POWER SECTOR MODEL CLOSE-OUT REPORT

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1 Project Strategic Impact

USAID strategy directing electric Power Sector activity in Afghanistan requires that all implementing projects be directed by and contribute to the need for the development of a self-sustaining and secure electric energy supply. This explicitly and implicitly implies the following:

- Technical developments needed for secure electric supply must be simultaneously accompanied by the development of the commercial and institutional requirements needed to insure self sustainability.
- Donor and Government of Afghanistan (GoA) actions require considered coordination to avoid duplication and to cross-leverage individual Donor's contributions such that the whole becomes larger than each part.
- Donor and GoA coordination requires information exchange in an ordered and integrated manner.
- The impact of individual Donor actions is cumulative and dependent upon the integrated effects of all other Donors program actions.
- The prioritization of actions by Donors and the GoA requires an explicit understanding of the integrated effect of actions on the overall economic growth and development objectives of the GoA.
- In order to understand the impact of coordinated and prioritized Donor actions it is essential that an attempt be undertaken to quantify their integrated effects.
- The value of quantification is the requirement that a tool be developed which stimulates the explicit integration of Donor program action and allows quantification of the cumulative effects of such program action. The Power Sector Model is such a tool.
- If utilized properly the Power Sector Model, as a tool, can quantify the framework required for policy and prioritized spending assessments in the Power Sector . The model provides a vehicle to assess whether or not integrated Donor program actions in the Power Sector will produce expected intuitive results or potentially counter-intuitive results.
- The Power Sector Model (version 1) provides the validated framework to quantify the effects of the strategic decisions of USAID as well as other Donors as they impact the Power Sector

It should be recognized that the Power Sector Model is in its initial stages of development as a strategy quantification tool. Regardless, following very detailed validation, the model has provided a clear indication of the impact of Donor subsidies and the potential requirements for additional subsidies if self-sufficiency is to be achieved in Afghanistan's Power Sector, for the geographic areas which the model has been used to assess, specifically the North East Power System (NEPS) and the South East Power System (SEPS).

All Donors' programs in the Power Sector in Afghanistan represent more than $500 million of capital expenditure in the next three years. To achieve a successful return on this investment, it is essential to have a financial plan representing a consensus of all stakeholders. The Power Sector Model is a key part of the financial plan to provide the analysis and prediction of the return on Donors' investment.

It is essential to focus the attention of Afghan counterparts on the need to provide accurate, timely, and transparent information according to modern international standards.The quality of reporting may be linked to the expectation of self-sustainability.

Energizing the management reporting issue will accelerate the time frame to achieve cost recovery in the Power Sector, making the Afghanistan Power Sector less dependent on foreign aid.

2 Project Description and Objectives

2.1 Project Description

The description of the Power Sector Model is best found within the requirements stipulated by USAID in undertaking the Afghanistan Energy Assistance Program (AEAP). In its AEAP framework, USAID directed that Program activities are to be conducted in a coordinated manner as directed and guided by USAID/Afghanistan to support:

- The development, refinement and harmonization of electricity supply, Da Afghanistan Breshna Mossessa (DABM), energy policies, strategies, laws and regulations to promote an integrated system based on good governance, transparency and efficiency.

- Project activity under the Program is to provide institutional strengthening and support to the energy ministries as they transition to market-based structures.

- Capacity building must be incorporated into the process of developing reliable energy resources.

- GoA and Donor efforts to work with civil society to contribute to public understanding and acceptance of the social, legal, financial and commercial conditions required for the provision of efficient electric energy services.

In order to achieve the requirements noted, an integrating mechanism had to be developed that could encompass all technical, economic, social and institutional aspects of strategies being pursued within the AEAP. The Power Sector Model incorporates in its model structure the quantification of each component of such strategies.

The key components of the Project are:

1. Model: A 10-year model of power production, power flows, and cash flows in the Power Sector having subcomponents:
    i. Generation (including supply from imports)
    ii. Transmission
    iii. Distribution
2. Capture of daily data on:
    i. Generation
        1. Hydro
        2. Thermal
    ii. Imported power
3. Analysis and report daily production data
4. Maintain a data base documenting source data and assumptions for the model

The model covers 10 years going forward on a monthly basis. The worksheets in the model were developed to capture data and interactive effects among the various sectors within an integrated utility system, as follows: (Please reference **Attachment 1: Data Flow Chart**).

Genco	Compilations of generation plants, import supplies, plant or line capacity, availability, transmission losses
TranscoMonthly	Examines each networked system: power supply, demand, dispatching, least cost options. Shows effect of combining networked systems when NETS is completed
TranscoAnnual	Converts TranscoMonthly supply and demand results into annual accounting, adds capital expenditure, operating expenses, calculates profits and losses

Disco	Using number of customers and usage profiles, and using customer growth assumptions, calculates projected demand
DABM	Aggregates customer data by province or area into discrete networked systems. Networked systems change as transmission work connects up different regions over time.

2.2 Project Objectives

The objective of the Project was to create a comprehensive, detailed, and integrated Power Sector Model to quantify the impact of AEAP actions. The purpose of creating the model was both to stimulate the development of data reflecting the electric power system in Afghanistan, and once captured and validated, to analyze and understand the data and to make useful forecasts for USAID, Donors and the GoA. This was undertaken based on meeting the following needs:

- As a tool for integrated strategic decision-making, optimizing sector operations, least-cost planning, and for justifying investments in the sector.
- To track power flow and cash flow and understand the cost of delivering electric power, the cost structure, tariff needs and sensitivity to various power generation alternatives.
- To plan for least cost reliable power service to customers.
- To help provide policy-independent data, forecasts, and analyses to promote sound policy making, efficient markets, and public understanding regarding energy and its interaction with the economy and the environment.

Energy information provides a baseline to assess and assure that fair and reasonable utility tariffs, and safe, reliable, and secure self-sustaining electric supply exists . The provision of reliable and reasonably priced utility services is essential to the health of the Afghan economy, the health and well-being of the population, and a high quality of life. Especially there should be a high priority on issues affecting captive consumers and the needs of the numerous consumers who are most vulnerable.

In order to justify and attract investment into the sector, there is a need to assure regulatory certainty whenever possible, and to provide greater clarity on priorities where private sector investment is most needed. Regulatory certainty has the component of transparency of process and also a database of reliable independent information about the electric Power Sector.

Specific objectives of the Project were:

- Create the information tools needed to accomplish the aforementioned purposes: software, data capture, procedures, and reporting.
- Model documentation, flowcharting, executive presentation
- Demonstrate to Afghan counterparts the vital need for electric power system information and how to use it.
- Engage and train Afghan counterparts in the mechanics of electric system modeling

2.3 Progress to Date

The Project was begun in October 2005, and was initially focused on power imports and their effect of consumer tariffs. However, it became clear that a comprehensive model was needed, covering the power flows and cash flows in generation, imports, transmission, and distribution. The following progress was achieved:

- The model was developed in November and December of 2005. During this time, a survey of commercial models was undertaken to see if there was an off-the-shelf solution to the complex modeling issues in the power sector. Commercial models were found to be not applicable and far more expensive than the budget allowed.

- In January, February and March, 2006 a series of meetings were undertaken to present and discuss the model with Donors and relevant GoA officials. These meetings were successful in

demonstrating the need for, and the effectiveness of the model. At this time, May 2006, the stage is set for additional meetings and raising the profile and detailed content of discussions, study, and analysis.

- The information tools needed to accomplish the aforementioned objectives: software, data capture, procedures, and reporting, were developed.

- The Model was documented, flowcharted, and an executive presentation was prepared and delivered to multiple audiences. (Please reference **Attachment 2: Overall Schema of the Power Sector Model, Attachment 3: Model Documentation, and Attachment 4: Power Point Presentation on the Model**)

- Model development and data development has helped to demonstrate to Afghan counterparts the vital need for electric power system information and how to use it. (Please reference **Attachment 5: Data Book Outline**)

- At the beginning of the Project, there was a lack of motivation on the part of the top managers at DABM to be more transparent and communicative regarding many aspects of Power Sector operations, but especially in regard to customers and collections. DABM chief engineer saw no value in improving managerial information, and no need to provide information to outside stakeholders such as GoA as owner, Donors, future Donors and ultimately to potential investors.

- There was little appreciation of information as a tool of accountability. There was usually conflicting information, changing information, and/or a lack of information. Information often was categorized incompatibly, making it difficult to build on previously received information.

- Following data collection efforts and meetings on why the data was being collected there was more cooperation connected with data gathering and sharing new ways to present the baseline data being captured. The potential for significant capacity building is high.

- There have only been limited inclusive discussions about the timing of cost recovery in the Power Sector, how long subsidies have to go on, and the value of and need to rapidly commercialize. These have occurred as part of the presentation activity when the model results on a “snapshot” basis have been presented to various entities. (Please reference **Attachment 6: Model Sample Output**)

- Although limited, discussions on the near-term action items needed to achieve cost recovery in the sector within a predicted time-frame were held with various stakeholders. These discussions need to be furthered in order for all involved to get an agreed and realistic view about support needed from Donors and for how long.

- There has been initial effort to identify inconsistencies in total sector planning, such as:
    - Inadequate investment in distribution that would prevent achieving adequate revenues from customers.
    - Predicting increase in collections and decrease in technical and commercial losses, without commensurate capital expenses to enhance collections and reduce losses and raising salaries.

3 Project Continuation

The Donors and GoA are now well-poised to engage in serious discussions about realities in the Power Sector. As a result of the recognized quality and impartiality of the Power Sector Model, it offers a vehicle to pursue these discussions in a positive manner. As a result of the goodwill engendered by this Project, there is a better opportunity for productive collaboration on tackling key issues of national significance.

3.1 Options: The model and all related data and built-up goodwill could be simply (1) abandoned,(2) transferred, to the extent possible, to another party outside of USAID control, or (3) it could continued by the new IRP contractor.

- If abandoned, the value created by the model would have to be recreated and paid for again, most likely at significantly higher cost than that achieved by AEAI. Amongst Donor-funded programs other than those of USAID, there is no other party with the staffing, knowledge, or professional resource capacity to take over the model. No entity of the GoA has yet developed the capacity to take over the model.
- Therefore continuation would seem to be the least-cost, most effective option.

3.2 **Continuation:** The benefits and risks of continuation are as follows:

- The model is based on an excel spreadsheet managed on an open source basis – the model is freely shared provided that improvements are shared back to the community. A spirit of goodwill has been created amongst Donors, consultants, and GoA officials.
- The model can be easily transited to a new IRP contractor, although there should be a reasonable period of overlap for introduction and training.
- The model is a tool that could be used by interested parties to help make decisions. The model makes no decisions itself.
- There is a formidable amount of work, creativity, and personal marketing to create a productive discussion process in which the model has its place.
- The GoA is facing a future containing unpopular decisions, financing shortages, and other difficult issues, the model can help depict the future and may help sell decisions (such as raising tariffs).
- The focus of using the model should be based on answering useful questions.The model should not be characterized as a quest for scientifically determining the optimal future. A risk of the model is criticism for lack of perfection. Getting lost in detail for the sake of accuracy can derail useful discussions, such as the need to build the NEPS as soon as possible.
- AEAI was largely able to avoid wasteful digressions by balancing realistic detail with impactful presentation so that people were engaged in the issues that most matter. In a continuation it would be important to maintain this “customer-focused” approach.

3.3 Task Orders Required for Continuation

3.3.1 Task Order: Objective

- Create a high-level policy discussion about energy that addresses – on a quantitative and integrated basis - tariffs, losses, subsidies, salaries, and other key parameters.
- Establish an agreed upon baseline of information regarding 1) numerical characterizations about existing conditions in the Power Sector (customers, categories, power usage, tariffs, losses, subsidies, salaries, and other key parameters), 2) timing and amounts of changes in the future.
- Establish a quantitative model as a key part of Power Sector planning for Donors and for the GoA, especially in the Ministry of Finance
- Support the creation within the MEW and DABM of a planning function covering both energy and cash flow

3.3.2 Task Order: Scope of Work

- Audit the existing model, survey users (Donors and GoA units) on what questions the model needs to answer, establish the ability of the model to answer such questions, establish the strengths and weaknesses of the model
- Write up the findings in an Implementation Report, which also would include a schedule, work plan, and detailed budget
- Establish detailed job descriptions for AEIC model management staff, correlate AEIC staff to identified Donor and GoA counterparts, and get agreement on goals and relationship.
- Establish a regular and on-going process to refine the baseline data with appropriate parties.
- Maintain data books supporting baseline data; establish meta-data format and procedures and publish baseline data on website.
- Establish an agreed upon baseline of information regarding 1) numerical characterizations about existing conditions in the Power Sector (customers, categories, power usage, tariffs, losses, subsidies, salaries, and other key parameters), 2) timing and amounts of changes in the future.
- Establish a Donor roundtable for comprehensive Power Sector economic planning to surface issues pertaining to each Donor.
- Develop hands-on workshops regarding Power Sector planning and paths to sustainability
- Maintain, revise and enhance the Power Sector Model
- Create user-friendly mini-models to use in workshops to support executive decision-making on specific key issues such as tariffs
- Create web-based user-friendly simulation tools to demonstrate key driving relationships such as between tariffs and subsidies

3.3.3 Task Order: Necessary Resources

- One Senior Financial Analyst to manage the task, maintain the model, interface with Donors and GoA entities.
- Two Electric Sector Analysts, to capture daily Electric Sector data, improve and streamline data collections, and to continue documentation of baseline data (power plant information, timing of rehabilitation projects, challenge assumptions, coordinate information from/with Donors to keep abreast of shifting projects and budgets.)

3.3.4 Task Order: Deliverables

- Implementation Report
- Weekly Report
- Up-dated baseline of data that feeds the model
- Data books fully documenting baseline data: source, validation, applicability, and all other related meta-data
- Up-dated working version of the overall model and specialized topic-focused mini-models
- Workshops to explore quantitative assessment of Power Sector strategy
- Development and presentation of alternative scenarios for the future of the Power Sector in Afghanistan
- Other tasks as assigned by the CTO

4 Issues to Consider

4.1 The deliverables calling for interaction with Afghan counterparts need careful coordination with USAID, and should be integrated with other Donor activities, notably the capacity building project at DABM funded by the World Bank.

4.2 Linkages established between the USAID-sponsored tasks in power sector modeling and other tasks of delivery of fuel and operations support need to continue to be expanded. This will assist and support USAID in transitioning from an emergency mode of operation with a low level of information towards an approach wherein management is supported by reported metrics and accountability.

4.3 Planning will never be done based on a perfect database, and yet valuable planning can be done with an imperfect database. It is important to focus on key decision drivers that make a big difference in outcomes, rather than spend equal time to refine all data areas.

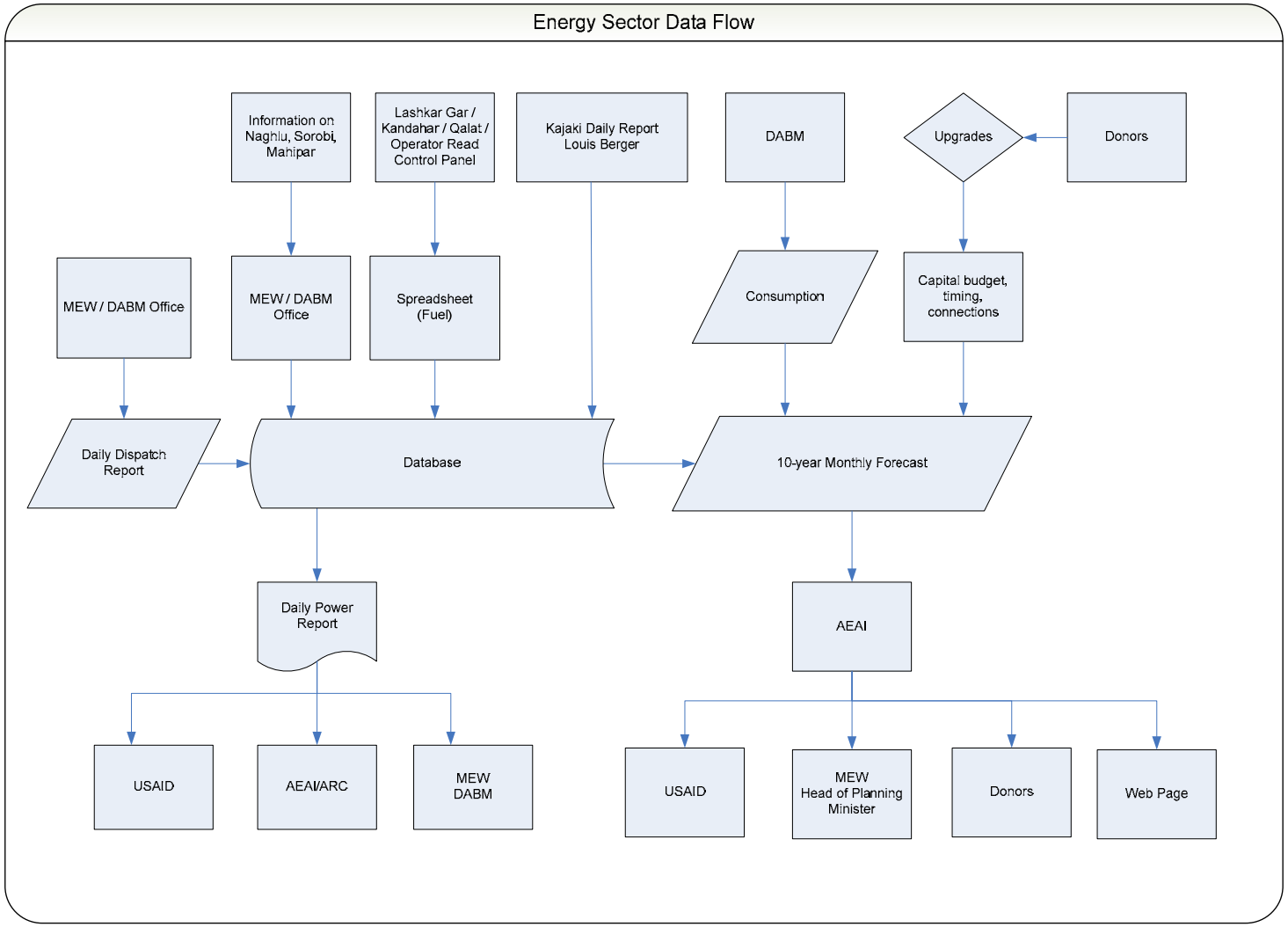
4.4 The AEIC should be feeding the baseline data into the modeling process. If this is not happening easily and effectively, then the AEIC needs to be addressed.

4.5 There should be a continual message delivered to Afghan managers in DABM and MEW that a lack of information is a measure of poor management.

4.6 The Power Sector Model can help Donors clarify and articulate gaps and inconsistencies of planning, such as not enough capital expenditure and salary support at the distribution level to achieve gains in revenue collections and distribution loss reduction.

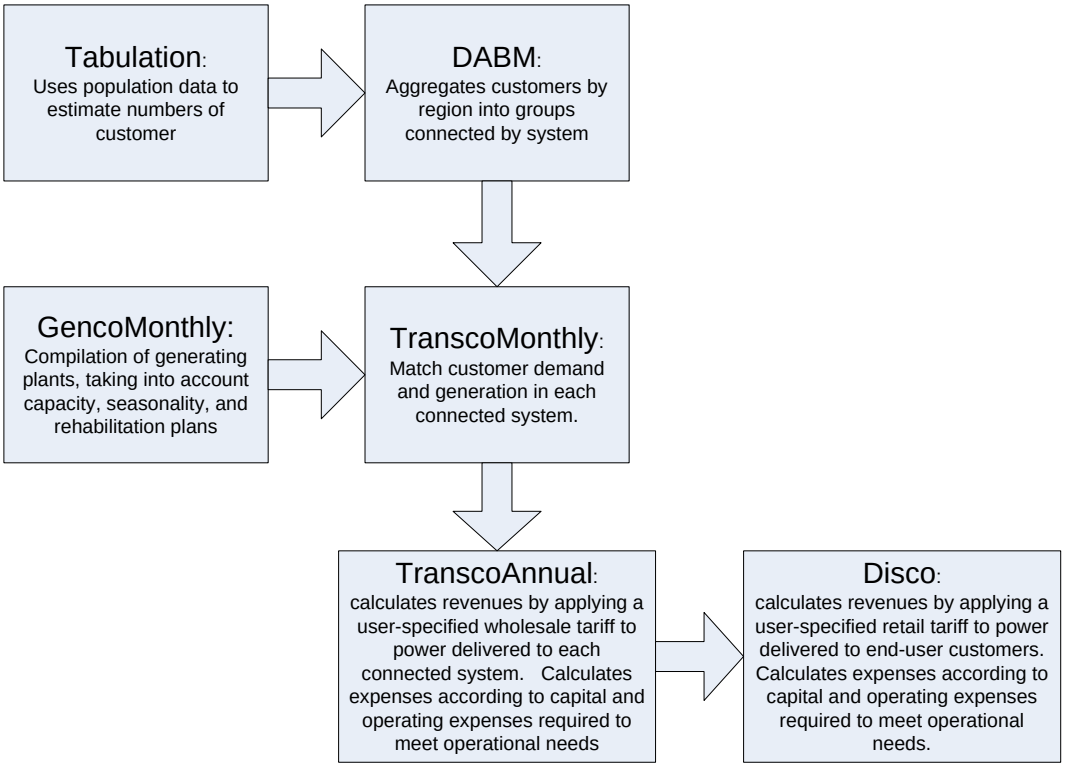
4.7 The model should be used to help Donors fashion and ratify appropriate conditionality of aid.

