, UNMIK Pillar IV, KTA, USAID, KFOR (the NATO peacekeeping force in Kosovo), the MEM, the Minister of Economy and Finance (MEF),⁶ the World Bank, and the International Monetary Fund (IMF).

The review found that as a result of seven years of turmoil within the utility, KEK lacked a focus on basic utility business practices, in-depth technical, financial, and managerial knowledge, control, accountability, and correct measures and incentives. Further, although KEK's Kosovar management at that time had only been in place for a few months, it was being blamed for the utility's poor performance:

⁶ The MEF was reconfigured in 2011 into the Ministry of Finance. At that time, responsibility for publicly owned enterprises and economic development moved to the newly created Ministry of Economic Development (MED).

- Management could not account for all of the energy in the system (about 31% of the energy available for sale had been lost) and only 74% of the amount billed to customers was collected.
- KEK did not have access to minority communities to meter, bill, and collect for consumed electricity.
- Power generation was unreliable and load shedding was rampant.
- Customer debts amounted to a staggering €300 million.
- There were delays in obtaining a license for opening the new Sibovc South West (SSW) mine, while the coal reserves in the existing mines were being depleted.

Both public and official expectations were placing a burden on KEK management. It was expected that KEK would:

- Solve its metering and collection problems
- Succeed in fighting corruption
- Continue to provide free electricity to minority communities
- Put the new mine opening back on track
- Rehabilitate the main mining equipment on time for 2009 coal production
- Improve power generation reliability
- Beginning in September 2007, serve Ferronkeli, a new 75 MW industrial plant, at a three-year contract price prearranged by UNMIK, which was less than KEK's cost of serving this customer
- Receive less grants from the government in 2007 than in 2006 (€17.6 million vs. €21.5 million for capital expenditures and €10.1 vs. €11.6 million for operating expenditures), excluding mining.

Table 2 shows the key characteristics of Kosovo's electricity sector at the end of 2006:

Table 2. Kosovo electricity sector key data as of 31 December 2006

Consumers	355,710: about 305,000 residential, 50,000 commercial, and 710 other (260 of these were industrial)
KEK Installed capacity	1,478 MW Kosova A power plant: 800 MW (5 units, 65-210 MW each, 36-45 years old) Kosova B: 678 MW (2 units, 339 MW each, 23 and 24 years old)
Available operating capacity	870 MW Kosova A: 270 MW (A3 and A4, 135 MW each); units 1, 2 and 5 were not operating Kosova B: 600 MW (B1 and B2, 300 MW each) KEK also owned four small hydro generation plants – one had been placed on a long-term concession and rehabilitated, another was only partially operable with less than 1 MW of capacity, and the remaining two plants (a total of 2.5 MW) were inoperable.
Generation	Coal: 3,871 GWh (coal production was 6.7 million tons) Imports: 393 GWh Hydro: 127 GWh, the majority of which was from the Ujmani/Gazivode plant under a contract with Iber Lepence, J.S.C
Demand	Internal constrained peak demand: 916 MW Internal unconstrained peak demand: 970 MW Domestic electricity demand: 4,003 GWh
Percentage of unserved demand	14.03%
Tariffs	Wholesale: €3.35 cents/kWh Average end use: €5 cents/kWh
Transmission losses	280 GWh (2006)
Purchased power	393 GWh in 2006 (€22 million) KEK 2007 expenditure for purchased power: €45 million (540 GWh) Cost of purchased power: €55/MWh (2006), €83/MWh (2007)
Reserves	None (thus, if a generating unit was lost, load shedding was implemented to balance supply and demand)
System interconnections	Kosovo-Albania: 220 kV transmission line, built in 1998, 280 MW capacity Kosovo-Serbia: 400 kV line, built in 1997, 1,108 MW capacity 220 kV line (381 MW) and two 110 kV lines (76 MW each) Kosovo-Macedonia: 400 kV line, built in 1978, 1,108 MW Kosovo-Montenegro: 400 kV line, built in 1983, 1,108 MW

KEK organization and management. The principles of commercial management were almost non-existent at KEK, with resulting weaknesses in the areas of planning and organization, policies and procedures, administration and monitoring, checks and balances, and individual accountability for results. The company's management was found to be less than sufficient to manage the complex challenges the utility was facing.

This was exacerbated by frequent government interference in KEK's operations and changes in its Board of Directors.

Legal issues. There was a lack of proper contract review, and contracts were one-sided and detrimental to KEK. In addition, there was considerable litigation against KEK and the existing provisions of the Provisional Criminal Code did not appropriately provide for the prosecution of electricity theft.

Employees. KEK reported having more than 7,300 employees during 2006. This figure excluded over 1,000 former employees who had been transferred to third-party companies in prior years as part of KEK's questionable attempt to outsource certain "non-core" functions. The average age of KEK employees was 47 and 550 employees were over the age of 60. There were no procedures in place to terminate redundant employees and no funds to pay for severance. Employees, including management, were paid a monthly bonus, regardless of their performance, and executives were being paid a monthly stipend purportedly for business purposes, but which was widely abused. Furthermore, pension agreements from 2000-2002 had produced a potential liability for the company of around €4 million – this assessment of liability was presented by Tetra Tech to KEK's management in early 2007 and was based on our review of the underlying pension agreements and the resulting litigation.

Asset separation. Although the transmission/independent system operator function (KOSTT) was spun off from KEK in late 2005, asset separation and contractual relationship issues had not been fully resolved.

Metering and disconnections. KEK could not accurately account for the energy available for sale owing to a lack of metering. Metering of the 10 kV outgoing lines from substations (600 points) was incomplete, while the country's 10/ 0.4 kV substations (6,000 points) had no metering at all. Most KEK self-consumption was not metered. In most minority areas inhabited by Kosovo Serbs, KEK lacked access to meters or electricity use was not registered. It was generally understood that KEK was not allowed to disconnect those customers.

Further, the company's customer database contained customers who did not exist, and over 120,000 consumers in the database were classified as "passive," meaning they were supposedly disconnected and therefore not being billed. Others had several meters in order to take advantage of the increasing block tariffs.⁷ The abuse of the time clocks associated with time-of-use meters was also widespread, resulting in far too much off-peak energy use being recorded as opposed to more expensive on-peak energy for many of the country's residential and small commercial customers.

⁷ Increasing block tariffs divide the electricity price into several steps or blocks (based on kWh consumed). As a customer purchases more electricity during the month, the electricity bought will eventually fall into the next block, which is more expensive, and so on. In Kosovo there are three blocks.

Customers were generally not disconnected for non-payment as aggressively as they could be; this situation was worse for residential customers, who were rarely disconnected.

Billing and collections. Billing practices at KEK led to a *de facto* loss of revenue for the company. Bills were delivered – if at all – to customers more than a month after their meters were read, which was usually after the due date for their payment.

KEK billed for only about 69% of the energy available for sale, and collected only 74% of the billed amount, which was equivalent to about 51% (or €96 million) of its potential revenue. In simple terms, this meant that for every €10 worth of energy that KEK had available to sell, bill and collect from consumers, it was only collecting €5.13 in 2006.⁸

In addition, there was no uniform database of addresses in Kosovo, which hampered court action against KEK debtors and impeded any potential outsourced bill delivery system.

Customer debts. Since 1999, KEK had accumulated €288 million in uncollected debt (an average of €40 million a year). This situation was rendered even more untenable because unless KEK made a claim in court to collect this debt, the statute of limitations would run out in one year for residential customers and three years for other customers. The only tool the utility had to enforce collection was disconnection; however, KEK was not using this tool effectively.

Load shedding. As already mentioned, owing to the poor state of KEK generation when the project began, customers experienced frequent load shedding. The percentage of unserved demand (the ratio of unserved energy to supplied energy plus unserved energy) in 2006 was 14.03%.⁹ The load shedding of customers was implemented through the ABC Program, which was approved by the ERO in 2006 and thereafter applied by KEK. Each of the utility's approximately 600 10 kV feeders was classified as falling within the "A," "B," or "C" category. Categorization was based on calculating for each feeder the percentage of unbilled energy (primarily theft) and the percentage of billed energy for which payment was made. Armed with these calculations, KEK would rank each feeder on a monthly basis as follows:

- A: Least theft and best payment percentage (one-third of total feeders)
- B: Moderate theft and moderate payment percentage (one-third of total feeders)
- C: Most theft and worst payment percentage (one-third of total feeders).

⁸ The same figure in 2012 was €7.46.

⁹ The same figure for 2012 was 2.61%.

By way of illustration, during the year 2007 (from April) the average time per day that customers were load shed based on the ABC Program was:¹⁰

- A: 1 hour
- B: 2 hours 44 minutes
- C: 5 hours 41 minutes.

Power imports. Kosovo's peak demand in 2006 was 916 MW. KEK had about 870 MW of potential operating capacity, and had to import power at €55/MWh.

Network constraints. Even if KEK had sufficient generating capacity, it would not have been able to serve demand in some areas due to network constraints.

New plant construction. The opening of the SSW coal mine, which had been expected to ensure the sector's coal supply for 2009 and beyond, was nearly two years behind schedule. In addition, the Kosova C coal plant project (expected to be in operation in 2012) was only in the inception phase. KEK was simply an observer to the Project Steering Committee tasked with overseeing the Kosova C project and had little substantive input.

1.2 Contract Objectives and Modifications

The KEK Network and Supply Project was executed under Task Order 4 of Contract EPP-1-00-03-00008-00, which was issued on 18 December 2006. Its objectives (see Table 3) complemented those of USAID/Kosovo. The project was to: 1) ensure a reliable electricity supply leading to accelerated economic development, employment, and investments, 2) work to gain political and social stability through a reliable electricity supply, 3) ensure the financial viability of Kosovo's electric utility in order to stop the enormous drain on the Kosovo Budget, and 4) attract private sector investments in order for Kosovo to realize a reliable electricity supply.

Over the course of the next six years, the contract was modified 13 times. Three of the modifications involved changes/refinements in the project's objectives to better reflect USAID's priorities and changed circumstances. Each modification also necessitated a corresponding change in the project's tasks, which were set out in Tetra Tech's work plans.

¹⁰ The same data for 2012 were A: 6 minutes, B: 35 minutes, and C: 1 hour 18 minutes.

Table 3. KEK Network and Supply Project contract modifications

No.	Objective
Original KEK Contract, 18 December 2006	
1	Support the Managing Director of KEK to provide overall strategic guidance to the company, with particular emphasis on enhancing KEK's own revenues
2	Increase collections through support to the Network and Supply Divisions to accelerate potential future private sector participation
3	Improve the institutional, policy and legal environment in which KEK operates so that it is supportive of KEK's collection efforts
Contract Modification, 10 July 2008	
This modification recognized that the KEK Network and Supply Project had made much progress, but required a significant expansion, realignment, and redoubling of activities. To support USAID's broader objective of a successful KEK distribution privatization, five new objectives were added.	
4	Preparation of KEK distribution functions for privatization
5	Support to KEK commercialization
6	Anti-corruption efforts – the reduction and prosecution of fraud, waste, and abuse
7	Legal and regulatory support
8	Normalization of service to enclave communities
Contract Modification, 17 December 2009	
The objectives under Modification 3 were subsumed into Objective 1 below to contribute to the over-arching goal of the distribution company's successful privatization. Objective 1 addressed the project's pre-transaction element and Objective 2 its post-transaction element. Objective 3 was added to contribute to the effective fulfillment of the US Government's pledge of support to the Government of Kosovo's energy reform strategy.	
1	Support management and operations to maintain asset value
2	Assistance with post-privatization implementation for the distribution company
3	Privatization support for the thermal power plant Kosova B
Contract Modification, 29 March 2012	
This modification replaced the scope of work included in the December 2009 modification to ensure the effective and sustainable completion of the KEDS and generation company's privatization transaction, and the prospects for sustainable operation by the new investors.	
1	Support management and operations to maintain (preserve) asset value
2	Provide advisory support in the KEDS privatization process, including limited assistance post-privatization
3	Provide support for the privatization of the remaining KEK assets

1.3 Report Contents

Tetra Tech's work was conducted with two main goals in mind – raising KEK's asset value and commercializing the enterprise – with the ultimate objective of privatizing the company. The next section of this report describes the guiding principles and approach Tetra Tech used in implementing the project. Sections 3 through 6 present the project's

chief accomplishments, which are grouped in the areas of transforming KEK into a commercially viable utility, improving corporate governance, strengthening energy supply security, and environmental improvements. The activities undertaken aimed to set KEK on the right footing to make it attractive to potential investors; each of the activities described here contributed to one or both of the project goals and resulted in the KEDS 's privatization in May 2013.

Section 7 presents a picture of KEK at the time of the KEDS privatization. The project's compliance with US Government environmental regulations is discussed in Section 8. Its extensive collaboration with the donor community in Kosovo as well as several Government of Kosovo entities is noted in Section 9. The last two sections of the report examine the problems encountered during the project's implementation and provide recommendations for further improving KEK's performance going forward.

2 Project Implementation

Reforming KEK was not a trivial challenge. To guide its work, Tetra Tech adopted five principles that governed all of its project activities. A four-pronged implementation approach emerged from these principles.

2.1 Governing Principles

Tetra Tech's work was formulated based on five major tenets:

Accountability is the basis for reform. Accountability is the result of authorizing a person or entity to take certain actions, establishing a target against which the success of those actions can be measured, measuring performance, and rewarding or sanctioning the person or entity based on performance against the target.

Management must lead change and be accountable for outcomes. Line staff cannot be expected to develop, find resources for, or manage a change program; this responsibility sits squarely with the utility's management.

Ownership for reform must be built through participation. The government and utility must "drive" the reform. Outside help can facilitate change, but the leadership for change must come from within. The utility and government must believe in the process of change, own it, live it, and internalize it in order to make reform work.

Reform requires a holistic approach. Success in this area partly depends on creating and motivating people to fulfill their roles in a restructured environment. The approach to reform should encompass technical content, techniques or processes, and the professionals needed to produce results. Targeting one aspect of operations without considering how that element interacts with or influences the balance of the sector can lead to ineffective, suboptimal or even destructive results.

Reform must enhance social development and equity. A reform program must continually justify itself in terms of the social benefits achieved, and ensure that these results are conveyed clearly to the public. Given the ethnic tensions in Kosovo, these considerations were paramount.

2.2 Implementation Approach

One of the main characteristics potential investors look for is a well-managed company with good procedures and legal support. The utility must also have cost-reflective tariffs and good collection rates from its customers. Tetra Tech helped KEK make the transition to a well-managed company by first setting realistic goals and starting with simple projects, and then moving to more complex undertakings while building both internal and stakeholder confidence in its progress.

Tetra Tech's strategy for obtaining these results was based on four approaches. First, we embedded staff in KEK's corporate functions so that our senior technical personnel worked alongside their counterparts in KEK on a daily basis. Second, we sought to demonstrate, wherever possible, that the careful planning and implementation of activities, along with a visible commitment and follow through, can lead to successes that are real and lasting. Third, we built the capacity of KEK's staff, primarily through on-the-job training, but also through formal classroom sessions. To build a sense of ownership, training was given to the widest possible spectrum of employees, from security guards to senior technical and management personnel. Last, to help KEK personnel understand the effects of their actions and take course corrections where necessary, Tetra Tech instituted regular and consistent reporting.

Embedding Staff in KEK

Initially, Tetra Tech personnel were deployed at senior levels in the organization to serve as advisors to the managing director, director of the Network Division, and director of the Supply Division; legal support was also provided via a resident advisor. This approach – essentially organized in a top-down fashion – sought to reform the company under the presumption that there was sufficient management control (and desire for change) throughout the organization.

However, it became increasingly apparent that this approach was not sufficient. Fully reforming KEK required that the team attack the challenges the utility was facing starting at the most senior levels, while also redoubling efforts from the bottom up, focusing on actual daily operations. With USAID's support, Tetra Tech began reconfiguring its team to bring in additional expertise with an operational focus in the areas of finance/accounting, field operations, human resources and internal controls/anti-corruption. This "bottom-up" approach focused on targeted, field-based interventions in KEK's seven districts.¹¹ The Tetra Tech staff in each district served as de facto district managers, demonstrating best practices, testing new approaches, and obtaining consensus and buy-in from the KEK staff.

¹¹ KEK's electricity distribution and supply operations were divided geographically into seven districts throughout Kosovo: Prishtinë/Priština, Gjilan/Gnjilane, Gjakovë/Đakovica, Mitrovicë/Mitrovica, Pejë/Peć, Prizren, and Ferizaj/Uroševac.

Embedding also involved setting up Tetra Tech’s project office within KEK’s headquarters building in Prishtinë/Priština and then working side by side with KEK staff in every functional area of the utility. This allowed us to mentor staff daily rather than merely giving advice or, for example, preparing new tariffs and handing them to KEK for implementation. This helped utility staff to “learn by doing.”

Our resident chief of party served as the project’s primary advisor to KEK’s managing director and Board of Directors. We also placed technical experts in positions that were parallel to those of their counterparts in KEK, as shown in Table 4 (see Annex B for a full listing of our long- and short-term advisors and Annex E for an organization chart showing the positions of Tetra Tech’s expatriate advisory team together with their counterparts at KEK).

Table 4. Long-term personnel roles

Advisors	Advisory Assistance To
Chief of Party	Managing Director
Deputy Chief of Party	Legal Division, Managing Director and other senior management
Supply Management	Director of Supply Division
Network System Management	Director of Network Division
Electricity Supply Operations (3 advisors)	Supply Division
Network System Operations	Network Division
Distribution Network	Network Division
IT System	Director of Information Services
Finance and Accounting	Chief Financial Officer
Human Resources	Director of Human Resources
Internal Audit and Anti-Corruption (2 advisors)	Internal Audit Officer, Audit Committee of the Board of Directors

KEK’s managing director was charged with leading operational reform, with performance being the first priority. Our assistance to the managing director focused on:

- Improving : 1) awareness of strategic planning, 2) knowledge of capital and operating budgeting, 3) understanding of procurement and contracting, and 4) knowledge of accounting and financial systems. Typically, Tetra Tech would evaluate the existing systems within KEK and recommend changes to them in order to bring the company closer to EU utility practices and to increase the transparency of all transactions within KEK. We would then work with the managing director to help him recognize the importance of the recommended change and gain his commitment to it.
- Providing counsel on all conceptual aspects of managing the company, including structural, operational and financial management.

- Providing extensive coaching and support on the concept of individual accountability and delegation. In this vein, Tetra Tech assisted each of KEK's managing directors with establishing proper procedures, through which they could delegate authority to competent division executives. Consistent with Tetra Tech's "bottom up" approach, we also trained managers and other senior-level staff on implementing the procedures in question.

Similar approaches were employed for other senior utility staff members, who were involved intimately in the day-to-day workings of the company and in preparing all important documentation. For example, we worked with all managers to justify their budget requests in detail, regardless of the previous year's expenditures. Then, these managers attended hearings organized by the Budget Department, which helped them to understand how KEK processes worked and affected them.

Using Demonstrations as an Agent of Change

In September 2008, Tetra Tech launched a pilot project in Ferizaj/Uroševac District to demonstrate to employees that they can be effective agents of change. The pilot introduced KEK's new District Regulations (which later became the Districts Code and was incorporated in the KEK Employment Manual), which outline the duties and responsibilities of KEK employees in district operations, which encompass electricity distribution and supply activities. The pilot also implemented new distribution and organization structures for the country's seven districts. The pilot's goals included:

- Employees were to report to district managers rather than headquarters.
- One district manager was to be responsible and accountable for the performance of each district (implementing general and disconnection policies, analyzing and monitoring energy delivered, evaluating performance, and taking corrective action where appropriate).
- Having specific people (feeder teams) responsible for all energy delivered to a 10 kV feeder, read meters, deliver bills, detect unauthorized connections and other forms of theft, and enforce payment discipline through disconnections.
- Meter readings were to be completed on a 5-day, rather than a 21-day, cycle.
- Bills were to be distributed within 3 days rather than 21 days.
- More work time was to be devoted to disconnections in order to enforce payment discipline.
- Disciplinary measures were to be implemented for employees who were performing poorly (e.g., salary deductions, warnings), while non-performing

employees were to be terminated after two warnings. In addition, an incentive payment system was implemented for good performance.

After two months of positive results in Ferizaj/Uroševac, pilots were rolled out in Gjilan/Gnjilane and Gjakovë/Đakovica Districts in November and in Pejë/Peć, Prizren and Mitrovicë/Mitrovica Districts in December. By February 2009, the new district regulations were operational in all of KEK's districts, including Prishtinë/Priština (which serves one-third of the country's customers), thereby creating uniform structures, organizations, policies, procedures and practices throughout the company.

Table 5 shows the improvement in the performance of KEK districts since the restructuring was implemented in late 2008/early 2009. Tables 5.1 through 5.7 contain information on each of the individual districts.

Table 5. District performance improvements

Year	2008	2009	2010	2011	2012
Increase in cash collections over previous year ¹	–	20%	6%	12%	9%
Increase in payment transactions over previous year	–	57%	21%	16%	10%
Billing rate ²	77%	76%	74%	80%	81%
Collection rate ³	74%	81%	87%	90%	90%
Overall performance	57%	61%	65%	72%	73%
¹ Excludes 110 kV customers					
² Amount of energy billed as a percent of energy available for sale					
³ Collection of delivered energy					

Table 5.1. Prishtinë/Priština district performance

Year	2008	2009	2010	2011	2012
Increase in cash collections over previous year		25%	4%	16%	10%
Billing rate	71%	73%	73%	78%	80%
Collection rate	82%	89%	91%	95%	94%
Overall performance	58%	65%	66%	74%	75%

Table 5.2. Prizren district performance

Year	2008	2009	2010	2011	2012
Increase in cash collections over previous year		10%	-7%	8%	7%
Billing rate	76%	79%	82%	82%	82%
Collection rate	75%	81%	90%	93%	92%
Overall performance	57%	64%	74%	76%	75%

Table 5.3. Pejë/Peć district performance

Year	2008	2009	2010	2011	2012
Increase in cash collections over previous year		16%	-2%	7%	0%
Billing rate	75%	72%	70%	73%	74%
Collection rate	73%	84%	87%	90%	82%
Overall performance	55%	60%	61%	66%	61%

Table 5.4. Ferizaj/Uroševac district performance

Year	2008	2009	2010	2011	2012
Increase in cash collections over previous year		10%	15%	12%	12%
Billing rate	79%	76%	76%	80%	82%
Collection rate	73%	72%	81%	86%	86%
Overall performance	57%	55%	62%	69%	71%

Table 5.5. Gjilan/Gnjilane district performance

Year	2008	2009	2010	2011	2012
Increase in cash collections over previous year		20%	10%	12%	8%
Billing rate	93%	86%	87%	91%	93%
Collection rate	72%	76%	84%	88%	87%
Overall performance	67%	66%	73%	81%	82%

Table 5.6. Mitrovicë/Mitrovica district performance

Year	2008	2009	2010	2011	2012
Increase in cash collections over previous year		28%	12%	11%	17%
Billing rate	80%	73%	62%	69%	70%
Collection rate	48%	62%	72%	72%	75%
Overall performance	39%	45%	44%	49%	52%

Table 5.7. Gjakovë/Đakovica district performance

Year	2008	2009	2010	2011	2012
Increase in cash collections over previous year		33%	46%	12%	13%
Billing rate	84%	78%	74%	77%	77%
Collection rate	77%	77%	87%	88%	93%
Overall performance	64%	60%	64%	68%	72%

Initially, Tetra Tech was present in the districts on a regular basis and helped the district management teams to implement regulations and policies, disconnect problematic customers, check the effectiveness of disconnections, and propose new ideas to decrease commercial losses. As the pilot proceeded, we maintained a daily presence in the districts, which demonstrated both the firm's commitment to improvements and its willingness to work with the districts and solicit their ideas for further improvements. The pilots showed employees the value of a number of changes that were being implemented at the utility. For example:

- New structures for the Network and Supply Departments in the districts were tested and adjusted to demonstrate KEK's willingness to be flexible.
- Aggressive targets were adopted for customer disconnections. Labor unions and KEK management were initially skeptical that such targets could be achieved and requested joint commissions to verify whether the targets specified in the regulations were realistic and achievable. Tetra Tech closely monitored the work of each commission; the results confirmed that the targets were indeed achievable. The number of customer meters to be read by feeder team specialists was verified in the same manner.
- All feeder teams and sub-district coordinators were tested on both practical and theoretical skills. As previously mentioned, feeder teams were responsible for all energy delivered to a 10 kV feeder, reading meters, delivering bills, detecting unauthorized connections and other forms of theft, and enforcing payment discipline through disconnections.
- Over 600 KEK employees were trained on the District Regulations, the new debt settlement policy, and other activities related to field operations.
- A new customer relationship management policy was introduced that encourages customers to pay every month.
- Tetra Tech held regular meetings with district managers, sub-district coordinators and feeder team leaders across sub-districts to motivate them and to increase their awareness of the regulations.
- Tetra Tech was also involved in the district performance evaluation process, making recommendations to KEK management for disciplinary actions against employees whose performance was poor and for bonuses for those whose performance was good.

Building the Capacity of KEK's Staff

Capacity building activities were implemented from the first day of the project and continued through June 2013. Although most training took the form of informal daily coaching of staff, formal training sessions were also held (Appendix A contains a summary of the formal training given and the number of people attending). Over time, as the knowledge of local staff increased, they were tapped to give training as well.

On-the-job training. One example of Tetra Tech's early mentoring and coaching took place during the first half of 2007, when we held action planning sessions for the managers of all KEK organizations. The Supply and Network staff then developed the first comprehensive action plans for their divisions and began implementing them. We also worked daily with the director of KEK's Supply Division to build his capacity to

succeed in his new role. This director soon began making presentations to KEK's Board of Directors, rather than the project advisor. A few other examples of Tetra Tech's on-the-job training included:

- In-depth reviews of regulations and tariff issues for Regulatory Department staff. Each training session lasted for several hours over a period of two days and covered utility regulation, tariffs and cost allocation.
- Training for district managers on properly organizing meter reading routes, preparing disconnection lists and organizing disconnection plans, and conducting analyses and preparing reports.
- Meeting with KEK staff on a daily basis to review current activities and show them the techniques used in the regulatory process.
- Coaching KEK staff on billing, managing customer accounts, and collections.
- Coaching the Capacity Planning Department on all aspects of data analysis and long-term least-cost generation planning, and supporting them on data collection and evaluation, and on the analysis of initial results and preparation of annual and long-term energy forecasts.
- Providing extensive coaching during the half-day Network Division monthly management meetings on 1) accountability, communication and delegation, 2) measuring, tracking, and improving operations, 3) measuring, tracking and improving project execution, and 4) working as a team.

Formal training. Classroom training on a wide spectrum of topics was delivered to managerial, technical, and administrative staff, as well as security guards. Most of the trainings were developed and delivered by Tetra Tech, while some sessions were delivered by the United States Energy Association, the Energy Distribution Company MVV of Bulgaria (training was held in Bulgaria, where this company operates a large part of the country's distribution network), and the National Center for State Courts. A few examples of courses include:

- *Fundamentals of Customer Service.* This course introduced the basics of good customer service, and the techniques, tools and attitudes necessary for quality customer service. It also identified areas in which KEK could improve its customer service.
- *Critical Thinking.* This course conveyed the principles of bottom-up and top-down thinking, inductive and deductive reasoning, and a new structure for organizing one's thoughts (SCQA: situation, complication, question and answer).

- *Internal Customer Service and Communications.* This course focused on changing attitudes towards providing service to internal customers, understanding different working styles, learning how to speak assertively and positively, learning active listening techniques, and constructive approaches to conflict and team building skills.

In all, over 3,100 KEK employees received formal training during the 6.5 year project, some of whom received training in multiple areas.

Promoting KEK’s capacity building efforts. Tetra Tech assisted and supported KEK’s application for accreditation by the National Qualification Authority for its metalworker and electro technician courses, which are provided by the utility’s Training Center in Kastroit/Obiliq. The courses were accredited in 2012, enabling the Center to train and issue nationally recognized qualifications for newly hired feeder specialists on an in-house basis, thereby widening the pool of potential applicants.

Building local talent among Tetra Tech staff. Initially, Tetra Tech relied on its local staff to provide largely administrative, translation and logistical support. Later, we began recruiting local talent in key technical roles. Our goal was to pair our expatriate specialists with competent, talented local expertise, all in an effort to train and equip local staff with the skills necessary to take on management-level roles within a privatized utility operation. With the 8 May 2013 privatization of KEDS, the new owners agreed to retain 75% of Tetra Tech’s local staff for their operations, seven of them in senior management positions.

Institution of Regular and Consistent Reporting

Early in the project, Tetra Tech found that many KEK reports were overly long, contained information that was not always relevant, took different formats or used inconsistent metrics, and were sometimes revised retroactively to make data consistent with current reports. We thus devised several new reporting formats and trained staff in their use.

Tetra Tech began by assisting the managing director in instituting a disciplined reporting procedure, which included:

- Detailed monthly energy accounting reports quantifying all sources and uses of energy, along with billing and collection results. A sample of the energy accounting report mentioned above – for the first quarter of 2013 – is provided in Appendix E.
- Daily reports were prepared and delivered by each district, both in writing and orally at weekly meetings. Minutes were taken at each meeting, which included action items and due dates to promote accountability.

- Weekly reports included such items as finances, cash collections, losses, and other key performance indicators.
- Monthly reports covered, for example, rolled-up financial data, the status of projects, problems encountered, observations, and recommendations.

This process, which emphasized consistency in reporting, helped instill good work habits and demonstrated to the staff that constant measurement would prove that their efforts were successful. If they were not, the process allowed for the identification of course corrections.

Other reporting forms that we developed or revised included:

Reports to the Board of Directors. When the project began, KEK's Board received several hundred pages of documents for their monthly meetings, and they often lacked useful information and a consistent format. Tetra Tech developed a new report structure and content, which improved both the quality and accuracy of the KEK Board documents and presentations.

In addition, the monthly reporting of billing, collection, and outstanding debt was not performed in a concise or straightforward way so the Board could understand them easily. Tetra Tech developed new reporting formats to provide a more meaningful picture of the situation. KEK utilizes these formats each month, documenting them in a published KEK procedure, and is continuously improving them.

Financial report. In 2008, Tetra Tech initiated this report, which was submitted to the Board of Directors each month. The report included balance sheets, income statements and cash flow statements for all the cost centers of KEK as well as consolidated statements. Tetra Tech provided training to KEK staff on the composition of the report, and by the end of 2008 they were able to generate the report without our assistance.

Customer Care Package reports. These reports included daily or monthly reports on consumers by bill amount, payments by 10 kV and 0.4 kV feeders, consumers with more than three months of repeat billings (which would suggest some irregularity with the reading of the meter or the meter itself) consumer bills by consumer category, consumer debts by consumer category, customers coded to various 10/0.4 kV transformer stations, and efficacy of disconnections.

Performance to plan reports. In 2008 Tetra Tech began supervising KEK's preparation of these reports. Briefly, the reports detail the performance of each of KEK's four core divisions (Mines, Generation, Network, and Supply) against key performance indicators, which had been approved by the KEK Board of Directors. By way of example, key performance indicators for each of the core division would include:

- Mines: quantity of coal produced, overburden removed, and level of the coal stockpile.
- Generation: availability of the units, gross generation, auxiliary consumption, net generation, and capital investment.
- Network: level of technical losses, meter reading, meter installation, meter inspection and calibration.
- Supply: billing rate, bill delivery and collection rate.

Tetra Tech also assisted KEK with the preparation of the Internal Audit Quarterly and Annual Reports, which were measured against the Internal Audit Annual Plan.

As a final step, Tetra Tech assisted with the preparation of action plans for performance improvement based on the reports' findings. The reports were presented to the Board of Directors and accepted. KEK's managing director then submitted them to the Unit for the Supervision of Publicly Owned Enterprises (POE) in the Ministry of Economy and Finance (and later relocated to the Ministry of Economic Development).

2.3 Results Against Indicators

The project's success was judged against a set of indicators known as the project's Performance-Based Management System (PMBS). The PMBS contained various indicators that were used to measure the performance and impacts of project activities, as detailed in Annex A. The highest-level of indicators, known as key indicators, are defined below; they provided very precise data driven-measurements of KEK's performance. The data for the key indicators were derived from the Energy Accounting Report that Tetra Tech introduced to KEK. These reports were prepared monthly and presented to the KEK's Board of Directors, which continues to use the indicators today.

Table 6. Definition of indicators

Key Indicator	Definition	Utility
Reduce commercial losses	The level of commercial losses is defined as the ratio of commercial losses to energy available for sale for a given period of time, presented as a percentage. Commercial losses were defined as the difference between the energy available for sale (EAFS) and the energy billed, in MWh. EAFS is the energy delivered from the transmission network to the distribution network (as jointly metered by KEK and KOSTT), plus energy delivered to direct customers, less the calculated technical losses, less KEK's own consumption, less un-billable minorities, plus the energy supplied at distribution voltage by small generators (hydro and wind power), measured in MWh. Energy billed is the total consumption of electricity in MWh by all customers of KEK, measured by the meters and reflected in the bills of the customers for the period.	The level of commercial losses indicator is used by KEK to measure the efficiency of its accounting for the energy in KEK's Network and the success of its efforts to fight electricity theft and corruption. It is an important gauge for the commercial viability of KEK.
Reduce technical losses	The ratio of technical losses vs. energy delivered to distribution for a given period of time is presented as a percentage. The technical losses are calculated by the Planning and Loss Analysis Department of the Network Division. Energy delivered to distribution is defined as the energy delivered to the seven districts (from generation, imports and small generators).	The level of technical losses indicator is used by KEK to measure the effectiveness of network maintenance and operation, and the speed of network upgrade (replacement of lines and transformers to eliminate overloads, installation of new accurate meters, eliminating load asymmetry, etc.).
Ratio of energy billed versus energy available for sale	The ratio of energy billed versus energy available for sale (EAFS) is presented as a percentage. Energy billed is the total consumption of electricity in MWh by all customers of KEK measured by the meters and reflected in the bills of the customers for the period. EAFS is the energy delivered to the distribution network (from KEK generation and imports), plus the energy delivered to direct customers, less the technical	The ratio of energy billed versus energy available for sale is used by KEK to measure the effectiveness of its metering and billing function and its ability to reduce theft.

Table 6. Definition of indicators

Key Indicator	Definition	Utility
	losses , less KEK’s own consumption, less un-billable minorities, plus the energy supplied by small generators, measured in MWh.	
Ratio of revenue collected versus revenue billed	The ratio of revenue collected versus revenue billed is presented as a percentage. Revenue billed is the sum of all customer bills in Euros (calculated on the basis of the readings of the customer meters) over a given period of time. Revenue collected is the sum of all customer payments in Euros over the same period.	The ratio of revenue collected versus revenue billed is used by KEK to measure the efficiency of its cash collection processes and practices. It is an important gauge of the utility’s financial performance.
Revenue collected as a percentage of the value of energy available for sale	Revenue collected as a percentage of the value of energy available for sale is defined as the product of two ratios: the ratio of revenue collected versus revenue billed, multiplied by the ratio of energy billed versus energy available for sale. Revenue collected is the sum of all customer payments in Euros over a period of time. Revenue billed is the sum of all customer bills in Euros (calculated on the basis of the readings of the customer meters) over a given period of time. Energy billed is the total consumption of electricity in MWh by all customers of KEK measured by the meters and reflected in the bills of the customers for the period. EAFS is the energy delivered to the distribution network (from KEK generation and imports), plus energy delivered to direct customers, less the technical losses, less KEK’s own consumption, less un-billable minorities, plus the energy supplied by small generators, measured in MWh.	Revenue collected as a percentage of the value of energy available for sale is a summary indicator used by KEK to measure the overall efficiency and effectiveness of its distribution operations. It is an aggregate measure of the technical, commercial and financial performance of the company.
Collected revenue in Euros	Revenue collected is the sum of all customer payments in Euros over a period of time. The amounts are inclusive of value added tax and the Radio Television Kosovo (RTK) fee, where applicable.	Revenue collected is used by KEK to assess its financial position and performance. It is an important indicator of KEK’s financial viability.

The results in Table 7 show a year-to-year improvement in KEK's performance over the life of the project. Those improvements are real and tangible evidence of the success of Tetra Tech's efforts to help KEK become a commercial enterprise.

Table 7. Results of the performance-based management system

No.	Definition of Indicator and Unit of Measure	2006 Baseline	2007 Actual	2008 Actual	2009 Actual	2010 Actual	2011 Actual	2012 Actual
1	Reduce commercial losses as compared with previous year (ratio of commercial losses vs. energy available for sale)	31%	30%	20%	21%	22%	18%	17.9%
2	Reduce technical losses (ratio of technical losses vs. energy delivered to distribution)	18.2%	17.4%	16.6%	17.7%	17.1%	16.8%	16.3%
3	Ratio of energy billed vs. energy available for sale	69.1%	69.9%	79.8%	79.3%	78.5%	81.9%	82.1%
4	Ratio of revenue collected versus billed	74.2%	76.6%	75.6%	81.4%	87.8%	91.1%	90.9%
5	Revenue collected as a percentage of the value of energy available for sale [ratio of revenue collected vs. billed] x [ratio of energy billed vs. energy available for sale]	51.3%	53.5%	60.3%	64.5%	68.9%	74.7%	74.6%
6	Collected revenue in Euros (millions)	€96	€110.8	€135	€160.3	€178	€201	€211.8

3. Transforming KEK into a Commercially Viable Utility

Improving KEK’s financial performance was essential to attracting private investors. In 2007, the utility was in a difficult financial position, but our work to improve KEK’s asset value began to attract potential buyers in 2011 and bore fruit in May 2013 when KEK’s distribution function was sold to the Calik and Limak consortium.

Our work addressed issues on the customer side of the business (e.g., the development and implementation of regulations and procedures to improve such operations as billing, theft detection and prevention, payment enforcement, and the disconnection of non-paying customers) to those on the utility side of the business (e.g., tariffs, budgeting, cost control). Our emphasis was on strengthening the overall business processes at KEK to enable it to operate using appropriate international best practices, thereby ensuring that the future unbundled companies – KEDS and KEK – were viable and able to fulfill the roles of energy off-taker and producer, respectively.

Table 8 lists areas in which Tetra Tech successfully supported KEK management’s efforts to commercialize the company.

Table 8. Main accomplishments: supported KEK management in commercialization
Supported KEK’s Regulatory Department in all seven of the tariff reviews conducted by the ERO. Tetra Tech also provided extensive classroom and on-the-job training to the regulatory staff on tariffs.
Working closely with the KEK Regulatory Department, provided extensive comments on the Pricing Rules developed by the ERO and its consultants. The rules, which were modeled after the UK regulatory framework and utilize a five-year horizon, were finalized in late 2011 and implemented in late 2012 for the 2013-2017 multi-year tariff process.
Supported KEK in its purchase and installation of approximately 133,300 meters.
Drafted and advised KEK on over 300 contracts and other legal documents in order to introduce international best practices and commercial standards.
Upgraded automated meter reading (AMR) software to read all the AMR meters with remote reading capabilities.
Due to the additional payment options made available to customers in the past five years, more payments are now being processed through the banking system as opposed to in cash. Collections received in cash decreased from 76% in 2006 to 55% in 2012.
The number of customer payments through the banking system rose from 36,000 in 2006 to about 287,000 in 2012. In conjunction with this, during 2006 approximately 93,000 customers paid for their electricity each month. By the end of the project, the

Table 8. Main accomplishments: supported KEK management in commercialization
number of monthly payments had increased to 257,000.

Raised billings for energy available for sale from 69% in 2006 to 82% in 2012.

Increased collections on the amount billed from 74% in 2006 to 91% in 2012.