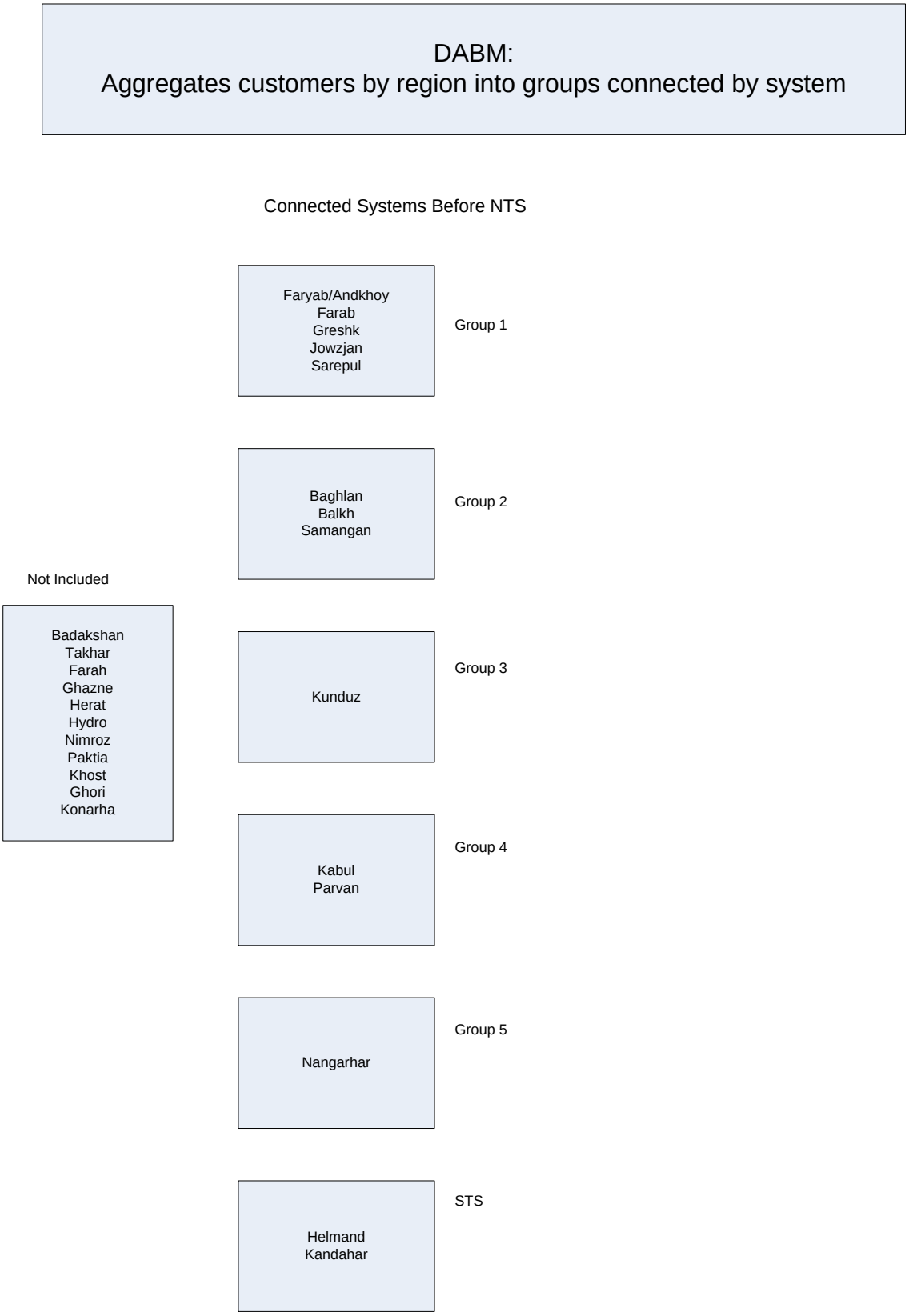
ATTACHEMENT 1

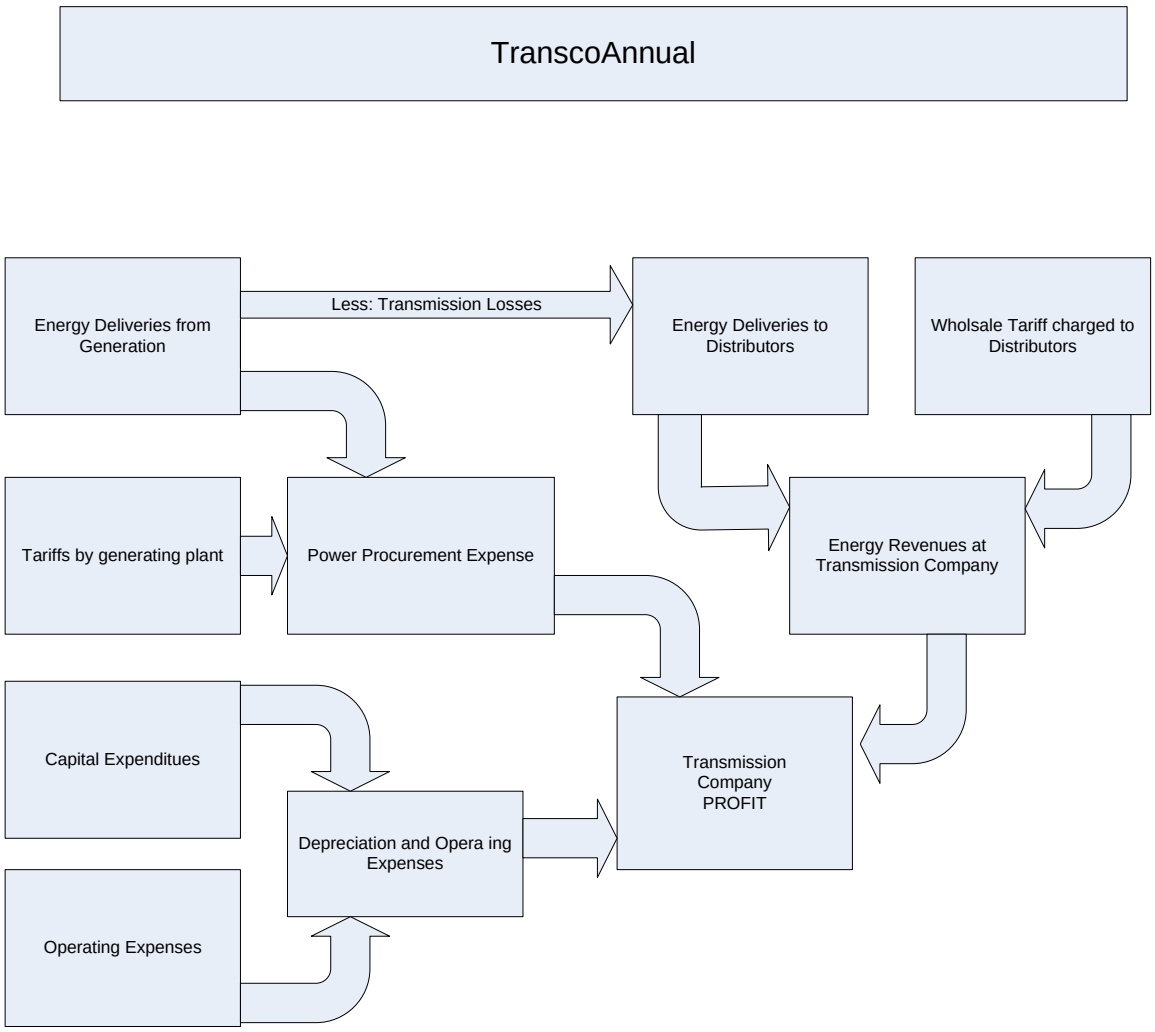


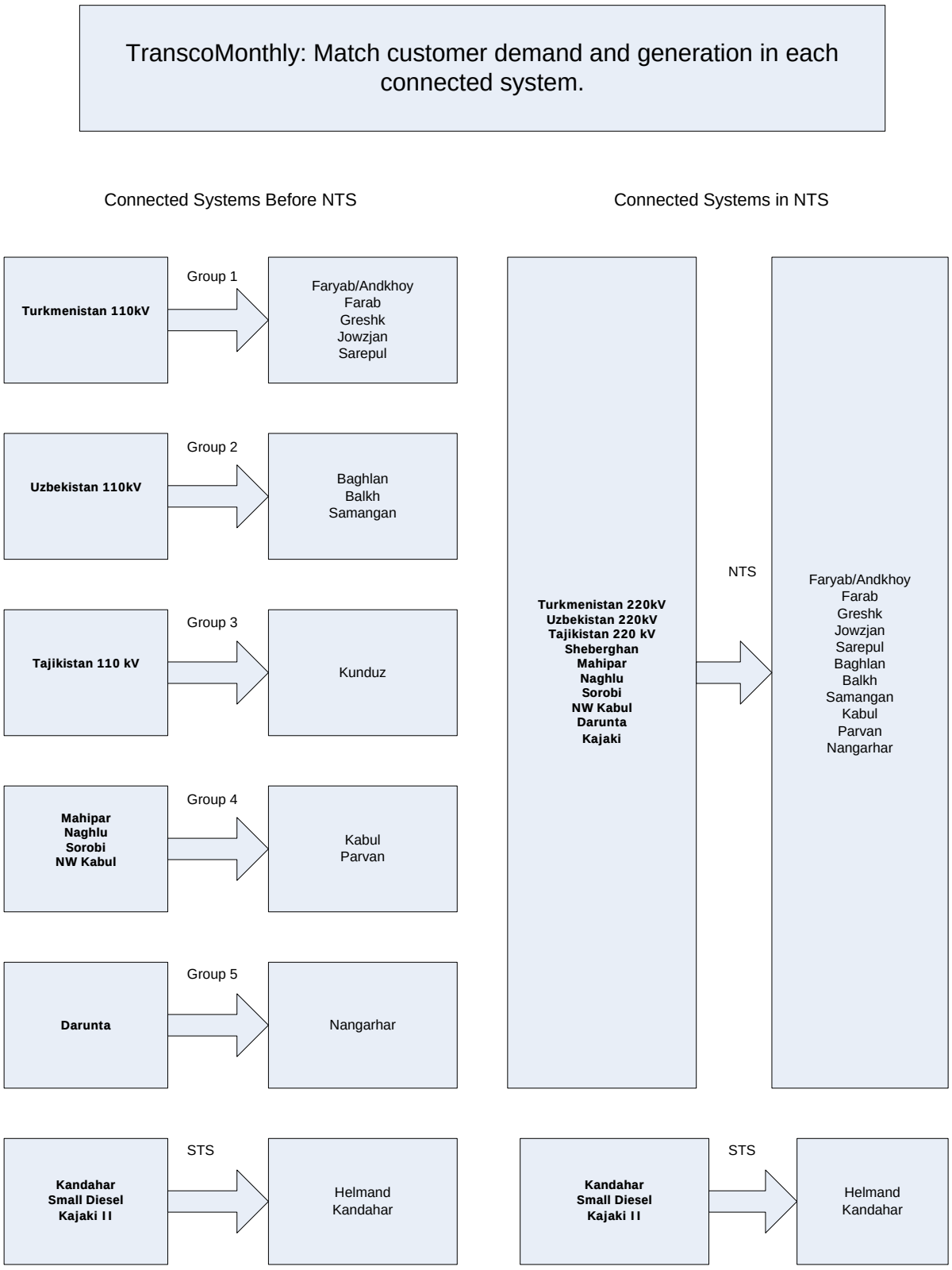
ATTACHMENT 2

Overall Schema of Power Sector Model

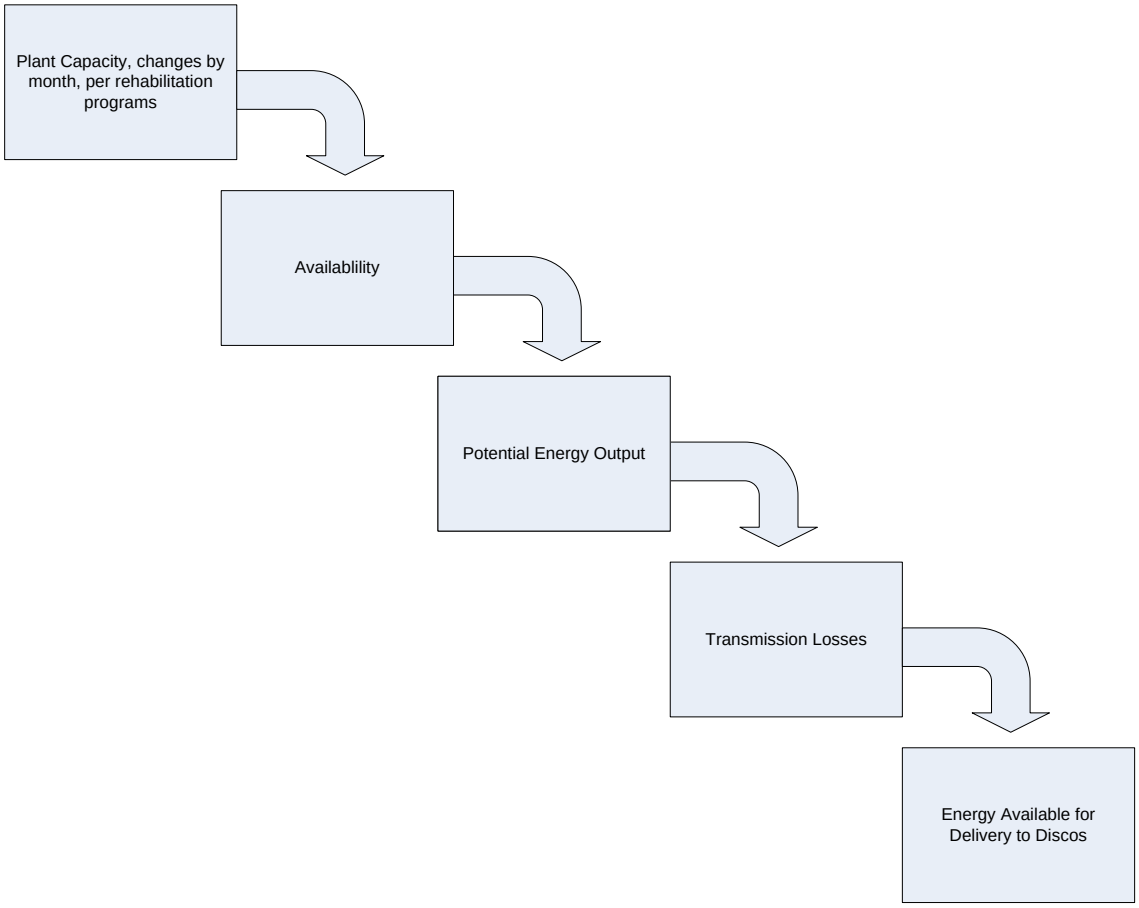


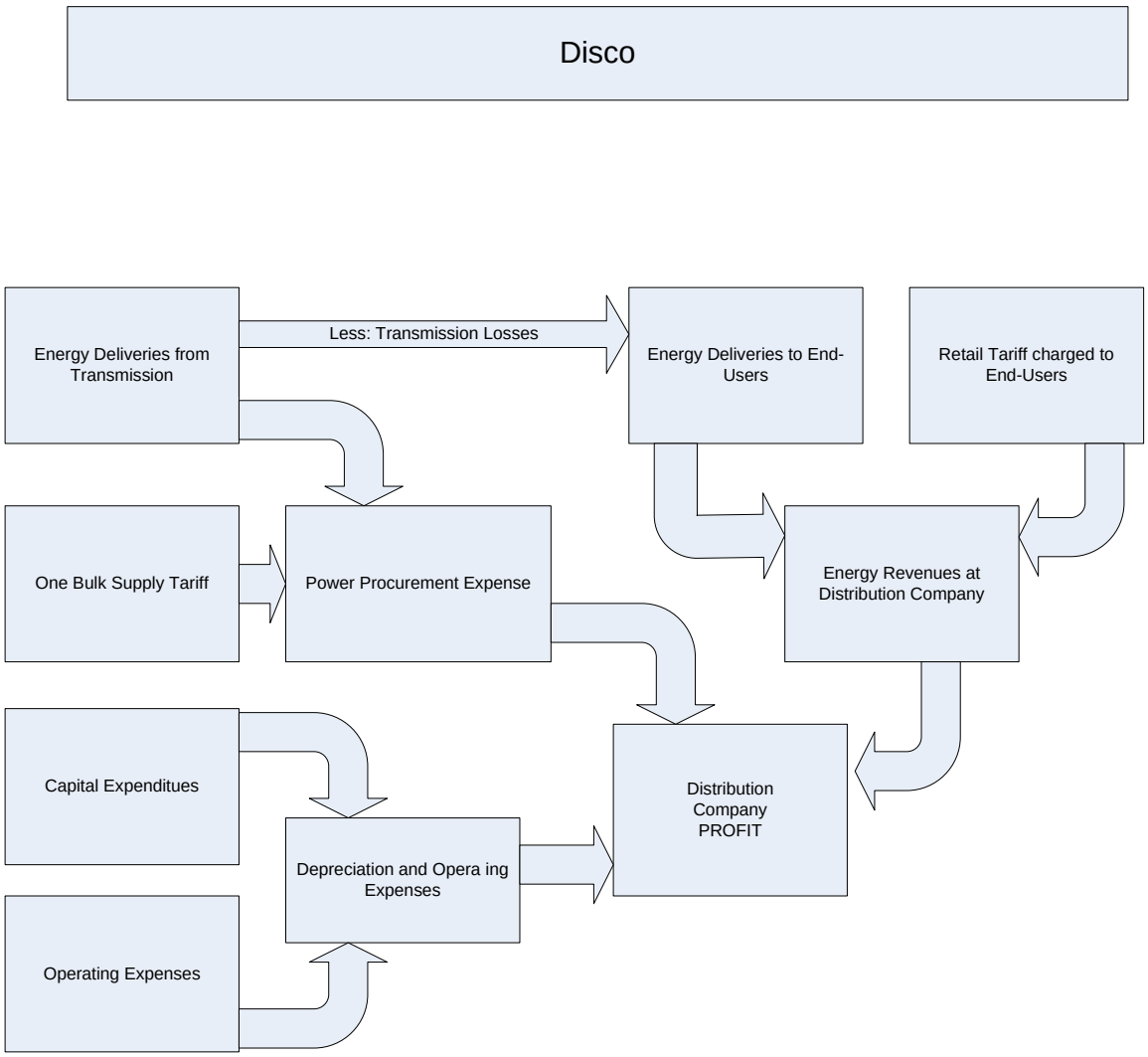

DABM:
Aggregates customers by region into groups connected by system
Connected Systems Before NTS
Faryab/Andkhoy
Farab
Greshk
Jowzjan
Sarepul
Group 1
Baghlan
Balkh
Samangan
Group 2
Not Included
Badakshan
Takhar
Farah
Ghazne
Herat
Hydro
Nimroz
Paktia
Khost
Ghori
Konarha
Kunduz
Group 3
Kabul
Parvan
Group 4
Nangarhar
Group 5
Helmand
Kandahar
STS


TranscoAnnual
Energy Deliveries from Generation
Less: Transmission Losses
Energy Deliveries to Distributors
Wholsale Tariff charged to Distributors
Tariffs by generating plant
Power Procurement Expense
Energy Revenues at Transmission Company
Capital Expenditues
Transmission Company PROFIT
Depreciation and Opera ing Expenses
Operating Expenses


TranscoMonthly: Match customer demand and generation in each connected system.
Connected Systems Before NTS
Connected Systems in NTS
Turkmenistan 110kV
Group 1
Faryab/Andkhoy
Farab
Greshk
Jowzjan
Sarepul
Uzbekistan 110kV
Group 2
Baghlan
Balkh
Samangan
Tajikistan 110 kV
Group 3
Kunduz
Mahipar
Naghlu
Sorobi
NW Kabul
Group 4
Kabul
Parvan
Darunta
Group 5
Nangarhar
Kandahar
Small Diesel
Kajaki II
STS
Helmand
Kandahar
Turkmenistan 220kV
Uzbekistan 220kV
Tajikistan 220 kV
Sheberghan
Mahipar
Naghlu
Sorobi
NW Kabul
Darunta
Kajaki
NTS
Faryab/Andkhoy
Farab
Greshk
Jowzjan
Sarepul
Baghlan
Balkh
Samangan
Kabul
Parvan
Nangarhar
Kandahar
Small Diesel
Kajaki II
STS
Helmand
Kandahar

GencoMonthly: Compilation of generating plants, taking into account capacity, seasonality, and rehabilitation plans




Disco
Energy Deliveries from Transmission
Less: Transmission Losses
Energy Deliveries to End-Users
Retail Tariff charged to End-Users
One Bulk Supply Tariff
Power Procurement Expense
Energy Revenues at Distribution Company
Capital Expenditues
Distribution Company PROFIT
Depreciation and Opera ing Expenses
Operating Expenses

ATTACHMENT 3
Model Documentation

Electric Sector Model Users Manual
April 30 , 2006

The model consists of an excel workbook with 5 linked worksheets.

Worksheet	Purpose
DABM	Tabulates Number of Customer by Region
GENCOMonthly	Tabulates Generating Plants, Imports, Availability, and Transmission Losses
TRANSCOMonthly	By region, takes aggregated customers and usage patterns to calculate energy demand. By region takes aggregated generating supply and imports to calculate total energy supply. Demand and supply are calculated on a kWh energy (not kW capacity) basis. If demand is greater than supply, then all supply is run and there is a shortfall. If supply is greater than demand, then all supply sources are dispatched proportionately to exactly meet supply.
TRANSCOAnnual	Takes energy balancing results of TRANSCOMonthly and aggregates into annual results. Applies wholesale power acquisition prices to determine payments to generators. Applies wholesale bulk supply prices to discos to calculate revenue at the transmission company level. Calculates financial statements for transmission entities, including consideration of capital expenditures, depreciation, operating expenses, and outside financing.
DISCO	Takes results of TRANSCOAnnual and shows results at the distribution level. Applies wholesale bulk supply prices to determine payments to TRANSCOS. Applies retail prices to power used by end-user customers to calculate revenue at the distribution company level. Calculates financial statements for distribution entities, including consideration of capital expenditures, depreciation, operating expenses, and outside financing.