The number of minority consumers paying their electricity bills rose from virtually 0 to over 21,000 today; over €19 million has been collected from them.

KEK now treats all consumers south of the Iber/Ibar River in a commercial manner – those customers who do not pay are disconnected. This includes facilities of all religious faiths, Internally Displaced Person Collective Centers, municipalities, and water companies.

Drafted a legal complaint on behalf of KEK that was submitted to the Energy Community Treaty Secretariat, citing the continued illegal actions of the Serbian State Electric Utility and its proxy Elektrokosmet in northern Kosovo together with the discriminatory actions of the Serbian Transmission System Operator, which prevent KEK from freely participating in the regional energy market.

Developed an entirely new electric supply agreement for KEK's largest customer, with a more favorable tariff structure for KEK and one that is appropriate for a large (90 MW) customer with a high load factor. Also developed new electric supply agreements for KEK's second- and third-largest industrial customers.

KEK has been able to discontinue billing a regressive public broadcast tax, resulting in all cash collections (other than VAT) now going to KEK.

Drafted and negotiated several credit facility agreements with the Government of Kosovo, securing critical funds for KEK to finance its capital investment plans in mines and power plants.

Drafted and negotiated overdraft facilities with a local bank, thereby ensuring that KEK had working capital during critical periods between 2007 and 2010. Given the improvements in its financial performance, KEK no longer utilizes the overdraft facility.

Reached a debt settlement agreement with a customer that owed more than €4 million. Each month, this customer is now paying for its current consumption plus €40,000 for past debt.

Developed and implemented regulations and procedures to improve operations in KEK's seven districts to detect and prevent theft, bill customers correctly, enforce payment discipline and disconnect the customers that do not pay.

Developed and implemented new accounting policies and procedures, information systems and internal controls, including:

- A sophisticated Asset Register
- A new Centralized Document Database and Accounts Payable, Accounts Receivable and Treasury modules of the Computerized Accounting System
- A new sophisticated Human Resources and Payroll System.

Supported KEK in building a state-of-the art Data Center that provides all necessary information services.

Supported KEK in developing the Long-Term Capacity Management Study 2011 (Least-Cost Plan).

Table 8. Main accomplishments: supported KEK management in commercialization

Developed and implemented substantial improvements in budgeting and cost control, including:

- Detailed corporate business plans and supporting division action plans
- Zero-based budgeting by divisions and departments
- An integrated Budgeting, Procurement and Cost Control System.

This resulted in a significant improvement in the company's financial position and performance (losses of more than €25 million were turned into profits of more than €15 million by 2011, liquidity increased 2.5 times, and KEK was able to finance all O&M and some capital investment programs from its own funds, enabling it to improve the efficiency and effectiveness of its operations).

3.1 KEK's Billing and Collections Performance

From 2006 to 2012, Tetra Tech was able to help KEK more than double its annual collections from €96 million to €212 million (see the "Collected Revenue" line in Table 7). This represented a 120% growth in revenues during a six-year period. It was achieved with minimal increases in tariffs, which means that the increased revenue can be attributed to more energy being billed and collected, as opposed to the energy itself becoming more expensive.

Cash collections increased during the life of the project due to a number of factors including:

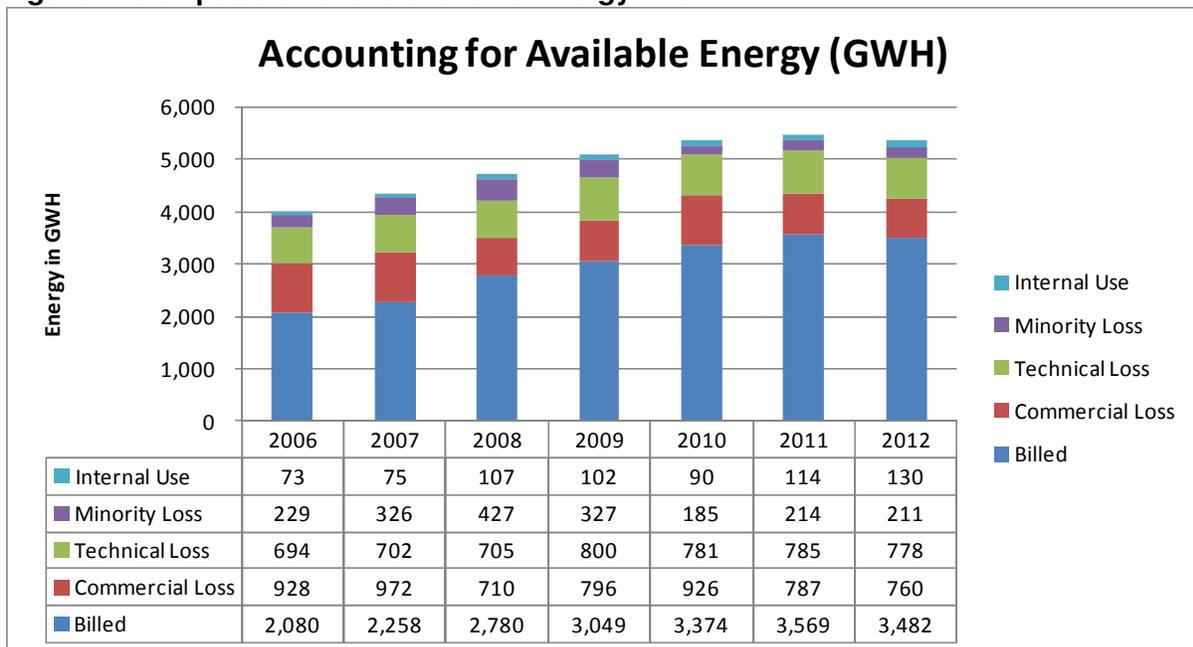
1. Increased energy supplied to the system by KEK generating units. Net output increased by more than 1,200 GWh (31%).
2. Reduced commercial losses by more than 200 GWh. This was due primarily to the restructuring of district operations whereby teams were responsible for reducing theft and increasing billing – this approach was outlined in Section 2.2.
3. Reduced collection losses. KEK increased the amount of billed energy that was collected from 74% to 91%, again due primarily to the district teams being incentivized to enforce payment discipline through disconnections.
4. As a result of the achievements listed in 2 and 3 above, for every €10 worth of energy that KEK had available to sell, bill and collect from consumers, it collected €7.46 in 2012 compared to only €5.13 in 2006.
5. Regularization of minority consumers in south Kosovo resulting, in increased billing of 200 GWh.

- The number of payments received from customers increased by 175% from 2006 through 2012 (in 2006, approximately 93,000 customers paid for their electricity each month, but by 2013 the number of monthly payments had increased to 257,000). There were two primary drivers of this improvement. First, the frequency of disconnection for non-payment increased following the restructuring of district operations in 2008. The new feeder teams had incentives to improve collection percentages and those incentives proved to be effective. Second, KEK customer communications educated customers that they must pay their electricity bill each month, just as they do for their other financial obligations. Prior to 2008, many customers, even those with significant financial resources, only made payments to KEK every two or three months.

The results are documented in the annual reports to USAID under the Performance-Based Management System (PBMS), and it is shown in Table 7.

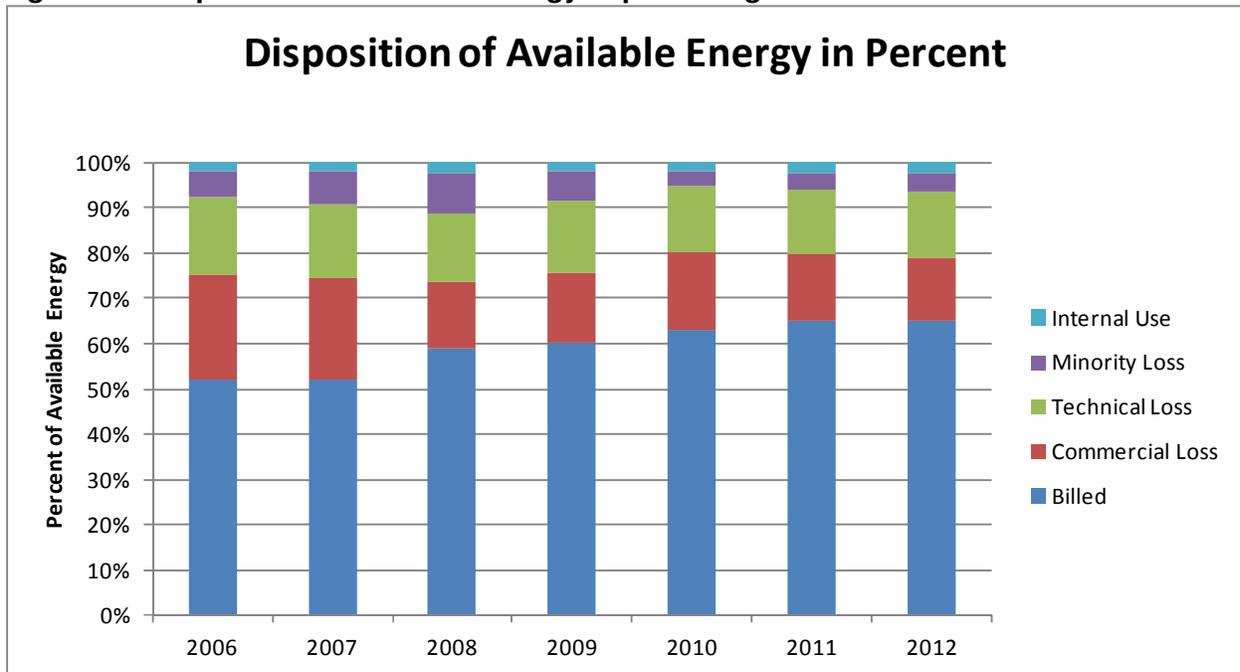
Figures 1 and 2 contain more detailed information on the available energy and its disposition over the years. As they show, the amount of available energy billed to customers increased each year in terms of actual quantity and percent. Commercial losses also decreased in actual quantity and percent. Energy delivered to minority areas south of the Iber/Ibar River was reduced to zero effective January 2010 and the amounts thereafter pertain to the north only.

Figure 1. Composition of the available energy in GWh



Sections 3.2 to 3.6 discuss in greater detail some of the actions taken by Tetra Tech to support KEK in improving its billing and collections.

Figure 2. Composition of available energy in percentage



3.2 Payment Enforcement, Consumer Education, and Payment Methods

Circumstances in Kosovo made payment enforcement difficult. With no late payment charges and the difficulty in obtaining credit reports, for example, customers had few real incentives to pay their electricity bills. Further, when the project began, the courts often ruled that customers be re-connected, while disconnection procedures were seldom enforced. Thus, Tetra Tech and KEK devised a number of ways to inculcate a culture of responsibility for paying one’s bills.

Disconnections

Tetra Tech helped KEK pursue disconnections for non-payment from the very beginning of the project, first targeting large commercial and industrial customers that had long been in arrears. In parallel, we developed databanks, reporting systems, and rules and procedures to assist in the process. Tetra Tech also supported KEK in developing and implementing an aggressive and targeted policy on disconnections that resulted in a 71% increase in payment transactions in 2009 compared to 2007 alone.

With assistance from Tetra Tech, KEK established a special Field Enforcement Department, which dealt with problematic customers’ disconnection. The term “problematic customer” was used to describe electricity consumers who were 1) typically suspected of electricity theft or simply in arrears on their electricity payments

and 2) would not allow KEK employees to inspect their meters and/or disconnect their electricity. More often than not, such customers would resort to violent behavior against KEK employees. Over the last 3.5 years of the project, this unit, independently and with Kosovo Police support, organized the disconnections of more than 12,000 problematic customers. These activities, along with the highly-publicized disconnections for non-payment, resulted in increased payment rates as well as additional income for KEK.

Table 9 shows the number of “problematic” customers disconnected by the KEK Field Enforcement Department since its creation in 2010, together with the additional income generated from these actions. The “Additional income for KEK” row represents electricity payments made by problematic customers.

Table 9. Disconnections and collections

	2010	2011	2012	2013 (Q1)
Number of “problematic” customers disconnected	983	1,716	3,051	1,756
Additional income for KEK	€1,000,000	€1,531,955	€2,495,549	€451,153

Tetra Tech did not collect data on the percentage of “problematic” or other customers who were disconnected for not paying for electricity and then ultimately became regularly paying customers. However, we know that over the life of the project there were three significant trends: 1) the percentage of commercial losses was reduced, 2) the percentage of billed energy that was collected from customers increased, and 3) the number of monthly payments for electricity also increased. Taking into account these three factors, it is reasonable to conclude that a significant number of customers who were previously non-paying began to pay for electricity owing to the threat of disconnection and/or KEK’s public outreach.

Public Education

Tetra Tech advised KEK in preparing a number of press releases and other materials to help consumers understand the need to pay their electricity bills. A sample of the press releases and materials are presented in Annex C.

The project’s public awareness campaign stressed several points:

- Households currently pay less than the cost to provide them with electricity.
- Household tariffs have not increased for several years; most households pay the same amount in 2011 as they did in 2000.
- KEK is, however, providing a much better level of service than it did in 2000.
- Subsidies from the government for electricity imports will end in 2014, when households must pay for the full cost of electricity service.

In the summer of 2011, Tetra Tech assisted KEK with preparing a press release to mark the signing of a contract to purchase new electrostatic precipitators (ESPs) for the

Kosova A power plant. It emphasized KEK's commitment to reducing the plant's ash and particulate emissions and indicated that people living in the vicinity of the A plant should experience a tangible improvement in air quality by the end of 2012, when two of the three ESPs would be commissioned.

Helping Customers Find an Easier Way to Pay their Bills

Tetra Tech supported KEK in installing two systems that give customers added convenience in paying their bills, while improving the internal control environment within KEK and increasing transparency.

Kos-GIRO. The Kos-GIRO mechanism allows KEK's customers to pay their energy bills through any commercial bank in Kosovo. In late 2007, KEK signed a contract with Raiffeisen Bank to serve as the mechanism's "host" bank. Before the system went live at the end of the year, Tetra Tech helped KEK implement a media campaign to communicate the benefits of this system to the public. By way of example, a poster was developed (Annex F) and distributed to all participating banks and KEK offices – it had two messages: 1) you can pay your electricity bill at any bank and 2) this is a fast, reliable and free service. Tetra Tech also assisted KEK with developing a handout to customers when they paid at a KEK cash office, encouraging them to use Kos-GIRO in the future (see Appendix G for a copy).

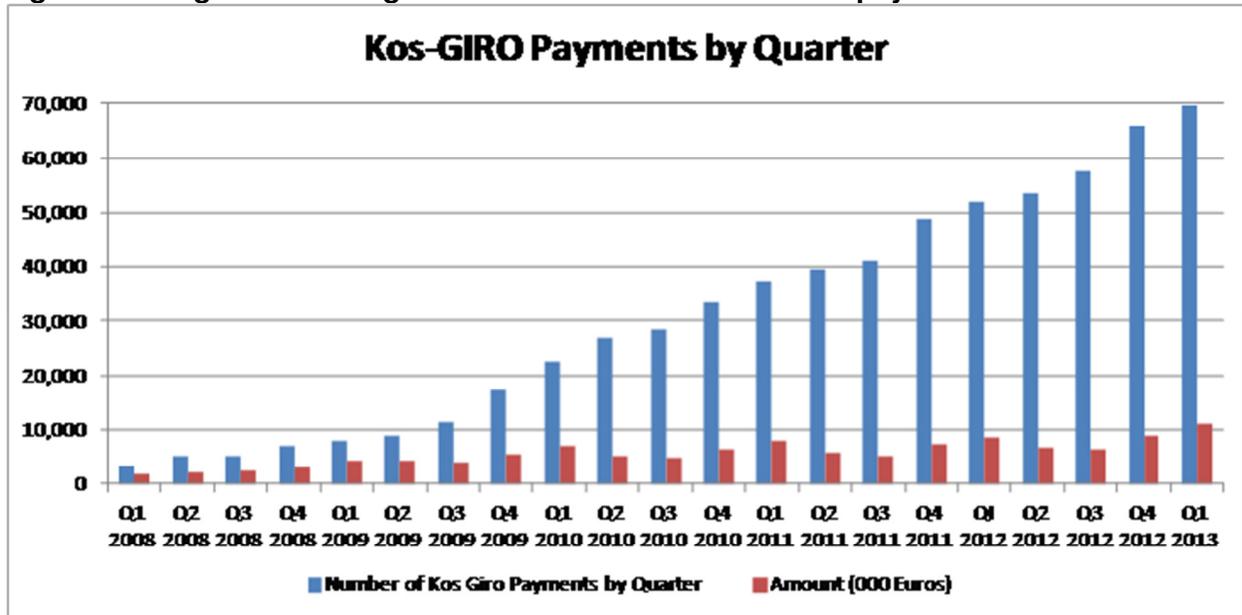
After no errors with Kos-GIRO were detected in late 2009, Western Union requested that KEK allow its customers to process their Kos-GIRO payments at Western Union offices throughout the country. Given this company's popularity in Kosovo, its addition to the system increased the volume of payments.

Figure 3 illustrates the significant increase in the use of Kos-GIRO for electricity payments from its inception in 2008 – when less than 10,000 payments were made each quarter – to nearly 70,000 during the first quarter of 2013. This figure also shows how the amount collected similarly increased over time. During Quarter 1 of 2013, more than €11 million (18% of total payments) was collected through Kos-GIRO, 27% more than in Q1 of 2012. It is worth noting the seasonality in Figure 3: far more energy is used in the winter, when the unit prices are also higher.

Direct debit. This Central Bank of Kosovo initiative gave KEK another opportunity to use the banking system to increase its cash flow. In 2009, the utility was the first entity in Kosovo to become involved with direct debit, so it proceeded cautiously in order to gain experience and prove the system's credibility to customers. At the end of 2009, 312 selected customers were enrolled in this system, which was opened to all customers in January 2010. During that year, the number of customers rose to 1,061 and KEK collected 2% of its revenues using direct debit. As Tetra Tech advised KEK to encourage more customers, particularly commercial entities, to join the system, it proved increasingly popular. In 2011 and 2012, the number of direct debit customers

rose to 1,400 and 1,500, while KEK’s collections through this mechanism increased to 4% and 6%, respectively.

Figure 3. The growth in usage and Euro amount of Kos-GIRO payments: 2008-2013



Ultimately, expanding the number of ways in which customers were able pay their electricity bills supported the overarching effort of improving customer payment discipline. During 2006, approximately 93,000 customers paid for their electricity each month. By the end of the project, the number of monthly payments had increased to 257,000. In addition, the composition of the payments changed, as shown in Figures 4 and 5, with a greater number of payments – together with a greater Euro value – being made from sources other than the traditional KEK customer offices.

Figure 4. Source of KEK electricity collections over time (Euros)

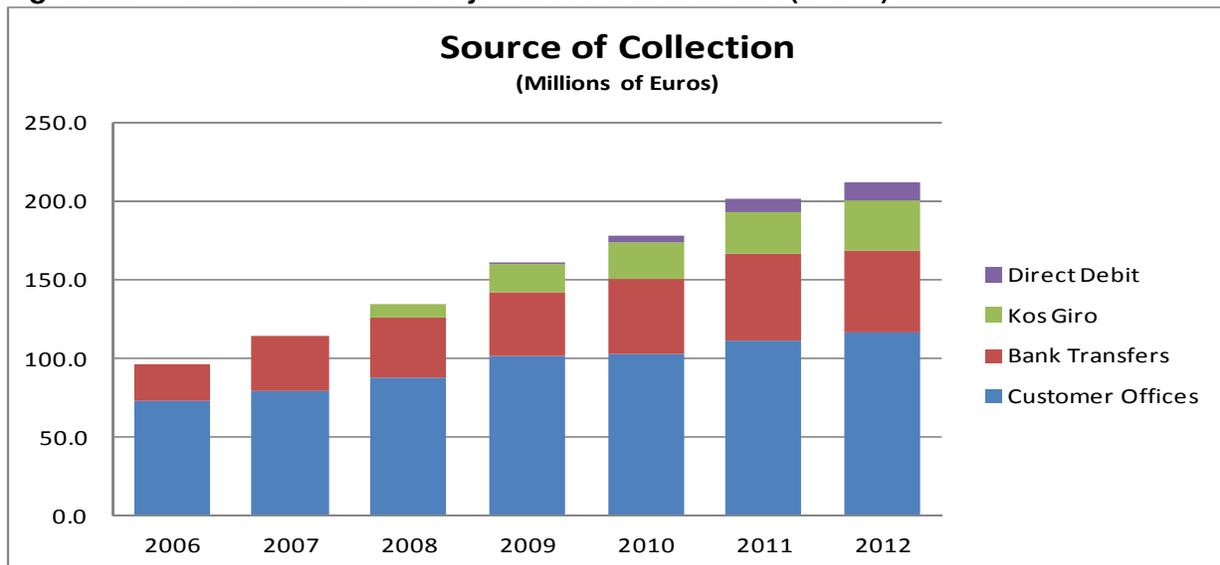
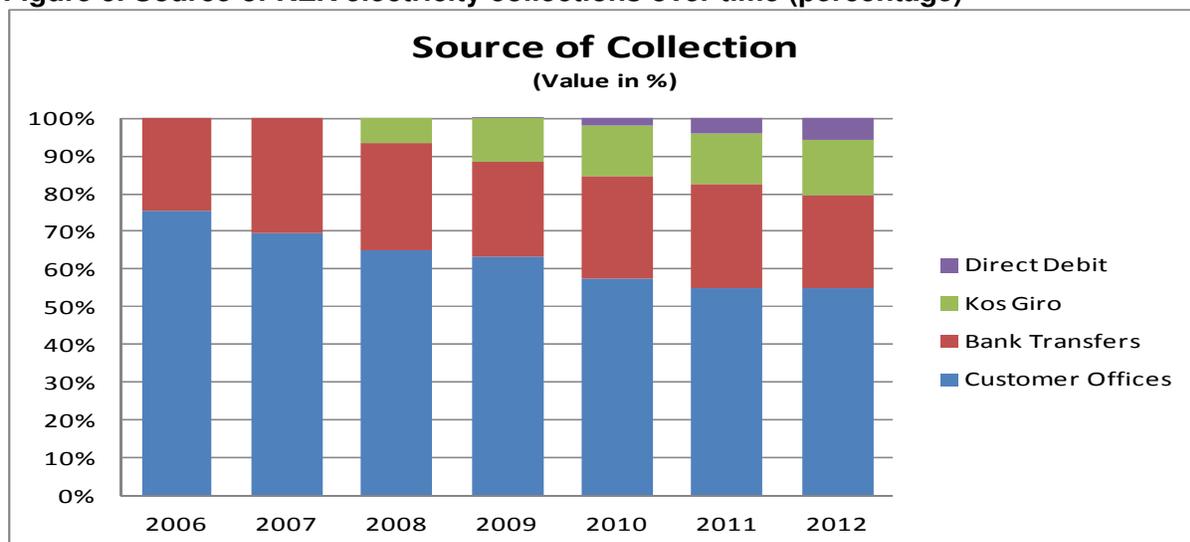


Figure 5. Source of KEK electricity collections over time (percentage)



3.3 Resolving Other Impediments to Commercialization

From the outset of the project, one of Tetra Tech’s standing recommendations to KEK was to maintain simplicity and focus on the core elements of a functioning utility: namely, to measure and account for the energy, bill for the energy in a timely manner, and disconnect for non-payment. In line with this view, in 2007 the Tetra Tech team identified certain contractual arrangements that impeded and/or were financially detrimental to KEK’s business. We worked with KEK and other stakeholders to resolve these issues, as described below.

Eliminating Unrelated Tax Collection through Utility Bills: The Case of Radio Television Kosovo (RTK)

KEK and the public radio and television station RTK entered into a joint billing arrangement in December 2003, after UNMIK authorized RTK to collect a fee for providing its services. Because KEK had the most complete customer database in Kosovo, UNMIK directed it to bill all households the €3.50 monthly RTI fee that was prescribed by law. Through this arrangement, KEK was to act as RTK’s billing and collection agent for a service commission of 6% of the amount of the RTK fee collected.

Tetra Tech analyzed the business case for this arrangement and determined that it was placing an unnecessary burden on KEK and its consumers. This tax was regressive and significantly harmed low-income households. By way of illustration:

- An average household using 350 kWh per month in the summer was paying €13.78 for electricity. The RTK fee was adding another 25% to the bill. Taking into account the 16% VAT rate, the total taxes payable were 41%.

- For a poorer customer trying to conserve energy and use 250 kWh per month, the electricity charge was €9.78. However, the RTK fee added another 36% to the bill. Taking into account the 16% VAT rate, the total taxes payable were 52%.

In addition, collecting this tax reduced the amount of money available to KEK for the payment of electricity consumed. It was estimated that the inclusion of the RTK fee had a negative impact on KEK's cash collections of approximately €2.5 million per year. This assessment was based on the fact that when KEK customers did not pay their electricity bill in full (which was often the case) a prorated amount of the RTK fee would remain payable to RTK. Therefore, KEK was arguably losing potential revenue.

Further, RTK continued to charge for its services even when there was no reception in an area, which adversely affected KEK's revenue collection and the public's perceptions of the utility. KEK would continuously receive complaints from blind customers or customer located in remote areas with no RTK coverage, complaining about the inclusion of the RTK fee in their electricity invoice. Attempts were made in 2007 and 2008 to terminate the contract, but pressure from the government and RTK precluded this. In parallel, Tetra Tech assisted KEK in presenting alternative contractual arrangements to RTK that provided a more balanced arrangement. However, RTK was unwilling to discuss any alternative arrangements.

Today, all of the money collected on electricity bills in Kosovo (with the exception of VAT) go to KEK.

Ultimately, in October 2009, the Constitutional Court of Kosovo ordered KEK to stop billing and collecting the RTK fee. The debt balance for all customers in KEK's records was reduced by €38 million and transferred to RTK for collection, if they so chose.

Collecting from Customers Funded by the Government of Kosovo

Tetra Tech and KEK's Supply Division worked with the Ministry of Economy and Finance (MEF) to improve collections from customers that receive budgetary funding either directly from the central government or indirectly as part of funding given to the local government. We provided data on these consumers to the MEF based on the budget entity and program within each entity. The Ministry froze the accounts of those budget entities with over €1,000 of debt. By the end of June 2007, about €1.6 in outstanding debt had been collected from them. Currently, KEK is requiring payment from all budget-funded entities (schools, hospitals, municipal buildings, etc.). If they do not pay, they are disconnected as are all other non-paying customers.

Improving Contract Terms with Large Customers

KEK's three largest customers – Ferronikeli, Sharrcem, and Trepca – represent more than 10% of KEK's revenues.

KEK's largest customer, the **Ferronikeli** nickel plant, had entered into a five-year supply agreement with KEK in March 2006. Under the agreement, KEK was to provide Ferronikeli with up to 120 MW of power at a formula price not to exceed a cap. When the agreement was made, it was assumed that the performance of KEK's generating units would improve and that the price of imported power would decline.

Tetra Tech worked to ensure that all three contracts were cost-reflective and advantageous to customers and KEK.

By January 2007, Tetra Tech pinpointed this contract as being unfavorable to KEK. In particular, Tetra Tech showed KEK management how the underlying assumptions of the contract were ultimately flawed, and how it would cause financial damage to the company. During the next three years, Tetra Tech conducted analyses, developed methodologies, presented supporting materials, and worked with KEK and the Energy Regulatory Office (ERO) to justify the re-negotiation of this contract. However, given its favorable terms, Ferronikeli was reluctant to re-negotiate the contract prior to its expiry in 2011.

In anticipation of the expiry of the original supply agreement, Tetra Tech developed an entirely new supply agreement with a tariff structure that is appropriate for a large (90 MW) customer with a high load factor and supported KEK in its dealings with the ERO and in discussions with Ferronikeli to finalize the agreement. In contrast to the original 2006 agreement – which contained a simple energy price that was capped – the new agreement contained a two-part tariff, which included an energy price and a demand charge. Large industrial consumers with high load factors often contract with generators to supply their load requirements. Such arrangements place responsibility on the generator to meet the load requirements every hour of every day, resulting in significant fixed costs. The compensation to the generator thus takes the form of a pricing arrangement that recovers nearly 50% of the cost to provide service in the form of a fixed payment (i.e., the demand charge) and the remainder as a variable element (i.e., the energy charge). The tariff design for the new Ferronikeli agreement was based on recovering approximately 50% of the cost through the contract demand charge.

On 18 April 2011, KEK and Ferronikeli signed the new agreement, resulting in new prices that produced annual revenues of €28.2 million for KEK. This amount was €5.3 million (23%) more than under the old tariffs. The contract was renewed in 2012 and Ferronikeli advised KEK at that time that it wanted to renew its supply agreement for an additional year. Today, the two companies enjoy good relations and Ferronikeli has a 100% payment rate.

Tetra Tech supported KEK in developing a new supply agreement with the **Sharrcem** cement plant, KEK's second-largest customer. Signed in 2007, the new agreement reflected commercial arrangements appropriate for a large consumer in accordance with international best practice.

From 1999 until 2010, the **Trepca** lead and zinc mining complex paid only a small portion of its electricity bills and accrued a large debt to KEK. However, the utility was effectively barred from issuing a claim against Trepca for debts prior to 9 March 2006, owing to a decision of the Special Chamber of the Supreme Court of Kosovo that placed Trepca in protective bankruptcy. However, KEK was able to issue a claim against Trepca for debts accrued after that date.

In 2010, Tetra Tech assisted KEK with drafting a legal claim for more than €4 million in outstanding debt, which was filed with the Special Chamber of the Supreme Court. This prompted the management of Trepca's facilities in southern Kosovo to approach KEK and request a resolution. Later that year, KEK concluded a settlement agreement with Trepca's southern facilities. Trepca agreed to pay for its current consumption in full each month plus €40,000 per month for its past debt. Trepca continues to honor its commitments under the agreement.

Resolving Problems with “Outsourced Companies”

In 2006 a decision was taken by KEK to outsource ten “non-core” services to newly created companies. The services ranged from medical care to worker transportation. However, these “outsourced” companies employed over 1,000 former KEK employees and also leased KEK-owned assets and equipment in order to perform the services. Under the terms of the contracts concluded at that time, it was agreed that the outsourced companies would provide services to KEK for a period of no longer than two years and would be allowed to lease KEK's assets during that period.

The contracts were originally set to expire on 31 March 2008; however, they were extended on various occasions in contravention of the applicable public procurement law. Further, pricing under these arrangements was also highly questionable and non-transparent. Tetra Tech worked with KEK's management to produce a strategy document for the outsourced companies that outlined the way forward for each entity. Based on the strategy, many of the contracts would be subject to open competitive tender, and in instances where there was a clear business case, the function performed by the outsourced company was re-established within KEK.

The strategy was presented to the KEK Board of Directors in late 2008 and approved in early 2009. Thereafter, Tetra Tech provided assistance to KEK with implementing the strategy, which was completed in 2010.

Improving Tracking through the Customer Care Package

The Customer Care Package (CCP) is the backbone of KEK's billing, collections, and customer records system. Originally designed under the institutional strengthening component of USAID's 2000-2003 Community Infrastructure

Cleaning customer data allowed for more accurate metering and billing, improved management decision making, and better customer data overall

Support Program, this software package allowed KEK to modernize the billing process, automate cash collections, and improve record keeping. It was also fully compatible with the Central Accounting System (CAS) funded by the European Agency for Reconstruction, which KEK still uses today.

The system was fully deployed in all seven KEK districts by late 2002, although it met with resistance from the utility's upper management in Prishtinë/ Priština. When the KEK Network and Supply Project began, all energy was billed through the CCP except for the three 110 kV customers. At that point, USAID tasked Tetra Tech to assist KEK in cleaning up the data problems within the CCP.

The first step of data cleaning was the elimination of over 100,000 customers classified as "passive" – these were customers who remained in the customer database but whose accounts had not been billed for consumption for a prolonged period. This was not a trivial process, particularly given the scope for abuse by KEK employees. To minimize any manipulation of the process, Tetra Tech developed a step-by-step process for KEK, which involved multiple checks and balances. Those customer accounts showing no consumption for a prolonged period of time were flagged in the system, and KEK employees were deployed to the customer address to verify whether the customer was indeed "passive." This step would then be subject to a second level of verification by a separate group of employees before the customer would be archived. Ultimately, KEK's internal audit department was also tasked with investigating a selection of cases on a regular basis.

Next, Tetra Tec helped KEK establish a four-person Application Software Contact Group to help users resolve procedural, system command, data entry and other problems. With KEK, we then prioritized outstanding data requests to the Information Services Department, about half of which would require the involvement of an outside development contractor, and then devised an approach and work plan to improve the integrity of CCP customer information.

In 2008 Tetra Tech provided the following assistance to KEK's IT Department in connection with improvements to the CCP. We:

- Helped KEK IT gain the CCP's independence from an outside vendor (contractor).
- Facilitated the transfer of employees from the Supply Division to the IT Department to work on the CCP.
- Advised on such matters as database integrity, web services for new systems, data warehousing, and the changes needed to the CCP and CAS related to the new VAT value.
- Helped KEK design a new database structure for a centralized data repository that includes historical and operational information related to the Network and Supply Divisions.

- Modified a software package for analyzing, comparing, and reporting information on consumption, billings, collections, and disconnections at different levels of the network’s electrical tree using CCP software.

Tetra Tech also supported KEK IT in designing and developing several new tools/utility reports, as shown in Table 10.

Table 10. Tools and reports developed for the CCP by KEK IT with Tetra Tech’s support

Name	Description
Consumers by bill amount (monthly)	This report can be produced for a given time period and category of consumers (more than 60 categories). There is also an option to show the details of bills.
Payments related to customers on 10 kV and 0.4 kV feeders (daily)	This report can be generated for any time period and include bank and/or cash payments. There is an option to show the details of payments.
Consumers with more than 3 months of repeat billings ¹	This report can be produced for any bill amount interval and category of consumers. There are options to show the details of consumers and bills.
Bills by category of consumer	Reports can be generated for any interval of bill amount, period of time or category of consumers. There is an option to show the details of bills.
Debts by category of consumer (example: KEK employee debts)	This report can be produced for any interval of debt amount or category of consumer. There is an option to show the details of debts.
Customers connected to each 10/0.4 kV transformer station	There is an option to show details about consumers.
Efficacy of disconnections (grouped by a list of disconnections or payment days)	Reports can be generated for the list of disconnections created in a selected time interval. There is an option to show the details of payments.
¹ This tool enabled KEK to identify consumers with three months of repeat billings, which would raise the possibility that either the meter was not being read properly or there was some irregularity with the meter. Once a consumer was identified, KEK could then investigate the matter further.	

In 2009, the cleanup initiative moved forward significantly when extensive field work was undertaken to locate unregistered consumers and identify non-existent “customers” using a field verification form and software package, which Tetra Tech helped KEK to develop. This involved visiting over 185,000 locations and reporting the status of customers as well as properly coding each consumer to the appropriate feeder.

Following the field work, customer service personnel in each district coded each consumer using the field verification data. This coding provided a categorization of each of the situations found, which enabled updates to the database. Extensive work was

undertaken to properly code each consumer to the appropriate feeder. This exercise revealed:

- 8,014 facilities that were destroyed or do not exist: The debt associated with these customers was €6.7 million, and they were removed from active customer status.
- 12,853 facilities were vacant most of the time: €10 million of debt was associated with these customers, who were ordered to be disconnected.

In 2010-2012, Tetra Tech developed an action plan and helped the Internal Audit Office locate and register more than 15,000 unregistered electricity consumers as KEK customers in the CCP system, thus reducing the commercial losses caused by their unauthorized consumption. The implementation of this project brought more than €15 million in revenue to KEK by 2012.

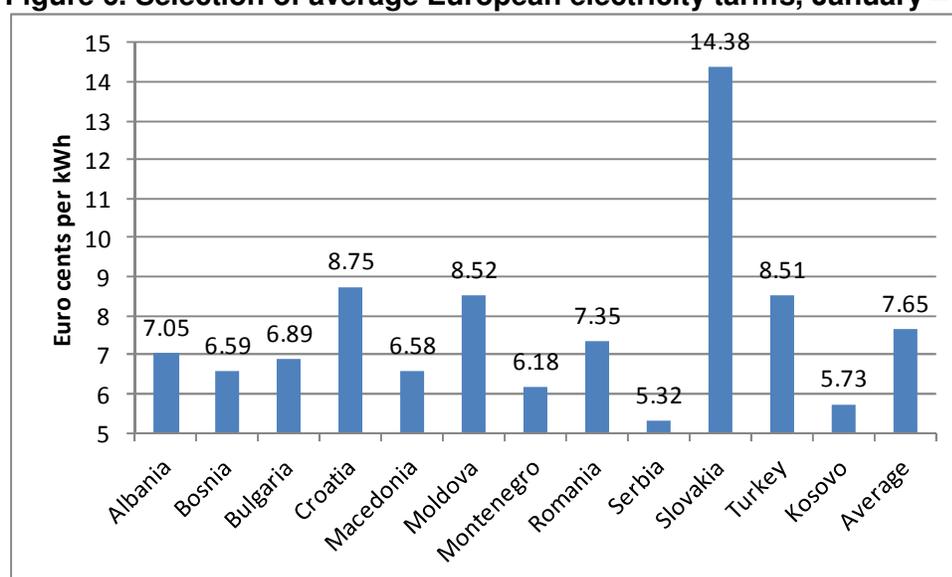
In 2011, with the CCP functioning well, Tetra Tech assisted KEK IT in its presentations to potential KEDS investors on the business aspects of the system, its basic functions, and what it could expect from the CCP.

3.4 Tariffs

In order for KEK to operate as a commercially viable utility, it was important that it be able to operate within the regulatory framework. Throughout the term of the project, Tetra Tech provided assistance to KEK on all aspects of regulation, including tariffs (pricing). We consistently stressed to KEK and other stakeholders the need to secure retail tariffs that cover the costs of operating the utility – a fundamental principle.

Following the 1999 conflict, UNMIK mandated a pricing schedule for electricity in the year 2000, which remained in place until 2007. Thereafter, and for each year in the period 2007 – 2013, the ERO performed an annual review of electricity tariffs. Tetra Tech assisted KEK in each of the seven annual tariff application rounds. Our assistance focused on ensuring that KEK understood the tariff process as it evolved, developing its tariff application, and interfacing with the ERO to support the tariff application. Although KEK's tariffs are consistently the lowest in the region and far below the levels in Western Europe (as shown in Figure 6), overall, tariff increases were minimal (Table 11).

Figure 6. Selection of average European electricity tariffs, January – June 2011



Source: ERO 2011 Annual Report

Table 11. History of retail tariff increases in Kosovo

Year	Tariff Change	Comments
2007	4.5% increase	The prime minister sent a letter to UNMIK requesting the reversal of KEK's ERO-approved tariff increase for 2007. He indicated that if his demand was not met, he would ask the public not to pay their electric bills. KEK then reluctantly agreed to reduce its revenue requirement by €7 million.
2008	Households: 2.5% Others: 5%	Although household tariffs were already far below cost and being subsidized by other customers, the ERO effectively increased the subsidy to households from other customers.
2009	2.5% increase	The entire amount of the increase went to KOSTT. In 2010 and 2011, the ERO recognized that the KOSTT prices were too high and reduced them.
2010	Zero increase	
2011	Zero increase	
2012	8.9% increase	Primary components: <ul style="list-style-type: none"> ▪ +7%: reduction in the import subsidy ▪ +3%: Anticipated increase in the lignite royalty ▪ +3%: Increase in the bad debt allowance ▪ -4%: arbitrary reduction in operating expense costs
2013	Zero increase	The ERO initially proposed an increase of approximately 6%; however, it ultimately decided that there was a zero increase. Further details of the problems caused by this decision are outlined in Section 10.

In addition to overall tariff levels being low, tariffs for households covered only about 70% of the cost to provide them with service (other classes of customers subsidize them). Each year KEK provided the ERO with analyses showing the costs to provide electricity service to each group of customers; however, the regulator decided to keep household tariffs low. Its pricing rules call for Kosovo to meet its commitment to the Energy Community Treaty that tariffs for various classes of customers will be cost-reflective by the end of 2014. There is no way this commitment can be met since household tariffs would have to increase at rates far exceeding what is politically acceptable.

In May 2012, Kosovo’s Assembly approved an increase in the lignite royalty from €0.27 to €3.00 per ton, effective 1 January 2013. This represented an 11% increase in retail electricity tariffs on an annual basis. Since virtually all lignite is used for domestic generation, the increase is essentially a tax on electricity consumers, the majority of which are households.

As previously mentioned, Tetra Tech worked closely with KEK Regulatory Department to build capacity and develop the extensive documentation required by ERO to support a request for a tariff increase. Table 12 shows some of the extensive documentation KEK provided to the ERO for the 2012 tariff application.

Table12. ERO licensee documentation requirements for 2012 tariff application

Part	Contents
I. Baseline Information for All Licensees	This section laid the foundation for the generation, distribution network, and public supplier tariff applications. It documented KEK’s compliance with the new pricing rules.
II. Regulated Generator Tariff Application	This section contained the tariff application for the KEK generation and mining businesses. It laid the foundation for the determination of the wholesale energy price.
III. Wholesale Electricity Price for 2012	This section utilized the information from the 2012 energy balance and the generation tariff to determine the 2012 wholesale energy price, along with information concerning the estimated cost of imports, purchases from other domestic generators, and exports.
IV. Distribution Use of System (DUOS) Tariff Application	This was the tariff application for KEK’s network in which the allowed revenues were proposed using the wholesale energy price to determine the cost of technical and commercial losses. The methodology for DUOS tariffs by voltage level was documented for the regulator to review.
V. Public Electricity Supplier Tariff Application	The public supplier application used inputs from the other licensees to develop proposed retail tariffs. Using the wholesale energy price, transmission fees, and the DUOS tariffs, along with a determination of its own retail costs, this application documented KEK’s total allowed revenues for retail tariffs of €239 million. KEK submitted its documentation of the methodology to determine cost-reflective tariffs for each customer class and then proposed the pricing by tariff class to recover those allowed revenues.

In 2012, the ERO announced its intention to move towards a five-year tariff review period. This process required significant additional data from KEK, and Tetra Tech worked with the regulatory staff to make them available to the ERO and its consultants. Since 2013 would essentially form the benchmark year or starting point for the following four years of the tariff period, it was imperative that the tariff process be undertaken in a fair and transparent manner. Additionally, the KEDS investors were scrutinizing each step in the process, particularly since they would ultimately inherit any determination the ERO made on the allowed revenue of KEK's distribution and supply function. In January 2013, the ERO initially determined that a 6% tariff increase was needed for 2013. However, on 18 March, the Minister of Economic Development made a public announcement that there would be no increase in retail tariffs in 2013. Four days later, the ERO issued a tariff decision that also indicated a zero retail tariff increase for 2013 and minimal increases in allowed revenues for 2014-2017.

There are reasonable grounds to suggest that the ERO failed to implement its own pricing rules when calculating the 2013 tariffs, KEK submitted a claim for judicial review of the decision.

Tetra Tech's other assistance to KEK's regulatory team included:

- Advised the utility's management and corporate communication staff on responding to negative press coverage and statements from government officials concerning tariffs.
- Changed customer bills to provide more specific information to all classes of customers.
- Worked with the ERO and its advisors on tariff issues.
- Prepared reports on, for example, the current time-of-use tariffs and issues with meters, and conditions of electricity supply/service (e.g., connections, collections, line extensions).
- Drafted tariff schedules that define each tariff category.
- Trained staff on tariff development, data requirements for tariff design, regulatory chart of accounts, load research, reporting requirements, etc.
- Provided extensive comments on the pricing rules developed by the ERO and its consultants.
- Supported KEK's Regulatory Department in all tariff reviews conducted by the ERO and responding to ERO requests.

- Developed distribution use of system (DUOS) tariffs.
- Developed a methodology for KEK to determine unbundled tariffs.
- Analyzed the financial impacts of including the assets acquired prior to 2006 in the regulatory asset base for tariff purposes.
- Prepared briefing papers on pricing rules.
- Researched regulatory practices in other countries.
- Assisted KEK with applying to the ERO for a new tariff for Ferronikeli. On 14 April 2011, the ERO approved a composite tariff of €4.14 cents per kWh for Ferronikeli as well as a tariff design wherein 50% of the annual revenue is recovered in the form of a contract demand charge and 50% in an energy charge. This was a very positive development for KEK, since the new tariff produces revenues of €28.2 million for the first 12 months of the contract, while the prior tariff produced €22.9 million, resulting in €5.3 million of additional revenue (a 23% increase).
- Tetra Tech supported KEK in implementing new tariffs for KFOR facilities based on the marginal cost of wholesale energy. Initially, most KFOR units refused to sign the new contracts and pay the higher prices. But as a result of meetings with several KFOR units and the ERO, all KFOR facilities but one began paying the new tariff.

Tetra Tech also provided supported to KEK in its disputes with KOSTT and the ERO over the transmission tariffs for 2008-2010 that KEK was allowed to charge to consumers in relation to the amount it was required to pay. The 2011 tariff decision effectively settled prior complaints lodged by KOSTT alleging that KEK: 1) refused to pay a portion of invoices for transmission services in 2010, 2) refused to sign the Connection Agreement prepared by KOSTT, and 3) failed to pay the 2008 and 2009 reconciliation invoices KOSTT had submitted. Tetra Tech helped KEK respond to these accusations by stating that it did not have the financial resources to pay KOSTT any amount in excess of that included for cost recovery in retail tariffs. In its decision, the ERO agreed with the KEK position and did not order KEK to pay any amounts for prior years above what it previously paid.

A similar dispute led to KEK submitting a claim to the Supreme Court after the ERO ordered KEK to pay an additional €3.8 million to KOSTT in relation to 2011 transmission fees. In 2013, the Supreme Court issued its final ruling on this matter and ordered KEK to pay the amount ordered by the ERO.

3.5 Metering

At the beginning of the project, metering in Kosovo was plagued with problems. First, most of the country's meters were old and in poor condition. Second, Kosovo laws and regulations state that billing meters must be owned and maintained by KEK; however, historically in Kosovo all billing meters were owned by customers. This situation was not resolved until 2010 when the energy legislation was changed. Third, behavioral problems on the part of both customers and KEK staff were resulting in readings of zero or very low consumption. On the part of customers, for example, illegal connections were rife (there were hundreds of such connections in the buildings next to KEK's Prishtinë/Priština office alone). In addition, nearly 30% of KEK's customers would not allow meter readers to access their meters and other measurement facilities, while meter tampering was common practice.

On the utility side, meter readings were often inaccurate and sometimes changed, even after several months. Also, employees often failed to read meters correctly or sometimes read them at all. The employment structure at KEK (low pay, too many employees) did not motivate staff to improve metering because it was a source of under-the-table income. For example, in Ferizaj/Uroševac District, it was determined that KEK's own employees committed over two-thirds of the detected cases of electricity theft.

Metering activities began with KEK's largest customers, followed by metering the extensive amount of electricity used at the mines and generating plants, and then, customers served at medium-voltage levels (35 kV and 10 kV).

By the project's end, Tetra Tech had helped KEK specify, tender, procure and install about 111,722 energy accounting and customer meters (€9.0 million) to reduce commercial losses, improve energy accounting, and assist in regularizing customers. Some examples of our assistance to improve metering at KEK included:

- Writing a formal procedure to minimize corruption and the inaccurate reporting of meter readings within KEK.
- Enabling KEK teams to cross-check “zero” or “negative” meter readings and readings with monthly consumption of less than €10 with the actual situation in the field.
- Leading inspections of customer meters (over 7,500 in 2010 alone).
- Devising action plans for resolving unsealed meters and irregular measurement installations.
- Preparing an overall metering strategy that balances KEK's challenges, budget constraints and strategic considerations; the strategy focused on strengthening

KEK's infrastructure for energy accounting by installing multi-functional remotely-read meters at all levels (35 kV and 10 kV) down to the 10/0.4 kV transformers at high-consumption customers, and by deploying simple electronic meters for residential and small commercial customers.

- Implementing a program of reimbursing meter readers for the use of their personal cars on a € cents per kilometer basis.
- Supported KEK in securing an upgrade of its AMR system, thereby allowing the utility to read all its meters with remote reading capability. This task was undertaken in conjunction with the installation of meters with remote reading capability on all 10/0.4 kV transformers.
- Monitoring KEK's installation of the software in each district and supporting staff training. By the end of the project, the upgraded AMR system was operational and capable of generating an energy balance for the network.

Some of the larger projects we implemented are described below.

Metering for Large Customers

New electronic meters with load profile data recording and remote reading capability were installed at KEK's largest customers: the Ferronikeli Plant, Trepca Mining Complex (a socially owned enterprise administrated and managed by KTA during UNMIK's tenure and the Kosovo Privatization Agency after independence), and Sharrcem Cement factory in 2008. Among the advantages for KEK were that these installations backed up existing KEK and KOSTT metering at the facilities, and they allowed KEK to read the meters through telephone links rather than having substation operators read the meters and phone the readings back to Prishtinë/Priština. In subsequent years, KEK replaced all metering at medium-voltage (35 kV and 10 kV) customers, followed by metering at the 1,400 largest low-voltage customers.

Metering for Household and Small Commercial Customers

In the period 2007 to 2010, KEK made several attempts to procure simple electronic meters. However, owing to procurement difficulties, these attempts ultimately failed. In 2011, with Tetra Tech's assistance, KEK developed a new procurement process that involved the qualification and listing of preferred suppliers and meters. Thereafter, when KEK required meters, it would simply request quotations from the preferred suppliers. The new process proved to be extremely successful, with KEK qualifying three suppliers in 2011. Since then, KEK has been purchasing electronic meters for its nearly 400,000 household and small commercial customers. While no meter can prevent a customer that is intent on diverting electricity from doing so, the new meters are tamper resistant and have thus supported KEK's overarching goal of reducing commercial losses.

Meters to Monitor KEK Self-Consumption

Traditionally, the use of energy at all KEK facilities had not been uniformly accounted for in terms of energy units (which affects the energy balance) or financial accounting. This was an important matter for KEK Mines, which used 100.5 GWh of energy in 2008. Tetra Tech advanced the recordkeeping of KEK's own consumption at Mines and Generation by assisting the company in creating a file server containing a version of the Customer Care Package. Populating the new file server with the necessary data enabled KEK to record and archive the meter readings from its facilities and record the loads and bills of external customers located near KEK facilities. In 2008, KEK had billed these customers only €345,000, but they consumed over €1.2 million worth of electricity each year.

Ferizaj/Uroševac District Metering

Tetra Tech assisted in installing 600 half-indirect electronic meters at transformer points in Ferizaj/Uroševac District in 2009. KEK received these meters in 2007, but had not committed to installing them until prompted by Tetra Tech. So the installation could proceed in a timely manner, we dispatched metering personnel from other KEK districts to Ferizaj/Uroševac. These meters allowed the calculation of non-technical energy losses for each transformer rather than the entire feeder, providing a better definition of high-loss areas, which would then be targeted for improvement. In subsequent years, KEK installed meters on every transformer point in Kosovo, thereby providing the tools districts need to reduce losses.

Unmetered Customers

In 2008, over 10,000 customers fell into the “unmetered customers” tariff category. Rather than being metered, these customers paid a flat monthly rate. We advised KEK to eliminate this category and developed plans for the installation of electronic meters at all unmetered customer sites. By 2012, electronic meters were installed at virtually all of these customer sites.

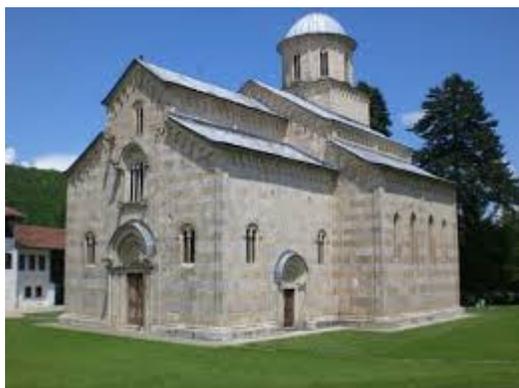
The Status of Metering by the End of the Project

Through field verifications of abnormal meter reading data, increased controls on meter readings, new employee procedures and sanctions for corrupt actions, and other actions at KEK, metering improved significantly, which in turn led to increased billing and collection performance (see Section 3.1). In addition, by 2009, in all KEK districts, meter readings were being completed in a 5-day cycle, rather than the old 21-day cycle.

3.6 Regularizing Minority Communities

For ten years following the 1999 conflict KEK was required to provide electricity to minority consumers (mostly ethnic Kosovo Serbs) in Kosovo without payment. This situation created a lingering economic hardship for KEK, so Tetra Tech set out to devise a number of practical solutions, including community metering.¹² Tetra Tech advisors also met extensively with community leaders in minority areas to listen to their concerns and explain KEK's position, including its load shedding and disconnection policies.

Beginning in mid-2009, with the support of the international community, Tetra Tech helped KEK to regularize service to all minority consumers in Kosovo south of the Iber/Ibar River. We interacted with members of the Serbian Government, leaders of Kosovo Serb communities, the United Nations Mission in Kosovo, the European Union Rule of Law Mission in Kosovo, Red Cross, the Organization for Security and Cooperation in Europe, KFOR, the Kosovo Government (e.g., Ministry of Labor and Social Welfare), and leaders of the Orthodox Church.



Deçan/Dečan Monastery, a World Heritage Site
Source: <http://onestep4ward.com>

Tetra Tech developed the Agreement between Community Leaders and KEK to Regularize Electricity Service in that same year. Our advisors provided field support to KEK and acted as intermediaries in executing agreements with 123 communities. The agreements included a provision that KEK will not disconnect customers for the old (referred to as frozen) debt they incurred prior to the agreement. By the end of the year, all minority communities south of the Iber/Ibar River were regularized in their electricity supply.

This regularization of commercial dealings produced significant results. The next step was to monitor compliance with the terms of the agreements for each of the consumers subject to them. Tetra Tech found that the payments of customers living in these communities have been at least as good as those in the rest of the country. Nearly 23,000 minority consumers are now paying regularly and over €19 million has been collected from them. Their payment percentage is better than the average for households. KEK now treats all consumers south of the Iber/Ibar River in a commercial manner – those customers who do not pay are disconnected. This includes facilities of all religious faiths, Internally Displaced Person Collective Centers, municipalities, and water companies. KEK's relations with its minority customers are currently quite good.

¹² Ultimately, after consultation with USAID, it was agreed not to proceed with the concept of community metering, but pursue another solution devised by Tetra Tech, as further explained in this section.

To illustrate the positive relations, KEK built new 10 kV distribution lines to the Dečan/Dečan Monastery, Pejë/Peč Monastery, and Deviq/Dević Monastery (the latter also received a new 10/0.4 kV transformer station). These projects were completed in late 2009 and helped build mutual trust between church leaders and KEK. At the monasteries' request, KEK also changed the names of these facilities in service agreements and electricity bills to those provided by church officials. Today, nearly all of the country's monasteries are paying regularly for their electricity consumption.

Internally Displaced Persons (IDP) Collective Centers

KEK was not permitted access to the ten IDP

Collective Centers located in Kosovo's minority areas south of the Iber/Ibar River until late 2009. At that time, Tetra Tech visited each center and assessed its living conditions and electrical configuration. We then

began working with the Ministry of Labor and Social Welfare's (MLSW) offices in Gracanicë/Gračanica (two camps) and Shtërpçë/Štrpce (four camps) to determine the social programs available to residents, anticipating that the Social Cases Subsidy for electricity could cover part of these facilities' consumption, with the remainder to be paid by donors. Because center residents needed to qualify for the subsidy, we provided local officials with information that would help residents apply for it.

Collective Centers represented the final group of consumers south of the Iber River to be regularized

Tetra Tech also worked with the GoK and international community to ensure that funds would be provided to cover electricity costs at these centers when KEK discontinued the provision of free electricity on 1 April 2010. Various ministries agreed to pay for up to 330 kWh of consumption per family per month. However, because no donors came forward to fund IDP consumption in 2011, the MLSW proposed a way forward:

- The municipalities must sign an agreement with KEK and register the centers as customers.
- The individual centers must be responsible for controlling their electricity use. They must be disconnected once they reach the limit that donors or others will pay.
- The MLSW will pay €1,000 per month as its contribution to all the centers for electricity.
- The municipalities are to pay an additional amount to cover up to 330 kWh per month, while residents were responsible for paying for all consumption in excess of this amount.

In addition, Tetra Tech determined that installing individual meters for center residents would be costly and impractical. Thus, a single meter would be installed for each facility

and consumption would be monitored closely by KEK and the Ministry of Communities and Returns (MCR).

In October 2010, Tetra Tech prepared a memorandum of understanding based on this proposal. After a number of meetings were held with the mayors of Gjilan/Gnjilane, Gracanicë/Gračanica and Shtërpçë/Štrpce to explain the memorandum, all three mayors had signed by January 2011. By the end of the month, all electricity utilized by the centers was being paid for (the MLSW was paying \$1,000 per month, the mayors of in Gracanicë/Gračanica and Gjilan were paying their portion up to the 330 kWh per month, and the MCR was paying Shtërpçë/Štrpce's portion).

This situation continued through 2012. Residents understood their responsibilities and only the facilities in Gracanicë/Gračanica were disconnected because they did not pay for their excess consumption or had established illegal connections. The MLSW and MCR had consistently argued that any financial burden should ultimately fall on the municipalities and not their Ministries. Thus, near the end of 2012 the MLSW and MCR jointly announced that from 2013 onwards, they would not be paying for any electricity consumption, and this burden should be shifted to local municipalities where the IDP Centers are located. Despite repeated efforts by KEK, MCR and MLSW, the municipalities failed to assume this financial burden. Therefore, KEK was left with no option but to inform residents that effective 1 January 2013, they were required to pay for all energy their center consumed or be disconnected.

Initially, residents in several centers refused to pay. However, after these centers were disconnected for a few days and residents discussed this issue with their community representatives, they understood that this is a KEK commercial issue and that the residents must take responsibility and pay for the electricity they consume. By the project's end, all IDP Centers, with the exception of the Padalishte/Padaliste camp in Gracanicë/Gračanica (it is being funded from a source in Serbia), pay for their monthly consumption using their own funds. In addition, residents disconnect their facilities for several hours each day in order to conserve as much energy as possible and pay less at the end of the month.

Minority Communities in North Kosovo

Tetra Tech also advised on the extensive discussions between UNMIK and later, the GoK, with the Government of Serbia and Elektroprivreda Srbije (EPS) regarding the electricity situation in Northern Kosovo. Our advice was focused on the proposal that EPS or its proxy Elektrokosmet be registered as a commercial business in Kosovo and act as an energy service company contractor to KEK that would provide network operation and maintenance, meter reading, billing, collection, and customer service in the area north of the Iber/Ibar River. Tetra Tech then developed the underlying contractual framework that would be required for introducing a new energy service company in northern Kosovo. This concept was later adopted by the GoK and has formed part of its negotiating strategy in the EU-facilitated dialogue with the Serbian

Government. However, to date, no resolution has been found. In the meantime, KEK as well as KOSTT, have no access to facilities and consumers north of the Iber/lbar, and cannot read the meters there. This issue was still ongoing at the end of the project.

Owing to the failure to reach a resolution in connection with the situation in northern Kosovo, Tetra Tech assisted KEK with drafting a legal complaint that was submitted in early 2012 to the Energy Community Treaty Secretariat, citing the continued illegal actions of the Serbian State Electric Utility and its proxy Elektrokosmet in northern Kosovo. The complaint had two parts. First, KEK claimed that through the unlicensed activities in northern Kosovo of EPS and Elektrokosmet, the Republic of Serbia failed to comply with Article 6 of the Energy Community Treaty (read in conjunction with Articles 3 and 13 of EU Directive 2003/54 concerning the rules for the internal market). Article 6 of the Treaty requires that all signatory parties “abstain from any measure, which could jeopardize the attainment of the objectives of this Treaty.” Second, KEK claimed that Serbia directly, and through the actions of the public enterprise Elektromreža Srbije (EMS), applies rules and procedures that impede KEK’s ability to freely participate in the regional market and that such actions represent non-compliance with the provisions of the Treaty read in conjunction with EU Regulation No. 1228/2003 on the conditions for access to the network for cross-border exchanges in electricity.

KEK’s principal grievance focused on the EMS rule that all parties participating in the auctioning of cross-border capacity (which extended to Kosovo’s borders with third countries) required an electricity trading license from Serbia. KEK’s Kosovo electricity trading license was not recognized. While the Energy Community Secretariat has provided informal feedback to KEK that elements of its claim are legally sound, it has yet to issue a formal opinion.

3.7 Social Subsidy

The Government of Kosovo sets aside €4.5 million each year to pay all or part of the electricity bills of the most economically vulnerable customers. Each year of the project, Tetra Tech worked with KEK and the Ministries of Finance, Energy and Mines, and Labor and Social Welfare to allocate the subsidy to electricity customer accounts in a fair manner. In 2007 about 28,000 households (9% of the country’s total households) met the government’s “Social Cases” eligibility criteria, and the number had risen to over 37,000 by the end of the project. However, because the amount of the social subsidy did not increase over the years, the volume of electricity being subsidized for each customer had decreased to 258 kWh per month (compared with 500 kWh per month in 2007). On several occasions, Tetra Tech proposed to the GoK and other stakeholders that eligibility for the subsidy should be broadened to all households in Kosovo that are in “extreme poverty” as defined by the World Bank (approximately 50,000 households or 17% of the population). This expansion could also be combined with an increase to the social subsidy in order to preserve the level of the kWh

allowance. Although the proposal was generally well received by most stakeholders, no action was taken to implement its terms.

3.8 Loans and Credit

Starting in 2007, Tetra Tech worked to secure additional funding for KEK. The loans and credits KEK received not only allowed the utility to continue with its daily operations, but also improve its performance and services through an extensive program of capital expenditures, particularly for investments in mines and power plants.

Credit Lines

In 2007 Tetra Tech assisted KEK in drafting, negotiating, and finalizing an overdraft agreement with Raiffeisen Bank. The agreement had a cap of €10 million, which was later increased to €15 million. Other than Ferronikeli, no other company had secured such a facility in Kosovo. The purpose of the overdraft was to fund KEK's working capital requirements. Today, given the improvements in its financial performance, KEK no longer utilizes the overdraft facility.

Government Loans

Tetra Tech provided legal advice and assistance to KEK on six loan agreements with the MEF between 2008 and 2010. These loans, with a commitment of €229,152, 550, were used for financing capital projects, primarily for the refurbishment of the Kosova B power plant, and the opening of the SSW mine and the procurement and refurbishment of its equipment. Through the end of 2012, KEK drew down €192.6 million, providing the legal and financial basis for it to finance much-needed capital expenditures.

In 2011, Tetra Tech assisted KEK in finalizing a settlement agreement with the Ministry of Finance for the repayment of a €10 million loan that had been transferred to KEK in 2005. At the end of the project over €6 million had already been repaid by KEK, and the timing of payments for the remaining €4 million was being negotiated between KEK and the GoK.

Interactions with the IMF and World Bank

Tetra Tech was always ready to share its thoughts, proposals and ideas on KEK's financial situation when given the opportunity. In this direction, Tetra Tech met with each IMF mission to Kosovo over the course of the project in order to provide its assessment of KEK's financial and commercial situation, and highlight what funding needs would be required from the Government going forward. This interaction was particularly important in connection with securing loan funding from the GoK for KEK's extensive capital rehabilitation of the mining and generation equipment, and subsidies

for electricity imports. The IMF appreciated the impartial insights that Tetra Tech was able to give on KEK's situation.

Tetra Tech also met on a regular basis with World Bank representatives. The topics of discussion would typically involve the KRPP (also referred to as the Kosova C or New Kosovo Power Plant/NKPP) transaction and the status of the Energy Clean Up and Land Reclamation Project – both of these issues are addressed in more detail elsewhere in this report. In addition, we made presentations to the Word Bank on the general status of the energy sector, and KEK's capital expenditures for mines.

3.9 Budgeting and Cost Control

Tetra Tech introduced several new methods to improve budgeting and cost control at KEK. These included:

- Detailed corporate business plans and their supporting division action plans
- Performance-to-plan reports, which detailed the performance of each of KEK's primary operating divisions (coal production, generation, network and supply). Performance was measured against the key performance indicators approved by KEK's Board of Directors as part of KEK's annual business plan
- Quarterly revisions of the capital expenditures (CapEx) and operating expenditures (OpEx) budgets
- Revenue, sales, and energy forecasts
- Policy papers on budgeting, procurement, and cost control.

These procedures and systems resulted in significant improvements in the company's financial position and performance. Over the course of the project, KEK's losses of more than €25 million were turned into profits of over €15 million by 2011, liquidity increased 2.5 times, and the utility was able to finance large O&M and capital investment programs, and improve the efficiency and effectiveness of its operations.

Budgeting

In 2008, Tetra Tech helped KEK adopt the zero-based budgeting system in which all division managers must justify their budget requests in detail, regardless of the previous year's expenditures. Zero-based budgeting was then used at budget hearings with all company divisions to rank all OpEx and CapEx expenditures in order of priority. Based on their ranking, the expenditures are then grouped into one of three categories depending on the financial situation of the company – minimum level, good year, and

new tariffs assumed – and included in the annual consolidated budget for the Board of Directors’ decision and approval.

Once a budget was approved, Tetra Tech supported and advised KEK management on its execution. This included reviewing funding commitments and budget requests, procurement and other procedures, contracts, invoices and payments, and justifications for budget adjustments, the transfer of funds between budget lines, and requests for the use of the Budget Reserve Fund. Tetra Tech also reviewed budgets to ensure that all amounts in a category were consistent with actual needs.

Cost and Revenue Control

In 2011, Tetra Tech completed the design of an Integrated Cost Control System, which provides information to support the budgeting, procurement, and cost control functions. This system also includes a contracts and tenders database that is instrumental in the enforcement of cost control procedures.

The Integrated Cost Control System:

- Stores and updates the approved budget
- Maintains records of all budget requests
- Records all announced tenders
- Maintains records of signed contracts
- Records invoices submitted.

Tetra Tech also supported KEK in developing new revenue control policies and procedures. They were consolidated in a revenue control manual, which was developed to address weaknesses the auditor general exposed in KEK’s revenue control system.

Accounting

Tetra Tech assisted KEK in developing and implementing new accounting policies and procedures, as well as information systems and internal controls:

- A sophisticated Asset Register
- A new centralized document database and Accounts Payable, Accounts Receivable and Treasury modules of the Computerized Accounting System
- Sophisticated new human resources and payroll systems.

The improvements in accounting and finance resulted in KEK obtaining an unqualified auditor’s opinion in 2011 for the first time in its history.

The audit of KEK’s 2012 financial statements was ongoing at the time of the project’s closing. However, the auditors (Ernst & Young) had delivered a draft report, which contained three qualifications in the following areas: 1) interest and principal payments on KEK’s capital loans with the GoK, 2) environmental provisions, and 3) a large negative adjustment (impairment) to the value of assets transferred by KEK to KEDS. Tetra Tech is particularly concerned with the third qualification, which may be based on

a misinterpretation of the KEDS transaction and may contain an inaccurate presentation of the assets, liabilities, revenues and expenses of KEK.

Ultimately, after careful review, Tetra Tech advised KEK to reject the qualifications and invite the auditors for further discussions in order to resolve these issues. Further, and in order to eliminate the first qualification, Tetra Tech supported KEK's request to the Minister of Finance at the end of June 2013 that he formally waive all interest and principal repayments on the capital loans in 2012. KEK has made similar requests to the Minister on several prior occasions without success. It is hoped that this request will elicit a more positive outcome.

At the time of the project close, Ernst & Young had agreed to remove qualifications 2) and 3) and were in discussions with KEK management regarding the treatment of the remaining qualification. However, KEK had not yet received the requisite confirmation from the Minister regarding the status of the capital loans in 2012.

4 Improving Corporate Governance

KEK's culture at the beginning of the project was one rife with mismanagement and corruption. The utility had too many employees, many of whom were underpaid, which produced an environment in which bribery, theft, expense padding and other abuses were the norm. This not only drained KEK's coffers of much-needed capital but also sowed distrust among consumers and other parts of the government.

Inculcating a culture of accountability and responsibility at KEK required changes in laws and regulations at the national level, and the institution of policies and procedures at the utility level. Putting these regulations and procedures into effect required the development of a body to investigate fraud and other abuses, and making it sufficiently credible to ensure that disciplinary measures were actually enforced. Demonstrations, training, coaching and mentoring also made important contributions to cultural change.

These actions have now set KEK on a par with its international counterparts. They have also given employees a workplace that has modern human resources practices and where rules are clear and consistent.

Table 13 lists areas in which Tetra Tech successfully supported KEK management's efforts to improve corporate governance.

Table 13. Main accomplishments: supported KEK management on corporate governance

Designed a redundancy process and coordinated the resolution of unsystemized employees in KEK.

Designed the Network Mapping Procedure that helped KEK to perform customer and network inventory, proper electricity balancing and performance evaluation.

Supported KEK in preparing a New Customer Registration procedure.

Developed the *KEK Payroll Manual*, which details the new pay system for KEK managers.

Prepared a job description template and initiated a process to update all job descriptions for all KEK divisions.

Prepared a document that maps progression levels for Generation and Mine employees in various disciplines.

Assisted KEK in drafting job announcements/descriptions, interviewing, recruiting, implementing disciplinary measures, and preparing payroll and salary deductions.

Advised KEK on the development and implementation of a voluntary early retirement scheme for employees ages 55 and over and incapacitated employees under the age of 55. "Incapacity" in this context refers to employees who were unable to carry out their duties due to illness, injury or other incapacity; it represented a category of employees who had existed within KEK for some time prior to Tetra Tech's arrival.

Designed a form and process for KEK employees to declare their electricity customer

Table 13. Main accomplishments: supported KEK management on corporate governance
information in order for KEK to process employees' payments for electricity consumption through payroll and ensure they consistently pay for their electricity use.

Initiated a process for KEK employees to sign forms for the implementation of provisions under the Code of Ethics, "Declaration – Disclosure of Relatives within KEK" and "Conflict of Interest Disclosure."

Trained and guided the KEK Board of Directors to ensure that it is cognizant of, and operates largely in accordance with, good corporate governance principles and their fiduciary duties and responsibilities.

Drafted KEK's new corporate by-laws and code of governance, which were approved by the shareholder (the Government of Kosovo) in 2009.

Established internal audit and field enforcement functions at KEK to investigate alleged irregular conduct by employees, to monitor compliance with company regulations, and to inspect customers to detect unauthorized electricity consumption.

Designed "The Standard Operating Policies for the Audit Committee of the KEK Board of Directors" document, which regulates work of the committee and its correlation with KEK's Internal Audit Office.

Designed the Internal Audit Process of KEK, which regulates operations of the Internal Audit Office, its correlation with other company entities, and the organization of audit work.

Established an Internal Audit Committee within the Board of Directors.

Managed the work of KEK's internal audit and field enforcement functions ,resulting in:

- The conduct of 550 audits of all aspects of KEK's operations.
- The implementation of 439 changes in existing business and administrative processes, and the execution of newly developed processes.
- The cancellation or re-evaluation of 23 tenders, producing more than €3 million in cost savings.
- The institution of different types of disciplinary measures against 978 employees.
- The submission of 4,127 cases of theft, unauthorized consumption, corruption and other criminal offences to law enforcement agencies for further investigation.
- Disconnections of more than 12,000 problematic customers and customers who violated applicable laws and regulations, resulting in the collection of €6.4 million of additional revenue.
- The registration of more than 15,000 "illegal" customers.
- The regularization of metering points and measurement installations for more than 20,000 customers.

Together, these actions resulted in over €30 million in additional revenue and cost savings by March 2013.

4.1 Improving Internal Policies and Procedures

When the project began in 2007, KEK's Board of Directors made decisions on the utility's internal operations only as problems arose. Employees had little guidance on the company's expectations for them, and infractions of rules were treated lightly. To address these inefficiencies, promote individual accountability, and encourage accountability on the part of the company's management, Tetra Tech formed a new Internal Audit Department within KEK. The staffing of this department and on-the-job and formal training in policies and procedures began at the end of the year and continued throughout project.

Working with KEK's Internal Audit staff, Tetra Tech developed a series of policies, procedures and regulations, a disciplinary code, district regulations, a code of ethics, and other documents governing employees. Each of these was attached to an executive order issued by KEK's managing director. Ultimately, many of these policies, procedures, regulations and codes were then consolidated in the company's *Employee Manual*, which was approved by the KEK Board of Directors in 2011 (the contents of the manual are described below).

The process of consolidating KEK's internal company policies into a manual began as early as 2008. However, there was some resistance from KEK staff, who were skeptical about the need for and/or contents of the document. After several attempts and much effort from Tetra Tech and KEK's managing director, the *Employee Manual* was presented to the KEK Board and approved in the summer of 2011. The new manual also coincided with the implementation of the new national Labor Law.

Table 14 lists areas in which Tetra Tech successfully supported KEK management's efforts to introduce new policies and procedures.

Table 14. Main accomplishments: policies and procedures

Drafted over 300 executive orders in order to implement improved internal rules and procedures within KEK

Prepared a comprehensive *KEK Employment Manual*, which consolidates all internal policies and procedures that concern employee conditions into a 200 plus page document.

Most of the over 300 executive orders KEK and Tetra Tech prepared introduced a new policy or procedure, or modified an existing one. Some of these orders, however, did not convey policies; they were simply instructions.

Labor Code. Tetra Tech developed a comprehensive labor code for KEK; it was approved by the Board of Directors in August 2011 as part of the *Employee Manual*. The Code defines the general practices and procedures for the company. It lays out employment from hiring through termination, including contracts, the probationary period, performance evaluations, internships, secondments, working hours, time cards,

breaks, paid and unpaid leave, compensation, training, health and safety, use of company property, and expenses.

Districts Code. In order to improve employee performance within the districts, the regulations provide organization structures with performance indicators for each category of employee as well as targets for billing and collection, and give a clear picture of compensation by job category. The Districts Code was essentially a codification of the procedure that had been introduced with the Ferizaj/Uroševac district pilot project in 2008, which was a prime example of “demonstration as an agent for change.” The Code utilizes a “carrot and stick” approach, laying out transparent schemes for incentive payments as well as the criteria that constitute unsatisfactory performance. Thus, employees are apprised of the rewards and penalties associated with their performance.

Disciplinary Code. When the project began, KEK routinely tolerated poor employee performance and was lax in discipline. Typically, a committee of employees would be established to adjudicate on disciplinary matters; such bodies showed a clear tendency to dilute disciplinary charges and recommend minimal disciplinary measures. When a staff member was found to be in violation of a KEK policy or procedure, a small sanction, such as a salary deduction, would be levied; no one was terminated, no matter how egregious their acts. These “token” penalties only encouraged further violations among employees. Also, employees who KEK had dismissed on disciplinary grounds frequently challenged KEK’s decision and requested (and were granted) re-instatement.

The Disciplinary Code helped reform this process by specifying clear sanctions for infractions (e.g., for serious misconduct the sanction is termination) and setting the groundwork for employee performance evaluations. It also specified that one adjudicator in management would hear a disciplinary case.

The new Code introduced three important reforms to the existing disciplinary process: 1) the right of managers to take action against the non-performing employees under their supervision (as distinguished from misconduct), 2) the abolition of the current practice of establishing three-member commissions to adjudicate disciplinary cases, and 3) limitations on the discretion of the adjudicator when determining the applicable disciplinary penalty.

Code of Ethics. This code was issued pursuant to Article 35.1 of the Law on Publicly Owned Enterprises. It establishes the fundamental principles of ethics and rules of conduct that all KEK employees must respect and implement. Employees were to sign 1) an acknowledgement of receipt of the code, 2) a conflict of interest disclosure, 3) an approval request for external positions, and 4) a disclosure of relatives working at KEK.

Redundancy Regulations. This document sets out the principles and procedures that are employed for reductions in employment levels, including compulsory redundancies.

Vehicle Regulations. These regulations are intended to eliminate the personal use of KEK vehicles and to reduce the expenses associated with its vehicles. The regulations place vehicles in one of four categories and designate when and to what extent employees may use them.

Health and Safety Regulations. These regulations cover the protection of employees' health and safety in the working environment. Special sections are devoted to the safeguarding of female workers and vulnerable employees.

4.2 Forming the Internal Audit Office and Field Enforcement Department

Tetra Tech assisted KEK in forming this internal function in 2007 to investigate and fight corruption, which had resulted in significant underperformance and excessive costs for KEK. To ensure the independence and impartiality of the Internal Audit Office (IAO) and further empower it, it was placed directly under the Audit Committee within KEK's Board of Directors. Its three units are:

- Financial Audit: finance, assets, procurement
- Operations Audit: commercial losses, technical losses, theft, and performance of distribution operations.
- Compliance Audit: compliance with applicable laws and regulations.

Fighting fraud, embezzlement, theft, bribery, abuses of official duties and authorities, and other criminal offences are common objectives of all functions.

Tetra Tech also assisted KEK with establishing a Field Enforcement Department for enhancing control over the performance of network and supply employees, fighting electricity theft and unauthorized consumption, and disconnecting problematic customers.

With support and guidance from Tetra Tech, KEK launched a special anti-corruption hotline, created email accounts, and ran public campaigns encouraging customers to submit information about illegal activities of KEK employees. These actions made it possible for customers to file several hundred complaints and other information. All complaints and issues were either reviewed and investigated by the IAO or directed to relevant organizational entities.

Tetra Tech's training and guidance enabled KEK control units to perform more than 100 investigations each year beginning in 2010. These audits were related to the electricity consumption of KEK employees, the implementation of the Districts Code, the Vehicle Regulations, the New Customer Registration and other procedures, the performance of the Procurement, Information Technology and Public Relations Departments, and the Generation, Mining, and Network and Supply Divisions, among others.

Since their establishment, the units have covered every important aspect of the company's operations. They have detected and registered 4,127 cases of electricity theft and unauthorized consumption, and dozens of cases of embezzlement, falsification, abuse of official duties and other types of criminal offences.

Since 2011, more than 88% of the audit and field enforcement recommendations have been implemented, which is a very good achievement, even for best international practices.

4.3 Implementation and Control of New Procedures

Tetra Tech recognized that assisting KEK with the promulgation of new procedures and rules would not, by itself, produce the desired improvements in the company's performance. We thus assisted KEK in implementing new procedures and policies, as described below.

Proper implementation of the Districts Code was critical to improving employee performance within the districts. The Code provided clear benchmarks for assessing poor or unsatisfactory performance and introduced a zero-tolerance approach to serious disciplinary offences. In this respect, Tetra Tech's advisors to the Supply Division conducted countless formal and informal training sessions with district staff on the structure of the Code and the performance indicators (e.g., billing, collection, disconnection) outlined in the documents. Following from this, each month the district managers submitted to KEK headquarters their proposals for disciplinary action and incentive payments in connection with the performance or non-performance of the employees within their district. Tetra Tech advisors carefully reviewed these proposals against the performance indicators in the Districts Code and recommended that KEK senior management adjust, accept or decline them. Our recommendations were largely accepted by KEK, albeit on occasion only after vigorous discussion and further clarification; however, towards the end of the project – as reported in Section 7 – there was a general reluctance to implement disciplinary measures for non-performance.