DABM Worksheet

This begins with a table of customers according to Province/City, broken down by residential, commercial and government customers. The model aggregates the customers according to service territory. Before NETS is in-service there are 5 separate no-contiguous service territories in the North and one in the south. Herat and small independent pockets of demand are not considered in this model.

Group1: Andkhoy, Maimana, Sheberghan, Sar-e-pul

Group2: Balkh, Mazar-e-Sharif

Group3: Kundoz

Group4: Kabul, Parwan

Group5: Nangahar (Jalalabad)

SETS: Kandahar, Lashkar Gah

After NETS is projected to be installed in October 2008 the model considers only 2 demand/supply regions:

NETS: Andkhoy, Maimana, Sheberghan, Sar-e-pul, Balkh, Mazar-e-Sharif, Kundoz, Kabul, Parwan, Nangahar (Jalalabad)

SETS: Kandahar, Lashkar Gah

GENCOMonthly Worksheet

Generating plants are considered to be those in domestic Afghanistan. Import are considered on a "system sales" basis, that is, independent of any particular plant in Turkmenistan, Uzbekistan, and Tajikistan.

The capacity of the plants is on a net nameplate mechanical basis. It is the amount of net power generatable by the installed capacity if there were full amounts of fuel, water flow for hydroelectric, full payments for imports.

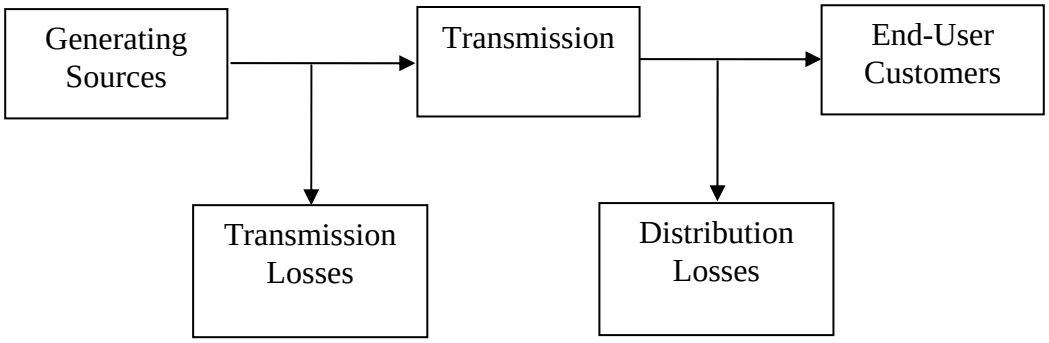
In the availability section of the GENCOMonthly worksheet, there are monthly percentage availability figures of, for example, 30%, 60%, 85%, for hydro, thermal, and imports. These figures represent limitations due to water shortage, mechanical failure, fuel shortage, or commercial curtailments for non-payments.

The model multiplies capacity times availability to determine the energy in MWH at the plant bus bar. After adjusting for transmission losses, the resulting energy is the amount that can be delivered to the distribution companies.

TRANSCOMonthly Worksheet

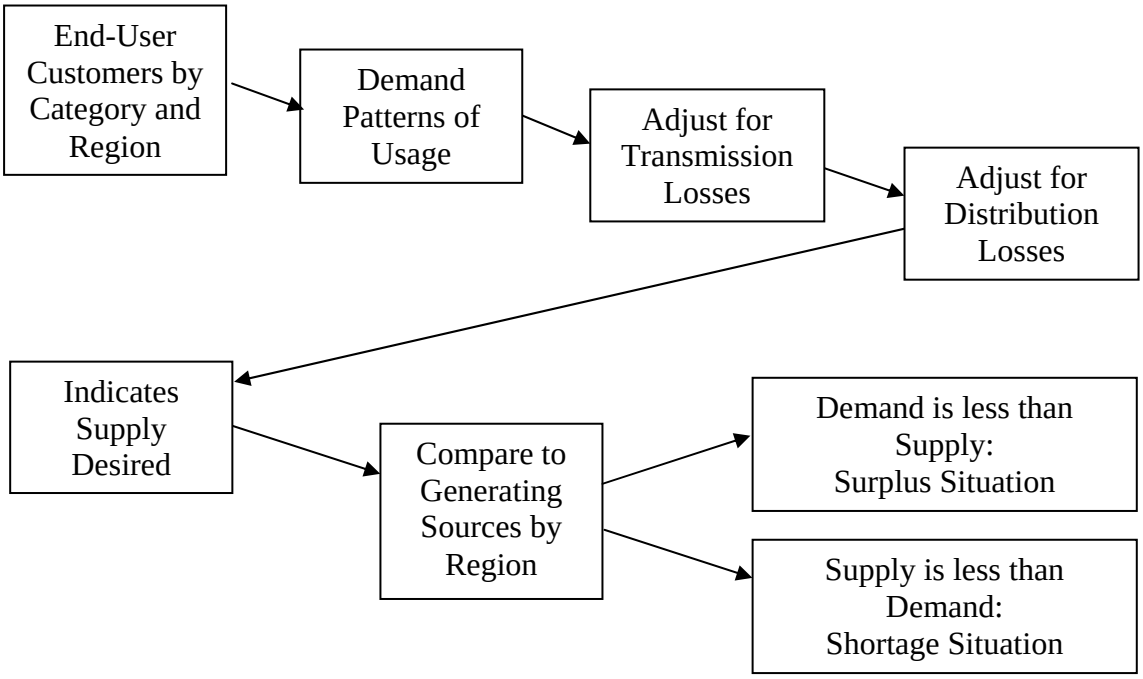
Graphically, this is how the model works with respect to energy flows:

Energy Flows



As noted above, this worksheet, by region, takes aggregated customers and usage patterns to calculate energy demand. By region it takes aggregated generating supply and imports to calculate total energy supply, thusly:

Energy Supply and Demand for a Particular Region



The Demand Patterns of Usage consider the peak usage per category (Residential, Commercial, and government) and multiply by a load factor to get energy flow.

Demand and supply are calculated on a kWh energy (not kW capacity) basis. If demand is greater than supply, then all supply is run and there is a shortfall. If supply is greater than demand, then all supply sources are dispatched proportionately to exactly meet supply.

For the NETS Region after NETS is operational, there is an added complication to account for a potential capacity constraint in between the northern region and Kabul, the Salang Pass. This necessitates first calculating the supply and demand in Kabul, then calculating supply and demand in the North, and then allowing the North to supply Kabul with net energy desired in Kabul subject to the aforementioned capacity constraint.

Dispatching conventions are as follows.

1. Domestic hydro
2. Imported power (assuming power purchase prices are appropriately low) and Sheberghan Project, each proportionally as needed)
3. Domestic diesel-fired power plants

These dispatching conventions are not meant as a recommendation nor are meant as a prediction about what prices will be. There are important and not-yet resolved issues about pricing and subsidies relative to the Sheberghan gas-fired project. Also there is not at all a reliable knowledge base about import power prices. Therefore the model simply takes import power supply and Sheberghan power supply and dispatches all sources collectively and proportionately. The following examples illustrate:

Example #1 (end of 2008 time frame)

- Power needed: 100 MW
- Power Supplies Available: 100 MW from Sheberghan and 300 MW from Uzbekistan
- Solution: Take 25 MW from Sheberghan and 75 MW from Uzbekistan

Example #2 (2010 time frame)

- Power needed: 100 MW
- Power Supplies Available: 100 MW from Sheberghan and 300 MW from Uzbekistan, 300 MW from Turkmenistan, 300 MW from Tajikistan.
- Solution: Take 10 MW from Sheberghan and 30 MW from Uzbekistan, 30 MW from Turkmenistan, 30 MW from Tajikistan.

TRANSCOAnnual Worksheet

This worksheet converts the monthly energy flow results from TRANSCOmonthly into annual figures.

Prices and expenses are presented on a flat, uninflated basis. The base case run shows wholesale and retail tariff rates going up, on a real basis.

Power prices from generating stations are set as an input in this model. Alternatively, power prices from generating stations might have been calculated from their respective cost inputs. However, such calculation would have little value added in a sector-planning model such as this, because there is considerable debate and wide divergence of opinion about cost inputs, such as:

- Prices levels to be negotiated and sustainable related to power imports
- What costs are appropriate to include in tariffs
- What tariff levels are socially and economically acceptable

The model accepts power prices (for selling power from generation to TRANSCO) and for selling power from TRANSCO to DISCO) as a user input. Similarly as with generation, transmission-level power prices are set by the user regardless of costs, as compared with automatically calculating the prices needed to cover costs. The reason this was done is because the Power Sector data considerations are all gyrating widely: policy choices, financing alternatives, sector structure, the timing of new power supplies, and the success rate for commercialization measures.

Capital expenditures in TRANSCO are a user input, according to estimations for building transmission line assets in NETS and SETS

How to finance operating losses and capital expenditures, again, is a user input. There are a various ways to capitalize the transmission function, but there is little consensus of what should happen overall. Existing Donor programs are fairly well defined to financing the building of the NETS. Financing the SETS program is emerging as a USAID grant but this is not settled.

To run the model, the user can input financing measures such as a grant or a loan, and the model will automatically compute interest. Also the model will balance the balance sheet and account for cash. However, the model does not automatically raise financing in the even of the cash shortfall, nor does the model automatically raise tariffs in the event of a cash shortfall. As a next step, depending on what inquiry is of interest, it would be a minor change to the model to be able to do one of the following:

- Make tariffs depend on cost incurred, or
- Make financing depend on cost incurred, or
- Make cost depend on financing available, or
- Make service depend on financing available, or
- Make financing be automatically some mix of grants or debt,
- Represent some other policy decision

TRANSCO depicts one company for NETS and one company for SETS. Again, this is not a recommendation, but rather a depiction of one possible policy decision. Many countries have a national transmission company, so that customers in a region with high costs are not unfairly burdened. In this transmission model, capital expenditures and operating expenses are allocated either to NETS or SETS, and the resulting financial condition is a model output. The usefulness of looking at separate transmission companies for NETS and SETS is that it highlights the high cost of transmission in the SETS region, if it is decided to allocate costs in that way. Financially, even though NETS ands SETS are physically disconnected, there is no reason why the costs of NETS and SETS cannot be combined and spread over all power customers.

DISCO Worksheet

This worksheet takes the energy and cash flow results from TRANSCOannual and adds in the operations at the distribution company level.

As with TRANSCO, Prices and expenses are presented on a flat, uninflated basis. The base case run shows wholesale and retail tariff rates going up, on a real basis.

Again, there is considerable debate and wide divergence of opinion about price levels to end-users, due to:

- Uncertainty about what will be the cost of power acquisition from TRANSCO
- What costs are appropriate to include in tariffs
- What tariff levels are socially and economically acceptable

All the comments about TRANSCO, above, apply to DISCO, with regard to

- Capital expenditures
- How to finance operating losses and capital expenditures
- Balance sheet and accounting for cash
- Tariffs as an input
- Showing one company for NETS and one company for SETS

Cost Recovery

Since the model does not drill down into the cash flow components at the generating level, the model shows TRANSCO buying power from various sources at prices that represent full cost recovery. Grants, soft loans, subsidies, are shown only at the TRANSCO and DISCO levels, but that is simply one possible convention of inserting subsidies, and it is not meant to be a policy recommendation.

The allocation of cost amongst generation, transmission, or distribution, in reality is flexible. Profit and subsidies may be moved around and show up in one sub-sector or another, as a matter of policy choices.

The sources of cash flow into the system come from four sources:

- End-user customers paying for electricity
- Financing from soft loans
- Grants from Donors
- Transfers from GoA to Power Sector

Uses of funds are two-fold

- Financing operating losses
- Financing capital expenditures

Note that total uses of funds are met by total sources of funds, but that one may manipulate pricing between functional sectors so that profits and losses, and as a result financing needs, may be allocated freely. "Subsidy" as defined in this model is defined as any cost that is not met by customer collections. "Cost recovery" is defined as the condition when end user customers plus financing from soft loans is adequate to cover all operating losses and capital expenditures. Soft loans are depicted as a balance sheet obligation and as incurring interest expense. As a fine tuning, there is also a subsidy to the extent there is a difference between interest expense incurred at market interest rates and interest expense incurred at subsidized interest rates.

Summary

This model is meant to be used for addressing significant differences in choices for tariff levels, financing needed, and what extensions of service are made. These broad issues should be discussed and outlined before more detailed modeling is undertaken. Also, there is a paucity of reliable information on customer usage, demand, and collection levels. However, at present, the model shows clearly the financial results of the key variables in the Power Sector , and it may outline targets for operating parameters needed to be achieved.

ATTACHMENT 4

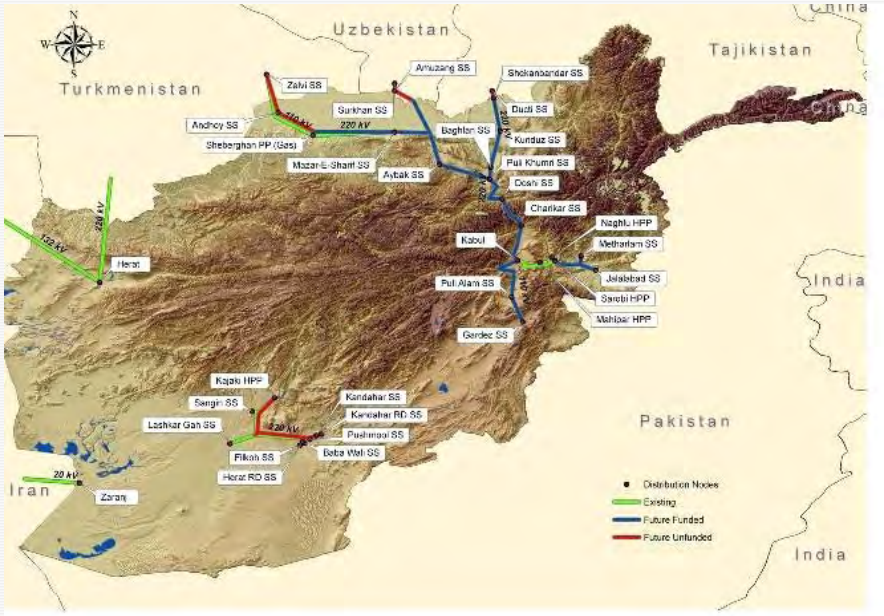
A Quantitative Assessment of the Implementation of Strategy in the Electric Power Sector in Afghanistan

Afghanistan Energy Assistance Program (AEAP)
Advanced Engineering Associates, Inc. (AEAI)

Introduction and Context of the Presentation

- Quantitative Assessment of all Donor Programs and all GoA actions across the Electric Power sector
- Afghanistan Energy Assistance Program (AEAP)
- One Key Component of USAID's Afghanistan Strategy

Focus of AEAP/AEAI: NETS and SETS



Afghanistan: Shared Strategic Vision

- Evolve from a poverty-stricken, unstable, insecure and fragmented post-conflict nation, into a systemically self-sustaining, stable, secure and fully-integrated nation, internally and externally
- USAID's Afghanistan Strategy is coincident with, and complementary to the Government of Afghanistan's strategic vision and priority objectives
- Sector Strategy Integration

Afghanistan's Goals

- Established in
  - National Development Framework (NDF) – 2002
  - Securing Afghanistan's Future – 2004
  - National Priorities Program – 2005
  - National Development Strategy – 2005
  - Afghan Compact - 2006

London Conference on Afghanistan January 31, 2006

Afghan Compact – Largest Donors

London Conference on Afghanistan Financial Commitments (in millions)

	Current Year Commitments 1384 March 2005-March 2006	Future Commitments to the Afghanistan National Development Strategy From 1385 From March 2006
United States	3,053	4,000
World Bank	263	1,200
Asian Development Bank	244	1,000
United Kingdom	284	885
Germany	74	480
Japan/JICA	31	450
European Community	132	268
Spain	12	182
India	126	181
Netherlands	53	179
Saudi Arabia	22	153
Pakistan	105	150

Afghanistan's National Development Strategy

- Align Priorities and Programs of all Cooperating Partners with needs determined by Afghanistan
- End State:
  - Basic social and economic conditions needed for long-term sustainable economic and socio-political growth, stability, and security

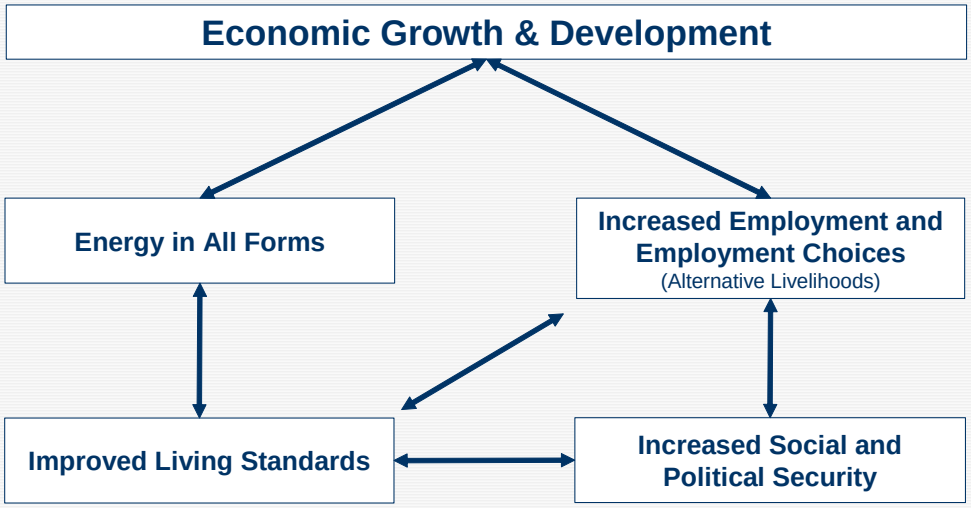
USAID Strategic Objective: Economic Growth

- Security
- Economic & Social Stability
  - Rebuilding Infrastructure
- Reform
  - Market Economy
  - Governing Institutions
  - Transparency of Process
  - Public Service Financing
- Capacity Building – Institutions and Infrastructure to Support Development Essential to the Endurance of Stability and Reform
  - Physical
  - Social
  - Political
  - Economic

AEAP and USAID Objectives

- Electric Energy Services
  - Improve: Access, Reliability, Stability, Affordability
- Short-term (1-3 years) to Intermediate (3-5 years)
  - Emergency Programs: "Keep the Lights On"
  - Add Capacity, Lower the Cost of Service
    - Physical
    - Human
    - Financial
  - Directed towards reduced subsidies and increased Electric Energy Security
- "Electric Energy Security" - Definition: economic growth unconstrained by energy shortages; easier access at affordable price

USAID's Strategic Objectives: Linkages



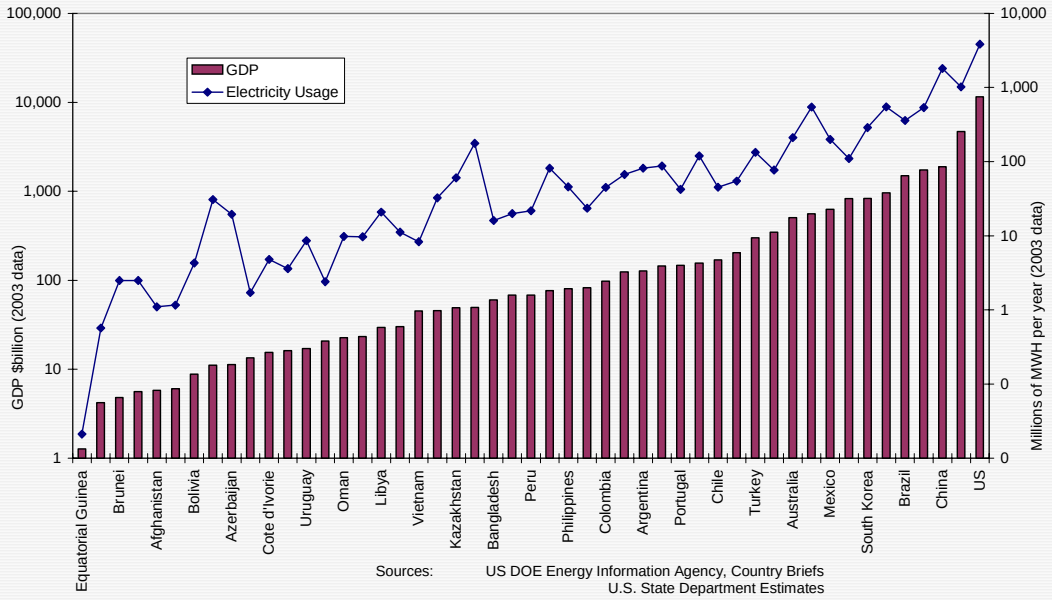
Afghanistan Electricity Use is Relatively Very Low

Country	GDP $ billions	Power Demand billion KWh
Equatorial Guinea	1.3	0.02
Congo	4.2	0.57
Brunei	4.8	2.50
Paraguay	5.6	2.50
Afghanistan	5.8	1.10
Gabon	6.0	1.16
Bolivia	8.8	4.30
North Korea	11.1	30.80
Azerba jan	11.3	19.50
Angola	13.4	1.71
Cote d'Ivorie	15.5	4.80
Yemen	16.3	3.60
Uruguay	17.0	8.60
Sudan	20.7	2.40
Oman	22.7	9.80
Qatar	23.2	9.70
Libya	29.5	20.90
Ecuador	30.0	11.20

Sources: US DOE Energy Information Agency, Country Briefs
U.S. State Department Estimates
AEAI Power Sector Collected Statistics

AEAP/AEAI March 13, 2006 11

Electricity and GDP are 90% Correlated ($1,000 GDP ~ 300 kWh power use)



Sources: US DOE Energy Information Agency, Country Briefs
U.S. State Department Estimates
AEAI Power Sector Collected Statistics

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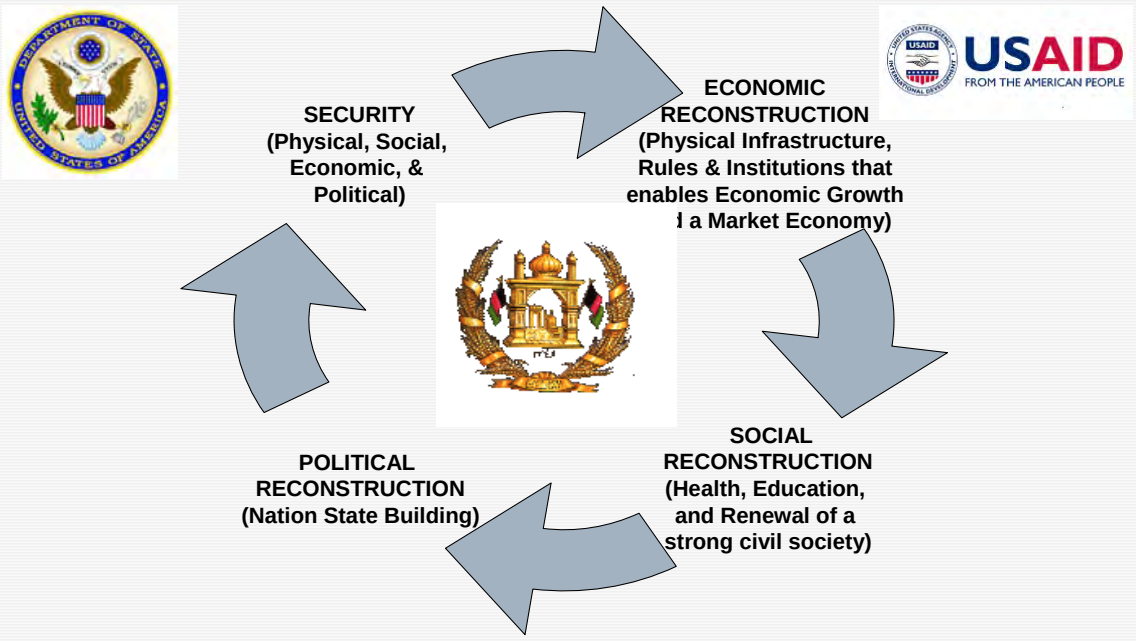
Benefit of AEAP Programs

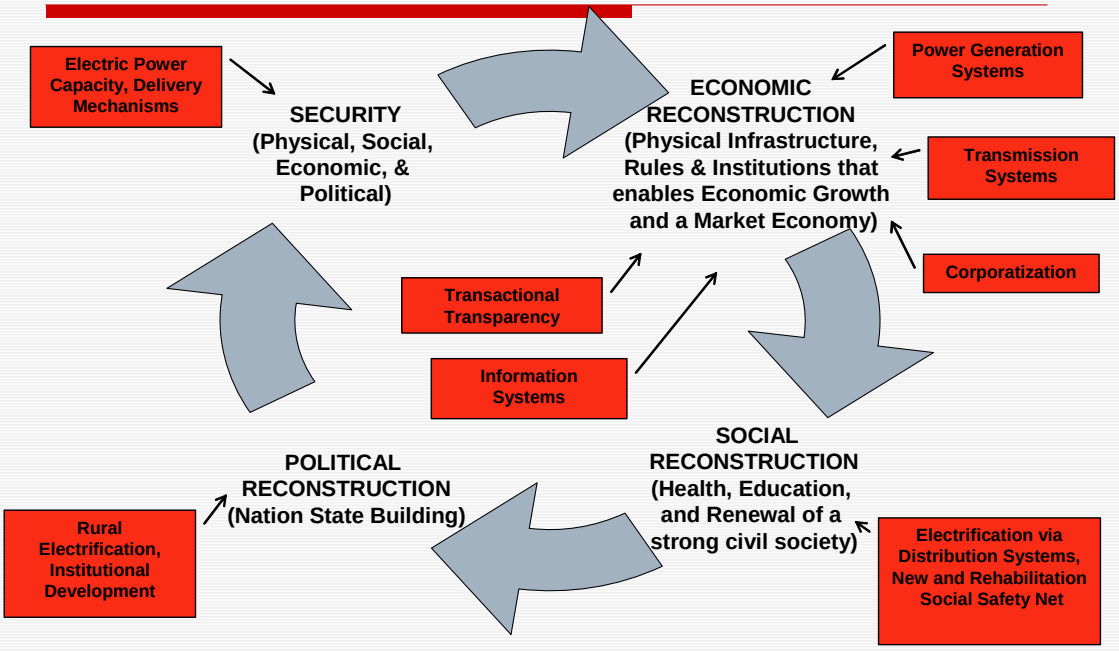
COST BENEFIT ANALYSIS OF PROVIDING ELECTRICITY

		NW Kabul	Kandahar	Sheberghan
Net MW Capacity		44.00	14.00	100.00
Months Operation		12.0	12.0	12.0
Availability		60%	85%	85%
Energy Produced or Purchas	MWh	231,264	104,244	744,600
Fuel (If Any)				
Diesel Price Cents/Litre		63	63	
Litres/MWh		444.0	250.0	
Energy Produced or Purchased		231,264	104,244	
Fuel Expense (If Any)		64,689	16,418	
Capital Recovery/Sinking Fund (annualized)				
$1,000 per KW over 20 years				5,000
kWh per $1000 of GDP		300	300	300
MWh per $1000 of GDP		0.3	0.3	0.3
Annual GDP Benefit (predicted)		770,880	347,480	2,482,000
Annual USAID Cost ($millions, annualized)		64,689	16,418	5,000
Benefit:Cost		12:1	21:1	496:1

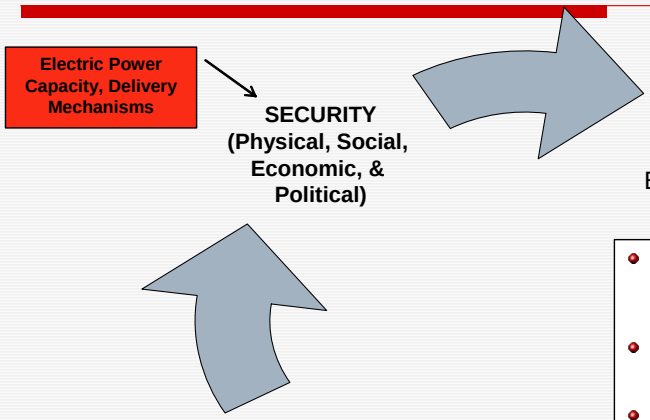
US State Department – USAID Strategic Plan



AEAP Roles



AEAP Projects



Emergency Measures: Security Driven

- NW Kabul
  - Fuel Management
  - O&M Management
  - CMMS
- Kandahar Emergency Diesels
  - Fuel Provis on
  - O&M Management
- Qalat Diesel
  - Fuel Provis on
  - O&M Management
- Lashkar Gah Emergency Diesel
  - Fuel Provis on
  - O&M Management

AEAP Projects

- DABM
  - Billing and Collections Pilot Program
  - Baseline of Needs
  - Inst tutional, capacity building/training
  - Minor reconstruct on

- Rural Electric Association development (training REA, private sector participation)
  - Aybak
  - Tirin Kot
  - Qalat

- Electric Distribution (humanitarian, capacity building/training)
  - Aybak
  - Tirin Kot
  - Qalat

POLITICAL RECONSTRUCTION (Nation State Building)

Rural Electrification, Institutional Development

SOCIAL RECONSTRUCTION (Health, Education, and Renewal of a strong civil society)

Electrification via Distribution Systems, New and Rehabilitation Social Safety Net

AEAP Projects

- Thuraya Facilities- provided to MEW and DABM for system control
- MEW advisory, workshops, training
- DABM- Billing and Collections
- DABM- Physical Reconstruction
- Power Sector Model
- Power Sector Database

ECONOMIC RECONSTRUCTION (Physical Infrastructure, Rules & Institutions that enables Economic Growth and a Market Economy)

Transactional Transparency

Information Systems: BASELINE DATA

Corporatization

AEAP Projects

GENERATION
- Darunta Hydro Project
  - Rehab
  - Needs Assessment
- Kajaki Hydro Project
- NW Kabul
  - Unit 3 & 4 Rehabilitation
  - Spare Parts & Consumables
    - CMMS
    - Supply
    - Training
- Kandahar Diesels
  - Equipment Supply
  - Spare Parts & Consumables
  - Training
- Qalat Diesel
  - Equipment Supply
  - Spare Parts & Consumables
  - Training
- Lashkar Gah Diesel
  - Equipment Supply
  - Spare Parts & Consumables
  - Training
- Sheberghan Gas to Power Feasibility Study
- Soviet Diesels Assessment (abandon)

ECONOMIC RECONSTRUCTION (Physical Infrastructure, Rules & Institutions that enables Economic Growth and a Market Economy)

Power Generation Systems

Transmission Systems

TRANSMISSION
- NETS
  - Assessment
  - Program Management
  - Donor / Contractor Coordinat on
- SETS
  - (Kajaki-Kandahar) - System Assessment

Constraints to Achieving Objectives

- Ability to address the root causes of fragility, insecurity and poverty constrained by
  - Physical, political and regulatory infrastructure can't yet support systemic and sustainable economic growth
  - Human capacity limited, government institutions are weak
  - Transactional transparency is foggy, at best
  - Rule of law not proven; civil or commercial

Quantitative Assessment - Objectives

- Evaluate existing operations
- Assess power supply and demand, imports, domestic generation (Electric Energy Balance)
- Assess investment decisions: quantify strategy implementation
  - Donors' investments now; Must set foundation for:
  - Private sector investments later

Quantify Strategy Implementation: 3 Components

- **Software**
  - Economic/Financial Model
- **Database**
  - Baseline Data
- **Communication Process**
  - Known investment programs
  - Needed programs, financing
  - Tariffs, Operations, Corporatization
  - Correlate, cross-reference

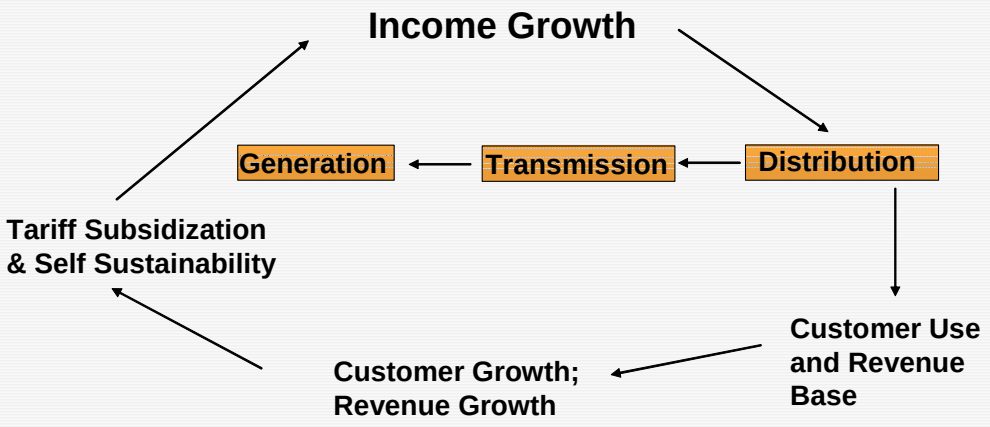
Outcomes: Predict cost recovery, assess sustainability of tariffs, examine subsidies needed, budgeting

Examples of Commercial Models

- Promod - production costing LOLP modeling
- Prosym - integrated utility financial planning
- EGEAS - S & W - Electric Generation Expansion Analysis System
- PTI - Siemens Load Flow Model
- GE - Load Flow Model
- NEMS (National Energy Modeling System) - Sub-modules-ECP-Electricity Capacity Planning, EFP-Electricity Finance & Pricing, EMM-Electric Market Model, LDSM-Load & Demand Side Management Model
- EPRI - Macro and micro models-for system analysis and assessment
- WASP - system planning, least cost planning, dispatching

- All good, but
  - Useful for more mature and stable systems, need full historical database of operating parameters, good for fine-tuning optimizations
  - Not applicable in extreme operating conditions with limited information and considering radically changing elements

AEAI Energy Sector Model Power Sector Business Units



Communication

- Data from DABM, MEW, Central Dispatch, AEAI-run diesels, Management Reports go back
- Current and Future:
  - Capacity transfer to Afghan counterparts
  - Address cost recovery and tariff levels, subsidy reduction
- Donors
  - planned programs
  - Share interim results (i.e. cost of new connections)
  - Identify funding gaps (i.e., distribution => generation)
  - Create reliable, agreed-upon information

Baseline Assumptions Example : Daily Generation Data

Wednesday, January 25, 2006 — *Daily Power Production (MWH)*

	Hours	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24:00	Daily Total
Kabul/East																										
Asadabad	Hydro																									2.2
Darunta	Hydro																									189.4
Kbl-Sorobi	Hydro	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	216.0
Mahipar	Hydro	18.0	18.0	18.0	18.0	18.0	18.0	18.0	16.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	438.0
Naghlu	Hydro	1.0				1.0	3.0				2.0	2.0					27.0	53.0	53.0	53.0	53.0	53.0	53.0	43.0	2.0	398.0
Ghazni	Thermal																									1.1
Khost	Thermal																									1.8
NW Kabul 3	Thermal															20.0	20.0	20.0	20.0	21.0	21.0	21.0				143.0
NW Kabul 4	Thermal	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	21.0	21.0	21.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	525.0
	Hourly Total	50.0	49.0	49.0	49.0	50.0	52.0	49.0	47.0	50.0	52.0	52.0	50.0	49.0	49.0	69.0	97.0	122.0	122.0	123.0	123.0	123.0	102.0	92.0	51.0	1,914.5
North																										
Jabul-se-raj	Hydro																									5.6
Pul-e-Khomri 1	Hydro																									
Pul-e-Khomri 2	Hydro																									80.8
Andkhoy	Import																									48.6
Kunduz	Import																									158.2
Mazar-e-Sharif	Import																									330.0
Sar-e-Pul	Import																									10.4
Sheberghan	Import																									190.7
	Hourly Total																									824.2
South																										
Grishk	Hydro																									33.0
Kajaki 1	Hydro																									
Kajaki 3	Hydro																									
Kandahar	Thermal	7.8	7.6	7.6	7.9	8.1	9.0	10.2	10.3	10.2	10.3	9.9	10.1	7.1	9.4	10.0	9.0	9.4	7.3	7.1	8.0	9.3	9.1	9.2	8.5	212.8
Lashkar-Gah	Thermal																2.1	2.2	2.5	2.3	2.2	2.1	2.1	2.1	2.1	19.7
Paktya	Thermal																									
Qalat	Thermal	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4			0.3			0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.3	6.2
Uruzgan	Thermal																									
	Hourly Total	8.1	8.0	8.0	8.2	8.5	9.3	10.5	10.7	10.2	10.3	10.2	10.1	7.1	9.8	10.3	11.3	11.9	10.2	9.8	10.7	11.8	11.6	11.7	11.0	272.1
West																										
Herat	Import																									480.9
Zaranj	Import																									59.8
	Hourly Total																									540.7
	Daily Grand Total MWH																									**3,551.6**

Note: Blank means no data provided

Daily percentage of MWH based on data provided: **Hydro 38.4 %** **Thermal 25.6 %** **Import 36 %**

Data Analysis

2005 — *Annual Production Report*

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Yearly Total
Kabul/East														
Naghlu	Hydro								0	627	21456	13442	4771	40,296
Mahipar	Hydro								0	0	0	0	7503	7,503
Kbl-Surobi	Hydro								0	648	6678	5812	6501	19,639
Darunta	Hydro													0
Asadabad	Hydro													36
Khost	Thermal													1,770
Ghazni	Thermal													0
NW Kabul 3	Thermal													10,468
NW Kabul 4	Thermal													33,381
Monthly Total														113,094
North														
Pul-e-Khomri 1	Hydro													0
Jabulsarag	Hydro													0
Pul-e-Khomri 2	Hydro													0
Mazar-e-Sharif	Import													23,721
Sar-e-Pul	Import								0	0	1645	787	246	2,678
Kunduz	Import													504
Sheberghan	Import													394
Andkhoy	Import													567
Monthly Total														63
South														
Kajaki 1	Hydro													136
Kajaki 3	Hydro													550
Grishk	Hydro													599
Qalat	Thermal													154
Kandahar	Thermal													557
Lashkar-Gah	Thermal													545
Paktya	Thermal													0
Uruzgan	Thermal													0
Monthly Total									8191	11106	20077	19646	16220	75,241
West														
Zaranj	Import								0	0	48	249	829	1,125
Herat	Import			0	0	0	0	0	0	0	1752	3426	9966	15,145
Monthly Total									0	0	1800	3675	10795	16,270

Note: Blank means no data provided

Yearly Grand Total (MWH) 245,668

Priority #1:

Establish Going-Forward Data Collection Process

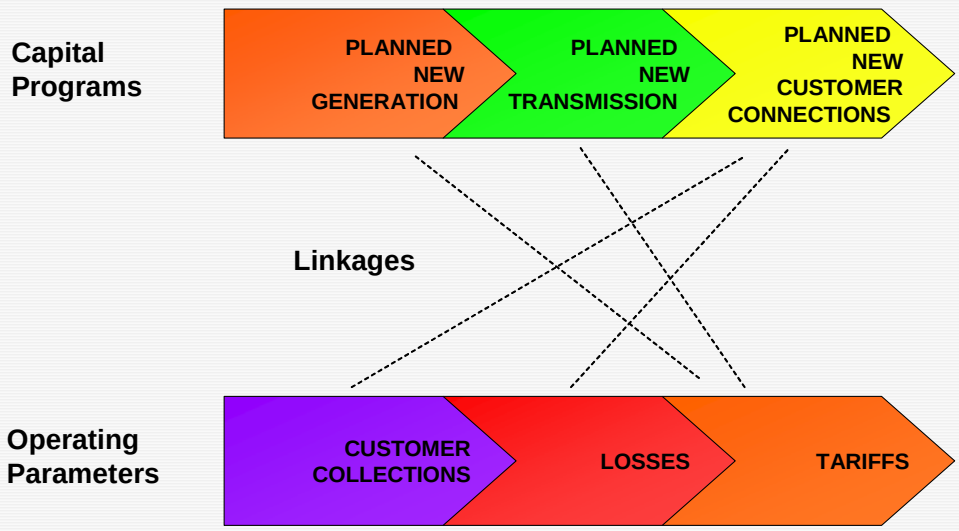
Priority #2:

Back-fill Historical Data

Next: Remote sensing (RFP is done, implementation by next contractor), computerization, internet links will improve data

Page 1 of 2

Capturing Iterative and Interactive Effects



Baseline Data

Baselines	Existing supply and demand, transmission & distribution constraints. Reviewed prior studies and conducted field surveys.
Donors' programs	NETS, SETS, new distribution, Sheberghan, rehab generation
Customer Behavior	Energy usage, collection compliance, metering, commercial losses. Most difficult to get.
Technical improvements	Corporatization, efficiency improvements, new low-cost power supply, loss reduction)

Goes into Quantitative Assessment, subject to continual refinement.

Validated data in hand is useful for initial analysis.