Naturally, any disciplinary sanctions were typically contested by employees, which presented another set of challenges:

1. Labor inspectors would commonly intervene and sanction KEK for purported breaches of the Labor Law. This would result in fines being levied against KEK without any legitimate basis.
2. Other employees would invoke "solidarity" actions and interrupt the company's operations. For example, when KEK terminated employees in Deçan/Dečan sub-district in late 2012 for non-performance, the remaining employees conducted an unlawful strike and prevented customers from paying their bills. Eventually, KEK terminated all 15 employees in the sub-district.

3. Employees dismissed by KEK on disciplinary grounds would invariably challenge KEK's decision, request re-instatement, and were granted re-instatement by the courts. The 2010 Labor Law provided that (with the exception of discrimination claims) employees found to be unlawfully terminated not be reinstated, but should only receive financial compensation. However, first-instance courts have continued to make decisions that contradict the terms of the Law and ordered the reinstatement of employees.

Notwithstanding these challenges, owing to robust action by KEK's legal office and mentoring by Tetra Tech, only 16 employees have been reinstated by court decisions in the past six years, while more than 240 employees have been dismissed.

Additionally, the IAO conducted comprehensive audits of the Districts Code's implementation each year as part of its regular audit plan; Tetra Tech closely monitored these audits. Similarly, the IAO audited other rules and procedures introduced with the assistance of Tetra Tech. In all instances, we ensured that any errors or omissions discovered were presented by the IAO – together with recommendations – to the Audit Committee of the Board of Directors and KEK management for action. In general this process worked well. In instances where KEK management was reluctant to implement the IAO recommendations, the Audit Committee and subsequently the Board would intervene and demand action from KEK senior management.

It is noteworthy that in developing each component of the *Employment Manual*, Tetra Tech sought to fully involve KEK staff, particularly those who would ultimately be tasked with implementing the rules and procedures. Accordingly, a series of meetings were held with KEK human resources, legal, health & safety and finance staff to secure their buy-in to the process. This effort was particularly important for the Disciplinary Code, for the simple reason that if the Code was not implemented properly and/or all procedures were not followed, it would give employees a case for overturning any disciplinary sanction at court. We thus held several lengthy discussions with KEK's human resources staff over a long period on the disciplinary process before it was finalized. By the time the KEK Board approved the Code, the staff responsible for implementing it were already well versed on its contents.

4.4 Protecting Utility Assets

Both KEK's staff and Tetra Tech observed a number of problems at the utility related to employee time and attendance, opportunities for graft and theft, and lack of worker protection. Thus, activities to improve the security of KEK's assets, streamline transportation and site access, and improve safety conditions were initiated in 2010 and continued throughout the remainder of the project. During this period, Tetra Tech made both scheduled and unannounced visits to all KEK districts, the mine pits, key asset depots, warehouses, and workshops to observe the security situation and the execution of security duties.

We also held monthly meetings with staff from the company hired to provide security at KEK facilities in order to address upcoming and ongoing issues pertaining to KEK. This involved the security company’s management visiting all fixed and patrol areas to observe their employees in the workplace. Tetra Tech also developed and delivered training programs on security and management issues for KEK’s security service provider.

To ensure that staff “owned” the improvements, we invested them with the authority to make announcements of the measures being implemented and take responsibility for them. This practice also demonstrated to the company’s employees that they had KEK’s full commitment and Tetra Tech’s support for these efforts. These changes have had a very positive effect on KEK’s security and work environment.

Table 15 lists areas in which Tetra Tech successfully supported KEK management’s efforts to preserve its assets.

Table15. Main accomplishments: asset protection
Organized training for the staff of KEK’s security provider in order to improve the ability of the company’s 605 security guards to minimize the theft of KEK’s assets.
Managed the mapping and installation of an extensive surveillance camera network throughout KEK in order to reduce absenteeism, theft and sabotage, and monitor the movement of assets.
Managed the deployment of turnstiles at KEK’s headquarters in order to improve employee attendance and thus reduce absenteeism.
Designed a rotation system for security guards to minimize familiarization between guards and KEK employees in order to address rising theft attempts at KEK.
Assisted in the development of plans and specifications, and guided the implementation of the upgrade of security within the power plants, including fencing, lighting and a patrol pathway.
Developed a new structured database and associated forms to manage vehicle deployment, to map all vehicle related-expenditures.
To prevent scrap metal theft, oversaw an auction of some 136 old vehicles owned by KEK, which netted €60,000.
Developed an Emergency Evacuation Plan for implementation throughout all KEK work sites/premises.

Protecting Access at all KEK Installations

Unmonitored access to KEK’s facilities, both in headquarters and the field, presented security concerns and gave employees opportunities to falsify their attendance at work. To correct this problem, Tetra Tech:

- Assisted KEK in developing a contract for the procurement and installation of turnstiles at the Elektrokosova building (KEK's headquarters in Prishtinë/Priština) to better monitor the movement of employees. The turnstiles were installed in 2012 and have already proven to be valuable. IT monitoring systems in conjunction with human resources employees are now able to monitor the exact "work time" hours of all headquarters and visiting KEK employees.
- Installed surveillance cameras at all entrance and exit gates of the headquarters building, all 52 cash offices Kosovo-wide, mines and generation, and warehouses and workshops. Eighty four cameras were installed within the Kosova A and B plants alone. All data from the cameras are centralized at headquarters and monitored on a large screen.
- Assisted KEK in monitoring vehicles associated with the sale of coal at the Kosova A plant. A special guardhouse was established to monitor these activities, allowing only one entry/exit gate to ensure better control.
- Put in place a program to upgrade the existing visitor identification system, including visitor cards and registers to monitor movements within KEK's premises.
- Developed systems for monitoring time sheets and all assets leaving KEK's premises.
- Prepared an amendment to the security company's contract to empower guards with the right to search, apprehend and detain any persons on KEK property suspected of illegal activities.
- Assisted in planning and budgeting for a new fencing, lighting, and patrol pathway project at KEK properties; this project is scheduled for implementation in late 2013.

Vehicle, Fuels and Spare Parts Databases

These databases were developed in response to the Vehicles Regulation (which forms part of the Employee Manual) that clarifies how and when KEK vehicles should be used, stipulates the allocation of vehicles to designated officials and department/district pools, and clarifies various authorizations and approval processes.

Vehicle database. This database records transportation authorities, mileage, fuel, maintenance, expenditures, and other relevant data on vehicles (e.g., kilometers driven per month), and then compares them with previous months' data. Any anomalies detected are attributed to the person who was assigned to that particular vehicle, thus promoting accountability. It also allows for better monitoring of running costs and vehicle ageing, and the updating of vehicle data as changes/transfers take place.

Prior to the unbundling of its electricity distribution and supply business, KEK had over 800 vehicles. All KEK vehicle assets dating back to 2009 are now monitored in the electronic database, including assets transferred to outsourced entities. They are categorized as in-service, non-functional, or accident and damaged.

Fuel database. It was common practice for an employee to obtain a voucher for fuel, put fuel in the vehicle, then draw more fuel a few kilometers later for a different vehicle, but using the same voucher. To correct this problem, the fuel database tracks automobiles and other vehicles (bulldozers, caterpillars, excavators, etc.) according to how many hours each was run versus its fuel use and then compares these data against data from earlier months. Since its first month of implementation in late 2010, the use of this database has regularly saved 10,000 to 12,500 liters of fuel across the KEK vehicle fleet each month.

Spares database. In 2011, Tetra Tech supported KEK's development of vehicle mechanical maintenance software that records all fuel/servicing and repairs in order to control and summarize monthly expenditures. To date, this database has helped curb the numbers of illegal or unnecessary spare parts being claimed.

Used Vehicle Auctions

In 2011, to prevent the theft of scrap metals, we assisted KEK with the withdrawal of all written-off/scrap vehicles from KEK districts and sale by public auction. The proceeds from the auction of the first 136 old KEK vehicles generated €60,000 in revenue. Next, Tetra Tech assisted KEK in completing the same process for the remaining 75 written-off vehicles, which were auctioned in 2012.

Building Evacuation Plan

Before Tetra Tech began providing assistance to KEK, it had no safety plans for its workers. We first prepared a policy on building evacuation: it specified the appointment of wardens and their responsibilities, safety measures and evacuation routines for employee safety, follow-up actions, and after-action review reports that form part of the evacuation orders. The wardens appointed to each floor were responsible for the effective execution of the evacuation plan, including leading people to identified emergency exits and stairwells. The wardens were trained in evacuation procedures and dry runs were conducted.

To complement these measures, we oversaw the installation of smoke and heat detectors; these alarms are monitored by KEK's IT staff. Fire extinguishers were also placed on all floors. Tetra Tech assisted in monitoring the fire alarms within KEK headquarters, showing support for following and complying with the policy and safety reporting system. In addition, a high-rise ladder fire truck was purchased in 2013 for KEK's Fire Department.

4.5 Helping KEK Gain Management Independence

KEK's management has faced a multitude of challenges over the years, not the least of which was frequent staff turnover and government interference in the utility's affairs. Early in the project, the GoK named all members of the Board of Directors and appointed the Minister of Energy and Mines to serve as its chairman, effectively placing the utility under direct government control. In the first two years of the project, KEK had four Boards and three managing directors; this lack of stability raised major obstacles to improving the company's performance. The Board's micro-management and poor decisions (e.g., in 2008 it voted for a 15% pay increase for employees in non-management positions that cost KEK €6 million a year, while cutting the salaries of many key professionals by as much as 60%) trickled down to the rest of the company.

To rectify this and other management deficiencies, Tetra Tech took a hands-on role, serving as "shadow" executives to the managing director and as coaches to the Board and several management personnel. Our activities included support to KEK management in:

- Preparing a new organization structure for KEK that eliminated several executive positions and set out clear roles and responsibilities
- Terminating all automatic bonuses and stipends (so-called "representation" expenses) paid to management
- Interviewing candidates for senior managers (including the managing director) within the company and overseeing the selection process
- Assisting in preparing annual business plans, budget reviews and other documents that contained concrete goals
- Revising report formats and contents to make documents provided to the Board more accessible and meaningful
- Instituting an induction program to ensure new Board members had a good understanding of KEK's operations, as well as their own roles and responsibilities.

As a result, members of the Board gradually began to show a willingness to cooperate with Tetra Tech, and displayed greater awareness of corporate governance issues and the scope of their roles and responsibilities. They also increasingly supported management's actions to improve KEK's performance. The Boards' tendency to interfere in employment and contractual issues also diminished over time.

Tetra Tech's relationship with the current Board's chairman also improved greatly. He came to recognize the role and importance of USAID's advisors in improving KEK's

performance, and actively sought the cooperation of the managing director on all issues the Board was addressing.

Tetra Tech also worked with the managing director on a daily basis to prioritize KEK's needs and deal with a variety of issues related to overall operations, minority customers, procurement, staffing, and finance, with an emphasis on enhancing the company's revenues and implementing internal reforms. In addition, we attended regular and special meetings the managing director held with executives of the company. This strategy and hands-on approach bore fruit, and by 2009, Tetra Tech was receiving his full cooperation.

The managing directors were also under strong pressure from both internal and external forces to hire individuals, not to disconnect customers, to invest in villages tied to politicians, not to terminate employees who were performing poorly, to reinstate terminated employees, and to influence tenders and their outcomes. With the full support of Tetra Tech advisors, the current managing director was able to resist these pressures to a great extent. He kept Tetra Tech informed on all major issues and asked advice before taking actions.

Although the Board of Directors and management of KEK are still vulnerable to political interference, their compositions have largely remained stable since 2009. They are increasingly asserting their ability to make management decisions independent of the government and are working together in a cooperative and mutually supportive way. Indeed, this was exemplified in March 2013 when the Minister of Economic Development confirmed that the Inter-Ministerial Committee for Publicly Owned Enterprises had taken the decision to request that the KEK Board of Directors terminate the managing director's contract immediately. The Board considered the Committee's request, but decided – in line with their statutory duties and responsibilities – that there was insufficient evidence to justify the termination and therefore declined the request.

“KEK managers have generally fulfilled their legal duties and this is one of the key advantages in the functioning of the Board, by respecting the requirements for the implementation of the Law on POE and the Code of Ethics and Corporate Governance...One of the most positive developments of the BD is the positive role played by the professional team of the Board's Audit Committee, which in co-operation with the internal audit office operated adequately in the identification and follow-up of problems of the internal audit system, compliance with the regulatory framework, and installing the institution of accountability.”

Republic of Kosovo, Ministry of Economic Development, *Assessment of Business Performance of Central POE Boards of Directors for 2010*, November 2011

5 Strengthening the Security of Kosovo's Energy Supply

A reliable supply of electricity is key to any utility's success. No matter how much KEK improved its billing and collection levels, such efforts would ultimately prove futile unless it had a "commodity" to sell – a reliable electricity supply. Upon deployment in 2007, Tetra Tech advisors immediately highlighted to USAID and other stakeholders the need to improve KEK's security of electricity supply if it was to become a viable commercial operation and attract a strategic investor for its distribution and supply business.

When the project began, KEK's customers referred to the utility in terms of a number: 2/4, meaning that they had electricity for two hours and then none for four. Today, paying consumers enjoy a steady and uniform supply of energy. KEK is now experiencing the highest electricity production recorded in its history, about 200,000 MWh more than the previous record, which was set in 1988. This was made possible by an ambitious program of capital improvements in generation, mines, and distribution.

Table 16 lists areas in which Tetra Tech successfully supported KEK management's efforts to improve energy security.

Table 16. Main accomplishments: supported KEK management to strengthen energy supply

Increased KEK's net generation from power plants by 35%, from 3,970 GWh in 2006 to 5,220 GWh in 2012.

Drafted, negotiated and concluded contracts for major capital investments in KEK power plants and distribution assets with a combined total of nearly €140 million, and provided oversight for the successful completion of these projects.

Completed capital overhauls of Unit B1(2012) and Unit B2 (2007 and 2011) of the Kosova B power plant and capital overhauls of Units A3 and A5 of the Kosovo A plant (2012).

Reactivated and completed a capital overhaul of Unit A5 in 2008.

Accelerated the replacement of several failed generator step-up transformers in Kosova A and B.

Replaced all boiler feed pump bundles (barrels and rotors) and upgraded all pumps' variable-speed drives.

Eliminated the cause of the low-pressure turbine rotor failures by upgrading the water treatment system at Kosova B and then purchased new LP rotors to improve available capacity.

Supported KEK to successfully place on concession – on a rehabilitate and operate basis – its small hydro plants, Istog, Radavc and Dikance, with the goal of increasing and promoting hydro generation within the country; the process was completed in 2010.

Table 16. Main accomplishments: supported KEK management to strengthen energy supply

Developed a new power purchase agreement for the Ujmani/Gazivode hydropower plant with a new pricing structure focused on having the facility available as much as possible.

Supported KEK to obtain funding for and construction of 7 km of a new 110 kV line in 45 days, the Vallaq/Valaç by-pass, for national security reasons prior to Kosovo's Declaration of Independence in February 2008. The right of way and related property rights for the line were secured based on an executive decision issued by the UNMIK Special Representative of the UN Secretary General in Kosovo (SRSG).

Supported KEK in preparing technical specifications, tendering, procuring, and implementing several projects to enhance reliability and supply quality, and mitigate network congestion:

- Re-construction of the 110/35 kV Palaj/Crkvena Vodica substation (€7 million) to ensure the N-2 reliability¹³ criteria of electricity supply to meet KEK mines and generation auxiliary needs
- Construction of new 110/10 kV Prishtinë/Priština 7 substation (€4.9 million)
- Upgrades of the 110 kV Prizren 1, Prishtinë/Priština 3, Ferizaj/Uroševac 1 and Pejë/Peć 1 substations (€2 million)
- Protection of the medium-voltage network at all 110 kV and 35 kV substations (€2.7 million)
- Medium-voltage network reinforcement projects including 1) 75 km of new 10(20) kV feeders, 2) 181 km of new 0.4 kV lines, and 3) 24 new 10(20)/0.4 kV substations
- Construction of cable trenches for eight 10 kV outgoing medium-voltage lines from the 110/10(20) kV Gjilan/Gnjilane 5 substation (€0.4 million).

Secured a continuous lignite supply by opening an interim supply and thereafter the new Sibovc South West (SSW) mine.

Facilitated the rehabilitation and/or purchase of new equipment required for opening the new SSW mine with a capital budget of nearly €165 million. The new mine produced 1.5 million tons of lignite in 2010, 3.3 million tons in 2011, and 6.1 million tons in 2012.

Introduced new template contracts for KEK energy imports/exports based on European Federation of Energy Traders' standards in conjunction with a new suite of import options, to include emergency, day-ahead, and base load contracts.

¹³ The "N" criterion expresses the ability of the electrical system to lose a linkage without causing an overload failure elsewhere. The "N-2" criterion is a higher level of system security where the system can withstand any two linkages going down.

Table 16. Main accomplishments: supported KEK management to strengthen energy supply

Supported KEK in the development of several strategy papers, plans and procedures for implementation:

- Metering Strategy
- Distribution Network Maintenance Procedure
- The utility's first Network Development Plan 2010-2014
- Distribution Connection Charging Methodology
- New Technical Loss Calculation Methodology
- Network Development Plan 2013-2017.

Supported KEK with the engineering and implementation of a project to install back-up generators and arrange alternate electricity supply for the IT Data Center at KEK headquarters – thereby securing N-3 reliability of electricity supply and a virtually uninterrupted electricity supply of KEK's main data servers.

5.1 Increasing the Reliability and Availability of Generating Units

KEK has two thermal power plants, Kosova A and B, both of which are located within a few kilometers of Prishtinë/Priština.

Both plants are old and in poor condition, and thus at risk of major failure. Kosova A was built in the 1960s and 1970s and is scheduled to close in 2017 subject to new generation capacity being up and running by that time; its installed capacity is 800 MW. Only three of its five units are currently operating.

- The 65 MW Unit A1 was commissioned in 1962; it had greatly deteriorated over the years and has not been in operation since 2003.
- The nominally rated 125 MW Unit A2 began operating in 1964. In 2002, its main step-up transformer burned out and the unit was abandoned.

Units A3 and A4 are each nominally rated at 200 MW; they were put into operation in 1970 and 1971, respectively. Both units are still operating (135 MW each). The 210 MW Unit A5 was commissioned in 1975; it is still operating (150 MW). Since 1999 Units A3, A4, and A5 had been rehabilitated somewhat in order to keep them in operation until their scheduled closure date at the end of 2017 when Kosovo must comply with Energy Community Treaty emissions standards (as reflected in the Large Combustion Plant Directive). However, when the project began, Unit A5 was not operational and had been cannibalized for parts, which were used in Units A3 and A4.

The coal (lignite)-fired Kosova A and B plants provide about 97% of Kosovo's electricity generation. When the project began, KEK took its lignite from two open pits: the Bardh and Mirash mines (they were depleted in 2012). In 2008, the Sitnica mine was opened

to provide interim supply to the plants. In 2010, KEK opened the new Sibovc South West Mine in the Sibovc lignite field; it has an estimated reserve of 123 million tons of lignite.

Kosovo has only modest hydroelectric potential; it supplies about 3% of Kosovo's electricity. Hydro plants provide about 44 MW of power to the system when they are all operating.

Against this backdrop, Tetra Tech assisted KEK in managing the business processes for the development and implementation of an extensive program of rehabilitation and repair for its generating facilities.



From left: USAID/Kosovo Mission Director [REDACTED] US Ambassador to Kosovo [REDACTED], USAID/Kosovo Senior Energy Advisor [REDACTED] (chief of party), and USAID/EE/DAA Roberta Mahoney visit KEK's mining operations and power plants in 2010 with KEK Managing Director [REDACTED] at far right. Source: Tetra Tech.

Tetra Tech also assisted KEK in energy forecasting and planning. In 2007, we developed a model for the long-term forecasting of the KEK system load and energy demand. The model allows consumption to be projected for each of three networks – low-, medium-, and high-voltage – as well as the system as a whole. We also helped KEK finalize energy balances each year and estimate demand, generation, and unserved energy, which was required by law to be approved by the MEM and later by the MED.

The rehabilitation and repair program in mines and power plants was partly funded by six credit facility agreements (see further details in Section 3.8), which Tetra Tech drafted and negotiated with counterparts and support from other USAID implementation partners (BearingPoint and later, Deloitte) at the MEF. The remaining funds came from KEK's own revenue.

Power Plants

Following the reactivation of the refurbished A5 unit of the Kosova A thermal power plant in November 2008, Tetra Tech was instrumental in helping KEK achieve significant improvements in availability, with two of the three units available for operation at all times. Our assistance comprised advice and support of businesses processes related to the preparation of technical specifications, tendering, procuring, and project management during implementation. In this respect, Tetra Tech assisted KEK management with the following tasks at the Kosova A plant:

- Purchase of a replacement step-up transformer for Unit A4, which was commissioned in November 2009. An overhaul of the entire unit is scheduled for 2013.
- Preparation of the tender dossier for a major overhaul of the turbine and generator of Unit A3, which was completed in 2012.
- Supply of a new step-up transformer for Unit A3 in 2011.
- Preparation of tender documentation and a draft contract for the overhaul and partial refurbishment of Unit A5's boiler, which was completed in 2012.
- Preparation of tender documentation and a contract for the supply and installation of new air compressors for the entire Kosova A plant. The contract was signed in September 2012 and the project is expected to be completed in 2013.



At the beginning of the project, the Kosova B plant did not function to its design capacity because of poor maintenance. However, its rehabilitation would allow it to operate through 2024 or longer. Extensive rehabilitation and modernization work is planned for these units in order to comply with the Large Combustion Plant Directive and keep them operating reliably through 2024; additional life extension work would allow them to continue operation until 2040.

At the Kosova A plant in 2008: [REDACTED] (chief of party) at the under-repair A5 Unit's generator during reactivation work.
Source: Tetra Tech

In 2010, Tetra Tech conducted a feasibility study to provide KEK's management with an assessment of the condition of Kosova B's major equipment and systems, and to recommend rehabilitation, repair and modernization activities

needed to restore lost capacity and efficiency, and ensure safe, reliable and efficient operation during the plant's project life through 2024 and its potential extended life until 2040. We also provided estimated costs for the recommended work, a time schedule for the required new investments, and economic and financial analyses of the rehabilitation as compared to building a new lignite-fired power plant or importing electricity.

Tetra Tech's activities in support to KEK management's improvement efforts at Kosova B included:

- Monitoring the implementation of a contract for the delivery of a new set-up transformer, which was commissioned in April 2010.
- Assisting with the tendering process and contracting for upgrading the units' water treatment system, which were completed in 2010.
- Assisting with the commissioning of two new low-pressure turbine rotors, which were installed in 2010, and two generator rotors, which were installed in 2010 and 2011.
- Assisting with the major overhaul of the turbines in Unit B1 (completed in 2012) and Unit B2 (completed in 2007 and 2011).
- Replacing all six boiler feed pumps' bundles, rehabilitation of all six boiler feed pumps' variable-speed drives, and replacement of four boiler feed pump' motors.

Hydro Power Plant Facilities

In 2007, Tetra Tech provided KEK with legal and procurement advice on three small hydro facilities that it planned to rehabilitate:

- The Burim plant in western Kosovo, which was constructed over 50 years ago. This plant was in complete disrepair and had ceased operating. It had an operating capability of 600 kW.
- The Radavc plant in western Kosovo, which was also constructed over 50 years ago. This plant was operating, but with obsolete equipment. Each of its two units had an operating capability of 175 kW.
- The Dikance plant in southwest Kosovo, which was built in 1975. This plant's units required complete rehabilitation, while its powerhouse needed repair. It had historically averaged about 4.7 GWh of generation.

We then assisted in preparing two tender document packages: one for Burim and Radavc and the other for Dikance. Tenders were published in September 2008 and bids were evaluated and awarded in 2009. The plants have been leased to their investors for 20 years, and the electricity they generate sold back to KEK (now KEDS). The bidders committed over €5 million to these rehabilitation works, which were completed in 2010 and 2011, with the following results.

Plant	Date Commissioned	Current Production
Dikance	March 2010	4.4-6.0 GWh/year
Radavc	September 2010	3.0-5.0 GWh/year
Burim	April 2011	0.6-2.0 GWh/year

In addition, Tetra Tech supported KEK in developing and negotiating a new power supply agreement with Iber Lepence for the output of the Ujmani/Gazivode hydro plant, which was signed in April 2012. The pricing mechanism we developed provides this company with the recovery of its fixed costs (the majority of costs for a hydro facility) through an availability payment, thus encouraging its Ujmani/Gazivode hydro plant to be able to generate at most times. KEK would specify the energy to be generated at various hours and the plant would recover its variable costs based on the energy generated.

Coal Supply

In 2006 a Complimentary Mining Plan (CMP) for opening the new Sibovc South West (SSW) mine was completed by an advisory team from Vattenfall Europe Mining with funding from EAR. KEK's Board of Directors formally approved the CMP in July 2006. KEK's prompt implementation of the CMP was imperative given that the existing mines – Bardh & Mirash – would not be able to meet KEK's generation needs by 2010.



Exc avator E-10B (Takraf SRs1300), which was refurbished with funding from EAR and KEK. This picture was taken in 2010 at the new Sibovc SW mine.

Source: Tetra Tech.

The CMP called for the rehabilitation of several pieces of mining equipment used in the removal of overburden and excavation of coal that were old and/or in poor condition, such as excavators, conveyors and spreaders. In 2005 the estimated cost of the refurbishment works was €212 million; however, with the increase in material costs and contraction in manufacturing capacity, this had been adjusted upward to €273 million in 2007.

By 2008, implementation of the CMP was over 12 months behind schedule. The procurement of refurbishment works had been plagued with problems and KEK had not secured any funding to meet its financial obligations. EAR and KfW had already committed to funding a portion of the

rehabilitation works on the mining equipment; however, the funding proved inadequate for the equipment's full refurbishment and KEK was required to fund the remaining works on the equipment concerned. EAR had agreed to fund the refurbishment of one set of overburden removal equipment, which included an excavator, conveyor belt and spreader. However, because of budgetary constraints the funding fell short of what was required for full rehabilitation. Accordingly, KEK was required to fund the remaining measures in parallel with the EAR-contracted part of the project, at a cost of approximately €12 million. Similarly, KfW Bank had agreed to fund between €7 to 8 million for the refurbishment of one excavator (E-8M), which would be used to excavate coal in the new SSW mine – leaving KEK to fund approximately €8 million for the remaining rehabilitation works.

In these circumstances, Tetra Tech helped KEK produce a management and procurement strategy to ensure the continuous supply of coal for its generating units, including securing loan monies from the GoK and engaging truck-and-shovel operations to expedite the removal of overburden. Our assistance comprised advice and support for businesses processes related to the preparation of technical specifications, tendering, procuring, and project management during implementation.

In 2009, the newly refurbished first overburden removal line was inaugurated. In the same year, the contract for truck-and-shovel removal of overburden from the SSW mine was completed, revealing the first coal bench for exploitation. The remaining main mining equipment was successfully refurbished from 2009 to 2012.

The implementation of KEK's strategy resulted in capital investments in excess of €165 million being made at the mine, funded with loans from the GoK. The new SSW mine opened in 2010, ahead of schedule. This mine has sufficient reserves to supply local power plants until 2024.

5.2 Upgrading the Network

When the project began, it was apparent that there was a great need for the rehabilitation and expansion of KEK's distribution system. Tetra Tech assisted KEK in developing a roadmap for its improvement. We also specified current and future projects that focused on increasing supply reliability and reducing technical losses. Their completion would also ensure an improvement of KEK's overall voltage quality.

Palaj/Crkvena Vodica Substation Reconstruction

The 110/35 kV Palaj/Crkvena Vodica substation is critical to both the mining and transport of coal to the Kosova A and B plants. Historically, this substation did not meet N-1 reliability criteria; in addition, its equipment was obsolete, corroded and heavily deteriorated, and its 30 year old transformers were nearing retirement. It was also supplied by only one 110 kV line and had only two 40 MVA transformers. Because the two power plants do not stockpile enough coal for a severe event, the loss of this substation or its single transmission line could cripple coal mining and transport for days or even weeks.

Working in concert with the KEK engineering team, Tetra Tech assisted in the full procurement process, including preparing the technical specifications for new equipment and the reconstruction of this substation. The contract was signed in November 2010; Tetra Tech supported KEK in all technical and management aspects of this project.

The completely reconstructed substation began operations in early 2012, and has significantly improved reliability, voltage and energy loss performance. Moreover, the

addition of a double-circuit transmission line and third 110/35 kV transformer now ensure N-2 reliability criteria.

Prishtinë/Priština VII 110/20(10) kV Substation Construction

Tetra Tech supported the KEK engineering team in developing technical specifications and other tender documents for this substation, which will meet the needs of Prishtinë/Priština's rapidly growing population. Tenders were announced in 2010 and 2011, and a contract signed in 2011. The substation was commissioned and energized in December 2012.

Construction of Outgoing medium-voltage (MV) 10(20) kV Lines from Prishtinë/Priština VII Substation

Tetra Tech supported KEK in the preparation of final updates to the technical specifications for these lines, and a contract was signed in November 2012. This project is expected to be completed in late 2013.

Gjilan/Gnjilane V 110/20(10) kV Substation Construction

The construction of this substation was funded by the Swiss Government to improve the reliability of power supply in the Gjilan/Gnjilane area. KEK was responsible for engineering and project management inputs at all stages of this project. Tetra Tech assisted it in the tender evaluation process, and in all technical and management aspects of the construction. The contract was awarded in late 2011, and the substation was commissioned and energized in December 2012.

Construction of Cable Trenches for Outgoing MV Lines from 110/10(20) kV Gjilan/Gnjilane V Substation

This contract was signed in July 2012; Tetra Tech supported KEK on the technical and management aspects of the project. The contract was awarded in August 2012; eight 10 kV feeders were completed, connected and energized from the new substation, and the project was completed in May 2013.

110 kV Substations Pejë/Peć I, Prizren I and Ferizaj/Uroševac I Upgrades

Multiple contracts (supply and electrical works, power transformers, power transformer protection, civil works, etc.) were let for these projects and were signed in 2011. Tetra Tech's assistance included support in all management aspects of the upgrades. All three substation extensions were completed and energized by December 2012.

Supply and Installation of Multifunction Protection at 110/MV kV Substations

Tetra Tech supported KEK on the technical and management aspects of this project, which began in August 2012. To date, medium-voltage protection equipment has been installed on 599 of the 875 points on the 110/xx and 35/xx kV substations throughout Kosovo. The remaining work is expected to be completed by the end of 2013.

Table 17 lists all KEK distribution upgrades performed with support from Tetra Tech on the applicable business processes involved.

Table 17. KEK distribution upgrades

Substations
Upgrade of the three 110 kV Prizen 1, Bibaj/Biba - /Ferizaj/Uroševac and Pejë/Peć 1 substations from 110/35 kV to 110/35/10(20) kV with additional 40 MVA transformers
Commissioning of the new 110/25/10(20) kV, 2x31.5 MVA Rahovec/Orahovac substation (completed in 2010)
Commissioning of the new 110/10(20) kV, 1 x 31.5 MVA Skënderaj/Srbica substation (completed in 2011)
Construction of the 35/10(20) kV substation to supply Drenas/Glogovac Business Park line (completed in 2012)
Installation of medium-voltage multifunctional protection at all 110xx kV and 35/xx kV substations (to be completed by the end of 2013)
Transformers
Upgrading of the multi-functional transformer protection at eleven 110 kV transformers at eight substations
Replacement of the 31.5 MVA transformers with 63 MVA transformers at the Prishtinë/Priština 1 and 2 substations (completed in 2011)
Replacement of the 31.5 MVA transformer with a 40 MVA transformer at the Prishtinë/Priština 3 substation (completed in 2011)
Replacement of a 4 MVA transformer with an 8 MVA transformer at the Shupkovc/ Šupkovac substation
Replacement of a 4 MVA transformer with an 8 MVA transformer at the Mitrovicë/Mitrovica II substation
Replacement of a 2.5 MVA transformer with an 8 MVA transformer at the Kačanik/Kaçanik substation
Replacement of a 4 MVA transformer with an 8 MVA transformer at the Xerxë/Zrza substation
Addition of a 4 MVA transformer at the Fushë Kosova/Kosovo Polje substation
Replacement of a 4 MVA transformer with an 8 MVA transformer at the Malishevë/Mališevo substation
Replacement of a 4 MVA transformer with an 8 MVA transformer at the Magurë/Magura substation
Replacement of a 4 MVA transformer with an 8 MVA transformer at the Kllokot/Klokot substation
Replacement of a 4 MVA transformer with an 8 MVA transformer at the Gjakovë/Đakovica II substation
Replacement of a 4 MVA transformer with an 8 MVA transformer at the Prizren III substation
Lines
Modification of the 35 kV lines and network at the Skënderaj/Srbica substation (completed in 2011)
Construction of the 35 kV Ferronikeli-Drenas/Glogovac Business Park line (completed in 2012)

Tetra Tech also assisted the Network Division in processing and gathering information on additional projects to reinforce the network; these will be completed by the private investor. A total of 70 individual projects were defined and verified for all 7 districts.

5.3 Ensuring Adequate Power through Imports and Trade

In 2007 and 2008 alone, KEK spent €45 and €52 million on electricity imports, respectively. Tetra Tech took a number of actions to help Kosovo reduce the huge expenditures associated with these imports. For example, we advised KEK to diversify its imported power portfolio by concluding not only fixed take-or-pay contracts for power, but also day-ahead and emergency power import contracts. These actions, together with improved domestic generation availability, resulted in minimal energy rationing during the winter months of 2009. In that same year, we also advised KEK to cut back on imports (when real-time load requirements change) to the extent allowed under contract. The utility was able to save over €3 million as a result of cutbacks and entering into an exchange agreement with the Albanian electricity utility.

In 2010, Tetra Tech advised on and assisted with the drafting of KEK's contracts for importing energy on both an emergency and day-ahead basis, and helped prepare KEK's request to the Ministry of Economy and Finance for funding imports. As a consequence, KEK received €40 million in funding approval from the Kosovo Central Budget (KCB) for purchased power in 2010, with a further €10 million of KCB funds that were not used in 2009 also being made available to KEK.

The €40 million allotted for energy imports in 2010 was later reduced to €39 million. And while the Government's Medium Term Expenditure Framework for 2011-2013 originally foresaw a subsidy of €34 million for energy imports in 2011, this was reduced to €27.3 million. KEK thus funded over €27 million of energy imports from its own revenue sources in 2011. The Framework also included only €13 million for 2012 and the same amount for 2013 for energy import subsidies. There has thus been a gradual reduction in import subsidies since 2010, with no subsidies currently budgeted for 2014 onwards.



Cutting the blades of the Kosova B power plant's damaged LP rotor in the summer of 2007.

Source: Tetra Tech.

5.4 Reducing Outages

When the project began, customers experienced frequent load shedding through the ABC Program. The actions described in this section to strengthen energy supply have greatly decreased outages in Kosovo, and by extension the need for the ABC Program. In addition, Tetra Tech assisted KEK management with implementing a number of procedural changes that helped the utility avoid protracted outages. For example, Tetra Tech supported KEK management in working with the contractor to cut the rotor blades of the B Units in 2007 in order to return generating units to service earlier. In parallel,

we counseled KEK management in its negotiations with the contractor to expedite the delivery schedule for the parts from the B2 unit that were sent to the factory for refurbishment. This latter action reduced the plant's outage by 15 days.

In 2009, Tetra Tech instituted a suite of electronic products for the Network Operations Center that were sent to district managers, network and supply managers in the districts, KEK's Public Relations Department, KEK top management, and other stakeholders via SMS and e-mail messages. They included updates on: 1) the conditions of generation, transmission and distribution, including significant events (outages, load shedding, etc.) on the power system, and the day-ahead plan for load shedding, 2) hourly deviation of actual load from scheduled load, and 3) audited and corrected results of the previous day's actual versus planned loads. In addition to apprising staff of when action was necessary, these messages demonstrated KEK's efforts to improve its outreach to customers.

As a result of these and other activities, KEK has seen its load shedding and unserved demand lessen dramatically. The generation from KEK units increased every year, reaching an all-time record in 2012. KEK's generation is supplemented with imported power and as billing and collection improved, it has been able to fund more imports through collections as opposed to government subsidies. The result is that the level of unserved demand (load shedding) has significantly decreased, providing value to Kosovo's consumers (see Figure 11).

By the end of the project, KEK was providing its best service since the 1999 conflict:

- The percentage of unserved demand for 2012 was 2.61% on a calendar year basis,¹⁴ a strong improvement over the 14.03% recorded in 2006.
- During the first five months of 2013 (which includes at least three winter months, the period of highest consumption in Kosovo), there was no scheduled load shedding of customers. The very small amount of load shedding (0.26%) that occurred was for brief periods of time at peak hours and applied to Categories B and C feeders for a minimal number of minutes.
- To illustrate this, Table 18 shows a comparison of the average time per day that customers' load was shed based on the ABC Program from 2006 to 2012 and in 2013.

¹⁴ During the course of the project, Tetra Tech also reported the figure for unserved demand based on the US fiscal year – these figures are presented in Appendix A.5.

Table 18. Average time customers loads were load shed from 2006 to 2012 and in 2013

	Average amount of time per day		
	2006 (from April)	2012	2013 (until June)
Category A	1 hour	6 minutes	0 minutes
Category B	2 hours 44 minutes	35 minutes	5 minutes
Category C	5 hours 41 minutes	1 hour 18 minutes	13 minutes

While the current situation described above is very positive, it is important to stress that Kosovo's electricity demand is estimated to increase between 2-3% each year. Therefore, the shortfall between KEK's aging generating capacity and customer demand will only increase going forward unless new generation capacity is commissioned.

6 Implementing Environmental Improvements

Kosovo has long mined lignite for electricity production, but failed to address the environmental impacts associated with coal use or the legacy environmental issues that it has left. Until recently, KEK had devoted very few of its scarce funds towards reducing the environmental impact of its operations – particularly the mine and power plant. Priority funding was given to the rehabilitation or repair of old or failed equipment in order to secure mine and generation production. However, with the improvements in its financial situation, KEK began to revisit potential environmental projects from 2009/2010 onwards.

Over the next three to four years, KEK would embark on a program of environmental improvements supported by Tetra Tech that has already yielded positive results. Table 19 lists areas in which Tetra Tech successfully supported KEK management's efforts to improve its environmental impacts.

Table 19. Main accomplishments: Assisted KEK on environmental improvements

Advised KEK on replacing the old electrostatic precipitators (ESPs) in Kosova A with new ESPs, leading to a reduction in the plant's dust and particulate emissions. Drafted and negotiated over €25 million in contracts for the installation of new ESPs in three units of Kosova A. This was KEK's largest investment in reducing the environmental impacts (primarily ash and particulate emissions) of its power plants and will ensure that the units comply with the ash and particulate emission levels prescribed by the Large Combustion Plant Directive (LCPD). ESPs have been installed on units A3 and A5 (and the units are now within the LCPD maximum value for dust and particulates), and an ESP is planned to be installed on Unit A4 by October 2013.

Installed new air compressors in the Kosova A plant to support the needs of the new ESPs.

Installed emission monitoring equipment on the Kosova B units.

In 2010 with Tetra Tech's guidance, KEK began implementing the World Bank/Dutch Government-funded Clean-up and Land Reclamation Project, which included a new wet/hydraulic ash transportation system from Kosova A to a disposal site at the depleted Mirash mine. This will be completed in 2013.

Replacement of Electrostatic Precipitators at the Kosova A Power Plant

A Ministry of Environment study found that in 2008, emissions of coal dust, sulfur dioxide, nitrous oxide, and carbon dioxide from the Kosova A and B plants far exceeded the maximum values set by the European Union's Large Combustion Plant Directive (2001/80/EC).¹⁵ Dust emissions, for example, exceeded the LCPD criteria by a factor of twenty at the two operating units of the Kosova A plant. Ash, a residue produced from the combustion of coal, also presented environmental concerns. In 2008, Kosovo's two plants produced nearly 1.2 million tons of bottom ash and fly ash. The bottom ash and some captured fly ash are disposed in landfills, while some of the fly ash (dust) was generally released into the atmosphere. Table 20 shows the emissions in 2008 from each of the operational units of the Kosova A and B plants.

Table 20. Average emissions from the Kosova A and B plants, 2008 (mg/Nm³)

Power Plant Unit	Dust (Particulate Matter)	SO ₂	NO _x	CO ₂
A3	863	570	709	267,435
A4	1,002	510	709	267,517
A5	1,036	963	705	264,113
B1	287	476	817	265,217
B2	360	550	815	267,157
LCPD Maximum Value	50	400	500	

The ESPs in the Kosova A plant were old and ineffective, generating huge quantities of dust that polluted both the surrounding areas and the insides of the plant's boilers. In the circumstances, it was logical for KEK to explore what technically feasible and affordable options existed for the replacement of the ESPs. Tetra Tech assisted KEK in managing business processes as they developed and implemented this ambitious project.

The tender process for the replacement of the ESPs in three of the Kosova A units began in 2009; contracts were eventually signed with a private consortium for the Unit A5 work in July 2011 and for Units A3 and A4 in August



Stacks of Units A5 (left) and A4 (right) at the Kosova A plant. The Unit A5 ESP was replaced in 2012. Source: KEK.

¹⁵ Ministry of Environment, "KEK Environmental Report," prepared for KEK's Board of Directors, 2009.

of that year. Tetra Tech helped KEK draft, negotiate, and finalize the contract to ensure conformity with international best practices and compliance with Kosovo environmental requirements. At that time, KEK issued a press release to inform the public that residents living near the plant should notice a difference in air quality by the end of 2012 when the replacement of two ESPs was to be finished, and again in the summer of 2013 when the remaining ESP would be replaced (work was staggered because KEK could not afford to take all three units out of operation at the same time in order to replace their ESPs). By October 2013, the three operating units of Kosova A will have new ESPs.

These replacements (€25 million for the purchase of the ESPs) represented a major commitment for KEK, as they were funded from the utility's own budget. Tetra Tech worked closely with KEK's managing director and the utility's generation and coal production management teams to coach them on the need for such environmental improvements and to help them plan for these major decisions. At the project's close, the ESPs for Units A5 and A3 of the Kosova A power plant had been replaced and are performing in line with the requirements of the LCPD for ash and particulate emissions – namely, emissions are below 50mg/NM³, with the third ESP (for A4) scheduled for completion later this year.

New Air Compressor Station for Kosova A

The running of thermal power plants requires a large number of control instruments, which rely on compressed air. The compressors at the Kosova A power plant were in poor condition and produced insufficient air to supply the new ESPs and hydraulic ash transport system (all of which utilize compressed air). In the circumstances, Tetra Tech helped KEK draft, negotiate, and finalize a draft contract for rehabilitating the compressor station in the Kosova A plant. We also provided technical assistance to KEK in preparing the electrical specifications for the compressor station. As of May 2013, the compressor station was under construction; it is expected to be completed in July 2013.

Continuous Emission Monitoring System for the Kosova B Units

In 2011, Tetra Tech recommended to KEK's managing director that a continuous emissions monitoring system (CEMS) be installed at the Kosova B plant. The installation of a CEMS is a critical starting point for the power plant's road toward compliance with the LCPD. The CEMS would provide important data on the level of NO_x, SO_x and dust emissions at the power plant. This data, in turn, would establish key benchmarks for the rehabilitation and modernization works that will be required to bring the plant into compliance with the emissions levels prescribed in the LCPS. KEK agreed with this recommendation, and thereafter we supported KEK's managing director and generation and coal production management teams in securing a CEMS for the plant. The tender documentation and a draft contract for the supply and installation of the

necessary equipment were completed in 2011. The works were completed in 2012 and the system is now operational and data are being collated by KEK.

The Energy Clean-Up and Land Reclamation Project

Kosova A's ash production is dumped dry at its ash disposal facility (ADF-A). This creates massive dust problems, mostly within 5 km or less from the ash dump. The World Bank/Dutch Government-funded Clean-up and Land Reclamation Project (CLRP), to be implemented by KEK, includes components to remediate ADF-A. As originally conceived, the project foresaw the relocation of the existing ash dump to the Mirash mine. Upon a request from KEK management, Tetra Tech advised that KEK would have difficulty in implementing this process – primarily because in the past phenols and tars (byproducts of the former gasification plant at Kosova A) were co-disposed in ADF-A ash layers, but had not reached groundwater. The World Bank and its consultants, Vattenfall, ultimately agreed that the phenols and tars can sustainably stay where they are but their excavation would cause major problems. Consequently, CLRP was reconfigured to focus on the in-site remediation (partial removal, reshaping and covering) of ADF-A. About 6.5 million square meters will be reshaped and re-cultivated to enable land use. Afterwards the land will be made available for community development such as a nature reserve. This work is ongoing.

A second component of CLRP includes the removal of phenols, tar, contaminated oils and other hazardous materials stored in dilapidating tanks on the site of the chemical separation facility. Again, this work is ongoing.

The project's third component involves the construction and implementation of a wet ash system for transporting ash from the Kosova A plant. The transport of dry ash from Kosova A to the current dump will be stopped and re-directed to the Mirash mine pit via hydraulic ash transport. These measures aim at eliminating dust problems in that area and at avoiding pollution infiltration into the ground water. KEK is contributing over €8 million to this project from its own budget. A contractor was engaged in late 2010 and the works should have been completed by no later than early 2012. However, there have been a litany of problems and delays associated with the contract's implementation, which can be attributed to a combination of poor project management by the KEK Project Implementation Unit, omissions in the original scope of work, and contractor delays. Tetra Tech was not involved in the initial stages of the project, but in light of the continuing delays was asked by KEK management to provide advice on its legal position and assist in its interactions with the contractor on matters relating to contract implementation. Tetra Tech has ensured that KEK's contractual rights have been preserved and the project is scheduled for completion in August 2013.

Improving the Visual Environment at the Kosova A and B Power Plants

Before the project began, many KEK facilities were surrounded by overgrown vegetation, and its power plants were not visible from a distance of as little as 1 kilometer. Initially conceived as measure to prevent people from stealing scrap metal, Tetra Tech encouraged KEK to clean up the grounds of the Kosova A plant. In 2011, KEK purchased over €10,000 worth of trees and other greenery that are now planted around the site. This initiative has had the added benefits of improving the aesthetics at the plant while giving the utility's employees a sense of ownership and pride in their workplace.



The waste ground between Kosova A and the main road from Pristinë/Priština to Kastriot/Obiliq in 2011 before cleanup began. Source: Tetra Tech.



The waste ground between Kosova A and the main road from Pristinë/Priština to Kastriot/Obiliq in 2011 after the cleanup. Source: Tetra Tech.

7 KEK Today

The KEK Network and Supply Project met USAID's first goal of improving KEK's commercial performance. As KEK gained stability in commercial and other areas of its operations, we were able to assist it in achieving USAID's second goal: the privatization of the company's electricity distribution and supply functions. Table 21 lists some of Tetra Tech's main accomplishments that are directly related to privatization.

Table 21. Main accomplishments: KEK today

Took all necessary steps to prepare for the privatization of KEK's electric distribution and supply businesses: drafted all incorporation documentation for the new distribution and supply company (KEDS), secured its business registration in 2009, and created a physical data room in anticipation of investor due diligence.

Produced key contractual documents, including the Transfer Agreement, Shared Services Agreement, and Collection Agreement, which were required for the legal unbundling of spin-off KEK's electric distribution and supply business in support of KEDS' privatization.

Secured key modifications to the 2010 Law on Energy; these afford KEK and therefore KEDS a statutory 99-year right of use over all energy facilities that it possesses or uses, thereby giving legal certainty and clarity to KEK's property rights in preparation for privatization.

Optimized existing organizational structures for the Generation, Coal Production, Network, Supply, Customer Services, Corporate Services, Finance and Energy Balance, and Trading Divisions, and prepared new post-privatization structures.

7.1 KEK: A Commercial Enterprise

For more than a decade, KEK could be characterized as an institution for social stability, as opposed to a commercial enterprise. Its complex stakeholder environment did not promote self-governance; nor did its management by UNMIK/KTA engender independence. However, KEK moved from international stewardship towards local independent governance and ownership during the project, and is now considered a functioning company.

Today, KEK's asset value has improved and it is operating as a commercially viable entity. Once an insolvent organization, KEK is now, for the first time, able to fund its capital and operating expenses using its own revenues. Some of the project's main accomplishments in this regard include:

- KEK's commercial losses decreased from 31% in 2006 to 18% in 2013.
- Its revenue collected increased from €96 million in 2006 to €212 million in 2012, with minimal increases in prices.
- In 2006, KEK recorded a financial loss of more than €25 million, but it enjoyed a profit of over €15 million in 2011, while its liquidity increased by a factor of 2.5.
- KEK obtained an unqualified financial auditor's opinion for its 2011 FY financial statement for the first time in its history. Rather than solely relying on grants from the government and donor community, KEK funded a significant portion of its capital expenditures utilizing loan agreements (€192.6 million) and no longer uses the overdraft facility with Raiffeisen Bank. A breakdown of CapEx expenditures between KEK-funded expenses and those derived from either grants or loans from the Government of Kosovo is shown in Table 23 at the end of this section.

The capital investments made in Kosovo's mines between 2008 and 2012 stabilized KEK's mining operation and allowed most of the utility's fuel supply needs to be met by the new SSW mine. Also, using its own internal resources, KEK has been improving the capacity and reliability of its generating plants and reducing their environmental impacts.

The Kosova B power plant underwent a significant maintenance and capital improvement program to increase the reliability of the turbine/generator and boiler equipment, with the exception of the electrostatic precipitators (ESPs). After the 2012 overhaul of the B1 unit, both of the plant's units are now able to operate at a gross capacity of about 315 MW during the peak season, compared to the gross capacity of 280-290 MW that they had been generating.

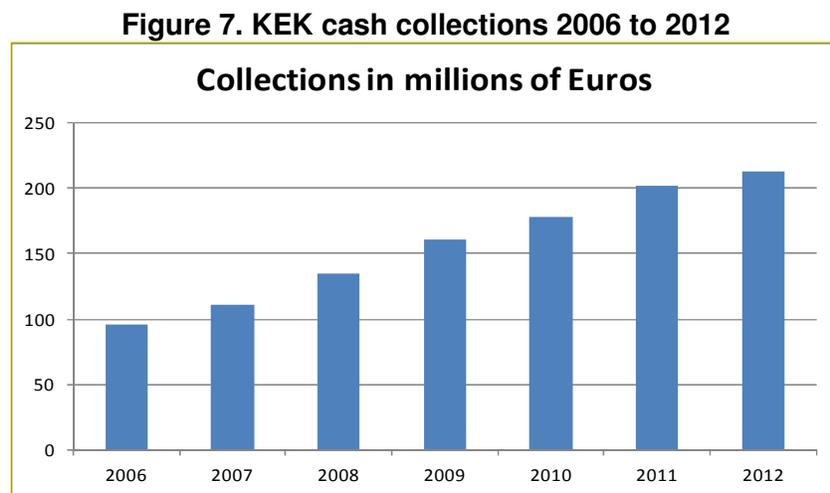
KEK's activities at the Kosova A plant are also noteworthy. They included the reactivation of the A5 unit in 2008 and the installation of a new ESP on this unit in 2012. The overhaul of A3 and the installation of a new ESP were completed in November 2012. The overhaul of unit A4 and the installation of a new ESP are scheduled for completion in 2013. KEK also made important environmental and other investments in Kosova A, including the installation of new main step-up transformers on A4 and A5, and the planned installation of a new air compressor station to support the new ESPs' air requirements and the hydraulic ash transfer system to the disposal pit, to be completed in 2013.

As mentioned previously, a reliable supply of electricity is essential to any utility's success. The capital investments in KEK's mines and generation assets ultimately led to a more secure supply of electricity in Kosovo, which, in turn facilitated improvements to KEK's billing and collection levels. Together, these elements aided KEK's transition toward a viable commercial operation and established the necessary preconditions for attracting a strategic investor for the KEDS transaction.

To gain a better picture of KEK's performance, Tetra Tech conducted comparative analyses of the data for 2006 through 2012. The results are discussed below.

Cash Collections

As explained in Section 3.3, the level of KEK's cash collections rose by 120% between 2006 and 2012;¹⁶ this upward trend in revenue can be seen in Figure 7. The reasons for this increase are discussed in Section 3; but can be summarized as follows: 1) increasing the energy supplied to the system by KEK generating units, 2) reducing commercial losses by more than 200 GWh and increasing the percentage of billed energy that was collected from 74% to 91% -- both improvements can be attributed to the restructuring of district operations, vigorous disconnections and KEK's efforts to instill accountability at lower levels, and 3) regularizing minority consumers in south Kosovo, resulting in increased billing of 200 GWh.

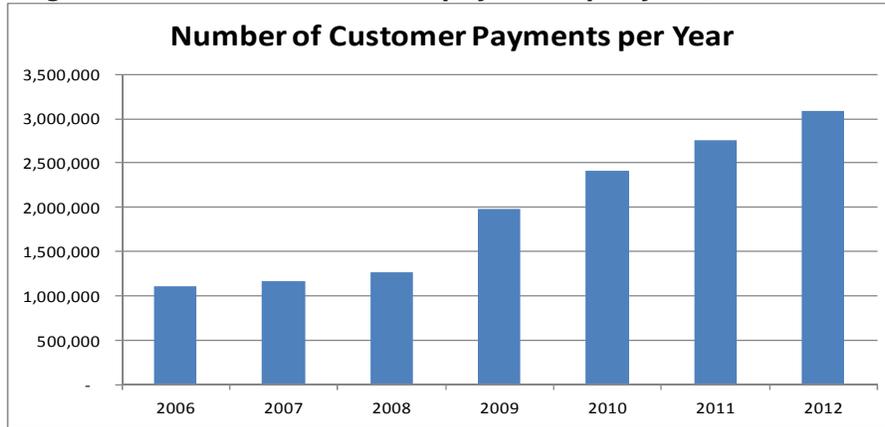


Payment Transactions

The number of payments received from customers increased by 175% from 2006 through 2012 (Figure 8). Again, the reasons for this are discussed in Section 3.4, but can largely be attributed to the increased frequency of disconnection for non-payment following the restructuring of district operations in 2008, as well as KEK's communications to educate customers that they must pay their electricity bill each month, just as they do for their other financial obligations.

¹⁶ In the period in question, there were only minimal increases in retail electricity tariffs.

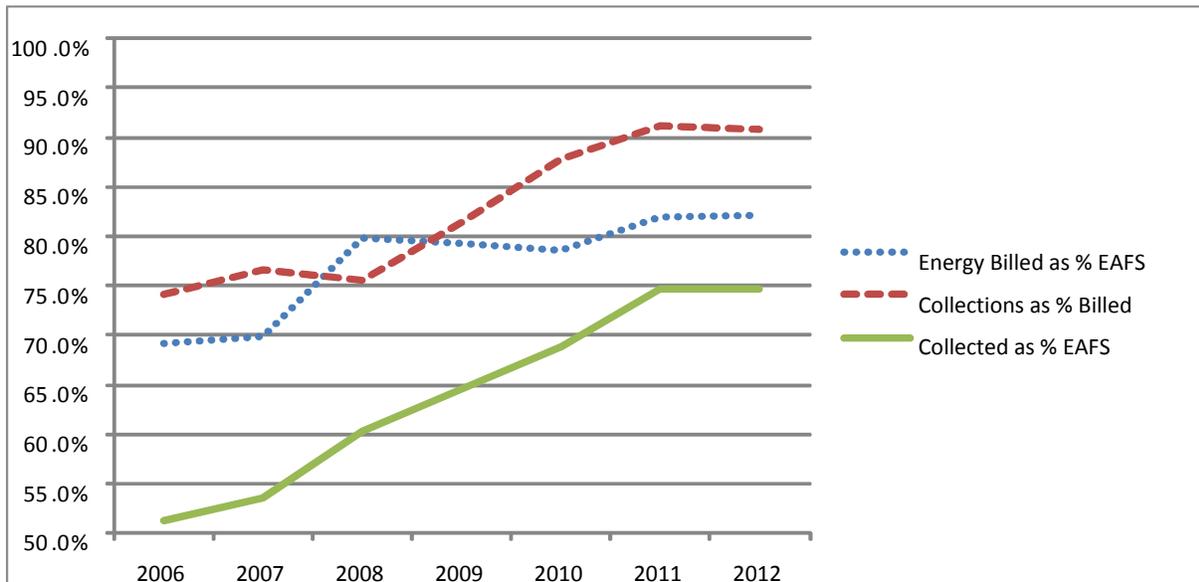
Figure 8. Number of customer payments per year, 2006 to 2012



Overall Performance

This measure is a combination of the billing rate (the amount of energy billed as a percent of energy available for sale) and the collection rate, and gives an indication of the collection of delivered energy. KEK’s overall performance rose from 51% in 2006 to 75% in 2012 (Figure 9).

Figure 9. KEK’s billing and collection performance, 2006-2012



KEK’s Performance in 2013

The improvements made in KEK during Tetra Tech’s tenure are real and tangible – as borne out by the statistics presented above. However, the utility’s situation remains fragile. For example, in the first five months of 2013 (which is compared to the same periods in prior years in the graph below), its performance fell to 71%. Data for the

month of June 2013 have not yet been provided by KEK and KEDS and given that KEDS is now a private company, some information may not be made public. Thus, the statistics presented in this section focus on KEK's performance for the first five months of 2013 to give the reader an idea of its recent performance compared to its performance in comparable prior periods. Please note that statistics for periods of less than one year are not directly comparable to full-year statistics since commercial losses are generally significantly higher and collection rates lower in the colder months when both consumption and prices are higher than in the summer months.

Table 22 shows the results from the Performance-Based Management System (PBMS) for the period January to May in 2006 to 2013.

Table 22. KEK's billing and collection – 5 months ended May¹

	2006	2007	2008	2009	2010	2011	2012	2013
Ratio of energy billed vs. energy available for sale	68.2%	65.9%	78.2%	76.1%	73.9%	78.4%	79.6%	79.9%
Percent of money collected vs. billed (%)	70.9%	74.4%	65.6%	78.8%	90.0%	92.6%	96.1%	89.4%
Percent collected vs. energy available for sale (%)	48.3%	49.0%	51.3%	60.0%	66.5%	72.6%	76.4%	71.4%
Collected revenue (€ million)	41.5	45.1	50.5	67.3	78.6	89.4	97.7	97.8

¹ Includes all KEK customers.

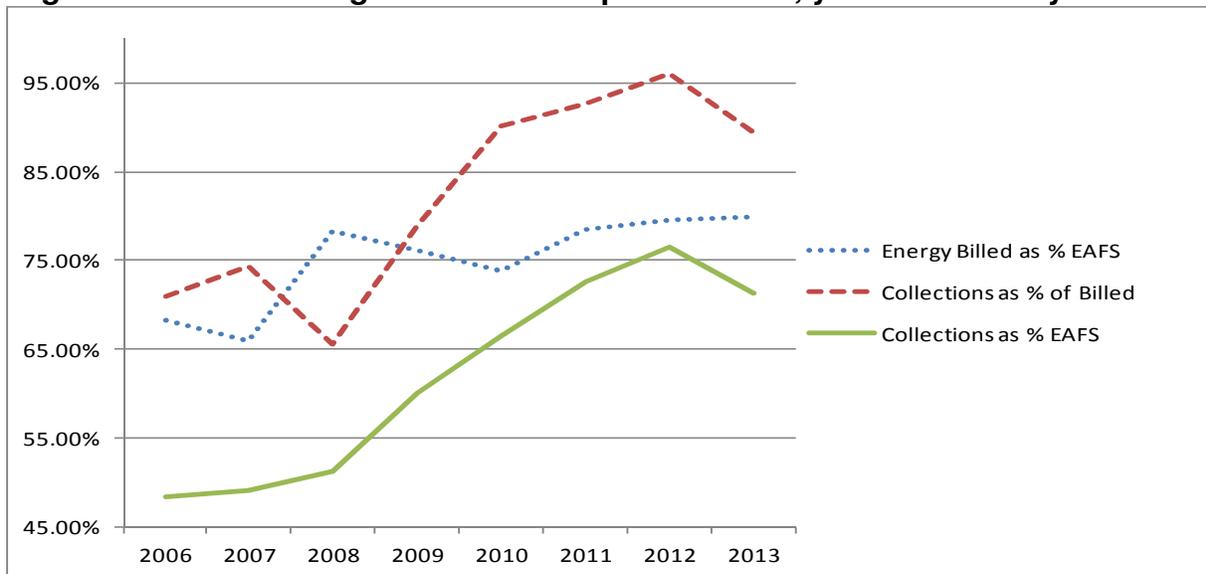
As can be seen from Table 22, KEK's recent performance (2013) has not followed the trend of improvement experienced through 2012. As Tetra Tech communicated to USAID, the principal underlying reasons for the stagnation/decrease in KEK's recent performance include: 1) management's reluctance to implement the disciplinary measures necessary to increase billing and collection, especially those related to terminations of employment, 2) management not wanting employees (including poor performing ones) to lose their jobs with the impending privatization, 3) unwillingness to take the tough steps needed due to political and cultural repercussions, and pressure from labor unions, and 4) resistance on the part of some customers, labor unions, political parties, and activist groups toward the privatization of the distribution and supply business.

KEK's performance was also hindered in the first quarter of 2013 by the public controversy concerning its billing to customers for January energy consumption. The situation can best be described as a media and public relations issue that should have been resolved in short order by KEK admitting that there were problems with several hundred electricity invoices sent to customers in Prishtinë/Priština that contained two months of consumption owing to a clerical error and the fact that, on average, household customers were billed for 33 days of consumption as opposed to the 31 calendar days in the month of January. ERO's rules allow for a two-day deviation in the reading period for bills – particularly if it coincides with public holidays. However, some customer were billed for 34 or 35 days and rightfully complained to KEK. In response,

KEK averaged their consumption over two months to reduce the impact of the block tariff. Other accusations that were made, but were not valid, included: 1) KEK was accused of having “systemic” problems with its billing and 2) KEK intentionally read customer meters early in December 2012 to increase commercial losses. An actual meter reading analysis showed this was not the case.

KEK was also accused of having poor customer service in the handling of complaints. However, customer complaints were resolved in less time than the ERO rules demand. Once the initial problems came to light, Tetra Tech advised KEK to publicly 1) concede that some mistakes had been made, 2) state that any errors would be corrected, and 3) encourage customers to contact KEK representatives if they felt they had a valid complaint. However, KEK’s public relations staff opted for a defensive stance with the media, public and stakeholders. Ultimately, this approach aggravated the situation and resulted in public protests against KEK. The focus of the protest eventually shifted from the January billing issue to broader issues, such as the KEDS privatization and corruption within public institutions.

Figure 10. KEK’s billing and collection performance, year-to-date May 2006-2013



Comparison of 2012 Loss Levels to the Independent Loss Study

In July 2011, Advanced Engineering Associates International, Inc. (AEAI) issued its final report entitled *Independent Review of KEK Distribution Losses for 2010*. The objective of the study was to verify KEK’s estimates of losses for the year 2010, comprising:

- Technical distribution losses, as a percentage of electricity entering distribution
- Non-technical losses, as a percentage of electricity entering distribution
- The difference between total billings for 2010 and collections for current and previous years, as a percentage of the total billed revenue in 2010.

The study was required in order to confirm that KEK's loss assessment procedures were valid and that the estimates of technical and non-technical losses were as accurate as possible, given the well-recognized uncertainties over the estimation of technical losses on the low-voltage network, the extent of illegal connections and other factors that could affect the estimate of non-technical losses. The purpose of the study was to give the prospective bidders for KEDS confidence in the loss levels identified in the company data to be published in the privatization prospectus in 2011.

The review confirmed the validity of KEK' energy accounting data, indicating the following:

- Technical losses: Estimated technical losses compared to energy input to the distribution network: **16.8%**
- Commercial losses: Amount of unbilled energy compared to the amount of input to the distribution network: **20.0%** (excludes unbillable energy provided to minority areas)
- Non-payment: The amount uncollected compared to the amount billed is 14% (collection rate of **86%**).

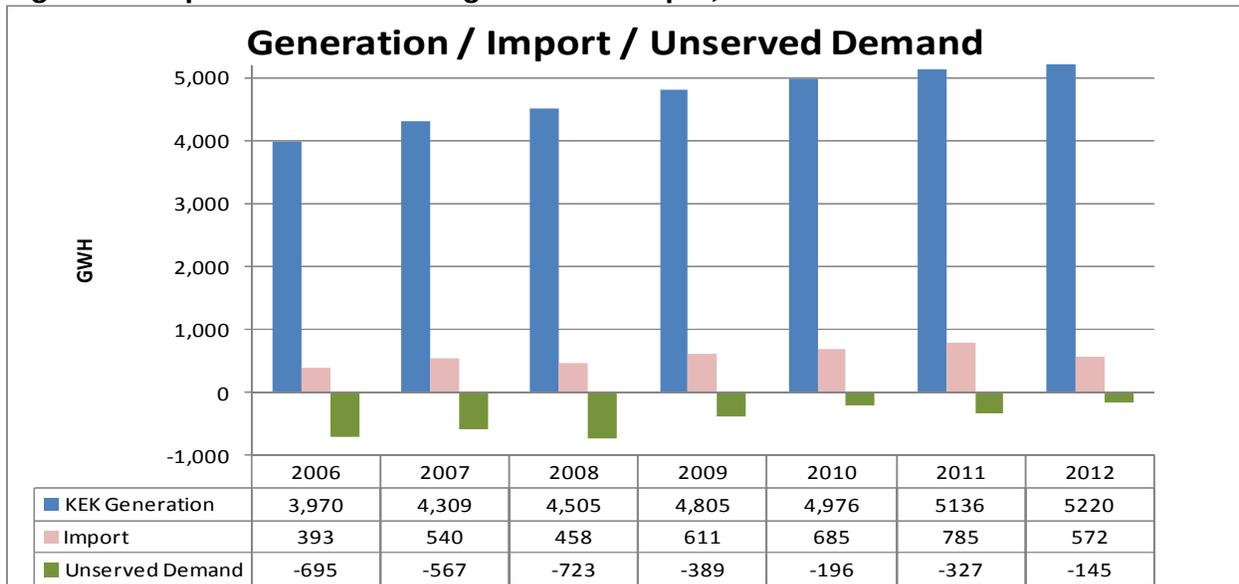
The study used specific definitions for the measures (as noted above). Throughout Tetra Tech's final report, various measures are reported to USAID that are in accordance with specific definitions used consistently during the 6.5 year duration of the project and agreed to by USAID. The statistics for 2012, which are comparable to those confirmed by the independent loss study for 2010, are:

- Technical losses: **15.9%**
- Commercial losses: **15.9%**
- Non-payment: the amount uncollected compared to the amount billed is 11% (collection rate of **89%**)

Generation Improvements

As explained in Section 5, the improvements made in generation over the past six years resulted in increased power available to Kosovo's consumers and significantly lower levels of load shedding (unserved demand). The growth in the output in KEK generation, combined with the decrease in unserved demand can be seen in Figure 11. It is worth noting that the record breaking output of the KEK power plants in 2012 was achieved notwithstanding the scheduled capital overhaul of Units A3 (Kosova A) and Unit B1 (Kosova B). Therefore, with only one scheduled capital overhaul in 2013 (for Unit A4, Kosova A), the units' output should be even higher and with little if any unserved demand. Indeed, in the first five months of 2013, the percentage of unserved demand drop to 0.26% (compared to 2.61% for 2012 (full year)).

Figure 11. Improvements in KEK generation output, 2006-2012



Reductions in Subsidies

Improved commercial performance allowed KEK to fund increasing amounts of operating and capital expenditures from its own funds (see Table 23). Further, as shown in Figure 12, government grants for working capital, operating expenditures, and capital expenditures have all been phased out. Since 2009, direct financial assistance from the government to KEK has been confined to grants for imported power and the capital loans for investments in mines and generation. The annual grant for imported power has steadily declined from a peak of €47 million in 2009 to only €11 million in 2013; no grant has been budgeted for 2014.

Figure 12. Reduction in grants to KEK, 2004 to 2012

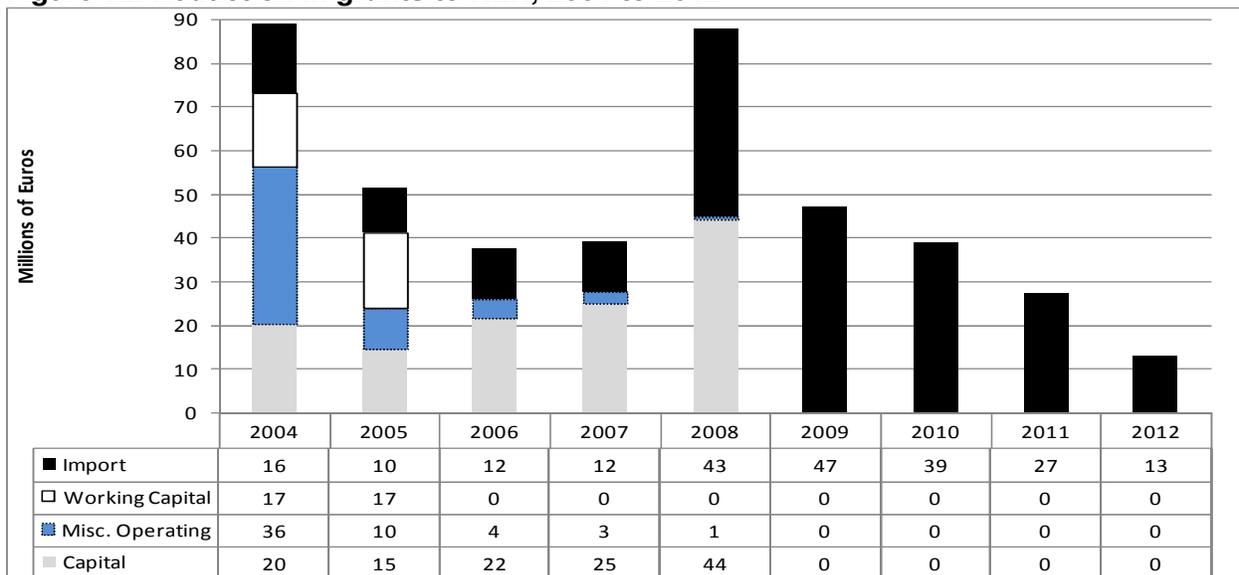


Table 23. Breakdown of funding sources for KEK capex, 2007-2012

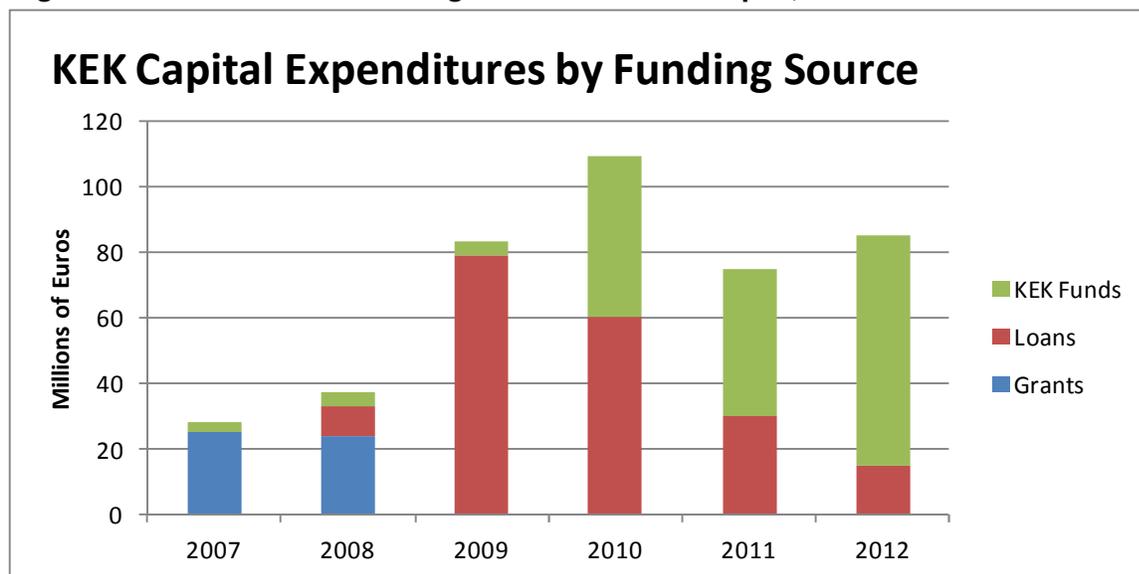
Year	KEK funding of capital expenditures (€ million)			
	Capital Expenditures	Funding Source		
		Grants	Loans	KEK
2007	28	25	0	3
2008	37	24	9	4
2009	83	0	79	4
2010	109	0	60	49
2011	75	0	30	45
2012	85	0	15	70
Total	417	49	193	175

Source: CapEx and grants from KEK audited financial statements. Loan data from KEK Treasury Department. KEK funds = total CapEx – grants – loans.

Until 2011, KEK had been paying interest and repaying principal on its capital loans; however, in the past two and half years, it has not made any payments, principally because the loan repayments are over a period of eight years, whereas the ERO has only permitted the recovery of the cost in tariffs over 30 years. If the ERO allowed the recovery of the cost over 8 years to match the loan repayment schedule, retail tariffs would have to increase an additional 8%, which would place a burden on households and businesses, and most likely would not be socially acceptable. Further aggravating the tariff situation is the significant rise in the lignite royalty, which increased retail tariffs by 11% and the fact that the Government subsidy for imported power has been decreasing each year and is expected to be zero in 2014 and thereafter.

Following on from the above, and as mentioned elsewhere in this report, KEK has been funding an increasing portion of capital expenditures from its own sources, reaching €70 million in 2012 (Table 23 and Figure 13).

Figure 13. Breakdown of funding sources for KEK capex, 2007 -2012



7.2 KEK's Distribution and Supply Privatization

Tetra Tech's direct privatization support began in late 2008, by working with other USAID implementing partners and stakeholders to formulate a strategy for private sector participation in KEK's distribution network and supply businesses. First, we developed a roadmap that recommended a practical approach to the privatization of these two businesses, to be implemented in conjunction and close coordination with the new Kosova C generation project (KRPP). As a result, the Government of Kosovo approved the unbundling of KEK (Decision No. 04/36) and the sale of the shares of the new distribution and supply company, KEDS (Decision No. 03/38).

In 2009, Tetra Tech provided extensive assistance to the MEF in creating the new Kosovo Electricity Distribution and Supply Company (KEDS), including drafting all necessary incorporation documents.¹⁷ In November of the same year, the GoK concluded a contract with the IFC to serve as the transaction advisor for the privatization of KEK's distribution and supply businesses. For the next three years, Tetra Tech provided it with materials on KEK and discussed the general approach to the privatization process. Our support to IFC included:

- Providing input on the *Key Legal Issues Report* that was prepared by Deloitte and submitted to the IFC.
- Ensuring that the IFC was informed on all developments related to any ongoing tariff reviews, the ERO's efforts to revise the licenses, and other regulatory issues. Tetra Tech also shared with IFC a draft regulatory statement and distribution law, which we recommended should become an integral part of the transaction documents for the sale of KEDS.
- Commenting on a document drafted by IFC advisors, which proposed changes to the existing tariff methodology.
- Consulting extensively with the IFC and Deloitte in connection with the modifications to the 2010 Law on Energy; these afford KEK and thus KEDS a statutory 99-year right of use over all energy facilities that it possesses or uses, thereby giving legal certainty and clarity to KEK's property rights in preparation for privatization.
- Meeting with IFC representatives several times to answer finance and accounting, tax and regulatory accounting questions related to the completion of the privatization transaction. At the IFC's request, Tetra Tech assisted KEK in preparing a pro forma opening (and closing) balance sheet for KEDS. Tetra Tech also explained to the IFC the accounting policies that served as the basis for preparing the balance sheet and

¹⁷ This company remained dormant until 8 May 2013 when KEDS became operational and KEK transferred to KEDS all distribution assets and liabilities.

made recommendations on the accounting treatment of the transfer of assets and liabilities.

- In November 2010, an investors' conference was convened by IFC in Kosovo for those showing an interest in the distribution company transaction. Tetra Tech drafted a presentation for KEK's managing director and held discussions with interested parties on the current status of KEK and the investment opportunities presented by this transaction.
- Participating in and giving a presentation at a high-level public forum, "Electricity Distribution Company Privatization: Enhancing Security of Supply in Kosovo for Economic Growth," which was held in Kosovo in June 2010 and organized jointly by USAID and the US National Association of Regulatory Utility Commissioners.

In conjunction with this assistance, Tetra Tech also assisted KEK with 1) KEK's role and function within the KEDS transaction and 2) undertaking all necessary preparatory steps for the legal unbundling of its electricity distribution and supply function, which was a precondition to the closing of the KEDS transaction.

With respect to point 1), Tetra Tech assisted KEK with the due diligence process, which included creating, populating and managing a physical data room; and supporting KEK with its written responses to financial, technical or legal information requested by short-listed bidders, the transaction advisors and KEDS Project Implantation Unit (PIU). In addition, we supported KEK in its review of the core transaction documents, namely the Share Purchase, Bulk Electricity Supply, Import, and Implementation Agreements. As execution of the share purchase agreement neared, KEK was also asked by the KEDS PIU to 1) populate certain schedules of the transaction documents, 2) review the wording of warranties provided under the agreements, 3) review the wording of the proposed payment guarantee under the bulk supply agreement, and 4) review and supplement the disclosure letter to be provided by the Government of Kosovo under the Share Purchase Agreement. Tetra Tech advised KEK on its responses to each of these points and was also called upon to attend with KEK several meetings with the awardee and the transaction advisors in September and October 2012 in an effort to finalize the transaction documents and facilitate signing, which occurred in mid-October 2012.

Tetra Tech also actively supported KEK in its participation in the Energy Projects Group, a body constituted by the Ministerial Privatization Committee to review the KEDS transaction documents.

With respect to point 2), a key component of our assistance was preparing the legal framework for the unbundling. In this context, Tetra Tech supported KEK with the drafting of the following agreements:

- Transfer Agreement, which was the principal vehicle through which KEK would transfer assets, employees and contracts to KEDS
- Collection Agreement, which outlined the terms upon which KEDS would act as KEK's collection agent for all electricity customer receivables that it retained
- Shared Services Agreement, which detailed the transitional commercial and operational relationship between KEK and KEDS after legal unbundling occurred.

Tetra Tech supported KEK in revising and updating these documents over the course of the KEDS transaction, taking into account feedback from stakeholders, the Energy Projects Group, IFC and shortlisted bidders. We also worked extensively with counterparts at KEK to populate the voluminous schedules to these documents, particularly the Transfer Agreement, which involved identifying pending legal claims, intangible and immoveable property, contracts, and employees to be transferred to KEDS.