Energy Sector Model Inputs & Outputs

- Inputs:
  - Baseline Data
  - Future (Coordinated View)
    - Customer Additions
    - NETS ($420 million)
    - SETS ($72 million)
    - Domestic Power Plants Rehabilitation
    - Corporatization
- Outputs (Time Determined)
  - Energy Balance
  - Financial Statements
  - Tariffs Needed
  - Subsidies Needed
  - Reserve Margin
  - Cash Position

Existing Customer Database

	Connected Customers EOY 2005		
	Domestic	Commerical	Government
Group1	41883	4362	330
Group2	63500	3316	860
Group3	13616	1770	124
Group4	136254	7032	1278
Group5	7707	1180	209
SETS	44215	9455	268
NETS	262960	17660	2801
Total	307175	27115	3069

Customer Information January 2006 Date 11 Feb 2006

S.no	Province/City	Residential	Commercial	Governmental	Total
1	Badakhshan Faizabad	1,671	1,200	60	2,931
2	Baghlan (Ghoori)	8,859	1,125	231	10,215
3	Balkh (mazar-e-sharif	49,139	3,142	646	52,927
4	Balkh Hayratan	3,202	174	214	3,590
5	chack-e-wardak	1,350			1,350
6	Farah Electricity	90	100	4	194
7	Faryab Electricity	4,237	455	43	4,735
8	Faryab(Andkhoi)	11,133	1,329	180	12,642
9	Ghazni(Electricity)	1,195	208	48	1,451
10	Ghoor Chaghcharan	554			554
11	Helmand Grishk	1,210	200	30	1,440
12	Helmand Lashkargah	23,640	4,410	50	28,100
13	Herat (Electricity)	45,440	1,340	220	47,000
14	Jawzjan Electricity	23,300	1,935	95	25,330
15	Kabul KD	128,872	5,650	1,242	135,764
16	Kabul Sarobi	2,388	200	12	2,600
17	Kandahar Electricity	19,365	4,845	188	24,398
18	Khost Electricity	697	469	19	1,185
19	Kunar Assad Abad	340	60	30	430
20	Kunduz Electricity	13,616	1,770	124	15,510
21	Laghman Metharlam	480			480
22	Nangarhar Eletricity	7,707	1,180	209	9,096
23	Nimroz Zaranj	4,994	1,182	24	6,200
24	Paktya Electricity	710	100	40	850
25	Parwan Electricity	5,053	1,500	430	6,983
26	Sammangan Aibak	2,300		1,120	3,420
27	Sar-e-pul Electricity	3,213	643	12	3,868
28	Takhar Talooqan	20	380		400
29	Zabul Qalat	446			446
30	**Total**	365,221	33,597	5,271	404,089

Customer Usage Profile, Current Snapshot

	avg Watts	Load Factors
Domestic	1,000	40.0%
Commercial	5,000	45.0%
Government	20,000	45.0%

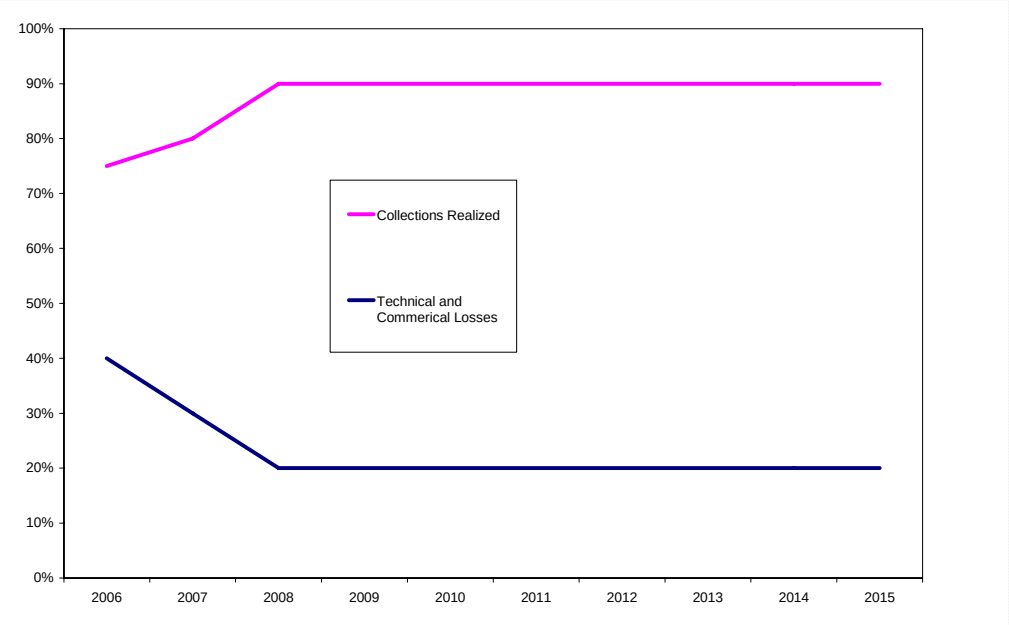
Profile of power usage nationwide

Andkhoy, Maimana, Sheberhgah, Pul-e-Khumri

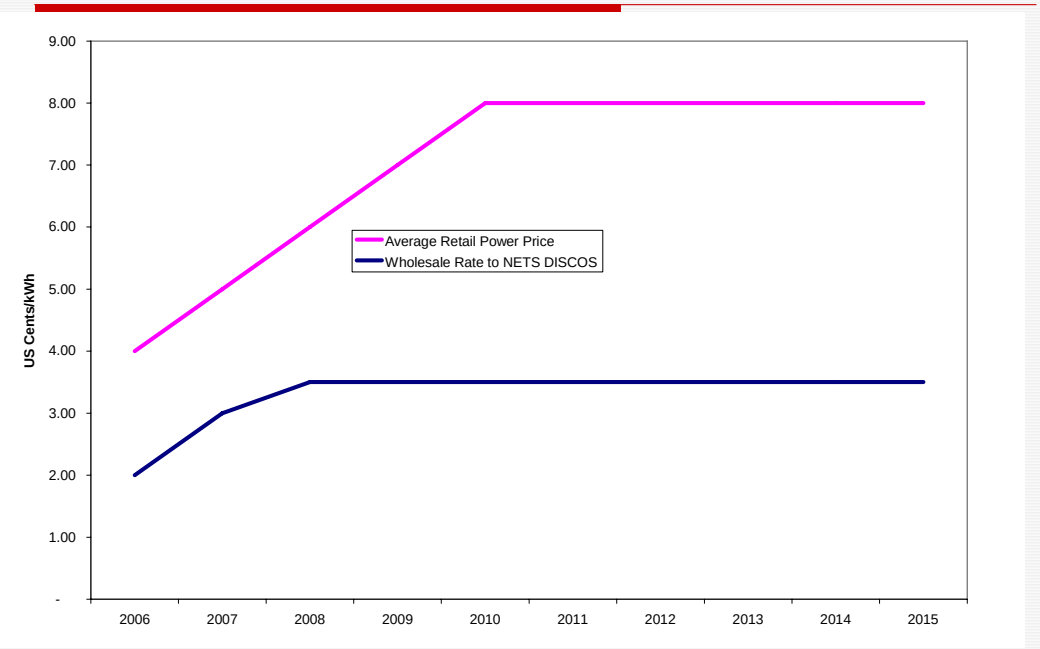
DEMAND								
Group1			Tot. Customers					
	peak Watts		46,575	46,575	46,575	46,575	46,575	46,575
Domestic	1,000		41,883	41,883	41,883	41,883	41,883	41,883
Commercial	5,000		4,362	4,362	4,362	4,362	4,362	4,362
Government	20,000		330	330	330	330	330	330
	Load Factors							
Domestic	40.0%	MWh	12,464	11,258	12,464	12,062	12,464	12,062
Commercial	45.0%	MWh	7,302	6,595	7,302	7,066	7,302	7,066
Government	45.0%	MWh	2 210	1 996	2 210	2 138	2 210	2 138
		MWh	21,976	19,849	21,976	21,267	21,976	21,267
Import Supply available		MWh	3,080	2,782	3,080	2,981	3,080	2,981

AEAI's statistics were cross-referenced against data from DABM, World Bank, SMEC, Norconsult, and PISU

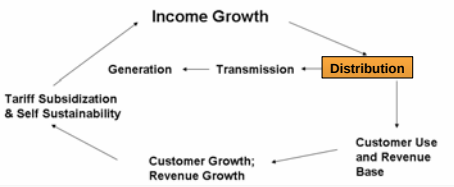
NETS Losses and Collections – A Scenario



NETS Tariffs Transmission & Distribution



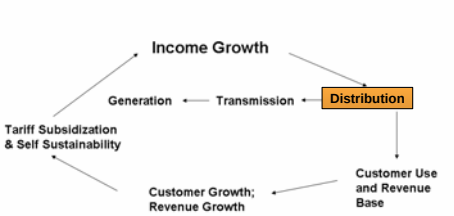
Distribution Company Sample Run



INCOME STATEMENT DISCO	NETS	Year	2006	2007	2008	2009	2010	2011	2012
REVENUE! Elect. Energy Sales		$000	14,881	25,260	60,196	162,242	222,504	244,754	269,230
EXPENSES:									
Interest expense	4%	$000	-	-	1,200	2,800	4,800	6,800	8,800
Power acquisition from TRANSCO		$000	16,534	27,065	48,770	112,668	135,202	148,722	163,594
Distribution Capital Recovery		$000	1,842	3,684	5,895	8,548	11,731	13,641	15,742
Payroll	10.0% of revenue	$000	1,488	2,526	6,020	16,224	22,250	24,475	26,923
Training	1.0% of revenue	$000	149	253	602	1,622	2,225	2,448	2,692
Material (Inventory)	2.0% of revenue	$000	298	505	1,204	3,245	4,450	4,895	5,385
Routine Maintenance	5.0% of revenue	$000	744	1,263	3,010	8,112	11,125	12,238	13,461
Other Expense	1.0% of revenue	$000	149	253	602	1,622	2,225	2,448	2,692
Social Charges	5.0% of payroll	$000	74	126	301	811	1,113	1,224	1,346
Total Expenses		$000	21,279	35,675	66,403	152,854	190,322	210,091	231,837
Operating Profit		$000	(6,397)	(10,415)	(6,207)	9,389	32,182	34,664	37,393

Financial statements could be done for regional discos, cooperatives, non-contiguous discos, i.e., this is one possible organization, not a recommendation.

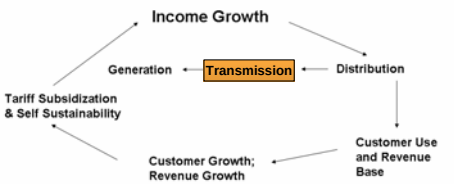
Distribution Company Sample Run



CASH FLOW DISCO	NETS	Year	2006	2007	2008	2009	2010	2011	2012
Net Income		$000	(6,397)	(10,415)	(6,207)	9,389	32,182	34,664	37,393
Depreciation			1,842	3,684	5,895	8,548	11,731	13,641	15,742
CapX annual			73,689	73,689	88,427	106,113	127,335	76,401	84,041
Grant/GoA Transfer		0	50,000	40,000	45,000	45,000	30,000	-	-
Debt			30,000	40,000	50,000	50,000	50,000	30,000	30,000
Cash Flow			1,755	(420)	6,261	6,824	(3,422)	1,904	(906)
BALANCE SHEET									
Cash		0	1,755	1,336	7,596	14,420	10,998	12,902	11,996
Assets		0	71,847	141,852	224,384	321,949	437,553	500,313	568,612
Total Assets		0	73,603	143,188	231,981	336,370	448,552	513,215	580,608
Debt		0	30,000	70,000	120,000	170,000	220,000	250,000	280,000
Equity		0	43,603	73,188	111,981	166,370	228,552	263,215	300,608
Total Liabilities and Owners' Equity		0	73,603	143,188	231,981	336,370	448,552	513,215	580,608

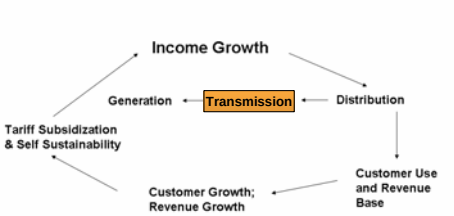
Balance sheet tells what you created and how it was financed.

NETS Transmission Company Sample Run



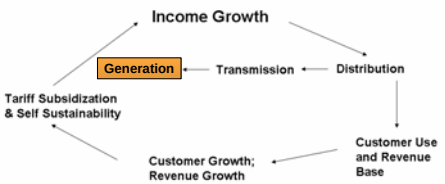
INCOME STATEMENT	NETS	Year	2006	2007	2008	2009	2010	2011	2012
REVENUES:									
Sales of energy to Discos		$000	16,534	27,065	48,770	112,668	135,202	148,722	163,594
EXPENSES:									
Total Power Purchases		$000	60,457	86,240	84,387	84,045	92,634	101,905	112,103
Expenses other than Power Purchase:									
Interest expense	4%	0	-	5,600	11,200	16,800	16,000	15,200	14,400
Depreciation expense - 40 years		$000	-	3,500	7,000	10,500	10,500	10,500	10,500
Transmission operating expenses		$000	2,235	2,603	3,763	7,414	9,493	10,265	11,115
Payroll	1.0% of revenue	$000	165	271	488	1,127	1,352	1,487	1,636
Training	1.0% of revenue	$000	165	271	488	1,127	1,352	1,487	1,636
Material (Invent	2.0% of revenue	$000	331	541	975	2,253	2,704	2,974	3,272
Routine Mainte	1.0% of Cap Inst	$000	1,400	2,800	4,200	4,200	4,200	4,200	4,200
Other Expense	1.0% of revenue	$000	165	271	488	1,127	1,352	1,487	1,636
Social Charges	10.0% of payroll	$000	17	27	49	113	135	149	164
Total Expenses other than Power Purchase:			4,478	10,284	17,450	27,860	31,088	32,550	34,158
TOTAL EXPENSES		$000	64,936	96,524	101,838	111,905	123,722	134,455	146,261
NET OPERATING PROFIT		$000	(48,401)	(69,459)	(53,068)	763	11,480	14,268	17,333

NETS Transmission Company Sample Run



CASH FLOW	Year	2006	2007	2008	2009	2010	2011	2012
Net Income		(48,401)	(69,459)	(53,068)	763	11,480	14,268	17,333
Adjustments to net Income								
Depreciation		-	3,500	7,000	10,500	10,500	10,500	10,500
Capx		(140,000)	(140,000)	(140,000)	-	-	-	-
Grant/GoA Transfer		50,000	70,000	50,000		-	-	-
Debt		140,000	140,000	140,000	-20,000	-20,000	-20,000	-30,000
Cash Flow		1,599	4,041	3,932	(8,737)	1,980	4,768	(2,167)
BALANCE SHEET								
Cash	0	1,599	5,639	9,571	834	2,815	7,582	5,416
Assets	0	140,000	276,500	409,500	399,000	388,500	378,000	367,500
Total Assets	0	141,599	282,139	419,071	399,834	391,315	385,582	372,916
Debt	0	140,000	280,000	420,000	400,000	380,000	360,000	330,000
Equity	0	1,599	2,139	(929)	(166)	11,315	25,582	42,916
Total Liabilities and Owners' Equity	0	141,599	282,139	419,071	399,834	391,315	385,582	372,916

Existing Generation Capacity, NETS



		Year	2006					
		Month	1	2	3	4	5	6
POWER SUPPLY - INSTALLED CAPACITY			MW	MW	MW	MW	MW	MW
		Status						
Turkmenistan 110kV	NTS1	existing	30	30	30	30	30	30
Uzbekistan 110kV	NTS2	existing	30	30	30	30	30	30
Tajikistan 110 kV	NTS3	existing	10	10	10	10	10	10
Turkmenistan 220kV	NTS	planned	-	-	-	-	-	-
Uzbekistan 220kV	NTS	planned	-	-	-	-	-	-
Tajikistan 220 kV	NTS	planned	-	-	-	-	-	-
Sheberghan	NTS	planned	-	-	-	-	-	-
Mahipar	NTS4	in rehab	18	18	18	18	44	44
Naghlu	NTS4	in rehab	75	75	75	75	75	75
Sorobi	NTS4	in rehab	9	9	9	9	9	9
NW Kabul	NTS4	existing	44	44	44	44	44	44
Kabul Small Diesels	NTS4		0	0	0	0	0	0
Darunta	NTS5	in rehab	10	10	10	8	8	8
Kajaki	STS	in rehab	16	16	16	16	16	16
Kandahar Small Dies	STS	existing	17	17	17	17	17	17
Kajaki II	STS	planned	-	-	-	-	-	-
Total Capacity			259	259	259	257	283	283

Monthly Projections for 120 months, to year 2015

Operating Assumptions: NETS Region Existing Generation

Line, Substation Constraints

Hydrology Expectation

POWER SUPPLY - AVAILIBILITY:	Year	2006											
Technical, Fuel, Water, Commerical	Month	1	2	3	4	5	6	7	8	9	10	11	12
Turkmenistan 110kV		25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Uzbekistan 110kV		60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
Tajikistan 110 kV		50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Turkmenistan 220kV		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Uzbekistan 220kV		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tajikistan 220 kV		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Sheberghan		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mahipar		70%	70%	70%	70%	33%	0%	0%	0%	0%	33%	33%	70%
Naghlu		30%	30%	30%	30%	30%	50%	50%	50%	30%	30%	30%	30%
Sorobi		95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
NW Kabul		60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
Kabul Small Diesels		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Darunta		82%	71%	95%	95%	95%	95%	95%	82%	71%	71%	82%	82%
Kajaki		95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
Kandahar Small Diesel		60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%

Cross-referenced against daily data received from DABM

Result: How much energy is deliverable

NETS Tariffs - Generation

		Year	2006	2007	2008	2009	2010	2011	2012
TARIFFS									
		Annual Tariff Incı	0%	0%	0%	0%	0%	0%	0%
Turkmenistan 110kV	US Cents/kWh		2.00	2.00	2.00	2.00	2.00	2.00	2.00
Uzbekistan 110kV	US Cents/kWh		2.60	2.60	2.60	2.60	2.60	2.60	2.60
Tajikistan 110 kV	US Cents/kWh		2.00	2.00	2.00	2.00	2.00	2.00	2.00
Turkmenistan 220kV	US Cents/kWh				2.00	2.00	2.00	2.00	2.00
Uzbekistan 220kV	US Cents/kWh				2.60	2.60	2.60	2.60	2.60
Tajikistan 220 kV	US Cents/kWh				2.00	2.00	2.00	2.00	2.00
Sheberghan	US Cents/kWh				3.00	3.00	3.00	3.00	3.00
Mahipar	US Cents/kWh		2.30	2.30	2.30	2.30	2.30	2.30	2.30
Naghlu	US Cents/kWh		2.30	2.30	2.30	2.30	2.30	2.30	2.30
Sorobi	US Cents/kWh		2.30	2.30	2.30	2.30	2.30	2.30	2.30
NW Kabul	US Cents/kWh		30.00	30.00	30.00	30.00	30.00	30.00	30.00
Kabul Small Diesels (If any)	US Cents/kWh		20.00	20.00	20.00	20.00	20.00	20.00	20.00
Darunta	US Cents/kWh		2.30	2.30	2.30	2.30	2.30	2.30	2.30
Kajaki	US Cents/kWh		2.30	2.30	2.30	2.30	2.30	2.30	2.30
Kandahar Small Diesel	US Cents/kWh		20.00	20.00	20.00	20.00	20.00	20.00	20.00
Kajaki II	US Cents/kWh						3.00	3.00	3.00

New Generation and New Transmission, NETS

2008	Month	1	2	3	4	5	6	7	8	9	10	11	12
	POWER SUPPLY	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW
	Turkmenistan 220kV	-	-	-	-	-	-	-	-	-	-	-	-
	Uzbekistan 220kV	-	-	-	-	-	-	-	-	-	300	300	300
	Tajikistan 220 kV	-	-	-	-	-	-	-	-	-	-	-	-
	Sheberghan	-	-	-	-	-	-	-	-	-	100	100	100

2009	Month	1	2	3	4	5	6	7	8	9	10	11	12
	POWER SUPPLY	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW
	Turkmenistan 220kV	-	-	-	-	-	-	-	-	-	-	-	-
	Uzbekistan 220kV	300	300	300	300	300	300	300	300	300	300	300	300
	Tajikistan 220 kV	-	-	-	-	-	300	300	300	300	300	300	300
	Sheberghan	100	100	100	100	100	100	100	100	100	100	100	100

2010	Month	1	2	3	4	5	6	7	8	9	10	11	12
	POWER SUPPLY	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW
	Turkmenistan 220kV	300	300	300	300	300	300	300	300	300	300	300	300
	Uzbekistan 220kV	300	300	300	300	300	300	300	300	300	300	300	300
	Tajikistan 220 kV	300	300	300	300	300	300	300	300	300	300	300	300
	Sheberghan	100	100	100	100	100	100	100	100	100	100	100	100

Current best estimate, not a confirmed consensus

Apportioning Supply to Demand Pre-NETS

Group1		Year	2006					
			1	2	3	4	5	6
NET ENERGY AVAILABLE			31	28	31	30	31	30
			Winter	Winter	Winter	Summer	Summer	Summer
Distribution Technical Losses			40%	40%	40%	40%	40%	40%
Turkmenistan 110kV		MWh	5,134	4,637	5,134	4,968	5,134	4,968
Total Supply Group1			5,134	4,637	5,134	4,968	5,134	4,968
Total Supply after Distribution Losses			3,080	2,782	3,080	2,981	3,080	2,981
DEMAND								
Group1		Tot. Customers						
	peak Watts		46,575	46,575	46,575	46,575	46,575	46,575
Domestic	1,000		41,883	41,883	41,883	41,883	41,883	41,883
Commercial	5,000		4,362	4,362	4,362	4,362	4,362	4,362
Government	20,000		330	330	330	330	330	330
	Load Factors							
Domestic	40.0%	MWh	12,464	11,258	12,464	12,062	12,464	12,062
Commercial	[illegible]	MWh	7,302	6,595	7,302	7,066	7,302	7,066
Government	45.0	MWh	2,210	1,996	2,210	2,138	2,210	2,138
		Wh	21,976	19,849	21,976	21,267	21,976	21,267
Import Supply available		MWh	3,080	2,782	3,080	2,981	3,080	2,981
Total Consumption			3,080	2,782	3,080	2,981	3,080	2,981
Total Supply Applied to Consmption			3,080	2,782	3,080	2,981	3,080	2,981

Energy Flows After NETS is Completed

North of Salang		
Supply (bef Dist losses)		
Turkmenistan 110kV		
Uzbekistan 110kV		
Tajikistan 110 kV		
Turkmenistan 220kV		
Uzbekistan 220kV		
Tajikistan 220 kV		
Sheberghan		
Total Supply North of Salang		
220 Imports & Sheberghan		
220/Sheb supply after dist. Losses		
DEMAND	GROUP1 + GROUP2 + GROUP3	
North of Salang		
Domestic	1,000	
Commercial	5,000	
Government	20,000	
	Load Factors	
Domestic	40.0%	MWh
Commercial	45.0%	MWh
Government	45.0%	MWh
	Demand	MWh
220 Used North of Salang aft dist los		MWh
Remaining 220/Sheb BEFORE dist. L		MWh
Remaining 220/Sheb AFTER dist. Los		MWh
Limit of Salang Pass Line	575	MWh
Available to send over Salang BEFORE DIST L		

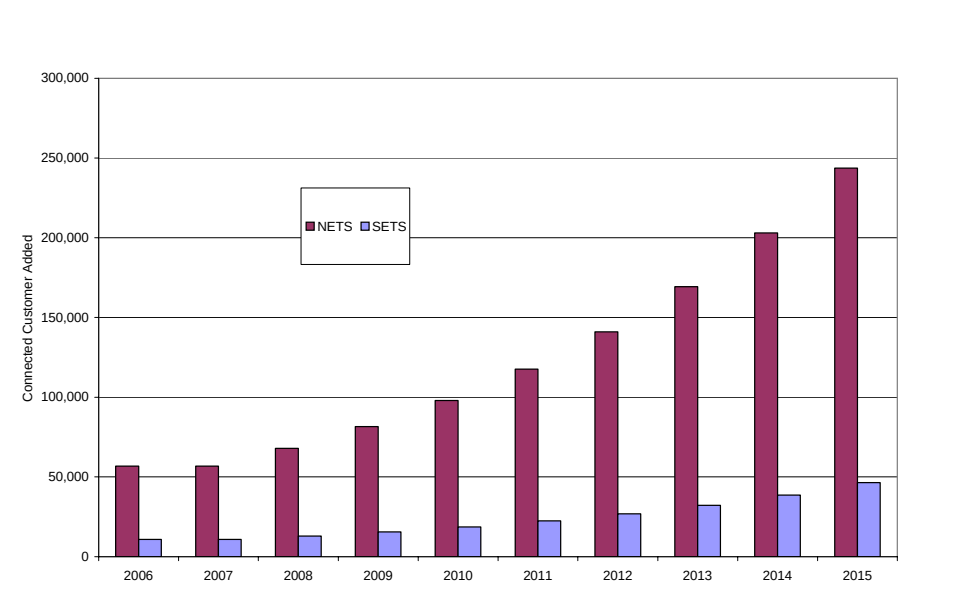
Calculation of Serving Kabul		
Available from North of Salang AFT dist losses		
Mahipar	after.dist. Losses	MWh
Naghlu	after.dist. Losses	MWh
Sorobi	after.dist. Losses	MWh
Darunta	after.dist. Losses	MWh
NW Kabul	after.dist. Losses	MWh
Kabul Small Die	after.dist. Losses	MWh
KABUL		Year
Kabul Area Total Supply after dist losses		
Hydro Only Supp	after.dist. Losses	
DEMAND	Tot. Customers	
Group4+Group5	peak Watts	
Domestic	1,000	
Commercial	5,000	
Government	20,000	
	Load Factors	
Domestic	40.0%	MWh
Commercial	45.0%	MWh
Government	45.0%	MWh
	Demand	MWh
Hydro Supply Available for in Kabul		
Remaining demand after hydro all used up		
Supply Procured from NTS Salang		

220 Supply used in the North Before dist. Losse
Supply Procured from NTS - Salang bef dist los
Total 220 + Sheberghan bef dist losses
Remaining demand in Kabul after N. Salang
Thermal Supply applied to remaining demand
Dispatching level hydro
Dispatching level Thermal
Dispatching level 220 Imports & Sheb - Kabul

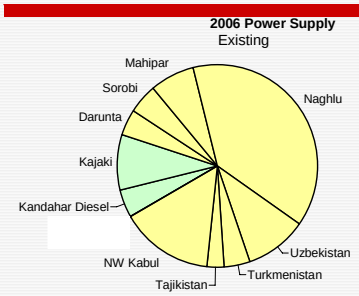
Assumes:

1) Use Hydro in Kabul
2) Use Low-Cost Imports
3) Use NW Kabul as a last resort

Customer Additions "Snapshot": Financed by Donors, GoA Transfers, and Internally Generated Funds

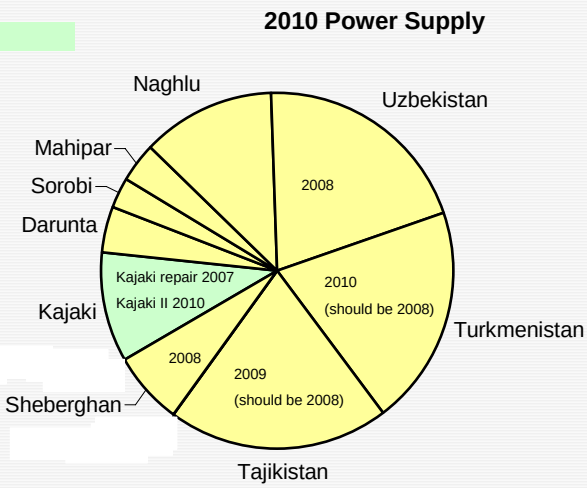


New Sources of Low-Cost Power Supply



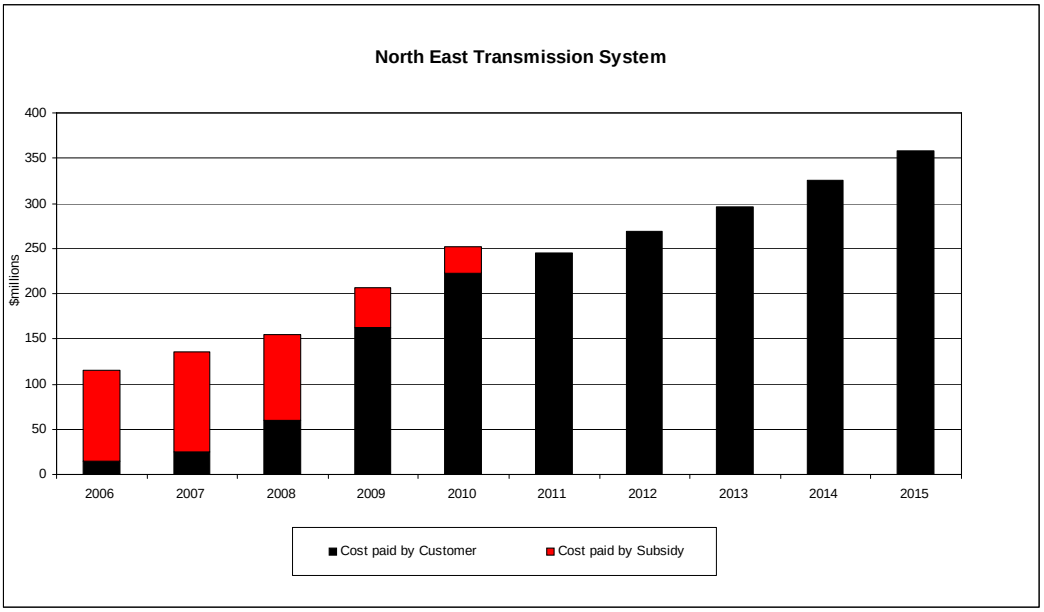
NETS

SETS

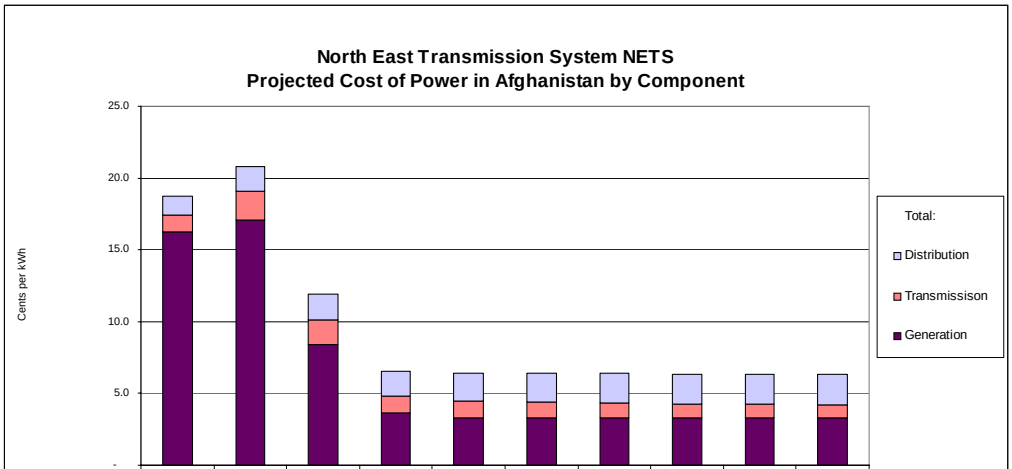


		2,006	2,010
Kandahar Diesel	MWH	89,352	89,352
Kajaki	MWH	216,810	840,522
Darunta	MWH	72,372	103,958
Sorobi	MWH	39,864	68,167
Mahipar	MWH	47,520	90,288
Naghlu	MWH	306,960	306,960
Uzbekistan	MWH	157,680	1,046,553
Turkmenistan	MWH	65,700	1,046,553
Tajikistan	MWH	43,800	1,046,553
NW Kabul	MWH	144,778	-
Sheberghan	MWH	-	348,851
Total		1,184,836	4,638,907

One Snapshot of Cost Recovery: NETS Including Distribution

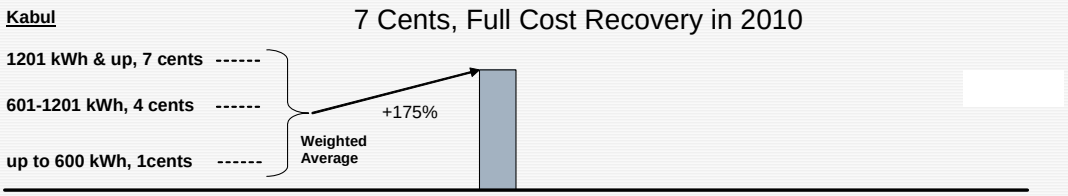


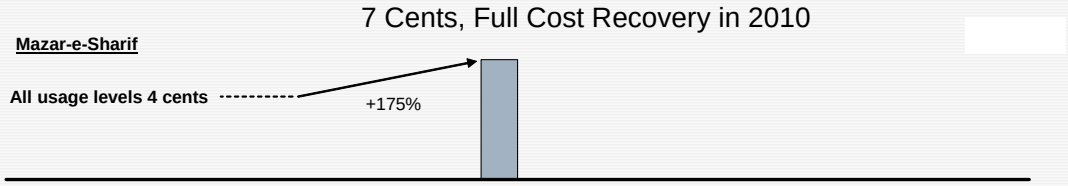
Components of Power Cost - NETS



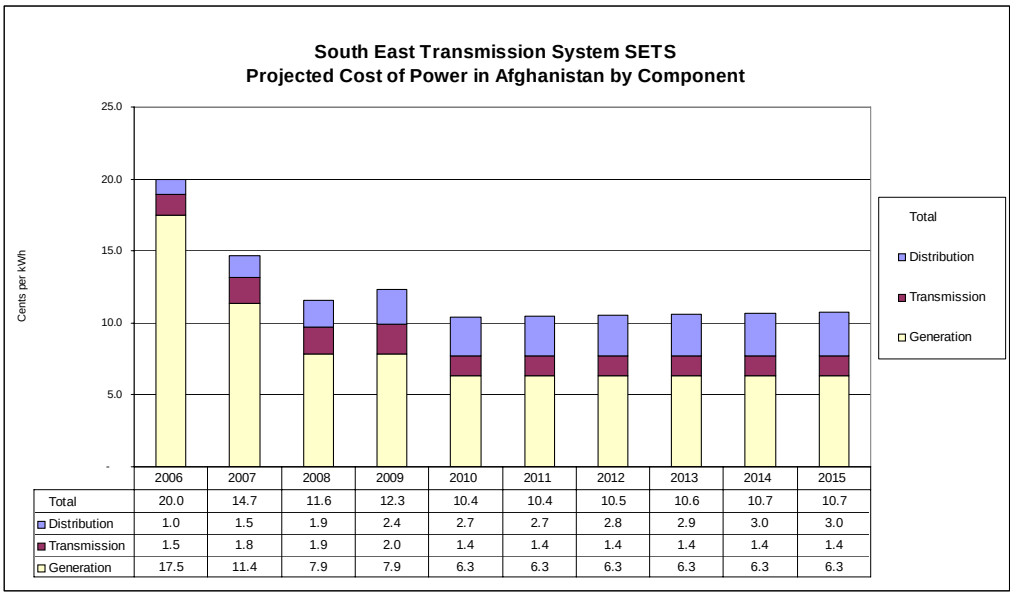
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total:	18.7	20.8	11.9	6.6	6.4	6.4	6.4	6.3	6.3	6.3
Distribution	1.3	1.7	1.8	1.7	2.0	2.0	2.0	2.0	2.1	2.1
Transmissison	1.2	2.0	1.7	1.2	1.1	1.1	1.0	1.0	0.9	0.9
Generation	16.3	17.1	8.4	3.6	3.3	3.3	3.3	3.3	3.3	3.3

NETS Tariff Requirements





Components of Power Cost - SETS



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total	20.0	14.7	11.6	12.3	10.4	10.4	10.5	10.6	10.7	10.7
Distribution	1.0	1.5	1.9	2.4	2.7	2.7	2.8	2.9	3.0	3.0
Transmission	1.5	1.8	1.9	2.0	1.4	1.4	1.4	1.4	1.4	1.4
Generation	17.5	11.4	7.9	7.9	6.3	6.3	6.3	6.3	6.3	6.3

Customer Growth Impacts Cost, Reserve Margin

----------2015 Results----------

-----Varying Growth Rates 2006-2015 -----

Annual Rate of Customer Growth	2015 Cost per kWh		Dispatching		Surplus / Shortfall	
	NETS	SETS	NW Kabul	Kand Diesel	NETS	SETS
0.0%	6.54	9.22	0%	0%	417%	144%
2.0%	6.51	8.99	0%	0%	354%	114%
4.0%	6.47	8.80	0%	0%	300%	89%
6.0%	6.44	8.63	0%	0%	253%	67%
8.0%	6.42	8.48	0%	0%	212%	47%
10.0%	6.41	9.83	0%	57%	177%	30%
12.0%	6.40	10.38	0%	100%	145%	16%
14.0%	6.37	10.46	0%	100%	118%	3%
16.0%	6.35	10.54	0%	100%	94%	-8%
18.0%	6.33	10.64	0%	100%	73%	-18%
20.0%	6.31	10.74	0%	100%	55%	-27%
22.0%	6.29	10.85	0%	100%	38%	-35%
24.0%	6.27	10.98	0%	100%	24%	-41%
26.0%	6.33	11.12	30%	100%	11%	-48%
28.0%	6.90	11.27	100%	100%	0%	-53%
30.0%	6.98	11.43	100%	100%	-10%	-58%

"Snapshot" Quantitative Assessment of Current Strategy Implementation

	2006	2010	Net Gain
Power Produced (MWH)	1.2 million	4.6 million	+392%
Electric Power Customers	337,359 (3.4 Million People)	699,548 (7.0 Million People)	+100%
Predicted GDP ($billions)	$3.9 billion	$15.5 billion	+392%
GDP per Capita	$252 per person (based on $5.8 billion GDP and 23 million population	$988 per capita (range of Cote d'Ivorie, Yemen, Paraguay)	+392%
Subsidy ($millions)	$100 million grant $140 million soft loan	$25 million	N.A.
Cost of Service (cents/kWh)	19.0	7.1	62% reduction
Residential Power Price (cents/kWh)	4.0	7.1	175% Increase

Conclusion

- Policy issues can be quantitatively framed
- Questions that the model may be used to answer
  - **Social** (Afghan Compact): By 2010, can we achieve:
    - Electrification rates
      - 65% of urban households
      - 90% of urban nonresidential
      - 25% of rural households
    - Limit cost subsidy to 25%
  - **Operational:** When can subsidies be phased out? What tariff levels are needed? What levels of collections are needed?
  - **Financing:** What outside financing is needed, or, alternatively, what are the results of known financing programs? What are the national budget implications?
- Next Steps: USAID planning, Donor coordination, capacity building, MEW planning, Closeout/Transfer

ATTCHMENT 5
Data Book Information List

1. POWER PLANTS BOOK

1.1. Power Plant Combine Reports
- ✓ Power Plant General Information
- ✓ Monthly production Report

1.2. Hydro

1.2.1. Generation Data Maps Hydrology
- ✓ Power Generation Plants File 001, Revision 1C2 Kabul
- ✓ Summary for Kabul hydro supply[1]
- ✓ USGS_FEWS_Snow_water_ests_ 050302

1.2.2. Kajaki
- ✓ Kajaki Daily Report Power House
- ✓ Power Sector DATA-DHMC-Kajaki

1.2.3. Kandahar
- ✓ Copy of Generation D _ L of Kandahar Factory
- ✓ KANDAHAR GRID ENERGY INFO
- ✓ Power Generation
- ✓ Dispatch Reports
- ✓ Unit dispatch chart
- ✓ Kandahar Generation Capacity

1.2.4. Naghlu
- ✓ Power Sector V4 Frank Jan 17
- ✓ Power Sector DATA-DHMC-Naghlu
- ✓ Summary for Naghlu hydro supply[1]

1.2.5. Darunta
- ✓ Power Sector DATA-DHMC-Darunta
- ✓ Powersector-DATA-DHMc-Darunta-12-27-2005

1.2.6. Sarobi
- ✓ Power Sector V4 Frank Jan 17
- ✓ Power Sector DATA-DHMC-Sarobi
- ✓ Summary for Sarobi hydro supply[1]

1.2.7. Mahipar
- ✓ Power Sector V4 Frank Jan 17
- ✓ Summary for Mahipar hydro supply[1]
- ✓ Power Sector DATA-DHMC-Mahipar

1.2.8. Renewable / Small
- ✓ IOM Micro-Hydro Power and Elec. [1]. Dist.
- ✓ List of IOM-ATI micro hydro plants

1.2.9. Dispatch Report
- ✓ Dispatch Reports
- ✓ nit dispatch chart

1.3. Thermal

1.3.1. NW Kabul

- ✓ Load Factor in Power Plants (Mengel 18.Dec.05)
- ✓ GENERATION PLANTS DEC 17,05
- ✓ NWKabul_Fuel_Report_010506

1.3.2. Kandahar

- ✓ KANDAHAR DIESEL AND Hydro POWER PRODUCTION
- ✓ Load Factor in Power Plants (Mengel 18.Dec.05)
- ✓ GENERATION PLANTS DEC 17,05
- ✓ Kand_Fuel_Report_010506-1

1.3.3. Qalat

- ✓ Load Factor in Power Plants (Mengel 18.Dec.05)
- ✓ Qalat_Fuel_Report_010506
- ✓ GENERATION PLANTS DEC 17,05

1.3.4. Lashkargah

- ✓ Lash Fuel Report 010506-1
- ✓ GENERATION PLANTS DEC 17,05
- ✓ Load Factor in Power Plants (Mengel 18.Dec.05)

1.3.5. Little ones

- ✓ GENERATION PLANTS DEC 17,05
- ✓ Load Factor in Power Plants (Mengel 18.Dec.05)

`

2. REGULATION / INSTITUTIONAL BOOK

2.1. Power Prices / Tariffs

- ✓ Frank 17.1.06

2.2. Collections

2.3. Institutional

- ✓ Copy of Organizational Chart of KED and DABM (version 1)
- ✓ DABM org chart
- ✓ RevenueandExpendatureDABM-13_4_05

2.4. Meeting Minutes

- ✓ MEETING NOTES Dec 11, 05
- ✓ Power Sector Modeling meeting notes Jan.14.06

2.5. Definitions

2.6. Energy Information

- ✓ Genco Revised Report (Jan 17, 2006) Frank
- ✓ GENERATION PLANTS DEC 17,05

3. DONOR ACITVITY BOOK

3.1. World Bank

- ✓ PFM_Power_Sector_Sep_17
- ✓ Securing Afghanistan's Future

3.2. ADB

- ✓ Concept Paper

3.3. USAID

3.4. Donor Project budget

- ✓ Project Donation

4. FUEL BOOK

4.1. Usage

4.2. Supplies Statistics (information on Companies)

- ✓ AEAI Lashkargah Daily Report Dec 05(1)
- ✓ Daily Log Sheet
- ✓ Kandahar Fuel Report Summary – 111905
- ✓ Lashkargah Fuel Report Summary – 111905
- ✓ NW Kabul Fuel Report Summary – 111905
- ✓ NW Kabul Fuel Report Summary for Dec,02,2005
- ✓ Qalat Fuel Report Summary – 111905

5. TRANSMISSION BOOK

5.1. NETs

- ✓ NTSSLD1
- ✓ NTSSummary2
- ✓ cost estimates
- ✓ Cap Expenditure NTS&STS

5.2. SETs

- ✓ ESTIMATE OF INVESTMENTS
- ✓ DWG, 1(Southern Transmission System)
- ✓ DWG, 2(Southern Transmission System)
- ✓ DWG, 3(Southern Transmission System)
- ✓ DWG, 4(Southern Transmission System)

5.3. Power Supply

- ✓ Assumptions
- ✓ Mr. Nawandish Opinions 26.1.06

6. DISTRIBUTION BOOK

6.1. Customers / Connection

- ✓ Kabul Billing Info - Jan 24, 06 (Janet Kaufmann) AEAI
- ✓ Comparative Analysis Dec 12, 05
- ✓ Estimated population of Afghanistan 2005 06
- ✓ growth additions
- ✓ Households Kabul

6.2. Customers Usage

- ✓ NCB_Final_1
- ✓ QS_Clctv_Rpt1

6.3. Demand

6.3.1. Afghanistan

- ✓ Afghanistan Electricity Demand Forecast

- ✓ Hydro Generation Afghanistan-R-DHMc
- ✓ Potential Projects9-Conference
- ✓ Power Generation Afghanistan-R-DHMc

6.4. Benchmarking Data

- ✓ IOU_ratio_comparisons_report
- ✓ DISCO REPORT WO PICS

6.5. Donor's Funding

- ✓ Proposed Provincial Afghanistan Electrical Distribution Rehab May 16,JAW (2)

6.6. Financial Information

- ✓ DABP-Exp. 1381 thru 1383

6.7. Distribution losses

- ✓ Assumptions

7. POWER PLANNING & MODELING BOOK

7.1. Latest version

- ✓ powersectorV6
- ✓ powersectorV6-1
- ✓ powersectorV6(2)
- ✓ powersectorV6(2) with comments
- ✓ powersectorV7