Once the Share Purchase Agreement was signed in October 2012, preparations for the final steps toward legal unbundling intensified. Tetra Tech provided constant support to KEK management in their meetings with the transaction advisor, and the new investor, in addition to the regular "control" meetings that were convened by the KEDS PIU to monitor the fulfillment of the conditions precedent to the transaction completion. Specific areas of support to KEK included:

- Notifications to banks that hold KEK accounts on the impending transfer of accounts to KEDS.
- Finalization of the post-unbundling organizational charts for KEK and KEDS, and undertaking any reorganization of its core and support departments, with the objective of creating two fully functional companies after the unbundling. This was particularly important for services such as accounting and IT.
- Securing the declaration from the Tax Administration that the transfer of assets and liabilities from KEK to the new distribution company would be exempt from VAT and would not attract any corporate tax liabilities for either entity.
- Novation notices being sent to vendors in connection with the planned transfer of their existing KEK contracts to KEDS. In this respect, there was significant discussion and debate with the investors regarding their objection to the transfer to KEDS of five specific contracts. To address their concerns, Tetra Tech proposed a compromise, which was agreed, whereby a new termination for convenience clause was requested from the vendors to be added to the contracts. Four of the contractors agreed to the new clause – in response to which the investors agreed to

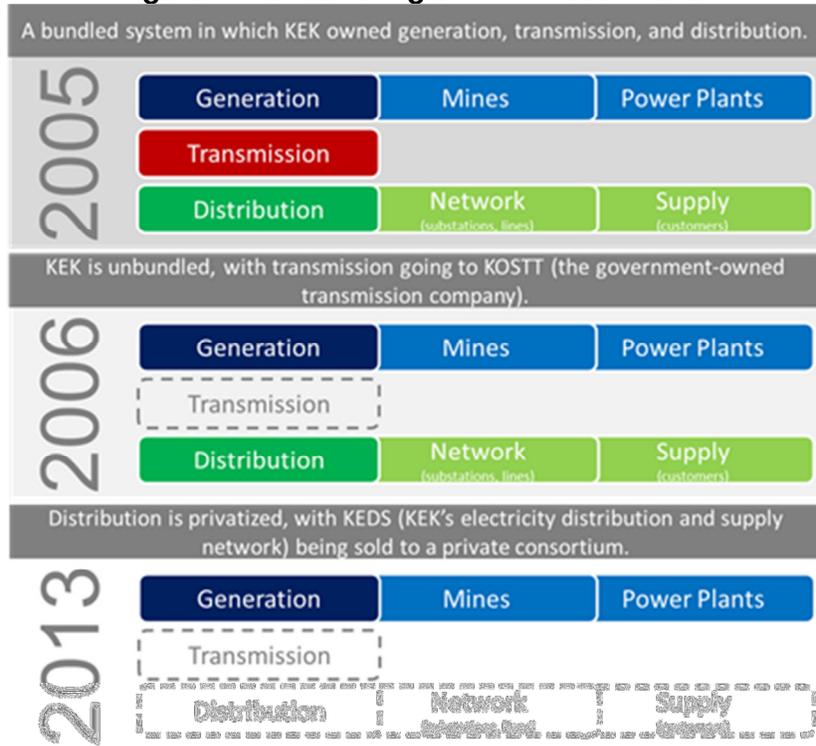
waive their objection to the one remaining contractor that did not agree to the new clause.

- Finalization of the list of KEK employees to be transferred to KEDS and seeking their written consent to the transfer. This also involved further outreach to employees and related trade unions. Tetra Tech assisted KEK with preparing a list of “frequently asked questions” regarding the privatization process, which was distributed to employees. Additionally, Tetra Tech accompanied the KEK representative tasked with conducting question and answer sessions on the KEDS transaction in each of KEK’s seven districts.
- The movement of non-KEDS personnel from, and the relocation of KEDS personnel to, the Elektrokosova building, to include all arrangements related to IT infrastructure.
- Preparation of a letter to the Tax Administration on the treatment of VAT and corporate income tax in April and May for KEK and KEDS, and depreciation for tax purposes on assets transferred from KEK to KEDS. The letter summarized the approach agreed by KEK, KEDS and the Tax Administration at a meeting held in early April.

Tetra Tech assisted KEK’s management in presenting the final transfer documents at the KEK Board meeting held on 24 April 2013. The documents were approved by both the KEK and KEDS Boards on the following day, enabling the documents to be forwarded to the Privatization Committee for their final review and approval.

For the next 13 days, Tetra Tech worked intensively with KEK, IFC, the investors, USAID and the GoK to resolve the only remaining “deal breaker” for the transaction, which stemmed from the contents of the 2013 ERO tariff decision. Both KEK and the investors contended that the ERO had failed to apply a revenue adjustment factor in the Public Supplier Pricing Rule, which resulted in an omission of €19.8 million of allowed revenue for the public supplier. Of course, the ERO did utilize its pass-through provisions to reduce the allowed revenues by €17.9 million for import and export costs; these adjustments are directly related to the revenue adjustment. This apparent error caused significant problems in the KEDS privatization process. Since KEK was the Public Supplier in 2012, this liability had to remain with KEK; therefore, a mechanism had to be devised under which KEK made the refund monthly to customers through the new privatized entity of KEDS. Tetra Tech proposed a number of solutions to handling the issue that would have allowed for the KEDS transaction to proceed. But there was little willingness on the part of all parties concerned to resolve the issue until late on the May 7, when the Government finally – after lengthy and arduous debate – provided the approval needed by KEK to fund the liability. The transaction subsequently closed on 8 May 2013.

Figure 14. Unbundling of KEK: 2005 - 2013



7.3 Post-privatization Support

As part of its work plan, Tetra Tech was to provide assistance to the new KEDS management after the transaction was completed. Originally, it was anticipated that our support would extend over six or more months; however, owing to delays in the completion of the KEDS transaction, it was ultimately shortened to less than two months. During this period, Tetra Tech spent considerable time in supporting KEDS’s new management in their efforts to successfully take over the Network and Supply business. We prepared a document entitled “Post- Completion Actions for KEDS,” which itemized critical areas that the investors had to complete. We also organized a weekly meeting with the KEDS CEO and the CFO to review progress on the list and provide guidance as needed. Key areas of focus included: deploying critical IT systems and software in payroll and automated meter reading, calculating the division of electricity customer receivables between KEK and KEDS, and restructuring retail tariffs.

Predictably, the post-completion period gave rise to some challenges – particularly in connection with the implementation of the Bulk Supply Agreement – pursuant to which KEDS will purchase energy from KEK generation. The difficulties arose immediately prior to closing the KEDS transaction and the compromises that were made at that time tarnished relations. This has manifested itself in a dispute between KEK and KEDS on the composition of the May invoice under the Bulk Supply Agreement. Based on Tetra

Tech's review, there is a fair and equitable resolution to the May invoice dispute, which is consistent with the underlying transaction and regulatory documents. However, it may require the intervention of a third party to settle the matter between KEK and KEDS given their entrenched positions.

The level of cooperation improved markedly in June, and there is every reason to believe it will continue. The dispute surrounding the May invoice should certainly be the exception as opposed to the rule, and ultimately, both parties must work together to ensure a viable and robust energy sector in Kosovo.

7.4 KEK and KEDS Going Forward

KEK remains the sole public generator of electricity in Kosovo. Its operations in 2013 consist of:

- **Coal production.** KEK exploits coal primarily from the Sibovc South West (SSW) mine, which opened in 2010 and has sufficient reserves to supply local power plants until 2024. KEK is also exploiting a small amount of coal from the nearby Sitnica mine, which will be depleted by the end of 2014.
- **Power plants.** The Kosova A and B power plants have a total reliable operational capacity of nearly 1,000 MW (out of an installed capacity of 1,478 MW). Currently, only three of the five Kosova A units are operational (A3, A4 and A5).

The ownership of KEK's small hydro power plants was transferred to KEDS in May 2013.

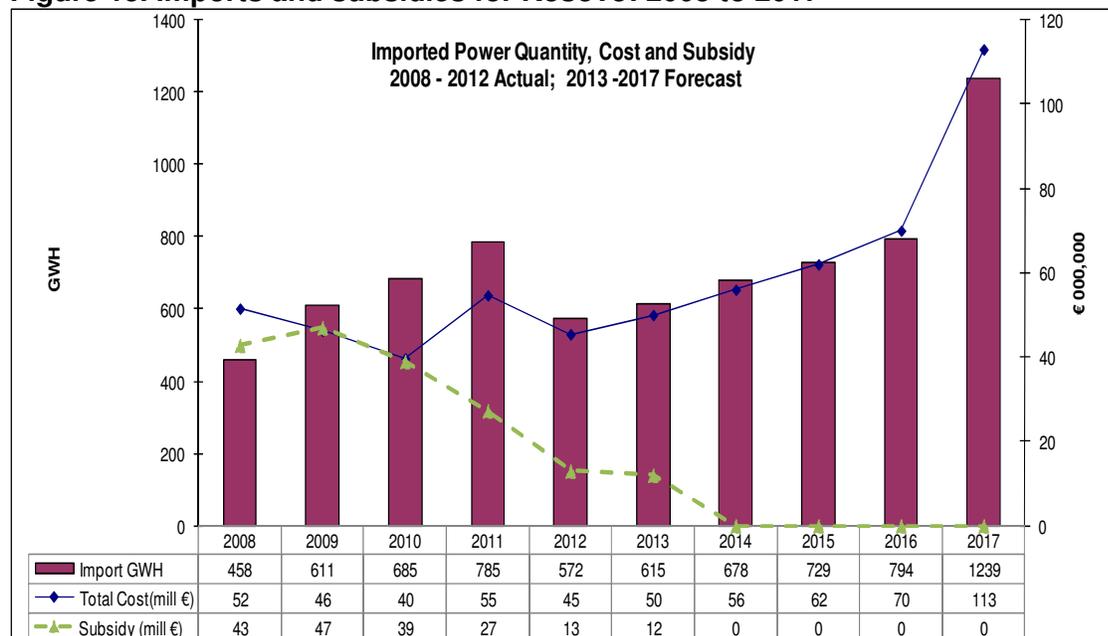
Despite a spate of new capital investment in the past five years, KEK's generation capacity remains inadequate. Some assets are over 40 years old and badly deteriorated. The commercial operations of its mines and generating plants have substantially improved over the last 6.5 years; however, they remain substandard.

Further, despite marked improvements, there remains significant room for to strengthen KEK's performance, particularly in relation to efficiency, productivity, and right sizing.

As a general comment, the demand for electricity exceeds operating generation capacity, and is projected to grow significantly over the coming 10 years. Even though the rationing of electricity has been significantly reduced since 2006 (from 695 GWh to 145 GWh), load shedding remains a necessary option on occasion due to inadequate supply, some unplanned generating unit outages (there is no reserve capacity), financial constraints on imports of high-cost energy, system constraints, outages for maintenance, and equipment and network failures. This is a looming challenge for all stakeholders in Kosovo's energy sector.

Figure 15 shows that Kosovo will continue to rely on imported power in the coming years, especially in 2017 when one of the Kosova B units undergoes a major refurbishment in order to meet the LCPD standards.

Figure 15. Imports and subsidies for Kosovo: 2008 to 2017



Transmission capacity allocation by the Serbian operator further contributes to irregular service, since KEK (and now KEDS) is not able to take advantage of occasional lower-cost imports. To clarify, as matters currently stand, the Kosovo transmission system operator (KOSTT) does not allocate any capacity on its cross-border connections; this is performed by the Serbian transmission system operator (EMS). In this context, and as mentioned in KEK’s complaint to the Energy Community Secretariat, EMS does not recognize any electricity trading license issued by ERO, which precludes KEK (and now KEDS) from securing any interconnection capacity for exports/imports. Additionally, Kosovo Serbs operate the energy system in northern Kosovo without license or any agreement with KEK (now KEDS), which adds 4.5% to system losses. Since political and security concerns preclude KEDS’s access to this area, it categorizes this as a “political loss.” The ERO has assigned this loss to the wholesale cost of energy to be paid by KEDS customers. In this context, KEDS will also be keeping a watchful eye on the ongoing EU-facilitated dialogue in Brussels between Kosovo and Serbia insofar as it concerns the electricity situation in northern Kosovo. Ultimately, any resolution on this difficult issue should not prejudice KEDS’s legal or financial position.

The other challenges facing KEDS can be summarized as follows:

- The ERO’s ability to increase retail tariffs in 2014 to compensate for errors and omissions in the determination of 2013 tariffs. KEDS management pointed out to

the ERO that tariffs will have to increase by a sizeable amount in 2014 for this issue alone.

- The ERO's ability to increase retail tariffs in 2014 due to the elimination of the government subsidy for imported power and the necessary increased costs of KEK generation.
- It is hoped that the steady upward trend in billing and collection rates can be accelerated under the new private owners of KEDS. However, they will need to focus and dedicate resources to meet the stringent loss reduction targets established by the ERO. The new management can be expected to meet resistance from employees and the public in their attempt to reduce theft. Failure to meet the targets, which become more stringent each year, will result in financial losses.
- KEDS's ability to secure the necessary support from law enforcement and the judicial system to enforce disconnections for theft and non-payment, and ensure that the courts do not go beyond their statutory competencies when dealing with KEDS's relations with its employees or former employees.

7.5 The KRPP Transaction

A consistent thread throughout the KEK Network and Supply Project was the ongoing effort to secure new generation capacity for Kosovo.

The World Bank's lignite assistance project for Kosovo's electricity sector began in 2006. It established a Project Implementation Unit and secured a transaction adviser to tender for the construction of 2,000 MW of new generation capacity, namely Kosova C, the exploitation of the Sibovc mine, and the sale of Kosova A. In 2008, the new post-independence government decided to conduct a review of the Kosova C transaction and eventually decided to rename and reconfigure the package – the New Kosovo Power Plant or Kosovo e Re Power Plant (KRPP) project would now comprise the SSW mine, 600 MW of new generation, and the Kosova B plant.¹⁸ In September 2012, Kosova B was also removed from the tender and as it currently stands, the tender may now include only 600 MW of new generation capacity coupled with the mine. It should also be noted that the World Bank-funded resources were depleted by 2011, and since then the GoK has been funding the costs related to its transaction advisers.

Over the course of the project, Tetra Tech frequently met with and shared KEK data and supporting materials with World Bank representatives, its transaction advisors (PWC and later Raiffeisen Bank) and legal advisors (Hunton & Williams). We also provided feedback on the transaction structure and composition as it evolved over time. In this

¹⁸ The Kosova A plant was removed from the tender in light of Government of Kosovo's commitment to the EU that it would be retired by 2017.

respect, when the Kosova B power plant was included in the transaction package, USAID asked Tetra Tech to perform a feasibility study on the rehabilitation of the power plant, which was completed in August 2010. The study was subsequently shared with the World Bank transaction team and several meetings followed to discuss our conclusions and observations.

Tetra Tech provided extensive support to KEK in responding to requests for information in the context of the KRPP transaction. To ensure that KEK fulfilled its obligations as part of the due diligence process, we supported and advised the KEK employee who was the main contact point and coordinator for documentation requested by the KRPP transaction advisors. Further, as the transaction documents were updated, Tetra Tech supported KEK in populating and providing feedback on the request for proposals and the 17 agreements that formed part of the transaction, which covered the supply of lignite to KEK's power plants, utilization of KEK's depleted Mirash and Bard pits, and the asset transfer of KEK's mine equipment. In all, the project documents were updated in 2010, 2012 and 2013. In order to facilitate the finalization of these documents, Tetra Tech accompanied KEK in its meetings with the legal transaction advisors. As part of these discussions, KEK advocated – with Tetra Tech's support – that all coal operations, up to and including the coal separation yard of the Kosova A plant, should be included in the KRPP transaction. This was eventually agreed by the transaction advisors.

As at the close of the project, the future of the KRPP is uncertain. Clearly, the lack of new generation is particularly concerning given the growing shortfall between electricity demand and existing capacity in Kosovo (as outlined earlier in this section).

8 Project Environmental Compliance

Throughout the KEK Network and Supply Project, Tetra Tech performed its work in accordance with the project's Initial Environmental Examination (IEE) as required by USAID's environmental compliance regulations outlined in 22 CFR 216. The last amendment to the project's IEE (DCN; 2012-KOS-037), No. 4, was approved in March 2012.

Based on the IEE, the project identified activities that 1) had no effect on the natural or physical environment (and therefore were considered Categorical Exclusions) and 2) did not have a significant effect on the environment (any potentially adverse impacts could be mitigated through specific actions), with the following Recommended Environmental Determinations:

- Pursuant to 22 CFR 216(c) (2) (i) for education, technical assistance, or training programs, a Categorical Exclusion was recommended, unless such programs included activities directly affecting the environment. Under Task Area 1 of the project's modified scope of work, those activities included: Human Resource Improvements (except to the extent these resulted in activities directly affecting the environment), Customer Service Enhancements, Improve Communications and Public Relations, Anti-Corruption and Revenue Protection, Finance and Accounting Improvements, Streamline Company Organization and Improve Company Management, and Advise the Government and KEK Board of Directors in Fulfilling Their Responsibilities towards KEK in a Manner that is Consistent with Sound Corporate Governance Practices.
- Pursuant to 22 CFR 216.2(c)(2)(xiv) for studies, projects or programs intended to develop the capability of recipient countries to engage in development planning, except to the extent they are designed to result in activities directly affecting the environment, a Categorical Exclusion was recommended. Under Task Area 2 of the project's modified scope of work, those activities included Advisory Support in the KEDS Privatization Process Including Limited Assistance Post-Privatization. Task Area 3 activities included Support for the Privatization of Remaining KEK's Assets.
- Pursuant to 22 CFR 216.3(a)(2)(iii), a Negative Determination with Conditions was recommended for Task Area 1 activities that included: Support Development and Implementation of Policies and Procedures for all Aspects of KEK's Business and Commercial Operations Required to Maintain and Preserve the Asset Value of KEK Business Functions throughout the Privatization Process of KEDS and GenCo, and Support of Procurement.

Conditions

Amendment No. 4 of the IEE lists the following conditions to reflect the proactive environmental safeguard approach to which the project was committed:

- Specifically identify as part of the Project Work Plan, or changes to the Work Plan, activities that could potentially have significant environmental, health, and safety (EH&S) impacts.
- Establish and maintain environmental due diligence (EDD) procedures to ensure that USAID project activities, both those described in the work plan or ad hoc activities, and the KEK-related activities of international community partners, are thoroughly reviewed for potential EH&S impacts and then assessed to determine if adequate environmental mitigation and monitoring plans (EMMP) associated with the impacts have been adopted.
- Include in EDD procedures the process by which the implementer will report on gaps in the:
 - i. Identification of KEK-related EH&S impacts
 - ii. Adequacy of related EMMPs and/or
 - iii. Implementation of the EMMPs.
- Respond effectively to address gaps directly associated with project activities and document the chosen approach.
- When the gaps associated with international community partner activities are identified (by the implementer) and communicated (to USAID), then USAID will contact that international community partner with a description of the gaps.
- Appoint a competent, on the basis of education, training, and/or experience, EH&S expert(s) to participate in establishing and maintaining the EDD and recommending corrective actions for project activities.
- Contribute to the compliance assurance process related to environmental, health, and safety requirements, by monitoring the contents of tenders and other documents being prepared by the transaction advisors (even though USAID is not responsible for the privatization of energy distribution, generation, or the new mine).
- In accordance with the environmental liability assessment prepared by the Government of Kosovo's transaction advisor (and the expectation is that the Government will take responsibility for any historical contamination), provide guidance (USAID Energy Team) so that tender documents stipulate investor compliance with applicable Kosovo legal requirements and IBRD EH&S standards.

- Incorporate environmental issues into project-related training courses and workshops, e.g., those anticipated in Task Area 1, wherever appropriate.

Tetra Tech submitted a draft EDD Process Report in April 2012. It established how Tetra Tech would ensure that USAID project activities, both those described in the work plan or ad hoc activities, and the KEK-related activities of international community partners, are thoroughly reviewed for potential EH&S impacts. It then assessed how to determine if an adequate response in the form of mitigation and monitoring plans associated with the impacts had been adopted. The Environmental Due Diligence Report was revised and resubmitted in February 2013 in response to USAID's feedback and the findings of the USAID-commissioned *Environmental Review of KEK Network and Supply Project*. The report was approved by USAID in March 2013.

The EDD included the following:

1. An Environmental Mitigation and Monitoring Plan, which listed conditions/mitigation measures from IEE Amendment No. 4 and the findings of the *Environmental Review of the KEK Network and Supply Project*, monitoring indicators and reporting requirements.
2. A review form to facilitate comparisons of the Work Plan and ad hoc activities with the IEE to ensure that all project activities remained within the scope of the IEE, and that no unpredicted adverse environmental impacts resulted from project activities.
3. An environmental screening form to ensure all activities with potential environmental impacts were identified and screened.
4. A reporting form for environmental issues and gaps to notify USAID of concerns of international community partner activities and of KEK activities (those scrutinized and/or conducted in partnership with Tetra Tech).
5. A new indicator for environmental compliance as requested by USAID.

Table 24 identifies all the mitigation measures implemented under the project.

Table 24. Environmental mitigation and monitoring plan implementation

Potential Environmental Issue	Mitigation Measures	Status
Activities of international community partners may be implemented without appropriate best practices/ mitigation measures and adverse EH&S impacts could result.	Identify KEK-related activities of international community partners that could potentially have significant EH&S impacts and evaluate the adequacy of mitigation measures/approach. KEK-related partners/activities currently are: the World Bank's Clean-up and Land Reclamation Project, KRPP transaction, KfW District Heating Project, and IFC transaction advisor.	Tetra Tech submitted to USAID in June 2013 a Reporting Form regarding the illegal cultivation of crops at the Kosovo A ash dump. This is part of the KEK activity: Ash Dump Rehabilitation Project funded by the World Bank.
KEK tenders and other KEK activities may not incorporate EH&S best practices and adverse EH&S impacts could result.	The project's chief and deputy chief of party monitor the contents of tenders disclosed to Tetra Tech by KEK and other documents, as appropriate, and provide recommendations for corrective action to mitigate adverse EH&S impacts.	Tetra Tech submitted to USAID a reporting form in March 2012 on KEK's contract with Kosovo Coal L.L.C. and the associated discharge of hazardous material into a local river. An update was submitted to USAID in June 2013.
During post-privatization of KEDS (once the IFC transaction advisor is no longer involved), the investor may not be in compliance with environmental requirements included in the tender.	Monitor activities during KEDS post-privatization, insofar as the relevant data or information is made available to Tetra Tech by the KEDS investor, to ensure the investor adheres to the environmental requirements stipulated in the contract and provides recommendations for corrective action, as necessary.	Tetra Tech monitored activities during the KEDS post-privatization period of 8 May to 28 June 2013 and based on the information made available to Tetra Tech by the KEDS investor, there were no environmental issues that Tetra Tech was aware of that required corrective actions.

Table 24. Environmental mitigation and monitoring plan implementation

Potential Environmental Issue	Mitigation Measures	Status
<p>Without EDD procedures in place to ensure that all project activities are within the scope of the IEE (DCN; 2012-KOS-037), adverse EH&S impacts could result.</p>	<p>Tetra Tech will monitor all KEK activities being conducted for the duration of the project, which are disclosed to Tetra Tech and where potential environmental impacts are identified.</p> <p>Tetra Tech will identify Work Plan activities or changes to the Plan (or ad hoc activities) that are outside the scope of the IEE or that could have impacts that were not predicted at the time the IEE was prepared.</p>	<p>Tetra Tech monitored KEK’s activities during the duration of the contract. It submitted to USAID a reporting form in March 2012 on KEK’s contract with Kosovo Coal L.L.C. and the associated discharge of hazardous material into a local river. An update was submitted to USAID in June 2013.</p> <p>Tetra Tech did not identify any activities in its Work Plan or impacts outside the scope of the IEE.</p>
<p>Monitor KEK projects that are disclosed to Tetra Tech or which Tetra Tech is aware of, to determine KEK’s compliance with environmental legislation of Kosovo and international standards and, if necessary, provide relevant recommendations and guidance</p>	<p>Tetra Tech will advise KEK and assist it as necessary to apply for all applicable national and local permits and licenses prior to the commencement of project implementation.</p> <p>Tetra Tech will document all environmental permits and EIAs that KEK has filed to date and make them available as part of the documentation process.</p> <p>Tetra Tech, accompanied by KEK, will meet with the Ministry of Environment to discuss whether an environmental</p>	<p>In the course of its daily guidance to KEK, Tetra Tech advised KEK to apply for all applicable national and local permits and licenses prior to the commencement of any of its projects.</p> <p>Tetra Tech submitted to USAID on 17 June 2013 a listing and e-copies of the permits/licenses that that KEK had applied for as of 30 May 2013.</p> <p>Tetra Tech accompanied KEK to a meeting at the Ministry of Environment and Spatial Planning on 25 March 2013 to understand specifically the requirements for permits and EIAs relating to KEK operations. The main points discussed were:</p> <ul style="list-style-type: none"> ▪ KEK has re-submitted an application for an Integrated Pollution Prevention Control (IPPC) in the last quarter of

Table 24. Environmental mitigation and monitoring plan implementation

Potential Environmental Issue	Mitigation Measures	Status
	<p>permit is required for the installation of the electrostatic precipitator and overhaul of Kosova A4. If required, Tetra Tech will ensure KEK requests an Environmental Permit and will use this process as part of the training agenda for KEK (see below). This will serve as the basis for future KEK procedures regarding major overhauls and maintenance requirements.</p>	<p>2012 to the Ministry based on the new application template established by the Ministry. The IPPC is for a 10-year term, which will be reviewed every 5 years by the Ministry and covers all of KEK’s mining and generation activities. Currently, the Ministry has established specialized groups to review KEK’s application. Negotiations will be conducted between KEK and Ministry to establish specific conditions and milestones for the requirements within the IPPC.</p> <ul style="list-style-type: none"> ▪ If any of KEK’s mining and generation operations are ultimately split, such as Kosova B or the Mines, there is no need for a new IPPC. The IPPC that will be issued can be separated, since it consists of three separate sections: Kosova B, Kosova A, and Mines. ▪ A condition of the IPPC may include a requirement for KEK to have an Environmental Management System (EMS). ▪ The IPPC application has been made, and as such no further environmental permitting is required to be in place to cover KEK’s operations at this stage (which includes ESPs). ▪ Scheduled overhauls and maintenance of current KEK facilities do not need any additional environmental permits. ▪ For any future projects that will trigger a change to KEK normal operations, the Ministry should be informed beforehand, so it can conduct a screening within 10 days (i.e., to determine whether an Environmental Impact Assessment is needed).

Table 24. Environmental mitigation and monitoring plan implementation

Potential Environmental Issue	Mitigation Measures	Status
		Tetra Tech accompanied KEK to another meeting at the Ministry of Environment and Spatial Planning on 11 June 2013 where the Ministry confirmed that KEK will be required to have an EMS as a condition of the IPPC.
Conduct Institutional capacity building efforts	<p>Train KEK staff on environmental legislation.</p> <p>Representatives of the Ministry of Environment will be invited to participate to ensure that both the Ministry and KEK clearly understand the issues, concerns, and requirements.</p> <p>Train KEK staff on general environmental management, identification of environmental and social aspects, impacts of coal mines and power plants, and associated mitigation measures and monitoring procedures. Tetra Tech will use specific examples of KEK's activities to illustrate the environmental and social aspects, impacts and procedures to comply with local environmental laws, and international best practices.</p> <p>Train KEK's management and</p>	<p>Tetra Tech conducted an environmental training program for KEK from April to June 2013. The program was divided into three distinct topics with various modules delivered over a 3- to 4-day period each.</p> <ul style="list-style-type: none"> ▪ Series 1 on Environmental Management and Monitoring, with modules on an Introduction to Environmental Management, Overview of Legislation and Permits, Environmental Impacts, Environmental Mitigation and Monitoring and Reporting, was conducted from 14 to 19 April 2013. ▪ Series 2 on Environmental Management Systems, with modules on an Introduction to EMS, EMS Planning, EMS Implementation, and Checking and Developing an EMS Manual, was conducted from 13 to 18 May 2013. ▪ Series 3 on Other Environmental issues, with modules on Emergency Response Plans, Health and Safety, Waste Management, Hazardous Materials and Decommissioning, was conducted from 9 to 15 June 2013. <p>In attendance in the various modules were the managing director, chief operating officer, and directors of Kosova A, Kosova B and Mines, corporate services director, environmental</p>

Table 24. Environmental mitigation and monitoring plan implementation

Potential Environmental Issue	Mitigation Measures	Status
	<p>Environmental Department in preparing applications for environmental permits and train KEK's Environmental Department in monitoring environmental permits and general environmental issues.</p> <p>As part of the monitoring measures, Tetra Tech will assist KEK's Environmental Department to establish an environmental monitoring system of mining operations.</p>	<p>manager, and the staff responsible for environmental, health and safety at Kosova A and B and the Mines. A total of 18 persons.</p> <p>Tetra Tech determined that KEK already had an environmental monitoring system for mining operations in place. Tetra Tech reviewed the existing system over March to June 2013 and presented its recommendations for improvements to KEK senior management on 13 June 2013 and in a memo sent subsequently via email.</p>
<p>Assist KEK in updating Emergency Response Plans for generation facilities and mines in order to improve the security of KEK assets and to protect environment and human health in case of natural disasters (flooding, fire, etc.) or technical failures</p>	<p>Tetra Tech will conduct a gap analysis of KEK's emergency response plans (ERPs), from a health, safety, and environmental impact perspective, and make recommendations for needed changes to KEK ERPs. If no ERPs exist in KEK, Tetra Tech will develop a draft framework for ERPs, investigate the cost and man months required to develop the ERPs for the utility and mines, prepare a memo for KEK on what an ERP entails, and draft a TOR for KEK for the development of such plans.</p>	<p>Tetra Tech conducted a gap analysis of KEK's emergency response plans over April to June 2013 and determined that the ERP for Kosova A is inadequate for use, the ERP for Mines contains some useful components but has multiple deficiencies, and there is no ERP for Kosova B. Tetra Tech recommended that KEK prepare new ERPs for Kosova A, Kosova B and Mines. Tetra Tech presented its findings of the gap analysis to KEK senior management on 13 June 2013. Subsequently, Tetra Tech provided KEK senior management with the gap analysis results, the ERP framework to guide KEK on the development of an ERP, and the draft terms of reference for the selection of an external consultant to prepare an ERP.</p>

Table 24. Environmental mitigation and monitoring plan implementation

Potential Environmental Issue	Mitigation Measures	Status
Conduct EMS training	Tetra Tech will conduct introductory EMS training to raise KEK management’s awareness of the importance of Environmental Management Systems and the benefits of an ISO 140001 certification.	<p>From 13 to 18 May 2013, Tetra Tech conducted introductory training on Environmental Management Systems with modules on an Introduction to EMS, EMS Planning, EMS Implementation and Checking, and Developing an EMS Manual. As part of the training program a draft EMS manual was prepared for Kosova B based on ISO14001 requirements and reviewed with the KEK Environmental Manager on the last day of the EMS training. This document is considered 90% complete and requires only minor additions which KEK is currently working on. However, the manual is only a small portion of the EMS, and KEK must develop other procedures and management plans.</p> <p>In a presentation to the KEK senior management on 13 June 2013, Tetra Tech recommended that KEK start to prepare individual EMSs for Kosova A, Kosova B and Mines given that in the June 2013 discussions with the MESP, they indicated that an EMS will be a condition of KEK’s Integrated Pollution Prevention and Control Permit, which is currently at the application stage. Subsequently, Tetra Tech provided the draft EMS Manual for Kosova B to KEK senior management for their use.</p>

Table 25. Environmental indicator

No	Task Order Objective Reference	Definition of Indicator and Unit of Measure	2011 Actual	2012 Actual	2013 Actual*
1	1	Number of major projects that KEK has implemented to positively impact the environment as a result of USG technical guidance	0	3	0

Note: USAID asked Tetra Tech to begin using this indicator in March 2012.
*2013 covers only Q1 and Q2 of 2013.

9 Project Collaboration

A wide variety of entities have been working in Kosovo's energy sector, including the US Government and other donors, and multi-stakeholder groups. The KEK project team worked with these institutions to coordinate assistance, enrich their knowledge of conditions on the ground, and to avoid the duplication of effort. In addition, the project worked closely with several Government of Kosovo entities that affected KEK's activities.

9.1 US Government Assistance Programs

Tetra Tech advisors collaborated with USAID implementing partners and other government agencies and programs, coordinating work and providing useful data.

Advanced Engineering Associates International (AEAI)

AEAI implemented USAID-funded projects that provided advisory services for the privatization of the electricity distribution company, technical assistance to the ERO on regulatory and tariff issues, an independent assessment of distribution losses, and a follow-on assignment to the scoping statement for the Kosova A environmental assessment. Tetra Tech 1) provided data to AEA I on regulatory issues, energy accounting reports, loss calculation procedures, network facilities information, etc., 2) facilitated meetings and field visits for AEA I's independent loss study, and supported its responses to questions from the ERO and others on this study, and 3) provided input on all draft pricing rules AEA I was developing.

EMSG/Bearing Point/Deloitte

The Economic Management for Stability and Growth Project (EMSG) was a USAID-funded program implemented by Bearing Point and later Deloitte. Tetra Tech liaised with the EMSG team on privatization issues, tariffs, and plans for the Kosova C plant.

Tetra Tech also provided its MEF advisors with input on the non-payment of electricity bills by budgetary institutions, load forecasts, and issues related to Kosova C, KEK's mining license, CapEx and OpEx requests, and the KEK financial plan. We discussed problems associated with delivering bills, and the VAT payable by KEK and/or its contractors for the Property Tax Authority, and legislative reform initiatives for the Ministry of Justice. Tetra Tech also reviewed with Deloitte the problems and ways forward on land use, rights of way, and property rights in preparation for the privatization of KEK distribution. Other areas of cooperation and consultation included the level of import subsidies and drafting the six credit facility agreements to fund KEK's capital investments.

Thereafter, Deloitte's assistance to the energy sector was reconfigured to providing advisory services for the privatization of the electricity distribution company. In this respect, Tetra Tech coordinated on issues related to the privatization of KEDS and the KRPP Project, including providing documents, data and comments. We also provided to Deloitte consultants 18 months of billing, payment, and load shedding information for over 500 customers for the survey of electricity customers/impact of inadequate electricity supply,

Tetra Tech also liaised with Deloitte advisors at the Tax Administration on KEK's corporate tax, VAT liability, and a declaration on the tax implications of KEK's legal unbundling.

Booz Allen Hamilton

Tetra Tech cooperated on the implementation of this firm's Memorandum of Understanding with KEK regarding the provision of training on the use of heavy equipment.

Checci Consulting

Tetra Tech worked with Checci on drafting a new MoU among KEK, PTK and the Kosovo Judicial Council to facilitate the enforcement of debt claims and reduce the backlog of court cases. We also cooperated on the implementation of the MoU.

Chemonics

Tetra Tech consulted with this firm on Kosovo's e Business Enabling Environment Program dealing with construction permitting. Tetra Tech also facilitated discussions between Chemonics and KEK Network personnel on this issue.

Mendez England & Associates

This firm was contracted to evaluate the impacts of USAID's energy sector assistance to Kosovo since 2007, including the KEK Network and Supply Project. Tetra Tech provided information to the evaluation team and met with them on a number of occasions. In September 2012 Tetra Tech sent a statement of difference to USAID regarding this assessment; it and the report can be viewed at <https://dec.usaid.gov/dec/blog/PostReview.aspx?ctID=N2FkMTM1MjgtZmM4MC00YzkyLWI1NzAtZmMwZGFIZlVlODI3&rID=MTI5MA==&sID=MQ==&bckToL=VHJ1ZQ==&qcf=&ph=VHJ1ZQ>.

Mott MacDonald

This firm served as an advisor to the IFC. Tetra Tech prepared an initial response to Mott's request for distribution network technical asset information (including data on transformer and system operations, substations, switchgear, lines and cables). We also provided support to the Mott team that was conducting due diligence for network-related environmental issues as well as their advisor assigned to analyze the impacts on the KEDS privatization of ERO's zero tariff increase for 2013.

National Center for State Courts (NCSC)

This organization provided training on the KEK Project. We helped it initiate a new pilot project focusing on the enforcement of debt judgments in Gjilan/Gnjilane Municipal Court and the Economic District Court, Prishtinë/Priština. Tetra Tech also worked with the NCSC on the production of a television episode addressing the problem of electricity theft and its treatment by Kosovo courts.

Price Waterhouse Coopers

This firm provided transaction advisory services to the Government of Kosovo. Tetra Tech shared documents with Price Waterhouse on the Kosova e Re Power Plant (KRPP), which included the Kosova B power plant rehabilitation feasibility study prepared by Tetra Tech, together with other data – with supporting materials – on KEK performance and status.

USAID/Kosovo and US Embassy, Kosovo

Tetra Tech analyzed over 30 draft, under-consideration, or previously approved but unsigned laws that could affect KEK's operations. We also gave a presentation to all USAID partners on the status of electricity service in Kosovo, pending risks, activities related to opening the SSW mine, stabilizing the generating plants and SSW mine, and the generation projects' financing issues. For USAID's environmental assessment team, we arranged and led a tour of KEK's mines and generation. We worked with the Kosovo Private Enterprise Program to finalize an MoU with KEK for the accreditation of its training center. Tetra Tech gave presentations at a high-level public forum in Prishtinë/Priština on enhancing energy supply security for economic growth and participated in follow-on workshops. We also chaired coordination meetings on the status of electricity services to areas inhabited by Kosovo Serbs and prepared updated capital expenditure requirements for the mines. For the USAID Justice Reform Team, we discussed efforts to improve court processes for executing debt cases and identified pre-2005 debt claims that were pending in court.

United States Energy Agency (USEA)

USEA provided training for the KEK Project. We helped it formulate a meaningful training program for KEK and assisted with the subsequent KEK management training sessions. Tetra Tech also identified and nominated KEK employees to travel to the United States on study tours led by USEA and funded by USAID.

US KFOR

Tetra Tech coordinated the responses to a series of questions that KFOR had received from the general public and community leaders in its area of operations, and gave a presentation for mayors in the US KFOR region on the Ferizaj/Uroševac Pilot, and KEK load shedding, disconnection policy, and approach toward minority customers. Throughout the project, we liaised with KFOR on minority area policies, including those of internally displaced persons.

US KFOR supported Tetra Tech advisors in the process of regularizing Kosovo Serb consumers in Shtërpçë/Štrpce, the largest of the minority areas in south Kosovo. It also

provided oversight for many meetings we held with community leaders and groups, giving us assurance of personal safety.

Tetra Tech provided topographic maps to US KFOR (Camp Bondsteel) showing the location of 10 and 6 kV feeders. We also explained the principal terms and conditions under which KEK carries out the ABC load shedding policy

9.2 Other Donor Assistance Programs and Stakeholders

DFID

Tetra Tech worked with the British Embassy in Slovenia to ensure KEK's participation in a series of DFID-arranged power sector training sessions.

DNV KEMA Energy and Sustainability

This Dutch oil and gas consulting firm consulted to KOSTT. Tetra Tech interacted regularly with its consultants.

European Agency for Reconstruction (EAR)

After EAR expressed interest in funding KEK loss reduction efforts, Tetra Tech worked to include this additional source of funding in the CapEx and OpEx budgets of the Network and Supply Divisions. Tetra Tech also worked with EAR on its funding of the refurbishment of certain KEK main mining equipment.