7.2. Previous Versions

- ✓ Power Sector V3
- ✓ powersectorV4

7.3. Conversion Factors

- ✓ Conversion Factors and Fuel Requirements

7.4. Power Sector Model Flow Chart

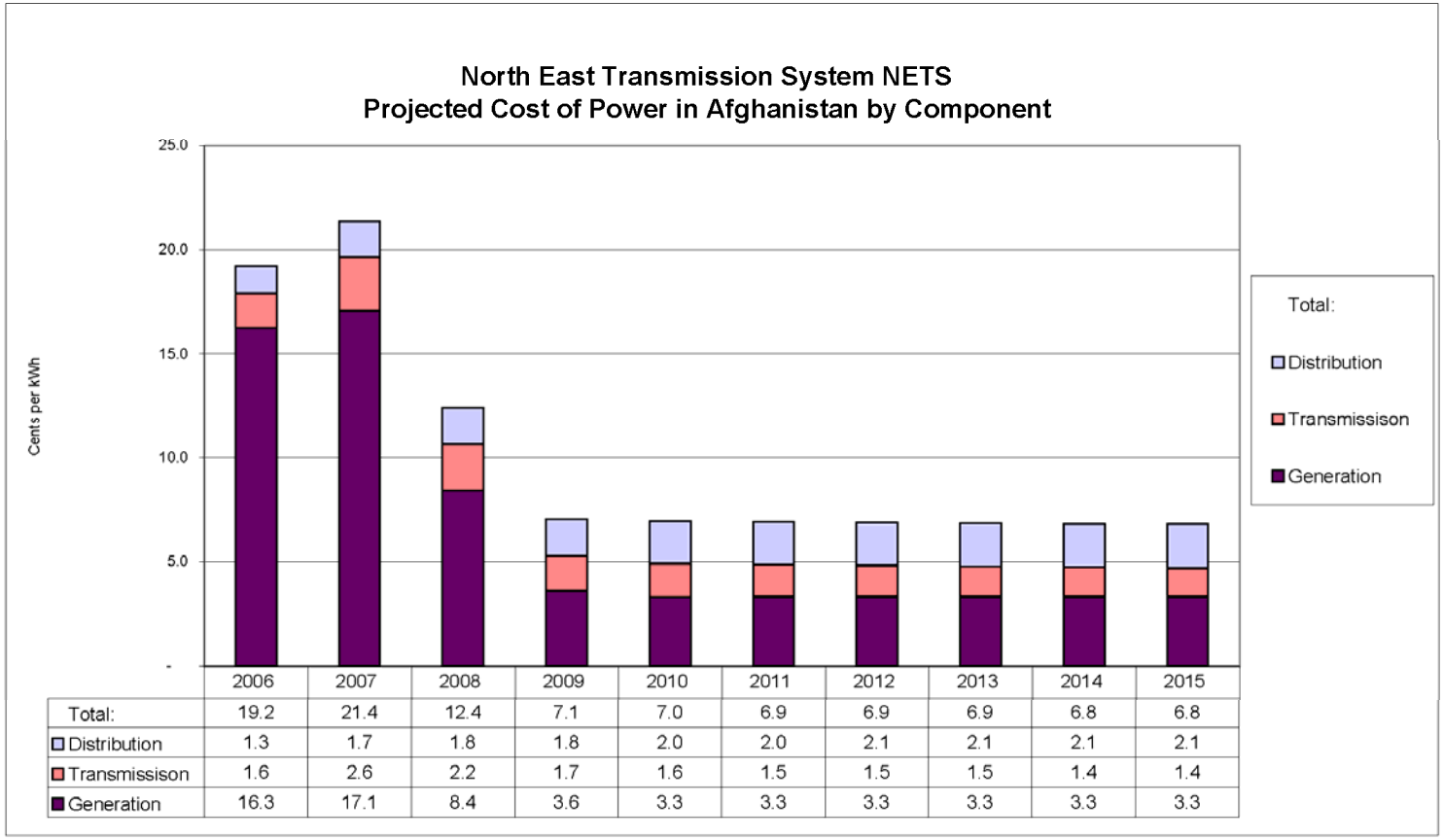
- ✓ Power Sector Model Flow Chart
- ✓ Power Sector Modeling V2

ATTACHMENT 6
Model Sample Output

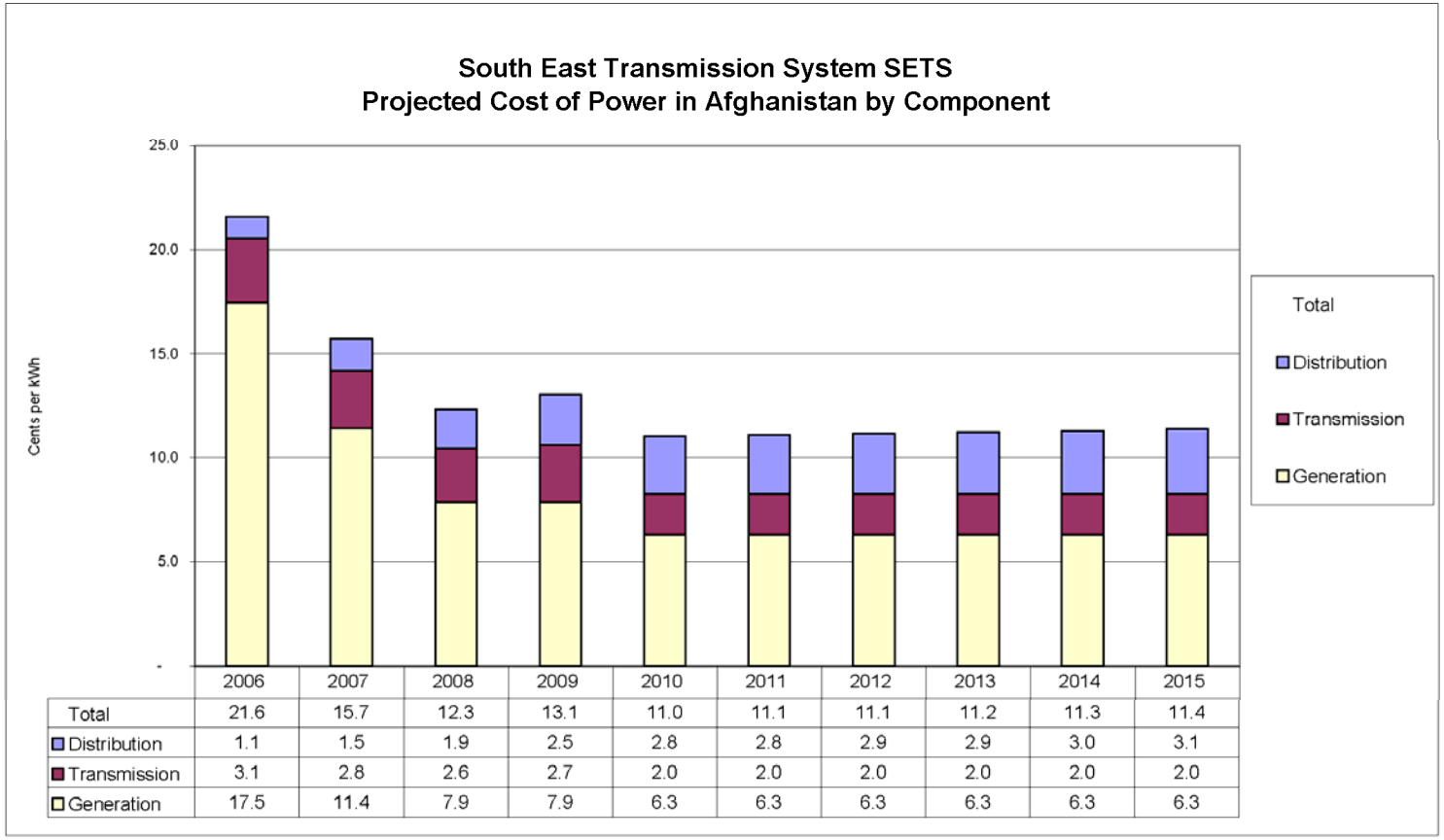
	Connected Customers EOY 2005		
	Domestic	Commerical	Government
Sheberghan	41883	4362	330
Balkh	63500	3316	860
Kunduz	13616	1770	124
Kabul	136254	7032	1278
Jalalabd	7707	1180	209
SEPS	44215	9455	268
NEPS	262960	17660	2801
Total	307175	27115	3069

Customer Information Date 11 Feb 2006

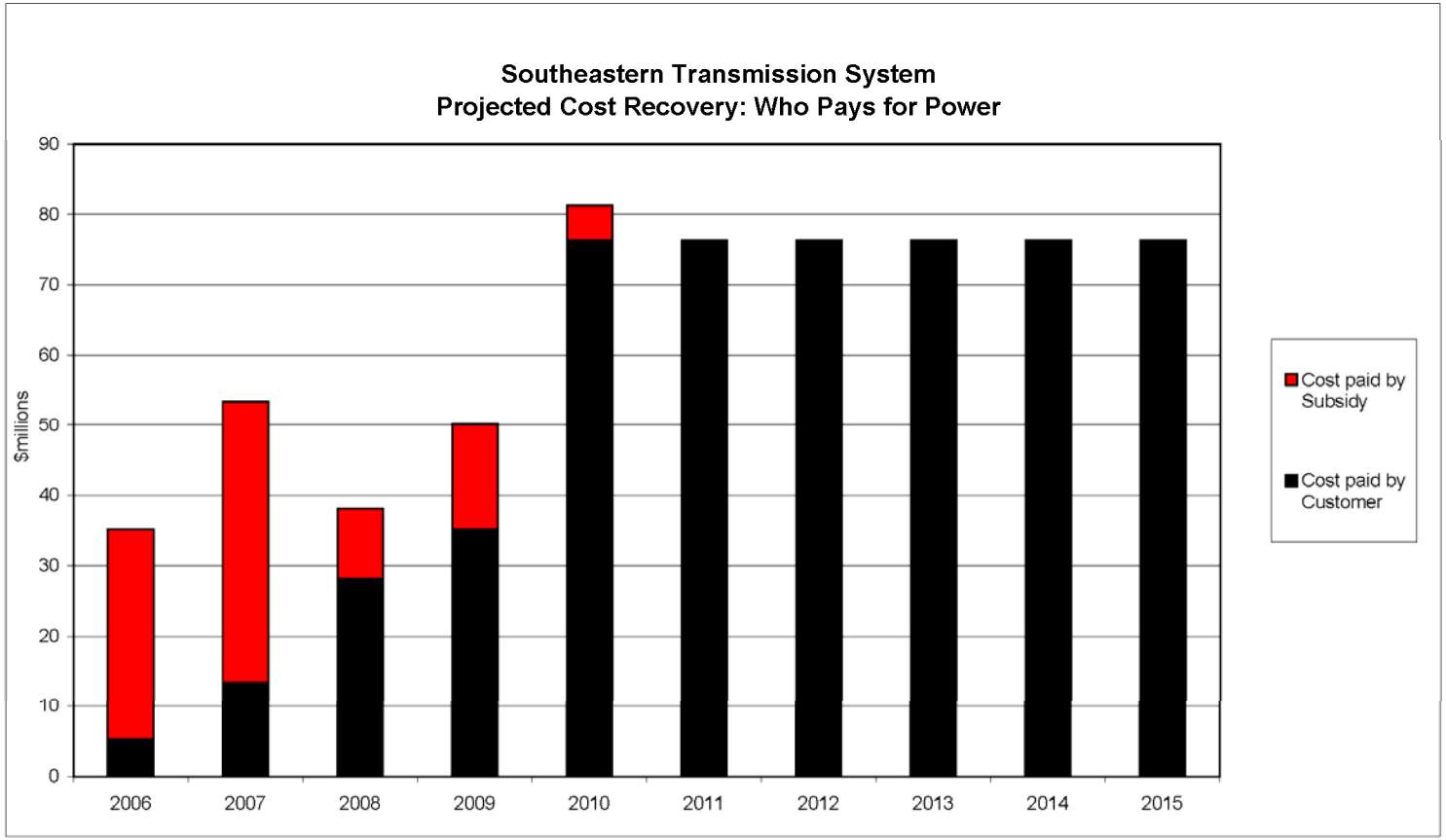
S.no	Province/City	Residential	Commercial	Governmental	Total
1	Badakhshan Faizabad	1,671	1,200	60	2,931
2	Baghlan (Ghoori)	8,859	1,125	231	10,215
3	Balkh (mazar-e-sharif	49,139	3,142	646	52,927
4	Balkh Hayratan	3,202	174	214	3,590
5	chack-e-wardak	1,350			1,350
6	Farah Electricity	90	100	4	194
7	Faryab Electricity	4,237	455	43	4,735
8	Faryab(Andkhoi)	11,133	1,329	180	12,642
9	Ghazni(Electricity)	1,195	208	48	1,451
10	Ghoor Chaghcharan	554			554
11	Helmand Grishk	1,210	200	30	1,440
12	Helmand Lashkargah	23,640	4,410	50	28,100
13	Herat (Electricity)	45,440	1,340	220	47,000
14	Jawzjan Electricity	23,300	1,935	95	25,330
15	Kabul KD	128,872	5,650	1,242	135,764
16	Kabul Sarobi	2,388	200	12	2,600
17	Kandahar Electricity	19,365	4,845	188	24,398
18	Khost Electricity	697	469	19	1,185
19	Kunar Assad Abad	340	60	30	430
20	Kunduz Electricity	13,616	1,770	124	15,510
21	Laghman Metharlam	480			480
22	Nangarhar Eletricity	7,707	1,180	209	9,096
23	Nimroz Zaranj	4,994	1,182	24	6,200
24	Paktya Electricity	710	100	40	850
25	Parwan Electricity	5,053	1,500	430	6,983
26	Sammangan Aibak	2,300		1,120	3,420
27	Sar-e-pul Electricity	3,213	643	12	3,868
28	Takhar Talooqan	20	380		400
29	Zabul Qalat	446			446
30	Total	365,221	33,597	5,271	404,089

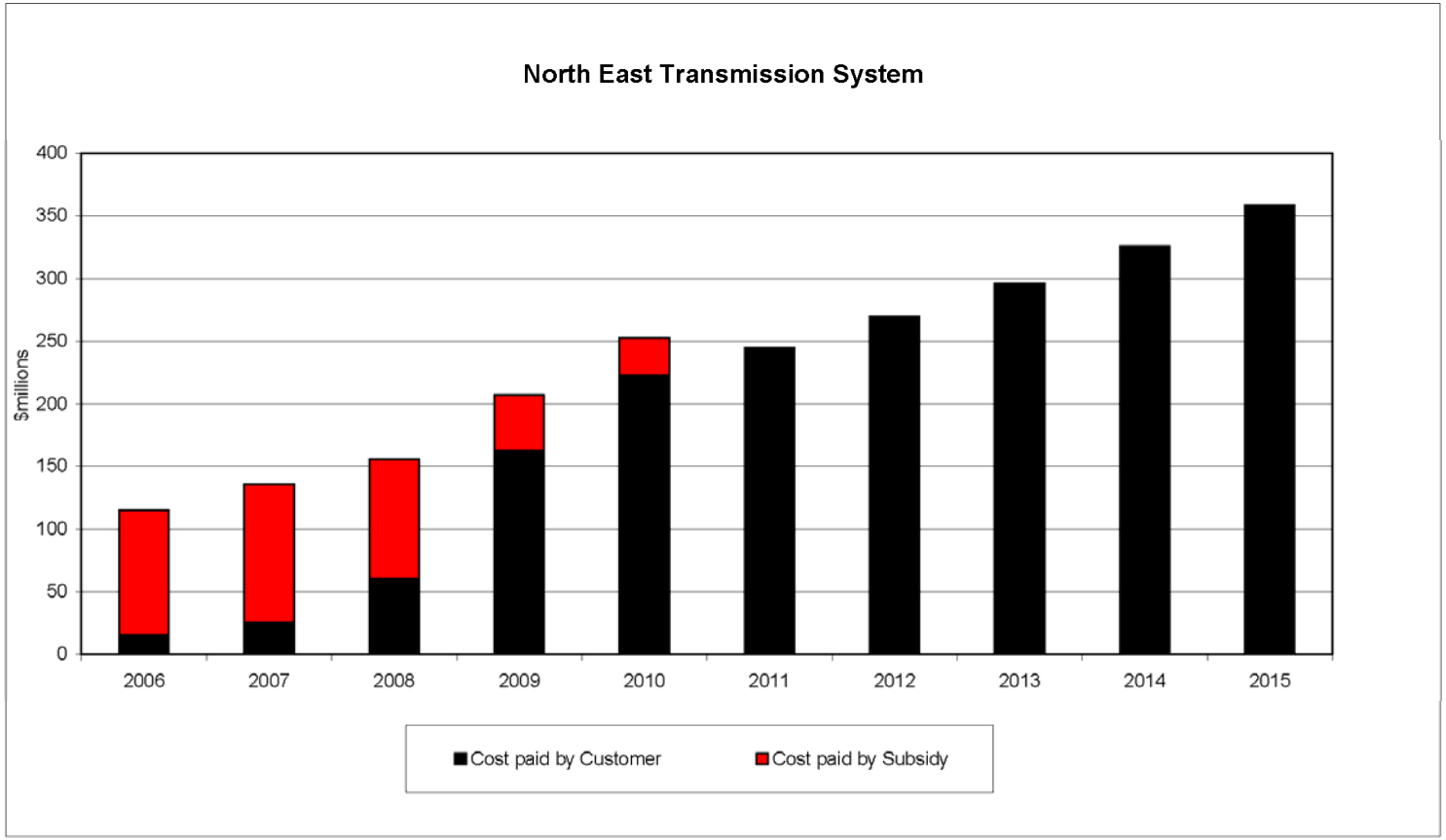


	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total:	19.2	21.4	12.4	7.1	7.0	6.9	6.9	6.9	6.8	6.8
Distribution	1.3	1.7	1.8	1.8	2.0	2.0	2.1	2.1	2.1	2.1
Transmissison	1.6	2.6	2.2	1.7	1.6	1.5	1.5	1.5	1.4	1.4
Generation	16.3	17.1	8.4	3.6	3.3	3.3	3.3	3.3	3.3	3.3



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total	21.6	15.7	12.3	13.1	11.0	11.1	11.1	11.2	11.3	11.4
Distribution	1.1	1.5	1.9	2.5	2.8	2.8	2.9	2.9	3.0	3.1
Transmission	3.1	2.8	2.6	2.7	2.0	2.0	2.0	2.0	2.0	2.0
Generation	17.5	11.4	7.9	7.9	6.3	6.3	6.3	6.3	6.3	6.3


Southeastern Transmission System
Projected Cost Recovery: Who Pays for Power
$millions
90
80
70
60
50
40
30
20
10
0
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
Cost paid by Subsidy
Cost paid by Customer


North East Transmission System
$millions
400
350
300
250
200
150
100
50
0
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
Cost paid by Customer
Cost paid by Subsidy

135	INCOME STATEMENT DISCO	NEPS	Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
136													
137	REVENUES: Elect. Energy Sales		$000	14,881	25,260	60,196	162,242	222,504	244,754	269,230	296,153	325,768	358,345
138													
139	EXPENSES:												
140	Interest expense	4%	$000	-	-	1,200	2,800	4,800	6,800	8,800	10,000	11,200	12,400
141	Power acquisition from TRANSCO		$000	16,534	27,065	48,770	112,668	135,202	148,722	163,594	179,954	197,949	217,744
142	Distribution Capital Recovery		$000	1,842	3,684	5,895	8,548	11,731	13,641	15,742	18,054	20,596	23,392
143	Payroll	10.0% of revenue	$000	1,488	2,526	6,020	16,224	22,250	24,475	26,923	29,615	32,577	35,834
144	Training	1.0% of revenue	$000	149	253	602	1,622	2,225	2,448	2,692	2,962	3,258	3,583
145	Material (Inventory)	2.0% of revenue	$000	298	505	1,204	3,245	4,450	4,895	5,385	5,923	6,515	7,167
146	Routine Maintenance	5.0% of revenue	$000	744	1,263	3,010	8,112	11,125	12,238	13,461	14,808	16,288	17,917
147	Other Expense	1.0% of revenue	$000	149	253	602	1,622	2,225	2,448	2,692	2,962	3,258	3,583
148	Social Charges	10.0% of payroll	$000	149	253	602	1,622	2,225	2,448	2,692	2,962	3,258	3,583
149	Total Expenses		$000	21,353	35,801	66,704	153,665	191,434	211,314	233,183	257,238	283,699	312,805
150													
151													
152	Operating Profit		$000	(6,472)	(10,541)	(6,508)	8,578	31,070	33,440	36,047	38,915	42,069	45,539
153													
154			Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
155	CASH FLOW DISCO	NEPS											
156	Net Income		$000	(6,472)	(10,541)	(6,508)	8,578	31,070	33,440	36,047	38,915	42,069	45,539
157	Depreciation			1,842	3,684	5,895	8,548	11,731	13,641	15,742	18,054	20,596	23,392
158	CapX annual			73,689	73,689	88,427	106,113	127,335	76,401	84,041	92,445	101,690	111,859
159	Grant/GoA Transfer		0	50,000	40,000	45,000	45,000	30,000	-	-	-	-	-
160	Debt			30,000	40,000	50,000	50,000	50,000	30,000	30,000	30,000	40,000	50,000
161	Cash Flow			1,681	(546)	5,960	6,013	(4,534)	680	(2,252)	(5,477)	975	7,073
162													
163	BALANCE SHEET												
164	Cash		0	1,681	1,135	7,095	13,107	8,573	9,253	7,001	1,524	2,499	9,571
165	Assets		0	71,847	141,852	224,384	321,949	437,553	500,313	568,612	643,004	724,098	812,565
166	Total Assets		0	73,528	142,987	231,479	335,057	446,126	509,566	575,613	644,528	726,597	822,136
167													
168	Debt		0	30,000	70,000	120,000	170,000	220,000	250,000	280,000	310,000	350,000	400,000
169	Equity		0	43,528	72,987	111,479	165,057	226,126	259,566	295,613	334,528	376,597	422,136
170	Total Liabilities and Owners' Equity		0	73,528	142,987	231,479	335,057	446,126	509,566	575,613	644,528	726,597	822,136