European Union (EU)

Tetra Tech shared information and experiences with the EU advisors to Kosovo's water regulator regarding improvements in billing and collections and customer databases, and with its advisors to the ERO on regulatory accounting and reporting. We also attended a conference on the reform of law enforcement convened by USAID, the EU and the Dutch Government.

European Union Rule of Law Mission in Kosovo (EULEX)

Tetra Tech maintained communications on the issue of minority area policies and status of electric service to Kosovo Serb areas, including internally displaced persons. We worked with EULEX on its judicial and prosecutorial components and its financial investigations. On multiple occasions, we held a meeting to discuss the status of supply to the north, minority area and internally displaced person issues, KEK's performance, the status of privatization, the multi-year tariff process, and KEK's plans going forward.

GTZ

Tetra Tech assisted the German development agency with a roundtable discussion on property rights in Kosovo, particularly in connection with the privatization of publicly owned enterprises.

International Civilian Office (ICO)

Tetra Tech maintained communications on the issue of minority area policies, including internally displaced persons, and chaired coordination meetings on the status of electricity services to Kosovo Serb areas. We frequently discussed KEK and energy sector-related matters, and provided the ICO with a proposal to present to the government recommending that the Ministry of Labor and Social Welfare treat the collective centers much in the way it treats social cases and pay for 300 kWh of consumption per month per family. The ICO also participated in Tetra Tech stakeholders' meetings.

International Finance Corporation (IFC)

In November 2009 the Government of Kosovo concluded a contract with the IFC to serve as the transaction advisor for the privatization of KEK's distribution and supply businesses. For the next three years, Tetra Tech provided to the IFC team extensive material on KEK and significant support as part of its efforts to complete the KEDS transaction.

International Monetary Fund (IMF)

Tetra Tech gave a presentation to the IMF on KEK's financial support needs, particularly for coal mine rehabilitation. We prepared updated capital expenditure requirements for the mines (2009-2012) and ensured that the IMF was informed on all developments related to the multi-year (2013-2017) tariff process. Tetra Tech also shared all of its responses to ERO so the IMF could effectively participate in the consultation process.

KFOR (NATO Peacekeeping Force in Kosovo)

For the KFOR's Central Command and the Swedish, German and Irish units, Tetra Tech provided updates on the status of the sector to new commanders, and detailed topographic maps with all 10 kV feeders drawn on them so KFOR could visually assess the ABC load shedding program's impact on villages. We maintained regular communications on the issue of minority area policies, including internally displaced persons; chaired coordination meetings on the status of electricity services to Kosovo Serb areas; and consulted on plans for the contingencies resulting from the Kosovo Declaration of Independence. We also coordinated with KFOR on the steps needed to improve supply security (developing the Trepca bypass, building of the Mitrovicë/Mitrovica 1 substation), and identified the potential impact of the disruption of power supply from neighboring countries. We also formed a working group to study the KFOR bases and determine if they represented a special group of customers that is unique and deserves a new type of tariff.

Irish KFOR supported Tetra Tech advisors in the process of regularizing Kosovo Serb consumers in the Gračanicë/Gračanica and Lipjan/Lipljan areas. They provided oversight, and in some cases mediation, for many meetings Tetra Tech held with community leaders and groups, giving us assurance of personal safety. They also helped in the dealings with the two IDP Collective Centers in Gračanicë/Gračanica .

KfW

Tetra Tech worked with KfW in connection with its funding of the refurbishment of certain KEK main mining equipment. Tetra Tech also assisted KEK with its review of the 2012 feasibility study funded by KfW for diverting steam from the Kosova B power plant to supply Termokos – the district heating company in Prishtinë/Priština. Further, when KEK was asked to provide feedback on the draft heat supply agreement presented by the KfW-funded consultants, Tetra Tech assisted KEK with drafting its response.

Kosovo Trust Agency (KTA)

This independent public body was established by UNMIK as the privatization agency for the country. Its mandate also extended to overseeing the management of publicly owned companies, which included KEK. In 2008, KTA's role was taken over by the Kosovo Privatization Agency. We held regular meetings with KTA to share KEK status and management issues. Tetra Tech assisted it with auditing and the restatement of financials, and advised on KEK's application for a new mining license for the Sibovc South West mine, and on the terms of the management contract between KTA and ESBI. We also liaised with KTA on the formalities for completing the disposal of assets, and worked with KTA in connection with drafting a determination for the SRSB to designate those parcels of land required for the construction of a new 7 km transmission line in northern Kosovo as being in the "public interest." We also spent considerable time to formulate and quantify issues related to energy provided to the minority areas and worked with KTA on issuing claims for the electricity debts of socially owned enterprises that were being privatized by KTA. Last, we advised on the structure of a new MoU among KTA, the Ministry of Economy and Finance, and the Tax Administration regarding the treatment and payment of VAT by KEK.

Organization for Security and Cooperation in Europe (OSCE)

Tetra Tech communicated regularly with OSCE on the issue of minority area policies, including internally displaced persons, and coordinated a visit to Gračanica/Gračanica in order to obtain insight into Serb community issues. We briefed the newly appointed OSCE representative on the energy supply situation, and issues with the RTK contract, ABC load shedding, and minority areas. Tetra Tech also provided OSCE with a proposal to present to the government recommending that the Ministry of Labor and Social Welfare treat the Collective Centers much in the way it treats social cases and pay for 300 kWh of consumption per month per family.

Provisional Institutions of Self-Government (PISG)

Tetra Tech presented to the PISG KEK's business case for securing loans from the Kosovo Budget to make badly needed capital investments in the energy sector. We also consulted with them on plans for the contingencies resulting from the Kosovo Declaration of Independence and the potential threats to the Kosova A and B plants from water supply disruptions. In addition, Tetra Tech coordinated with PISG on the steps needed to improve supply security and the potential impacts of the disruption of power supply from neighboring countries.

Special Representative of the UN Secretary General in Kosovo (SRSG)

Tetra Tech worked with KEK to receive a procurement waiver from SRSG to expedite the procurement of equipment for the refurbishment of Unit A5 and a new conveyor belt for the A units. We also worked with KEK to obtain €500,000 for the construction of the Trepça Bypass (a 7 km 110 kV line) and €17 million for power purchases during January-March 2008.

Terna and IPA Consortium Technical Assistance Project

Terna is a member of the European Network of Transmission System Operators for Electricity, which represents 41 grid operators from 34 European countries. Terna's project in Kosovo was focused on supporting KOSTT's objective of becoming a full member of the Balkan power pool. Together with KEK's network staff, Tetra Tech met with the Terna consultants on several occasions and provided data on KEK's operations and other useful material.

UNHCR (the United Nations High Commission on Refugees)

Tetra Tech discussed minority issues related to Shtërpçë/Štrpce and Gračanice/Gračanica and surrounding villages with the UNHCR. We facilitated visits for their staff to an internally displaced persons center and gave them information on the social subsidy there.

United Nations Mission in Kosovo (UNMIK)

Tetra Tech served as UNMIK's advisor on minority issues and policy in the energy sector and chaired coordination meetings on the status of electricity services to Kosovo Serb areas. We also worked with the UNMIK legal office in connection with drafting a determination for the SRSG to designate those parcels of land required for the construction of a new 7 km transmission line in south of the Iber/Ibar River as being in the "public interest," and helped the legal office reach a resolution on the legal framework for KEK's use of WASP- IV, an essential tool in developing the Least-Cost Generation Plan. Other assistance included 1) identifying the potential impact of the disruption of water supply to Kosova A and B, 2) consulting on plans for the contingencies resulting from the Kosovo Declaration of Independence, and 3) negotiating with UNMIK Pillar IV on funding power purchases.

Vattenfall Europe

Tetra Tech provided distribution-related data for Vattenfall's study of the security of electricity supply in Kosovo.

World Bank

Tetra Tech gave presentations to the World Bank on the status of the energy sector, metering projects, a mining strategy and capital expenditures for mines, and draft tariff applications. We also evaluated the Bank-funded Zhur hydropower plant feasibility report and advised on what assets should be included in the KRPP transaction. In addition, we discussed tariff and regulatory issues, and coordinated on issues and activities such as the SSW mine opening.

9.3 Government of Kosovo and Other Entities

For the most part, Tetra Tech advised KEK on the dealings of Government of Kosovo agencies; we did not interact with these agencies directly. Only our direct assistance and interactions with these agencies and other Kosovo entities are described here.

Energy Regulatory Office (ERO)

Our work with the ERO began early in 2007 with the first tariff review. We discussed the need to eliminate time-of-use tariffs for households, the issue of block tariffs, and other tariff design issues. Through the entire 6½ year project, we supported KEK in all their dealings with ERO, including the following topics:

- Secondary legislation related to general conditions of service, disconnection and reconnection, licensing, and dispute resolution
- Secondary legislation related to tariffs for all licensees
- Licensing issues and license monitoring
- All seven tariff reviews
- Connection Charging Methodology
- Network Development Plan
- Customer supply contracts
- Metering
- Service quality standards
- New regulated tariff for service at 220 kV for Ferronikeli
- Support to the partnership program between the Illinois Commerce Commission and the ERO.

KEDS Project Implementation Unit (PIU)

The Government of Kosovo appointed the PIU as the technical secretariat for the privatization of KEK's Network and Supply Divisions. For a three-year period, Tetra Tech informed the PIU on all developments related to the ERO's efforts related to tariffs, licenses, secondary legislation, and other regulatory issues. We also provided the PIU with updated versions of the transfer documents, transfer agreement, shared services agreement, and collection agreement, and answered all of its questions on accounting and other issues related to the completion of the privatization transaction. We also apprised the PIU on all developments related to the multi-year (2013-2017) tariff process and shared our responses to the ERO so the PIU could effectively participate in the consultation process. Initially, the PIU reported to the MEF; however, with the reconfiguration of the Ministries in early 2011, oversight of the Unit shifted to the MED.

Kosova C (the Kosova e Re Power Plant, or KRPP) Transaction Advisory Team

In 2010, Tetra Tech discussed with this team the Thermal Power Plant Kosova B Investment Requirement and Rehabilitation Feasibility Study, as well as several draft legal and regulatory documents to support the privatization of the distribution company.

In 2012, after the issuance of a request for proposals for investor due diligence on KEK, Tetra Tech responded to a number of data requests from KRPP.

Kosovo Police Service

Tetra Tech attended several meetings on preventing assaults on KEK personnel when they attempt to disconnect consumers. We also attended monthly security meetings at the municipality building in Gračanice/Gračanica chaired by the Kosovo Police Service. Last, we continually liaised with commanding officers of the Kastriot/Obiliq and FushëKosovo Police/Kosova Polje stations to promote a positive relationship, as all criminal activities in the mines and surrounding facilities are within their jurisdictions.

Kosovo Small Business Center

Tetra Tech met with the Center to discuss the quality of electricity supply to commercial clients in the new Gjilan/Gnjilane Industrial Park.

KOSTT (the transmission system, and market operator)

Throughout the project, we met with KOSTT and regularly discussed the integrated and harmonized expansion plans of the distribution and transmission systems in Kosovo, Kosovo's participation in regional power issues, payment for transmission services, and the connection charging methodology. Tetra Tech also frequently facilitated cooperation between KEK and KOSTT on issues such as reducing transmission system outages to KEK's two largest paying customers (Ferronikeli and Sharrcem), increasing the capacity of both networks to deliver power, expanding the Palaj/Crkvena Vodica substation, rehabilitating the Kosova A power plant's 220/110 kV substation, KOSTT's request to define the locations where new 110/10(20) kV substations will be constructed, and problems with Llamkos Galva Steel Power Supply Company, which was facing significant issues with the quality and reliability of electricity supply.

Ministry of Community and Returns

Tetra Tech worked with this ministry on issues that arose in minority areas as well as funding for electricity at the IDP Centers. We facilitated an MoU between KEK and this ministry to exempt new returnee housing from the payment of connection fees.

Ministry of Economy and Finance (MEF)

Until the first quarter of 2011 MEF had oversight of publicly owned enterprises (including KEK). Thereafter, MEF was reconfigured into the Ministry of Finance, with responsibility for public enterprises and economic development moving to the newly created Ministry of Economic Development.

Tetra Tech developed a list of mining projects for the MEF to consider. We also held a number of meetings to discuss the non-payment of electricity bills by budgetary institutions, load forecasts, and issues related to Kosova C, the KEK mining license, CapEx and OpEx requests, and financial planning. We also met several times to inform MEF about KEK's need for their assistance and the outstanding tax liabilities of KEK contractors. Tetra Tech worked with the MEF to improve collections from budget

customers and provided extensive assistance to the MEF in creating the new Kosovo Electricity Distribution and Supply Company (KEDS).

Ministry of Education

We held meetings with Ministry of Education representatives on how to proceed with the accreditation of KEK's Training Center.

Ministry of Energy and Mines

From 2007 to 2011, this Ministry held principal responsibility for the energy sector. Accordingly, Tetra Tech – as KEK's advisers- interacted with the Ministry on matters ranging from the annual energy balance, the joint task force for reducing KEK's losses (2007-2008) and the new power plant. The Minister was also the Chairman of KEK's Board for a limited period (2007-2008). In 2011 MEM was reconfigured into the Ministry of Economic Development (MED). MED retained the original MEM portfolio, and was also responsible for economic development and oversight of publicly owned enterprises, including KEK.

Ministry of Finance

After the 2011 reconfiguration, Tetra Tech liaised with the Ministry of Finance primarily on the status of the six capital loans concluded between the Government and KEK to fund investments in generation and mining equipment. Tetra Tech also supported KEK in its discussions with the Ministry of Finance concerning the repayment of the €10 million loan made to KEK in 2005.

Ministry of Interior

Tetra Tech facilitated meetings for the Ministry of Interior and ICITAP, KEK and InterAdria regarding the construction of a 10(20) kV line to supply the Ministry (Kosovo Police) with antennas in the mountainous areas of Budakovë/ Budakovo.

Ministry of Justice

We met a number of times with this ministry to discuss legislative reform initiatives.

Ministry of Labor and Social Welfare (MLSW)

Tetra Tech supported KEK in its dealings with this Ministry to implement the annual €4.5 electricity subsidy for households the MLSW classified as "social cases." We also worked with them on minority community issues, including finding sources of funds for IDP electricity consumption, and the Ministry's regional offices in Gračanicë/Gračanica and Shtërpçë/Štrpce to determine the social programs available to residents.

Ministry of Trade and Industry

We met with the head of the Business Registry at the Ministry to establish the steps it could legally take to ensure that businesses paid their electricity bills.

Office of the Prime Minister

We held several meetings with the prime minister and his advisor to inform them about KEK's need for their assistance. We also met to seek sources of funding for the electricity consumption of IDP Centers.

Tax Authority of Kosovo

Tetra Tech advised on the structure of a new MoU among KTA, the MEF, and the Tax Administration regarding the treatment and payment of VAT by KEK. We then brokered an agreement between KEK and the Tax Authority on VAT.

9.4 Outreach: Presentations and Site Visits

Throughout the course of the project, Tetra Tech stood ready to share its thoughts, proposals and ideas on KEK and the Kosovo energy sector, or simply to present the facts. As a result, we were called upon to provide numerous presentations to senior decision and policy makers both within the international community (e.g., the US Embassy Kosovo, visiting US Treasury staff, USAID/Washington representatives IMF) and the Kosovo Government (Ministries and the Office of the Prime Minister). The subject matter of the presentations included:

- Regularization of minority communities
- General information on KEK's status and operations.
- Resolution on the RTK fee
- Treatment of internally displaced persons
- Privatization of KEK's network and supply functions.

Given the propensity for misinformation and/or misinterpretation of KEK's activities, Tetra Tech also concluded that it would be helpful to have regular meetings with representatives of the international community to present the company's current situation and any future activities of interest. The need for such meetings became clear when KEK began regularizing electricity supply to minority communities. Meetings were convened regularly by Tetra Tech from 2009 and were typically attended by representatives from KFOR, OSCE, ICO, UNMIK, EU, US Embassy, USAID/Kosovo, and the British, German, and French Embassies. Overall, the feedback from the attendees was positive and they welcomed the opportunity to participate in such a forum.

Another part of Tetra Tech's informal outreach was to arrange site visits to KEK's facilities – typically around the open pit mines and power plants. Over the course of the project, we arranged countless tours for visiting US Government dignitaries, KFOR representatives and other representatives from the international community, again in an effort to educate and inform decision makers on KEK and the energy situation in Kosovo.

10 Problems Encountered and Lessons Learned

Although Tetra Tech encountered myriad challenges during the project's implementation, we were able to find creative solutions to most of them. A few of these problems, however, remained more persistent, and are discussed here, along with the lessons learned while working to correct them.

10.1 Interference in KEK's Boards of Directors

KEK experienced interference from most of the major actors in Kosovo's energy sector and in most of its functions. This interference was felt acutely in KEK's Board of Directors.

As noted earlier, KEK had four Boards of Directors and three managing directors in the first two years of the project. Many of the Boards' members were not well suited – either because they lacked the education background or experience – for their position. Together, these circumstances limited improvements in the company's performance. In addition, the political affiliations of some of the Board members made them subject to outside influences and pressures.

Through frequent meetings, putting in place reports and processes to ease the burdens of Board members, and other activities, Tetra Tech was able to develop good relations and build trust with the current Board, which was in return very supportive of our efforts.

However, there is a real risk that the new KEK Board, which is in the process of being appointed, will be vulnerable to outside influences and political pressures.

10.2 Failure to Regularize Customers North of the Iber/Ibar River

In 2009, Tetra Tech assisted KEK in successfully regularizing customers south of the Iber/Ibar River. The utility now treats all consumers (households, businesses, religious facilities, Internally Displaced Person Collective Centers, municipalities, and water companies) in this area in a commercial manner: those customers who do not pay are disconnected. At that time, however, there was insufficient political will to continue the process and regularize customers in the north. Today, KEK (now KEDS) continues to lack access to facilities and consumers north of the Iber/Ibar, and thus cannot read the meters, bill or collect there. Serbia persists in its demand for a second distribution operator in the north, despite the fact that their demands are contrary to the laws of

Kosovo and further would prejudice KEDS's status as the sole licensed distribution system operator in the country. The viable solution formulated and documented by Tetra Tech involves the creation of an energy service company (ESCO) that would act as a contractor to the licensed distribution system operator and public supplier. This proposal is still pending based on the outcome of political dialogue.

This lost opportunity presents an important lesson: it is essential not to make electricity supply and payment a local political issue. But at the same time, tackling this problem will require a great deal of *political will*.

Energy issues should remain at the top of the agenda for the ongoing EU-facilitated dialogue in Brussels between the Governments of Kosovo and Serbia. In particular, the EU must impress upon the Serbian delegation the need to move forward now with the ESCO agreement only in northern Kosovo.

10.3 Lack of Cost-Reflective Tariffs

Despite Tetra Tech's assistance to KEK on seven tariff filings during the project period, the ERO lacked the political independence to increase tariffs to be cost reflective. Although KEK's tariffs are the lowest in the region (and far below the levels in Western Europe), the overall tariff increases have been minimal, as shown in Table 11. To make matters worse, on 18 March 2013, the Minister of Economic Development made a public announcement that there would be no increase in retail tariffs in 2013. Four days later, the ERO issued a tariff decision that also indicated a zero retail tariff increase for 2013 and minimal increases in allowed revenues for the years 2014-2017. There are reasonable grounds to suggest that ERO failed to implement its own pricing rules when calculating the 2013 tariffs, and KEK has submitted a claim for judicial review of the decision.

If the 2013 ERO tariff decision remains unchanged, there is a real risk that the energy sector of Kosovo will suffer from underfunding in the short and near terms, especially the generation sector. Further, the new KEDS investor has already alerted all stakeholders that retail tariffs will need to increase by a minimum of 25% in 2014 to correct the errors and omissions in the 2013 tariff decision. Based on Tetra Tech's experience, it will be extremely difficult to garner the requisite political will to support such a tariff increase, particularly if it coincides with an election year.

In addition to overall tariff levels being low, the household tariffs are only covering about 70% of the cost to provide service to them (other classes of customers subsidize them). The ERO Pricing Rules call for Kosovo to meet its commitment to the Energy Community Treaty that tariffs for the various classes of customers will be cost reflective by the end of 2014. Unfortunately, the opportunity to eliminate cross-subsidies gradually over a number of years to avoid any sudden spike in tariffs has been missed. Rather, the ERO has placed more emphasis on affordability and maintaining social stability.

Therefore, as matters now stand, there is no way the 2014 deadline can be met since household tariffs would have to increase at rates far exceeding what is politically and socially acceptable.

The lesson here is a simple one, and one that is well known worldwide: tariffs must be increased to be commensurate with the cost of producing energy. In addition, donors should work to persuade government officials that the ERO should be a genuinely independent body, not a government-appointed political one. Modern competitive energy market principles simply do not work in non-competitive environments manipulated by politicians.

10.4 Persistent Corruption

Although great strides were made in this area during the project period, corruption remains endemic within KEK, as well as the government agencies affecting it. Consumers, too, make free use of electricity, water, and heat.

The actions Tetra Tech took to address corruption in the electricity sector, included submitting cases for criminal investigation to law enforcement agencies, instituting disciplinary actions against KEK employees for embezzlement, various types of misuse, pilfering energy, tampering with meters, etc., and advocating for changes to the Law on Electricity that explicitly make electricity theft a criminal offense; the changes were enacted in late 2010.

While efforts to stop employee theft have been somewhat successful, those for customers have been less so, and in many cases KEK employees facilitate customer theft of electricity. Thousands of cases of electricity theft are now before the courts, but owing to the backlog of case, it may be years before they are heard. In addition, sentencing has traditionally been lenient – which has not created the requisite deterrent to dissuade others from engaging in electricity theft.

Corruption starts from the top and efforts to address it must also start at the top. This may be beyond KEK's reach, and it cannot dictate the enactment or enforcement of anti-corruption measures without support at the ministerial level. The best course for the utility at this point is to work to change people's attitudes toward paying their bills and stealing power. Instituting public information programs to let people know that they must pay for electricity, disconnecting customers caught stealing, and setting an example by prosecuting corrupt employees are the best line forward at this point.

10.5 Lack of a Project Champion

Many of the problems that KEK was dealing with could have been fixed relatively quickly had there been a strong, visible advocate for change within the utility and/or government. It was not until the current managing director and Board of Directors were appointed that Tetra Tech was able to enjoy committed support for its work.

Efforts should continue to garner support from the company's management by demonstrating to them that the tough decisions needed to improve KEK's operations are in the best interests of the company and in their own best interest as well. This can be accomplished through close, daily interaction and guidance.

Finding an advocate in government is more problematic, and the bureaucracy cannot be relied on to find solutions to many of the problems KEK is facing. The best approach in this instance would be to demonstrate KEK's progress – both in terms of the service it provides and its financial improvement – and working to gain the trust and support of a range of government officials.

11 Recommendations

With KEK's distribution and supply businesses legally unbundled and sold in May 2013, the utility's mining and generation assets (the Kosova A and B power plants) remain in public ownership and control. Eventually, KEK's mining operations may also be divested as part of the KRPP transaction,¹⁹ whose timeline and ultimate outcome remain uncertain.

In this context, there is real risk that in the absence of this project's advisors, the utility will revert to its pre-2007 mode of operation, reversing all the gains made since January 2007 and jeopardizing the efficient operations of its power plants and mines. To ensure KEK's sustainability, this section first outlines some of the general actions that can be taken to ease the utility's most systemic ailments. It then presents a range of near- and long-term options for the management and control of the KEK assets left in public ownership.

11.1 Actions to Address Systemic Weaknesses in KEK

Although KEK has made tremendous strides in recent years, it is still plagued by a number of problems, which hamper the ability of its personnel to make independent decisions. These issues will be thrown into high relief once KEK's management and Board of Directors begin making the difficult decisions required of them.

Management Qualifications and Experience

In mature countries, electric utility executives and management have at least 20 years of experience, including 15 years in supervision and management. They also have intensive technical and managerial training, but this is not the case for KEK executives. Further, since 2007 there have been frequent changes in KEK's upper-level positions: there have been four Boards of Directors and three managing directors, and all current executives (managing director, executives for mining, Kosova A and B, finance, internal audit, corporate services, network, supply, and the chief operating officer) have been in their positions for less than four years. Given the large gap in management experience,

¹⁹ At present the transaction consists of: 1) the construction of a new electric power generation plant, the Kosova e Re Power Plant (KRPP), with an initially installed capacity estimated at 600 MW and 2) the immediate development of the South Sibovc Lignite Field to provide fuel for both the existing lignite-fired generation in Kosovo (Kosova A and B) and the new KRPP generation unit(s) as they enter service. Private sector participation in Kosova B was originally part of the KRPP transaction, but by decision of the Government in September 2012, it has been removed from the KRPP transaction.

KEK's executives and management would greatly benefit from continued training and mentoring for the foreseeable future.

Employee Remuneration

One factor contributing to highly qualified individuals' lack of interest in KEK's executive positions is that the company is not allowed to pay competitive salaries. For example, while KEK's managing director has the most sensitive and visible job in the utility and his decisions can affect every individual in Kosovo, his pay is well below that of KOSTT executives, even though KEK's revenue is 13 times greater and it has 30 times more employees than KOSTT. Management salaries must be increased to market-based levels to attract higher-caliber individuals with more experience,

External Interference

Regardless of their performance, there is no guarantee that KEK employees will be able to retain their positions given the external influences on the organization. Employees are continuously under pressure and receive threats both from within and outside KEK in connection with procurement, staffing, and other decisions. If they yield to such demands, their actions could be damaging to the company, but if they refuse it could place them and their families at risk.

There is also an inherent risk that members of the Board of Directors and senior managers will be appointed based on party allegiances, regardless of merit or experience. Again, this is a reality that will continue to be a threat as long as KEK's assets are in public ownership. The Government has already solicited applications for the boards of all publicly owned enterprises – to include KEK. The outcome of this process will give a clear indication as to whether the Government is interested in maintaining a competent board and management, or not. It is important that the international community maintain a close eye on the process.

Steps should be taken to ensure that all KEK employees are shielded from improper external interference for the near term. Specifically, KEK coal production and generation executives could benefit from experienced contractors who will train and mentor them, teach by example, go through various emergency drills, advise them, follow up on commitments made by executives/managers, serve as mentors in dealing and negotiating with international companies, and perhaps most important, shield them from illegitimate interference. While this alone will not prevent external interference, it would provide more transparency and help to argue against improper decision-making until KEK's remaining assets are divested.

11.2 Near- and Medium-Term Options to Ensure the Sustainability of KEK

This section presents seven potential near- and mid-term strategies to consider, depending on the progress and ultimate success of the KRPP transaction.²⁰ All of these alternatives for the ownership and/or operation of KEK assets will rely on the continued commitment of the government to the commercial reform and privatization of the electricity sector, which should be followed by supporting actions (or at a minimum, avoiding actions that undercut such a commitment). USAID has helped address this issue by intervening at key points with the Government to shore up support for actions critical to the process, and should continue to do so after the KEK project ends. This ability to intervene and object may prove critical.

Other risks that can jeopardize the success of any of these strategies and should be carefully monitored and mitigated include:

- *Sector collapse:* The Kosovo energy system is very fragile; it has no built-in redundancy. A complete collapse, caused by the failure of one or more generating units and lack of imports, cannot be ruled out.
- *Procurement:* KEK's procurement volume is the largest in Kosovo and is vulnerable to manipulation. This has resulted in numerous delays in the utility's projects. Further, the Procurement Law allows disgruntled bidders to complain, often on dubious legal grounds, resulting in suspension, cancellation, or award of a tender to an unwanted party.
- *Dependence on other advisors for successful privatization:* If the government does not ensure that its transaction advisers assign qualified individuals and monitor their activities and progress, the privatization could fail.
- *Role of the energy regulator:* The success of any privatization requires a sound, predictable and transparent regulatory framework, and one that is consistently applied by the regulator. The ERO decision not to increase tariffs in 2013 will have long -term negative impacts on the sector and the privatization of generation.

²⁰ These recommendations are drawn from the *Proposed Strategy for KEK, Post-KEDS Privatization*, a report Tetra Tech submitted to USAID/Kosovo in December 2012.

Option 1: If the KRPP investor does not want to own the remaining KEK assets, it should be required to operate them on behalf of the owner (Government of Kosovo)

From an operational and supply security perspective, this is the preferred option. Here, the KRPP investor, from the date of transaction closing, will be responsible for supplying enough power to meet the needs of Kosovo's regulated electricity customers through a contract between KRPP and KEDS. KEDS would have "first call" on KRPP's capacity and energy (either owned or operated) subject to the fulfillment of its commercial obligations.

This arrangement would result in KRPP owning and/or operating domestic generation most efficiently, and using its market position to import power at prices lower than those available to KEK. The current operating units A and B – if properly maintained – are capable of meeting most if not all of Kosovo's domestic demand in the near and medium terms, curbing all large import requirements. The ownership and/or management and operation of the A and B units will enhance KRPP's ability to meet the supply requirements with maximum flexibility.

Risk: Given the six-year delay in the selection of an investor for the new generation plant, it is unlikely that the KRPP deal will be closed in-2013; some time in 2014 is more likely. It is also unlikely that an investor would be willing to invest several hundreds of millions of Euros in the power plants, given the polarized political situation in Kosovo, the general "tender fatigue" among shortlisted bidders, and external influences. Thus, even though this is a good option for Kosovo, it is not likely to be implemented.

Timeline: Assuming the government decided to move forward with the KRPP, including this option could add up to six months to the transaction, allowing interested parties to perform due diligence. However, if a new tender is issued with new qualification requirements, no additional time would be required if this alternative were included.

Option 2: Publish a new solicitation for the purchase of all remaining KEK-owned assets

On their own, KEK and the Government cannot operate Kosova A and B effectively. Yet it is absolutely crucial that these plants continue to provide electricity. Thus, this alternative encompasses any and all assets that are not privatized. It would also include the SSW mine and an option for building new generation, should the KRPP transaction fail. If the government does not require any partnership in this option (100% share sale or asset sale), complexity and the impact on tariffs will be minimized, thus providing more opportunity for economic growth, while eliminating any risk on the government for imports or other energy-related sector grants/ commitments.

Risks: This option may not result in any bids from first-tier investors; however, by marketing the assets properly to regional strategic investors, the chance of success increases greatly. Also, given the current political situation in Kosovo and external influences, it could be difficult to sell this approach to the public – there will be complaints of “anti-competitive” policies.

Timeline: Assuming the government decides to move forward and a transaction adviser is in place, and given that all tender documents have been prepared, this alternative can be implemented in 12 months.

Option 3: Publish a new solicitation for a concession of KEK’s remaining assets

The concession of KEK’s remaining assets, along with providing an option to the concessionaire to buy them (manage, repair, operate with the option to buy or transfer the control of assets to the Government at the end of the concession period) would be attractive to potential investors since it does not require significant time and resources to prepare an offer. This concept is similar to agreements KEK implemented for the hydropower plants and the Government implemented for the Sharcem cement factory, which resulted in a successful privatization by an alternate investor. Also, because both power plants will need significant capital investment during this decade, this option allows for management, investment, maintenance, operation, and control of the assets without any interference.

Risk: This option may be more difficult to implement as the knowledge and oversight capacity required to supervise a concessionaire do not yet exist in Kosovo and would thus require international stakeholder intervention and support. The delineation of liabilities between the holder of the concession and the Government/KEK would need to be clearly stated.

Timeline: Assuming the government decides to move forward and a transaction adviser is in place, this alternative can be implemented in 12 months.

Option 4: KEDS investor to be allowed to participate in privatization of the remaining KEK’s assets or KRPP

It is essential that the KRPP transaction succeeds in drawing internationally experienced strategic investors. It is recommended that the investors in KRPP and KEDS be permitted to participate in any pending or future generation/mine transactions. This would eliminate the risk of payment between KEDS and the generator(s). In this context, the government needs to establish its policy on single ownership of generation/mine/distribution assets to provide clarity to potential investors.

Risk: The government is concerned about creating undue preferential influence in the sector. Coupled with political pressure, it may not allow the same consortium or investor to participate in both privatizations.

Timeline: Assuming the government decides to move forward and a transaction adviser is in place, this alternative can be implemented in 12 months.

Option 5: Government issues a procurement notice for the selection of a KEK management contractor

An experienced and qualified contractor would be able to manage and operate the assets better than KEK. The funding for the contractor would be provided by KEK and included in the tariff. The contract can be structured to provide incentives for the availability of the power plants and proper asset management.

Risk: Given Kosovo's difficult environment, the oversight required to supervise a management contractor could prove problematic. This option would require the Kosovo Government to incur significant rehabilitation costs. Further, the management contractor would not have the interest in managing the assets as its own and its work would require substantial oversight; it does not eliminate the investment risks because such contractors would not make an investment commitment. Finally, international involvement in any oversight would need careful consideration, particularly given the prior experiences with international contractors and oversight difficulties under UNMIK and KTA.

Timeline: Assuming the government decides to move forward and a transaction adviser is in place, this alternative can be implemented in 10 to 12 months.

Option 5A: Donors initiate a solicitation for a KEK management contractor

Under this scenario, donors can enter into a memorandum of understanding with the Government. Donors would fund up to 30%; a donor agency can issue a tender and hire a management contractor based on its own procurement rules. KEK would fund the remainder; its portion of the funding for the contractor would be included in the tariff.

Given USAID's success in the past six years, this option may be easier to sell politically. It also gives the donor better oversight of the contractor, minimizes government interference, and would allow donors to appoint some internationals as Board members.

Risk: One disadvantage of this option is that the government will continue to have financial liability for the electricity sector. In addition, if the contractual framework – to include performance targets – is not carefully constructed, there is a danger that the contractor will not achieve the expected results and will defer major decisions.

Timeline: Assuming the government decides to move forward, donor funding is determined, and a Supervisory Board is in place, this alternative can be implemented in 10 to 12 months.

Option 5B: The government selects individuals to assist with the management and operation of the assets that have not been privatized

Experienced freelance individuals can be hired to assist with the management and operation of these assets. They would be funded from KEK's revenues and the costs included in the tariff. Posting international advisors in key positions would increase transparency and provide a way to buttress capabilities quickly. This option could also be undertaken as a short-term or interim measure pending the implementation of the other options that involve divestiture of the underlying assets.

Risk: Ideally, advisory support should be provided through a firm since individual advisers may not possess enough weight to implement their mandate, lack sufficient resources and become easily isolated. Back-office support for special situations and conditions, such as engineering, development of scopes of work for projects, etc., as well as visibility that the individual advisors provide are critical. Furthermore, it is difficult to monitor the performance of a few individuals without any backup checks and balances.

Timeline: Assuming the government decides to move forward and a Selection Board is established, this alternative can be implemented in 6 months.

Recommendations on Options

While Option 1 may present – from an operational and security of supply perspective – the neatest solution for Kosovo, it is unlikely to be acceptable to local and international stakeholders, particularly given the groundswell opinion against perceived generation monopolies.

Options 2, 3 and 4 are variations on a theme – but at the very least, both result in the transfer of responsibility for operating and controlling the assets from a public company to a private contractor for the medium term. An assessment of the market should be conducted to determine if there is any interest in Options 2, 3 and 4. If there are interested parties for any of them, then the most beneficial option should be implemented immediately.

If there are no qualified interested parties for Options 2, 3 and 4, then Options 5 or 5A are the only viable ones if donors are concerned about the near- and mid-term viability of Kosovo's electricity sector.

We would not recommend adopting Option 5B since individual advisers will not possess sufficient weight to implement their mandate; they run a strong risk of being manipulated, threatened, and ultimately rendered ineffectual.

Annex A

Results against Indicators

Two additional performance indicators were added to the project's Performance- Based Management System in 2012 at the request of USAID.

The first measured the number of customers with increased access to modern energy services as a result of USG assistance. This indicator was defined as the increment of the population with new or improved service connections. A new or improved service connection is defined as new electronic meters installed at the premises of KEK's customers, and KEK defines a customer as an individual or a legal entity that is listed in KEK's Customer Care Package with a corresponding name and account number. The increase in the number of KEK customers with new electronic meters providing accurate and up-to-date consumption data is a demonstration of improved access to modern energy services.

The second indicator was added to measure environmental compliance under the project; it was included as part of the project's Environmental Due Diligence Report, which was first submitted in April 2012 and approved in March 2013. It was defined as the number of major projects that KEK has implemented to positively impact the environment as a result of USG technical guidance. It was further defined by the number of projects with positive impacts on the environment such as improved air, water or land quality. The increase in the number of projects implemented that positively impact the environment is a demonstration of KEK's improvement in complying with local environmental laws and regulations.

In both cases, USG assistance is defined as the technical assistance and oversight provided by Tetra Tech to KEK under the KEK Network and Supply Project.

A.1 Performance-Based Management System

The Performance-Based Management System (PBMS) for monitoring the performance and impacts of the activities under the KEK Network and Supply Project is based on a pyramid concept (Figure A-1) and includes four groups of indicators:

1. Contextual Indicators (CI)
2. Milestone Indicators (MI)
3. Key Indicators (KI)
4. Training Indicators (TI)

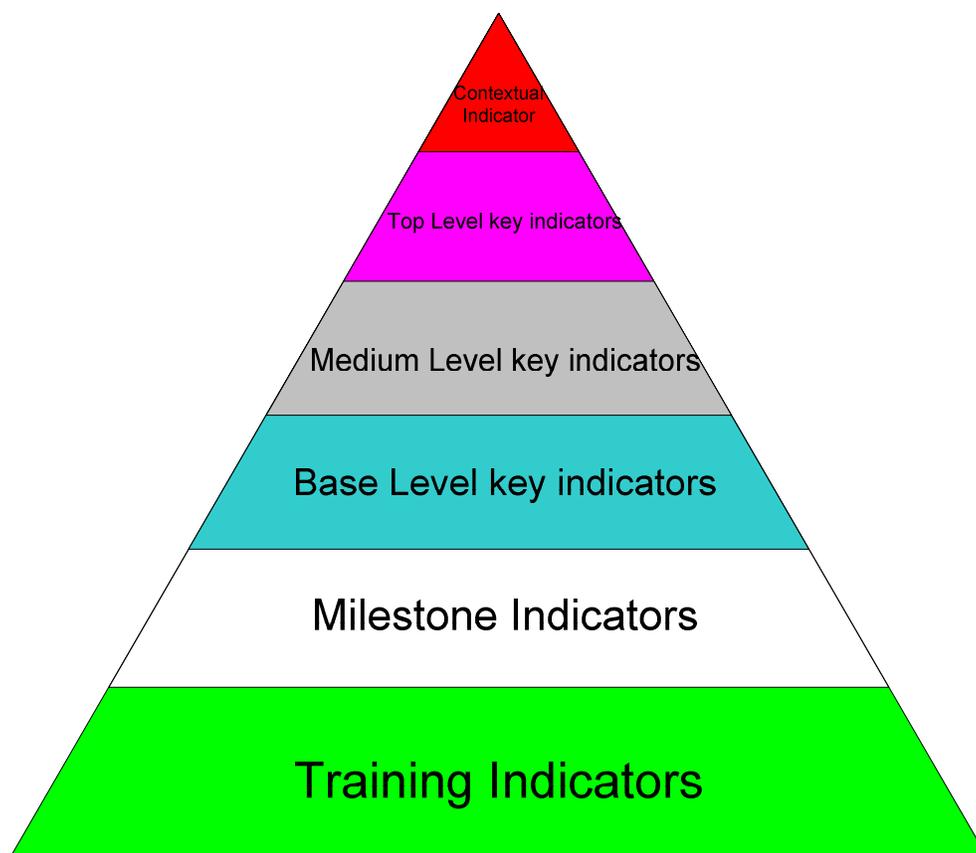


Figure A-1. PBMS Pyramid

Legend

Contextual indicators	Percentage of unserved demand (load)
Top-level key indicators	Revenue collected as a percentage of the value of energy available for sale
Medium-level key indicators	Ratio of revenue collected vs. revenue billed Ratio of energy billed vs. energy available for sale
Base-level key indicators	Level of commercial losses Level of technical losses
Milestone indicators	Revenue billed in Euros Varied according to the workplan tasks
Training indicators	Number of people who received training in technical energy fields number of people who received training in an energy-related business management field

The link between the activities in a work plan and the indicators in the PBMS is illustrated in the following relationship:

Inputs (= Activities (e.g., under sub-tasks)) including timelines => Outcomes (= Targets/ Accomplishments)/Results => Indicators

The contextual indicator is designed to measure the impact of all activities in the work plan on the people and economy of Kosovo

The top-level key indicator, “Revenue collected as a percentage of value of energy available for sale,” provides a measure for KEK’s overall performance.

Medium- and base-level key indicators are then used to analyze the different aspects of the overall performance following a break-down scheme similar to the DuPont chart (see Figure A-2). The top-level key indicator is presented as the product of two-medium level key indicators. This means that an improvement in the overall performance, measured by the indicator “Revenue collected as a percentage of value of energy available for sale” (sales and revenue) can be achieved by improving the performance in the area measured by the indicator “Ratio of energy billed vs. energy available for sale” (billing) or the area measured by the indicator “Ratio of revenue collected vs. billed” (collection), or in both of these areas. It must also be noted that a significant improvement in one of these areas can compensate for weaker performance in the other area.

The medium-level key indicators are further presented as ratios (or products) of other lower-level indicators or factors that are calculated as algebraic products that include lower-level indicators. Thus, in order to improve the performance in the area measured by key indicator “Ratio of revenue collected vs. billed,” the contractor must improve the performance in the area measured by key indicator “Revenue collected.” Similarly, an improvement in the area measured by key indicator “Ratio of energy billed vs. energy available for sale” can be achieved by improvements in the areas measured by the indicators “Level of technical losses” and “Level of commercial losses.” The relationship between the key indicators and the way they are to be used in performance analysis is presented in Figure A-2.

Milestone indicators are used to further analyze and measure the performance in all major sub-areas of the areas measured by the base level key indicators. As the activities in these sub-areas are the subject of a detailed work plan, it is most appropriate to use the deliverables associated with each of the activities as milestone indicators in the PBMS.

The sustainability of the performance improvement depends on the success of knowledge transfer and capacity building. The training indicators in the PBMS are used to trace the scale of knowledge transfer and provide a measure for the extent of capacity building. They measure the outcome of training, which as a cross-cutting activity is included under each subtask and separately is the focus of two of the subtasks in the Work Plan.

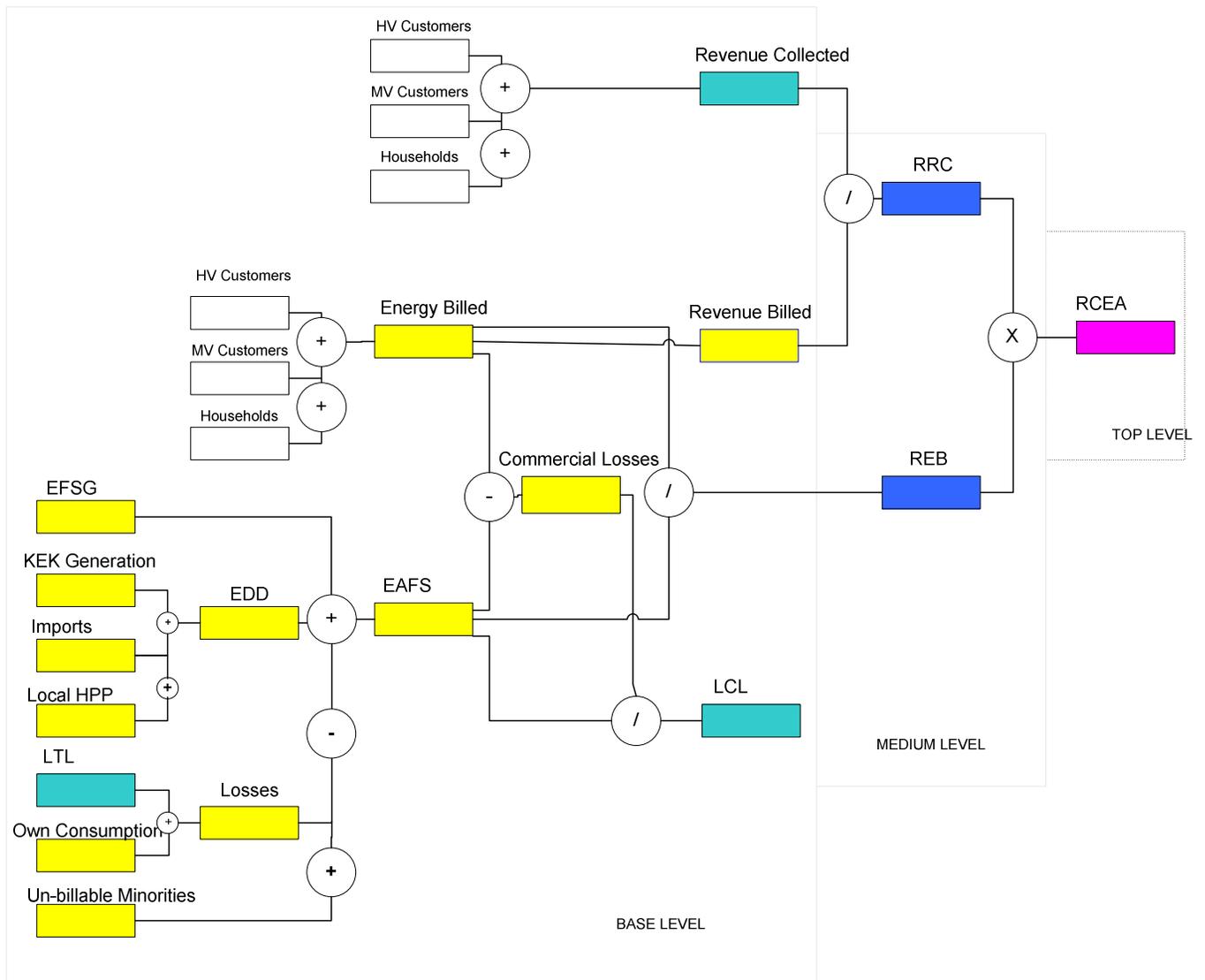


Figure A-2. PBMS DuPont Type Diagram

Legend

- RCEA - Revenue collected as a percentage of value of energy available for sale
- RRC - Ratio of revenue collected vs. billed
- REB - Ratio of energy billed vs. energy available for sale
- EAFS – Energy available for sale
- LCL – Level of commercial losses
- LTL – Level of technical losses
- EDD – energy delivered to distribution
- EFSG – Energy sold to large industrial customers (110 KV)
- Local HPP – small hydro wind and other renewable power plants

A.2 Key Indicators

No.	Objectives Supported by These Results	Task Reference Supported by These KI	Definition of Indicator and Unit of Measure	2006 Actual	2007 Actual	2008 Actual	2009 Actual	2010 Actual	2011 Actual	2012 Actual	YTD May 2013 Actual (Note)
1	1	1	Reduce commercial losses as compared with previous year (ratio of commercial losses vs. energy available for sale)	31%	30%	20%	21%	22%	18%	17.9%	20.1%
2	1	1	Reduce technical losses (ratio of technical losses vs. energy delivered to distribution)	18.2%	17.4%	16.6%	17.7%	17.1%	16.8%	16.3%	16.6%
3	1	1	Ratio of energy billed vs. energy available for sale	69.1%	69.9%	79.8%	79.3%	78.5%	81.9%	82.1%	79.9%
4	1	1	Ratio of revenue collected versus billed	74.2%	76.6%	75.6%	81.4%	87.8%	91.1%	90.9%	89.4%
5	1	1	Revenue collected as a percentage of value of energy available for sale [ratio of revenue collected vs. billed] x [ratio of energy billed vs. energy available for sale]	51.3%	53.5%	60.3%	64.5%	68.9%	74.7%	74.6%	71.4%
6	1	1	Collected revenue in Euros	€96 M	€110.8 M	€135 M	€160.3 M	€178 M	€201 M	€211.8 M	€97.8 M

Note: Data for the month of June 2013 have not yet been provided by KEK and KEDS and given that KEDS is now a private company, some information may not be made public. Therefore, 2013 statistics in the table above are for the five-month period ending May 2013. Please also note that partial-year statistics are not directly comparable to full-year statistics since commercial losses are generally significantly higher and collection rates are lower in the colder months when both consumption and prices are higher than in summer months.

A.3 Milestone Indicators per the April 2012 to June 2013 Approved Workplan

No.	Subtask	Milestone Indicators	Status
1	Support Management and Operation to Maintain Asset Value	<ul style="list-style-type: none"> ▪ 2013 Business Plan approved by the BOD ▪ 2013 Budget approved by the BOD ▪ Tariff filing for 2013 ▪ Performance against budget ▪ Draft audited financial statements ▪ Billing and collection reports to the BOD ▪ Unbundled financial statements ▪ Credit facility agreements ▪ Internal audit summary report 	<p>Completed</p> <p>Completed</p> <p>Completed</p> <p>Completed</p> <p>Completed for year 2012</p> <p>Completed</p> <p>Completed for 2012</p> <p>Completed</p> <p>Completed</p>
2	Strengthen Skills and Technical Capacity of Counterparts in KEDS	Per training indicators	Completed
3	Prepare Technical and Contractual Documentation for Investor Due Diligence at KEDS	Finalize all KEK-KEDS transfer documents: (1) Transfer Agreement (2) Shared Services Agreement (3) Collection Agreement	Completed
4	Provide Advisory Support in the KEDS Privatization Process	Timely preparation of responses to all technical, legal and financial issues raised during the tender process.	Completed
5	Support KEDS Management Post-Privatization	<ul style="list-style-type: none"> ▪ Produce a transition plan for the Finance and Accounting function. ▪ Produce a transition plan for the Legal function. ▪ Produce a transition plan for the Regulatory Affairs function. ▪ Produce a transition plan for the Human Resources function. ▪ Produce a transition plan for the Billing and Collection function. 	<p>Completed</p> <p>Completed.</p> <p>Completed.</p> <p>Completed.</p> <p>Completed.</p>

No.	Subtask	Milestone Indicators	Status
6	Prepare Technical and Contractual Documentation for Investor Due Diligence at KEK Generation and Mines	Finalize all conditions precedent to be performed by KEK as part of the KRPP transaction documents.	This step is required prior to financial close of the KRPP transaction and transfer of KEK mine and generation assets to MineCo/GenCo, and the KRPP transaction has been delayed.
7	Provide Advisory Support in the KEK Generation and Mines Privatization Process	Timely preparation of responses to all technical, legal and financial issues raised during the tender process.	Completed
8	Strengthen Skills and Technical Capacity of Counterparts in KEK Generation and Mines	Originally it was intended that training would only be focused on the impact of privatization. However, given the ongoing delays in the KRPP transaction, it was decided in consultation with USAID to focus on providing management and environmental training to those senior staff who would remain with KEK after completion of the KEDS transaction.	Not implemented as originally conceived since the privatization process had not progressed by the end of the project. However, Tetra Tech did conduct an intensive management training course for senior KEK generation and mines staff, which also extended to environmental training.
9	Develop a Draft Strategy Including Options for USAID's Exit Strategy from KEK and Provide Assistance for Implementation of the Adopted Strategy	Draft Strategy document prepared. Training workshops delivered.	Completed
	Program Management	Environmental Due Diligence Plan and Environmental Mitigation and Monitoring Plan	Completed; approved by USAID in March 2013
		Quarterly Reports	Completed
		Annual Report 2012	Completed
		Final Task Order Report	Completed

A.4 Training Indicators

No.	Task Order Objective Reference	Definition of Indicator & Unit of Measure	2006 Actual	2007 Actual	2008 Actual	2009 Actual	2010 Actual	2011 Actual	2012 Actual	2013 Actual
1.	1, 3	Number of people who received training in technical energy field	0	231	Total 54 (M=54 and W=0)	Total 36 (M=32 and W=4)	Total 425 (M=399 and W=26)	Total 378 (M=366 and W=12)	Total 158 (M=152 and W=6)	Total 0 (M=0 and W=0)
2.	1, 3	Number of people who received training in energy-related business management field	0	149	Total 69 (M=61 and W=8)	Total 261 (M = 196 and W = 65)	Total 141 (M=112 and W=29)	Total 923 (M=782 and W=141)	Total 145 (M=135 and W=10)	Total 247 (M=213 and W=34)

Note that Tetra Tech began aggregating data by gender in 2008.

The following is a summary list of the formal training that Tetra Tech delivered or organized during the project. The list also indicates when the training was delivered by a third party. Please note that the number of those trained is disaggregated by gender in the previous table (from 2008 onwards).

Date	Topic	Total Trained
2007	<ul style="list-style-type: none"> ▪ Training to Regulatory Affairs Department ▪ Training for disconnection and control crews on criminal /legal procedures ▪ Training on legal and regulatory matters related to disconnections and illegal reconnections by customers ▪ Power sector training in Slovenia delivered/funded by the UK Department for international development (DFID) ▪ Meter and seal tracking ▪ Upgrade or replacement of the existing GRAEDIS – GIS load flow computer system that calculates the technical losses on a three-phase basis ▪ Investment project appraisal ▪ Demand forecasting and capacity planning ▪ Business plan development and action planning processes and development for KEK executives and managers ▪ Management training for executives and managers (delivered by USEA) 	380
2008	<ul style="list-style-type: none"> ▪ Training on tariff applications for KEK regulatory staff ▪ Training for district managers on <ul style="list-style-type: none"> – Properly organizing the meter reading routes – Preparing disconnection lists and organizing disconnection plans – Conducting analyses and preparing reports – How to manage under the new structure. ▪ Tariff development, data requirements for tariff design, regulatory chart of accounts, load research, report writing, and regulatory reporting requirements. 	123
2009	<ul style="list-style-type: none"> ▪ Training for Board of Directors giving an overview of KEK and anticorruption activities; included a tour of KEK’s mines, power plants, and network ▪ Training for Board Audit Committee on the major risks KEK is facing and the Committee’s roles and responsibilities in mitigating these risks. ▪ Fundamentals of customer service ▪ Internal customer service and communications ▪ Implementation of the new disconnection policy for district managers and regional directors ▪ Training for district managers and regional coordinators on how to 	297

Date	Topic	Total Trained
	<p>assign feeder teams and evaluate their performance</p> <ul style="list-style-type: none"> ▪ Training on the new Fixed Assets Module for prospective users ▪ Service quality standards, demand-side management concepts, and overall energy regulation concepts and principles ▪ Training for the newly appointed regulatory director on tariffs ▪ Training of KEK's Revenue Protection Unit on analyzing and identifying commercial losses, disclosing the locations of losses, and appropriate steps <p>Training for revenue protection specialists on technical safety, loss calculation and site identification, and planning and conducting night inspections</p> <ul style="list-style-type: none"> ▪ Training in Bulgaria for Revenue Protection Unit employees on the analysis and identification of sites of commercial losses, detection and usage of specific equipment, best international practices and specifics of theft prevention (delivered by the Energy Distribution Company MVV) ▪ Training for the principal auditors from the Internal Audit Office on the organization of office work and definition of priorities, planning, and the deployment of the audit methodology during inspections ▪ Training for internal auditors on audit methods, drafting recommendations and other related activities ▪ Training for KEK legal staff and clerks executing court judgments (delivered by the National Centre for State Courts, with support from Tetra Tech) 	
2010	<ul style="list-style-type: none"> ▪ Training for KEK's security service on security and management issues, e.g., mental awareness, routine daily duties, emergency situations and legal aspects of security as well as self-management, communication, leadership, and decision making ▪ District Regulations, the new debt settlement policy, and other activities related to field operations, and how to determine accurate energy accounting balances ▪ Training for meter readers on group meter reading forms for balancing meters located on 10/0.4 kV transformers ▪ Training on the Fixed Asset Module ▪ Procedures for hard disconnections of problematic customers, commercial and technical loss localization, the identification of commercial losses, and principles of reclaimed losses ▪ Identification of commercial losses, principles of reclaimed losses, and the procedures for performing hard disconnections ▪ Calculating the adjustments to the accounts of the General Ledger Module's Tools of Electrical Tree for Kosovo (TETKo) and using this software ▪ Training for district employees on readings, zero bills, 	566

Date	Topic	Total Trained
	disconnections, transformer performance analyses and billing analyses <ul style="list-style-type: none"> ▪ How to combat commercial losses 	
2011	<ul style="list-style-type: none"> ▪ Training for Corporate Services (finance, legal and IT) and the Network and Supply Divisions on internal customer service and communication ▪ A workshop on leadership and management for middle managers ▪ Training on critical thinking for mid-level managers – bottom-up and top-down thinking, inductive and deductive reasoning, and situation, complication, question and answer ▪ Proper planning and implementation of daily tasks ▪ Reclaim loss calculation methodology ▪ Applicable legislation to fight commercial losses in KEK ▪ Decision making and new structure of sub districts ▪ Preparation for inspection ▪ New structure of subdistricts ▪ Building and managing teams ▪ Leadership and management ▪ Critical thinking ▪ Project management ▪ Training on the Kosova B feasibility study methodology ▪ Identification of high-risk areas in utility operations ▪ Theft risk reduction in measurement installations ▪ New structure of subdistricts ▪ General principles of KEK operation ▪ Role of internal control in utility management ▪ Performance evaluation ▪ Advanced methodologies and approaches for commercial loss reduction ▪ Reading and billing instruction ▪ High-risk areas of KEK operations and most effective methods deployed ▪ Identification and documentation of excessive costs ▪ Gathering and documenting evidence during audits/investigations ▪ Cost of capital ▪ Importance and impact of seasonal and hourly tariffs ▪ Performance appraisal ▪ Field work and negotiations with customers ▪ Annual inventory ▪ Chemical deposits, causes of turbine failure, need for boiler cleaning, plans for 2017 piping reconfiguration, methods for condenser leak detection ▪ Field work and negotiations with customers 	1301

Date	Topic	Total Trained
	<ul style="list-style-type: none"> ▪ Criminal code and criminal procedural code of Kosovo ▪ Readings and negative bill analysis ▪ Field work and negotiations with customers ▪ Useful life of assets 	
2012	<ul style="list-style-type: none"> ▪ Performing disconnections and checking of customer meters ▪ District Regulations amendments ▪ Performance appraisal methods ▪ Electricity tariff charges ▪ District Regulations amendments and electricity tariff charges ▪ Evidence gathering and documentation ▪ Best practices in commercial loss reduction ▪ Financial impact of tampering meter time clocks by employees and customers ▪ Report writing ▪ Techniques of meter reading and disconnection quality inspection ▪ Qualification testing process ▪ Alternative dispute resolution and electricity theft ▪ Disconnection reports and cross-checking ▪ Importance and enhancement of customer care information system information quality ▪ Proper management of the billing cycle ▪ Performance evaluation criteria based on district codes ▪ Preventive measures for avoiding commercial and collection losses ▪ Overall management principles and how to lead audit groups ▪ Importance of the delegation of authority for the proper management of audit processes ▪ Preventive measures for minimizing commercial and collection losses ▪ HR management systems ▪ How to evaluate network investment projects' impact on commercial loss reduction 	303
2013	<ul style="list-style-type: none"> ▪ Billing cycle planning and implementation ▪ Management of disconnection and reconnection process ▪ Impact of negative bills and process improvement strategies ▪ Utility management basics ▪ Ethics ▪ Negotiation ▪ Leadership ▪ Communication ▪ Decision-making ▪ Project management ▪ Environmental management and monitoring, with modules on an 	247

Date	Topic	Total Trained
	<p>introduction to environmental management, overview of legislation and permits, environmental impacts, environmental mitigation, and monitoring and reporting</p> <ul style="list-style-type: none"> ▪ Environmental Management Systems, with modules on an Introduction to EMS, EMS planning, EMS implementation, and checking and developing an EMS manual ▪ Other environmental issues, with modules on emergency response plans, health and safety, waste management, hazardous materials, and decommissioning 	

A.5 Contextual Indicator

No	Task Order Objective Reference	Definition of Indicator & Unit of Measure	FY 2006 Actual	FY 2007 Actual	FY 2008 Actual	FY 2009 Actual	FY 2010 Actual	FY 2011 Actual	FY 2012 Actual	FY 2013 (Partial) Actual ¹
1.	1	Percentage (%) of unserved demand (ratio of unserved energy to supplied energy plus unserved energy) based upon data provided by the KEK Capacity Management Department.	12.92 %	10.24 %	14.70 %	8.54%	3.53%	4.46%	4.35%	0.42%
			CALENDAR YEAR DATA							Jan-May 2013
			2006	2007	2008	2009	2010	2011	2012	
		Same definition as above	14.03%	11.02%	12.84%	6.91%	3.44%	5.57%	2.61%	0.26%

¹ FY 2013 actual is for a partial fiscal year, from 1 October 2012 to 31 May 2013.

Note: The Fiscal Year (FY) runs from 1 October of one year to 30 September of the following year; Q1 of the Fiscal Year is the fourth quarter (October to December) of the calendar year.

Annex B

Staffing

The following list details the personnel who worked on the KEK Network and Supply Project from 2007 to 2013.

The team was broken into:

- Long-term expatriate personnel who were resident in Kosovo
- Long-term Kosovo professionals
- Short-term technical advisors who were utilized on an as-needed basis.

KEK Network and Supply Project Personnel		
Name	Title/Role	Tenure
Long-Term Expatriate Personnel		
[REDACTED]	Chief of Party	2007-2012
[REDACTED]	Generation Advisor	2012-2013
[REDACTED]	Legal Advisor & Deputy Chief of Party	2007-2013
[REDACTED]	Supply & Regulatory Advisor	2007-2013
[REDACTED]	Chief of Party	2012-2013
[REDACTED]	Finance & IT Advisor	2007-2013
[REDACTED]	Anti-Corruption and Internal Audit Advisor	2007-2013
[REDACTED]	Network Advisor	2007-2009
[REDACTED]	Field Operations Advisor	2008-2013
[REDACTED]	IT Advisor	2008-2013
[REDACTED]	Network Advisor	2009-2012
[REDACTED]	Human Resources Advisor	2009-2013
[REDACTED]	Field Operations Advisor	2009-2013
[REDACTED]	Field Operations Advisor	2009-2013
[REDACTED]	Field Operations Advisor	2009-2013
[REDACTED]	Deputy Administrative Chief of Party	2010-2013
[REDACTED]	Security & Asset Protection Advisor	2010-2013
[REDACTED]	Network Advisor	2010-2011
Kosovo Professionals		
[REDACTED]	Administrative Manager	2007-2013
[REDACTED]	Attorney	2007-2013
[REDACTED]	Engineer	2007-2013
[REDACTED]	Financial Analyst	2007-2013
[REDACTED]	District Operations Specialist	2007-2013
[REDACTED]	District Operations Specialist	2007-2013
[REDACTED]	Accountant	2007-2013

KEK Network and Supply Project Personnel		
Name	Title/Role	Tenure
[REDACTED]	Translator	2007-2008
[REDACTED]	Legal Assistant	2008-2009
[REDACTED]	Translator	2008-2009
[REDACTED]	Translator	2009-2013
[REDACTED]	Translator	2009-2013
[REDACTED]	Translator	2009-2013
[REDACTED]	District Operations Specialist	2009-2013
[REDACTED]	District Operations Specialist	2010-2013
[REDACTED]	District Operations Specialist	2010-2013
[REDACTED]	District Operations Specialist	2010-2013
[REDACTED]	Anti-Corruption & Internal Audit Assistant	2010-2011
[REDACTED]	District Operations Specialist	2010-2011
[REDACTED]	Anti-Corruption & Internal Audit Assistant	2011-2013
[REDACTED]	Anti-Corruption & Internal Audit Assistant	2012-2013
Short-Term Technical Advisors		
[REDACTED]	Regulatory Advisor	2007-2013
[REDACTED]	Hydropower Engineer	2007-2012
[REDACTED]	Network Advisor	2007
[REDACTED]	Billing and Customer Service Specialist	2007
[REDACTED]	IT Advisor	2007
[REDACTED]	Energy Forecasting Advisor	2007
[REDACTED]	Communications Advisor	2007
[REDACTED]	Distribution Organization Specialist	2008
[REDACTED]	Communications Advisor	2008
[REDACTED]	Legal Advisor	2008-2009
[REDACTED]	Electrical Generation Engineer	2008-2013
[REDACTED]	Sr. Private Sector Development Specialist	2009
[REDACTED]	Training Advisor	2009-2013
[REDACTED]	Electrical Generation Engineer	2010
[REDACTED]	Electrical Generation Engineer	2010
[REDACTED]	Electrical Generation Engineer	2010
[REDACTED]	Environmental Impacts Advisor	2010-2013
[REDACTED]	Electrical Generation Engineer	2010-2013
[REDACTED]	Project Finance Advisor	2010-2011
[REDACTED]	Environmental Compliance Advisor	2012-2013
[REDACTED]	Environmental Compliance Analyst	2012-2013
[REDACTED]	Training Advisor	2013
[REDACTED]	Environmental Advisor	2013

Annex C

Press Releases/Flyers



Ref: 01/082013PR/XXX

KEK Operates as a Commercial Company

KEK j.s.c reminds all its customers that it operates as a commercial company and is governed under the laws applicable in the Republic of Kosovo and that it is subject to the economic regulation of the Energy Regulatory Office. Therefore, KEK treats all its customers the same and **ALL** consumers of electricity must pay for the electricity consumed with no exceptions.

This means the following:

- KEK is not subject to any pressure or influence, whatsoever to allow non-paying customers to get free electricity services without payment.
- Institutions of Municipal Assemblies that do not pay their monthly electric bills are being disconnected. They must treat electricity as any good or other service they receive and pay for it from their current budget.
- Water supply companies that do not pay their monthly electricity bills are being disconnected. They must treat electricity as any other good or service they receive and pay for running the company.
- State Owned Enterprises that do not pay their monthly electricity bills are disconnected.
- Religious facilities including mosques, monasteries, churches, and associated facilities must register and pay for electricity. KEK as a commercial company cannot subsidize these facilities. Religious leaders are aware that they must register as customers and pay their monthly electric bill or be disconnected. They are encouraged to set a positive example for their followers and remind them of their moral obligation to pay and not misuse electricity consumed.
- Electricity consumed in all Minority Areas is required to be paid. KEK worked very hard with all the relevant parties to remove all restrictions that for 12 years prevented requiring all consumers connected to pay for electricity. This effort was successful since all customers South of the Ibar River are paying for electricity. Simultaneously, KEK is also moving forward with regularizing all the consumers North of the Ibar River.

- Electricity used by Internally Displaced Persons (IDP) Collective Centers is being paid for otherwise they will be disconnected.

KEK continues to be committed to providing 24 hour service to those customers who pay their monthly electricity bills and is permanently disconnecting those who do not pay. With the improved performance of generating units, load shedding has been significantly reduced for all customers in the last few years. We are moving closer to this goal, although domestic energy sources do not meet customer demands, especially in peak periods and high season. Customers on feeders with the best payment records, otherwise known as category A customers, receive 24 hour service most days. Load shedding to balance demand and supply is performed primarily on Category C and B feeders in accordance with the plan established by the Energy Regulatory Office.

KEK thanks all political and religious leaders for their support in our effort to operate the company as a commercial business. It is the only sustainable option for our country, Republic of Kosovo.

Annex D

Sample Reports from Q1 2013

ENERGY FLOWS - THROUGH TRANSMISSION Total January - March 2013 (All flows in MWh)

Flows Into KOSTT:				Flows Out Of KOSTT:	
A&B Generation		PP Kosova A			
Gross	1,713,949	Gross	605,698	KOSTT delivery to Direct Customers (3)	111,551
Aux (on-site only)	128,541	Aux (on-site only)	45,717		
Net	1,585,408	Aux at PP Kos. A in excess of Net	30,160		
		PP Kosova B			
HPP Ujmani	16,416	Gross	1,108,251	KOSTT delivery to LOMAG	83,143
		Aux (on-site only)	82,824	Total	83,143
Kosova Coal	0	Aux at PP Kos. B in excess of Net	18,022		
		Coal production	1,964,756		
Interconnections In	785,113	Overburden production	2,678,694	KOSTT Delivery to 7 Districts 52 mtrs @ 22 s/s	1,493,295
		Net Import (In-Out)	117,507	Interconnections Out	667,606
Total In:	2,386,938	Losses (% of Flow In)	31,342 1.31%	Total Out:	2,355,595

ENERGY FLOWS - DSO including 220 and 110 kV
Total January - March 2013
 (All flows in MWH)

Flows In To KEK (Gross)

Delivery From KOSTT		
KOSTT delivery to Direct Customers (3)	111,551	BET
KOSTT delivery to LOMAG	83,143	BET
KOSTT Delivery to 7 Districts	1,493,295	BET
Total	1,687,989	

Small HPP Connected in Distribution		
Lumbardh	3,991	R
HPP Dikance+HPP Radavc+WP Golesh	2,494	R
Total	6,485	

Flow Through non 110 kV		
Delivery to 7 Districts and LOMAG	1,576,438	
Small Hydro Inflow	6,485	
Total	1,582,923	

Allocation of Losses			R
	MWH	Euro (000)	
Technical Losses			
110 kV Xfmr to 10 kV	91,080	3,024	
0.4 kV from ESTAP	182,745	6,067	
Total	273,825	9,091	
% of Total Technical Losses for KEK excluding N. Mitrovica	18.23%		
% of Technical Losses at 7 Districts excluding N. Mitrovica	19.29%		
Unaccounted for Energy Losses	287,292	16,519	
(Energy component of commercial losses)	18.15%		
Total	561,117	25,610	
(% Flow Thru Non 110 kV)	35.45%		

Average Wtd Trf is 57.5 Euro / MWH from June 2012 as per ERO tariffs order.

Cost of purchased losses is 33.2 (Euro / MWH) from June 2012 as per ERO tariffs order.

Flows Out Of KEK Distribution

Customer Billing (by CCP)		
Residential	607,903	F
Commercial	184,623	F
Industrial (35&10KV)	61,211	F
Public Lighting	4,746	F
Total	858,483	

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KOSTT delivery to Direct Customers (Billed but not in CCP)	111,551	F
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KEK Internal Use:		
KEK Mines	34,060	R
Aux for Gen in excess of Net	48,181	R
Distribution (Self Consumption)	2,711	F
Total	84,953	

Minorities		
N. Mitrovica (Unbillable)	78,371	R
Total	78,371	

Total In to KEK (Gross)	1,694,474
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Losses Total	561,117
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Total Out:	1,133,358
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Note:
 Average Wtd Trf is 57.5 Euro / MWH from June 2012 as per ERO tariffs order.
 Cost of purchased losses is 33.2 (Euro / MWH) from June 2012 as per ERO tariffs order.

RESULTS BY DISTRICT
Total January - March 2013
(Energy flows in MWH, Monetary amounts in 000 €)

Responsible Area	Energy Billed						Indicators Based on January-March 2013 Data						
	Input to KEK	Technical Losses	KEK Internal Use:	Minorities Unbillable & Uncollectable	Energy Available For Sale (EAFS)	MWH	€ (000)	Collections € (000)	Billed as % of EAFS	Collection As % of Billed	% Collected Versus EAFS	% Energy Accoun. Versus Input to DSO.	
	R	R	F	R/F	Calculated	F	F	F	Calculated	Calculated	Calculated	Calculated	
Prishtinë	483,747	82,672	1,403	0	399,672	297,543	25,375	21,398	74.45%	84.33%	62.78%	78.89%	
Prizren	200,773	37,947	188	0	162,637	123,777	10,116	8,109	76.11%	80.15%	61.00%	80.64%	
Pejë	164,665	32,103	217	0	132,345	90,843	7,703	5,217	68.64%	67.72%	46.49%	74.80%	
Ferizaj	175,956	36,989	249	0	138,717	111,883	9,114	6,623	80.66%	72.66%	58.61%	84.75%	
Gjilan	115,385	22,239	239	0	92,907	86,885	6,809	5,110	93.52%	75.04%	70.18%	94.78%	
Mitrovicë	220,901	30,423	177	78,371	111,930	71,926	5,854	4,002	64.26%	68.37%	43.94%	81.89%	
Gjakovë	139,260	31,450	237	0	107,572	75,626	6,076	5,237	70.30%	86.19%	60.59%	77.06%	
Sub TOTAL	1,500,687	273,825	2,711	78,371	1,145,780	858,483	71,048	55,696	74.93%	78.39%	58.74%	80.86%	
% e Humbjeve Teknike ne 7 Distriktet duke mos e perfshi Mitrovcen e V.		19.29%											
Land of Mines & Generation (Energy delivered and billed to tariff customers is included in PR Dis.)	82,236	0	82,242	0	(6)				0.00%	#DIV/0!	#DIV/0!	100.01%	
Sub TOTAL	1,582,923	273,825	84,953	78,371	1,145,774	858,483	71,048	55,696	74.93%	78.39%	58.74%	81.85%	
% of Total Technical Losses for KEK excluding N. Mitrovica		18.23%											
Direct Customers billed but not in CCP	111,551				111,551	111,551	6,337	6,125	100.00%	96.66%	96.66%	100.00%	
TOTAL	1,694,474				1,257,326	970,034	77,385	61,821	77.15%	79.89%	61.63%		
7 Districts + 3 Direct Customers	1,612,238				1,257,332	970,034	77,385	61,821	77.15%	79.89%	61.63%		

Customer Billing	Total January - March 2013									
	Energy Billed				Collection		Customer Debt per month € (000')			
	MWH	%	EURO (000)	%	EURO (000)	%	January	February	March	April
Household	607,903	63%	41,897	54%	29,239	47%	409,206	413,457	418,374	418,374
Commercial	184,623	19%	22,675	29%	19,976	32%				
Industrial & Public Lighting	65,957	7%	6,477	8%	6,480	10%				
(3) Direct Customers	111,551	11%	6,337	8%	6,125	10%				
Total	970,034	100%	77,385	100%	61,821	100%				

2,553.59

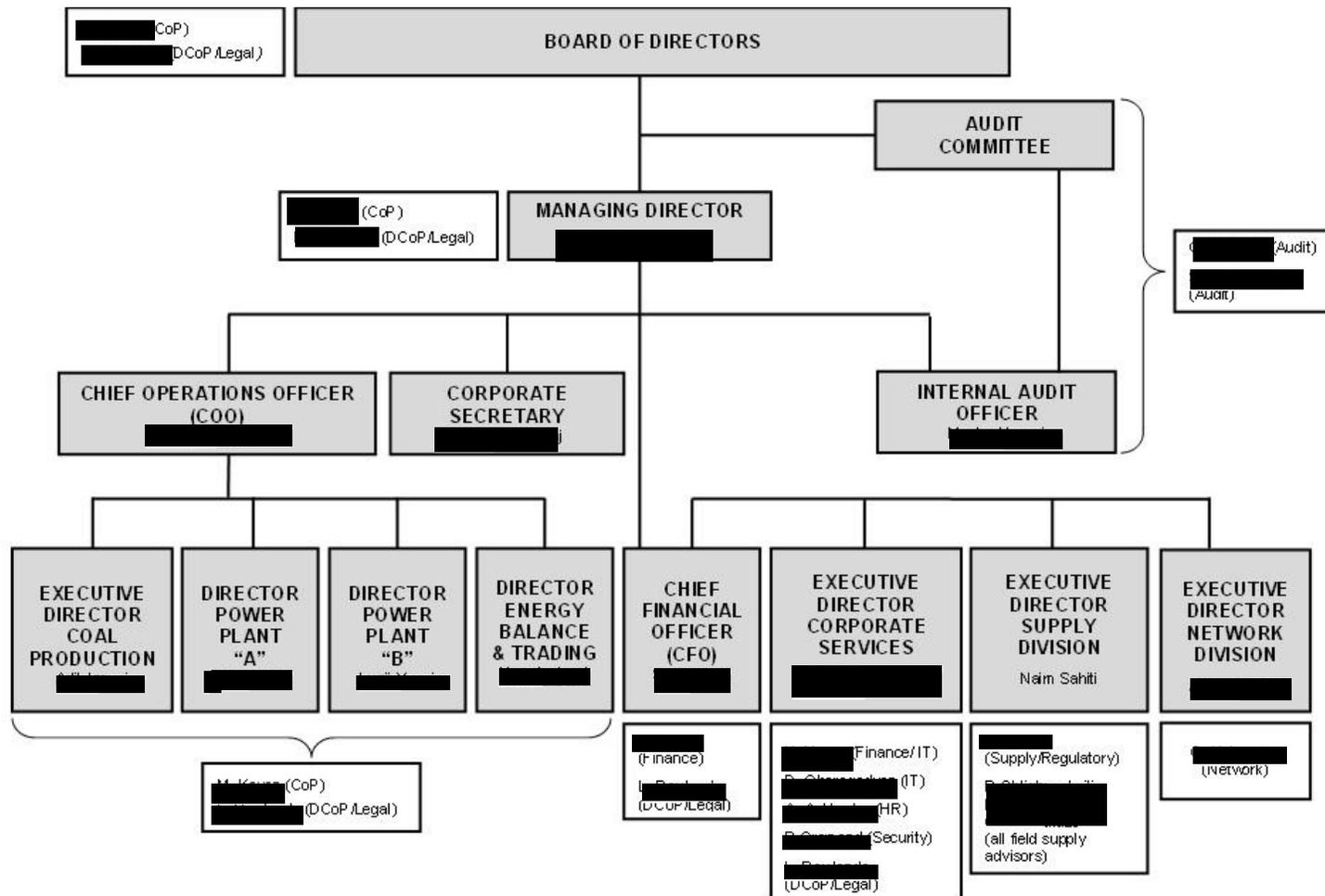
The energy billed to a customer (Zecan & Ujmani) connected at 35kV level in Northern part of Mitrovica is included in billed and collected energy of Mitrovica District.

- Note:
- 1) The energy billed to tariff customers located at LOMAG is included in Prishtina District.
 - 2) Customer debt accumulated in a given month is equal to the difference between billing and collection for this month.
 - 3) Column P 'Collections € (000)' might be subject to changes because of later adjustments due to payments done through bank accounts (including Kos Giro).

Annex E

Project Organization Chart

Tetra Tech Long-Term Advisors to KEK, as of August 2012



Annex F

Kos-GIRO Poster and Flyer



Thank you for making a payment at the KEK Office

In the future you have the ability to pay your KEK bill at any bank in Kosovo

It's called the KOS Giro payment method.

It's Easy and Convenient - You only need to bring your KEK bill to any bank in Kosovo. You can pay either directly from your bank account or in cash (in case you do not have a bank account).

You don't need to make extra trips. You can pay while you are at the bank for other transactions such as receiving your salary.

You are allowed to pay any amount you want

It's Free – The bank will not charge you as with many other bank transfers. You do not even have to be a regular customer of that bank!

It's Safe and Secure - guarantee of payment by the bank to make sure that KEK gets your payment. You get a receipt as legal proof of your payment. The KOS-GIRO system will also help KEK to register your payment correctly and to update your account. KEK is legally bound to respect the privacy of your bank account information.

Please try the KOS Giro option to pay your next bill

We think you will agree that it's a great system

Annex G

Project Success Stories

Success stories on the project's technical assistance and support to KEK were submitted separately to USAID/Kosovo. They addressed: internal audits, regularizing minority customers, small hydropower plants, distribution and supply privatization, bill payment through Kos-GIRO, accounting and finances, and environment.