103	DISTRIBUTION COMPANY											
104	NTS	Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
105												
106	Total MWh delivery to discos STS		826,725	902,151	1,393,421	3,219,094	3,862,913	4,249,204	4,674,124	5,141,537	5,655,691	6,221,260
107												
108												
109	Total number new customers		56,684	56,684	68,021	81,625	97,950	58,770	64,647	71,112	78,223	86,045
110												
111	Cost of new connection	$/customer	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
112	Cumulative Cost of new connections	$000	73,689	147,379	235,806	341,919	469,254	545,656	629,697	722,143	823,833	935,692
113	CapX annual		73,689	73,689	88,427	106,113	127,335	76,401	84,041	92,445	101,690	111,859
114	Capital Recovery (of new connections; 40 years)		1,842	3,684	5,895	8,548	11,731	13,641	15,742	18,054	20,596	23,392
115												
116		Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
117	ENERGY BALANCES											
118												
119	MWH acquired		826,725	902,151	1,393,421	3,219,094	3,862,913	4,249,204	4,674,124	5,141,537	5,655,691	6,221,260
120	Technical and Commerical Losses		40%	30%	20%	20%	20%	20%	20%	20%	20%	20%
121												
122												
123												
124	MWH losses		330,690	270,645	278,684	643,819	772,583	849,841	934,825	1,028,307	1,131,138	1,244,252
125												
126	MWH Delivered and billed to end-users		496,035	631,506	1,114,736	2,575,275	3,090,330	3,399,363	3,739,300	4,113,230	4,524,552	4,977,008
127												
128	Collections Realized		75%	80%	90%	90%	90%	90%	90%	90%	90%	90%
129	MWh on which collections are realized		372,026	505,205	1,003,263	2,317,748	2,781,297	3,059,427	3,365,370	3,701,907	4,072,097	4,479,307
130												
131	Average Retail Power Price	Step-wise	4.00	5.00	6.00	7.00	8.00	8.00	8.00	8.00	8.00	8.00
132												
133												
134												

			Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
64	DISTRIBUTION COMPANY												
65													
66	INCOME STATEMENT	SEPS											
67													
68	REVENUES: Elect. Energy Sales		$000	5,235	13,424	28,114	35,142	76,324	76,324	76,324	76,324	76,324	76,324
69													
70	EXPENSES:												
71	Interest expense	4%	$000	-	600	600	1,000	1,600	2,000	2,000	2,400	2,800	3,200
72	Power acquisition from TRANSCO		$000	5,817	11,985	19,523	24,404	48,586	48,586	48,586	48,586	48,586	48,586
73	Distribution Capital Recovery		$000	351	701	1,122	1,627	2,233	2,596	2,996	3,436	3,920	4,452
74	Payroll	10.0% of revenue	$000	524	1,342	2,811	3,514	7,632	7,632	7,632	7,632	7,632	7,632
75	Training	1.0% of revenue	$000	52	134	281	351	763	763	763	763	763	763
76	Material (Inventory)	2.0% of revenue	$000	105	268	562	703	1,526	1,526	1,526	1,526	1,526	1,526
77	Routine Maintenance	5.0% of revenue	$000	262	671	1,406	1,757	3,816	3,816	3,816	3,816	3,816	3,816
78	Other Expense	1.0% of revenue	$000	52	134	281	351	763	763	763	763	763	763
79	Social Charges	10.0% of payroll	$000	52	134	281	351	763	763	763	763	763	763
80	Total Expenses		$000	7,215	15,371	26,268	33,059	66,083	66,447	66,847	67,287	67,770	68,303
81													
82	Operating Profit		$000	(1,979)	(1,948)	1,846	2,083	10,241	9,877	9,477	9,038	8,554	8,022
83													
84													
85													
86	CASH FLOW												
87	Net Income			(1,979)	(1,948)	1,846	2,083	10,241	9,877	9,477	9,038	8,554	8,022
88	Depreciation			351	701	1,122	1,627	2,233	2,596	2,996	3,436	3,920	4,452
89	Capx			(14,024)	(14,024)	(16,829)	(20,194)	(24,233)	(14,540)	(15,994)	(17,593)	(19,353)	(21,288)
90	Grant/GoA Transfer		0	10,000	10,000	5,000	5,000	5,000					
91	Debt			15,000	0	10,000	15,000	10,000	0	10,000	10,000	10,000	10,000
92	Cash Flow			9,347	(5,270)	1,139	3,515	3,240	(2,067)	6,479	4,880	3,121	1,185
93													
94													
95	BALANCE SHEET												
96	Cash		0	9,347	4,077	5,216	8,731	11,971	9,904	16,384	21,264	24,384	25,570
97	Assets		0	14,024	28,048	43,755	62,322	84,323	96,267	109,265	123,422	138,855	155,691
98	Total Assets		0	23,371	32,125	48,970	71,053	96,294	106,171	125,648	144,686	163,240	181,261
99													
100	Debt		0	15,000	15,000	25,000	40,000	50,000	50,000	60,000	70,000	80,000	90,000
101	Equity		0	8,021	16,073	22,919	30,001	45,242	55,119	64,597	73,634	82,188	90,209
102	Total Liabilities and Owners' Equity		0	23,021	31,073	47,919	70,001	95,242	105,119	124,597	143,634	162,188	180,209

26 Customer Usage Data

	avg Watts	Load Factors
Domestic	1,000	40.0%
Commercial	5,000	45.0%
Government	20,000	45.0%

		Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
SEPS												
Total MWh delivery to discos	SEPS		290,854	399,514	488,085	488,085	883,380	883,380	883,380	883,380	883,380	883,380
Total number new customers			10,788	10,788	12,945	15,534	18,641	11,185	12,303	13,533	14,887	16,375
Cost of new connection		$/customer	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
Cumulative Cost of new connections		$000	14,024	28,048	44,876	65,071	89,304	103,844	119,838	137,431	156,784	178,072
CapX annual			14,024	14,024	16,829	20,194	24,233	14,540	15,994	17,593	19,353	21,288
Capital Recovery (of new connections; 40 years)			351	701	1,122	1,627	2,233	2,596	2,996	3,436	3,920	4,452
		Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
ENERGY BALANCES												
MWH acquired			290,854	399,514	488,085	488,085	883,380	883,380	883,380	883,380	883,380	883,380
Technical and Commerical losses - distribution level			40%	30%	20%	20%	20%	20%	20%	20%	20%	20%
MWH losses			116,342	119,854	97,617	97,617	176,676	176,676	176,676	176,676	176,676	176,676
MWH Delivered and billed to end-users			174,512	279,660	390,468	390,468	706,704	706,704	706,704	706,704	706,704	706,704
COLLECTIONS REALIZED			75%	80%	90%	90%	90%	90%	90%	90%	90%	90%
MWh on which collections are realized			130,884	223,728	351,421	351,421	636,034	636,034	636,034	636,034	636,034	636,034
Retail Power Price		Step-wise	4.00	6.00	8.00	10.00	12.00	12.00	12.00	12.00	12.00	12.00

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				Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
1														
2														
3		Growth in Connected Customers				20%	20%	20%	20%	10%	10%	10%	10%	10%
4				20%										
5	Group1	Tot. Customers		37,260	46,575	55,890	67,068	80,482	96,578	106,236	116,859	128,545	141,400	155,540
6	Group2	Tot. Customers		54,141	67,676	81,211	97,453	116,944	140,333	154,366	169,803	186,783	205,461	226,008
7	Group3	Tot. Customers		12,408	15,510	18,612	22,334	26,801	32,162	35,378	38,915	42,807	47,088	51,796
8	Group4	Tot. Customers		115,651	144,564	173,477	208,172	249,807	299,768	329,745	362,719	398,991	438,890	482,779
9	Group5	Tot. Customers		7,277	9,096	10,915	13,098	15,718	18,861	20,748	22,822	25,105	27,615	30,377
10	STS	Tot. Customers		43,150	53,938	64,726	77,671	93,205	111,846	123,030	135,333	148,867	163,753	180,129
11														
12	*NOT INCLUDING HERAT & INDEPENI		TOTAL*	269,887	337,359	404,831	485,797	582,956	699,548	769,502	846,453	931,098	1,024,208	1,126,628
13			NEW CONNECTIONS		67,472	67,472	80,966	97,159	116,591	69,955	76,950	84,645	93,110	102,421
14														
15														
16														
17														
18					283,421	340,105	408,126	489,751	587,702	646,472				
19														
20														
21														
22														
23														
24														
25														

348														
349			2008											
350			1	2	3	4	5	6	7	8	9	10	11	12
351	Power Bought from Gencos													
352	Turkmenistan 110kV	MWH	5,580	5,040	5,580	5,400	5,580	5,400	5,580	5,580	5,400	-	-	-
353	Uzbekistan 110kV	MWH	13,392	12,096	13,392	12,960	13,392	12,960	13,392	13,392	12,960	-	-	-
354	Tajikistan 110 kV	MWH	3,720	3,360	3,720	3,600	3,720	3,600	3,720	3,720	3,600	-	-	-
355	Turkmenistan 220kV	MWH	-	-	-	-	-	-	-	-	-	-	-	-
356	Uzbekistan 220kV	MWH	-	-	-	-	-	-	-	-	-	157,584	151,669	156,724
357	Tajikistan 220 kV	MWH	-	-	-	-	-	-	-	-	-	-	-	-
358	Sheberghan	MWH	-	-	-	-	-	-	-	-	-	52,528	50,556	52,241
359														
360	Mahipar	MWH	12,276	11,088	12,276	11,880	-	-	-	-	-	-	-	-
361	Naghlu	MWH	22,320	20,160	22,320	21,600	22,320	36,000	37,200	37,200	21,600	22,320	21,600	22,320
362	Sorobi	MWH	8,184	7,392	8,184	7,920	8,184	-	-	-	-	-	-	-
363	NW Kabul	MWH	19,642	17,741	19,642	19,008	19,642	19,008	19,642	19,642	19,008	-	-	-
364	Kabul Small Diesels	MWH	-	-	-	-	-	-	-	-	-	-	-	-
365			-	-	-	-	-	-	-	-	-	-	-	-
366	Darunta	MWH	5,491	4,294	6,361	6,156	6,361	6,156	9,895	8,541	7,157	7,395	8,266	8,541
367		MWH	-	-	-	-	-	-	-	-	-	-	-	-
368	Kajaki	MWH	36,047	32,558	36,047	34,884	36,047	34,884	36,047	36,047	34,884	36,047	34,884	36,047
369	Kandahar Small Diesel	MWH	7,589	6,854	7,589	7,344	7,589	7,344	7,589	7,589	7,344	7,589	7,344	7,589
370	Kajaki II	MWH	-	-	-	-	-	-	-	-	-	-	-	-
371			-	-	-	-	-	-	-	-	-	-	-	-
372	Energy purchased from Gencos	MWH	126,847	113,940	127,674	123,556	116,012	118,426	125,730	124,444	105,696	269,289	260,602	269,289

322	SUMMARY		2008											
323			1	2	3	4	5	6	7	8	9	10	11	12
324	Power Sold to Discos after Transmission Losses													
325														
326	Turkmenistan 110kV	MWH	5,134	4,637	5,134	4,968	5,134	4,968	5,134	5,134	4,968	-	-	-
327	Uzbekistan 110kV	MWH	12,321	11,128	12,321	11,923	12,321	11,923	12,321	12,321	11,923	-	-	-
328	Tajikistan 110 kV	MWH	3,422	3,091	3,422	3,312	3,422	3,312	3,422	3,422	3,312	-	-	-
329	Turkmenistan 220kV	MWH	-	-	-	-	-	-	-	-	-	-	-	-
330	Uzbekistan 220kV	MWH	-	-	-	-	-	-	-	-	-	149,704	144,085	148,888
331	Tajikistan 220 kV	MWH	-	-	-	-	-	-	-	-	-	-	-	-
332	Sheberghan	MWH	-	-	-	-	-	-	-	-	-	49,901	48,028	49,629
333														
334	Mahipar	MWH	11,662	10,534	11,662	11,286	-	-	-	-	-	-	-	-
335	Naghlu	MWH	21,204	19,152	21,204	20,520	21,204	34,200	35,340	35,340	20,520	21,204	20,520	21,204
336	Sorobi	MWH	7,775	7,022	7,775	7,524	7,775	-	-	-	-	-	-	-
337	NW Kabul	MWH	18,660	16,854	18,660	18,058	18,660	18,058	18,660	18,660	18,058	-	-	-
338	Kabul Small Diesels	MWH	-	-	-	-	-	-	-	-	-	-	-	-
339														
340	Darunta	MWH	5,216	4,079	6,043	5,848	6,043	5,848	9,400	8,114	6,799	7,026	7,852	8,114
341		MWH												
342	Kajaki	MWH	34,244	30,930	34,244	33,140	34,244	33,140	34,244	34,244	33,140	34,244	33,140	34,244
343	Kandahar Small Diesel	MWH	7,209	6,512	7,209	6,977	7,209	6,977	7,209	7,209	6,977	7,209	6,977	7,209
344	Kajaki II	MWH	-	-	-	-	-	-	-	-	-	-	-	-
345														
346	Energy Supplied to Discos	MWH	126,847	113,940	127,674	123,556	116,012	118,426	125,730	124,444	105,696	269,289	260,602	269,289
347			-	-	-	-	-	-	-	-	-	-	-	-

279	STS			Year	2008										
280					1	2	3	4	5	6	7	8	9	10	11	12
281	NET ENERGY AVAILABLE				31	28	31	30	31	30	31	31	30	31	30	31
282					Winter	Winter	Winter	Summer	Summer	Summer	Summer	Summer	Summer	Summer	Winter	Winter
283																
284	Kajaki			MWh	34,244	30,930	34,244	33,140	34,244	33,140	34,244	34,244	33,140	34,244	33,140	34,244
285	Kandahar Small Diesel				7,209	6,512	7,209	6,977	7,209	6,977	7,209	7,209	6,977	7,209	6,977	7,209
286	Kajaki II				0	0	0	0	0	0	0	0	0	0	0	0
287																
288	Total Supply STS			MWh	41,454	37,442	41,454	40,117	41,454	40,117	41,454	41,454	40,117	41,454	40,117	41,454
289	Total Supply after Distribution Losses				33,163	29,954	33,163	32,093	33,163	32,093	33,163	33,163	32,093	33,163	32,093	33,163
290	Hydro Only Supply				34,244	30,930	34,244	33,140	34,244	33,140	34,244	34,244	33,140	34,244	33,140	34,244
291	Hydro only after Dist. Losses				27,396	24,744	27,396	26,512	27,396	26,512	27,396	27,396	26,512	27,396	26,512	27,396
292																
293	DEMAND	Tot. Customers		Tol	20%											
294	STS	Allocation peak Watts			77,671	77,671	77,671	77,671	77,671	77,671	77,671	77,671	77,671	77,671	77,671	77,671
295	Domestic	0.0%	1,000	0	63,670	63,670	63,670	63,670	63,670	63,670	63,670	63,670	63,670	63,670	63,670	63,670
296	Commercial	0.0%	5,000	0	13,615	13,615	13,615	13,615	13,615	13,615	13,615	13,615	13,615	13,615	13,615	13,615
297	Government	0.0%	20,000	0	386	386	386	386	386	386	386	386	386	386	386	386
298																
299		Load Factors														
300	Domestic		40.0%	MWh	18,948	17,114	18,948	18,337	18,948	18,337	18,948	18,948	18,337	18,948	18,337	18,948
301	Commercial		45.0%	MWh	22,792	20,586	22,792	22,057	22,792	22,057	22,792	22,792	22,057	22,792	22,057	22,792
302	Government		45.0%	MWh	2,584	2,334	2,584	2,501	2,584	2,501	2,584	2,584	2,501	2,584	2,501	2,584
303		Demand		MWh	44,324	40,035	44,324	42,894	44,324	42,894	44,324	44,324	42,894	44,324	42,894	44,324
304	Hydro Supply Applied to Demand				27,396	24,744	27,396	26,512	27,396	26,512	27,396	27,396	26,512	27,396	26,512	27,396
305																
306	Hydro Supply Remaining supply after				0	0	0	0	0	0	0	0	0	0	0	0
307																
308	Remaining demand				16,928	15,290	16,928	16,382	16,928	16,382	16,928	16,928	16,382	16,928	16,382	16,928
309																
310	Thermal Supply after dist. Losses				5,767	5,209	5,767	5,581	5,767	5,581	5,767	5,767	5,581	5,767	5,581	5,767
311	Demand to be supplied by Thermal				16,928	15,290	16,928	16,382	16,928	16,382	16,928	16,928	16,382	16,928	16,382	16,928
312	Thermal Supply applied to remaining demand				5,767	5,209	5,767	5,581	5,767	5,581	5,767	5,767	5,581	5,767	5,581	5,767
313																
314	Total Consumption Servable				33,163	29,954	33,163	32,093	33,163	32,093	33,163	33,163	32,093	33,163	32,093	33,163
315	Total Supply Applied to Consumption				33,163	29,954	33,163	32,093	33,163	32,093	33,163	33,163	32,093	33,163	32,093	33,163
316	Dispatching level Hydro supply				100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
317	Dispatching level Thermal supply				100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
318																
319																
320																
321																

265		Year	2008											
266	Power Procurement NEPS		1	2	3	4	5	6	7	8	9	10	11	12
267	Turkmenistan 220kV	MWh										0	0	0
268	Uzbekistan 220kV	MWh										149,704	144,085	148,888
269	Tajikistan 220 kV	MWh										0	0	0
270	Sheberghan	MWh										49,901	48,028	49,629
271														
272	Mahipar	MWh										0	0	0
273	Naghlu	MWh										21,204	20,520	21,204
274	Sorobi	MWh										0	0	0
275	Darunta	MWh										7,026	7,852	8,114
276	NW Kabul	MWh										0	0	0
277	Kabul Small Diesels	MWh										0	0	0
278														

228	Kabul Small Dies after.dist. Losses		MWh										0	0	0
229															
230	KABUL		Year												
231													10	11	12
232	Kabul Area Total Supply after dist losses												37,511	37,144	38,382
233	Hydro Only Suppl after.dist. Losses												22,584	22,698	23,454
234															
235	DEMAND	Tot. Customers													
236	Group4+Group5	peak Watts		221,270	221,270	221,270	221,270	221,270	221,270	221,270	221,270	221,270	221,270	221,270	221,270
237	Domestic	1,000		207,304	207,304	207,304	207,304	207,304	207,304	207,304	207,304	207,304	207,304	207,304	207,304
238	Commercial	5,000		11,825	11,825	11,825	11,825	11,825	11,825	11,825	11,825	11,825	11,825	11,825	11,825
239	Government	20,000		2,141	2,141	2,141	2,141	2,141	2,141	2,141	2,141	2,141	2,141	2,141	2,141
240															
241		Load Factors													
242	Domestic	40.0%	MWh										61,694	59,704	61,694
243	Commercial	45.0%	MWh										19,796	19,157	19,796
244	Government	45.0%	MWh										14,338	13,875	14,338
245		Demand	MWh										95,827	92,736	95,827
246	Hydro Supply Available for	in Kabul											22,584	22,698	23,454
247															
248															
249	Remaining demand after hydro all used up												73,243	70,038	72,373
250															
251	Supply Procured from NTS - Salang												73,243	70,038	72,373
252															
253															
254	220 Supply used in the North Before dist. Losses												108,051	104,566	108,051
255	Supply Procured from NTS - Salang bef dist losses												91,554	87,548	90,466
256	Total 220 + Sheberghan bef dist losses												199,606	192,114	198,517
257															
258	Remaining demand in Kabul after N. Salang												-	-	-
259															
260	Thermal Supply applied to remaining demand												-	-	-
261															
262	Dispatching level hydro												100%	100%	100%
263	Dispatching level Thermal												0%	0%	0%
264	Dispatching level 220 Imports & Sheb - Kabul												71%	71%	71%

185	NTS		Year												
186	Group1+Group2+Group3												10	11	12
187	North of Salang														
188	Supply (bef Dist losses)														
189	Turkmenistan 110kV												0	0	0
190	Uzbekistan 110kV												0	0	0
191	Tajikistan 110 kV												0	0	0
192	Turkmenistan 220kV												0	0	0
193	Uzbekistan 220kV												209,920	203,148	209,920
194	Tajikistan 220 kV												0	0	0
195	Sheberghan												69,973	67,716	69,973
196	Total Supply North of Salang												279,893	270,864	279,893
197	220 Imports & Sheberghan												279,893	270,864	279,893
198	220/Sheb supply after dist. Losses												223,914	216,691	223,914
199															
200	DEMAND	GROUP1 + GROUP2 + GROUP3													
201	North of Salang														
202				186,856	186,856	186,856	186,856	186,856	186,856	186,856	186,856	186,856	186,856	186,856	186,856
203	Domestic		1,000	171,359	171,359	171,359	171,359	171,359	171,359	171,359	171,359	171,359	171,359	171,359	171,359
204	Commercial		5,000	13,605	13,605	13,605	13,605	13,605	13,605	13,605	13,605	13,605	13,605	13,605	13,605
205	Government		20,000	1,892	1,892	1,892	1,892	1,892	1,892	1,892	1,892	1,892	1,892	1,892	1,892
206															
207			Load Factors												
208	Domestic		40.0%	MWh									50,996	49,351	50,996
209	Commercial		45.0%	MWh									22,775	22,040	22,775
210	Government		45.0%	MWh									12,670	12,261	12,670
211			Demand	MWh									86,441	83,653	86,441
212															
213	220 Used North of Salang aft dist losses			MWh									86,441	83,653	86,441
214															
215	Remaining 220/Sheb BEFORE dist. Loss			MWh									137,473	133,038	137,473
216	Remaining 220/Sheb AFTER dist. Losse:			MWh									171,841	166,298	171,841
217	Limit of Salang Pass Line		575	MWh									427,800	414,000	427,800
218															
219	Available to send over Salang BEFORE DIST LOSSE												171,841	166,298	171,841
220															
221	Calculation of Serving Kabul														
222	Available from North of Salang AFT dist losses												137,473	133,038	137,473
223	Mahipar	after.dist. Losses		MWh									0	0	0
224	Naghlu	after.dist. Losses		MWh									16,963	16,416	16,963
225	Sorobi	after.dist. Losses		MWh									0	0	0
226	Darunta	after.dist. Losses		MWh									5,620	6,282	6,491
227	NW Kabul	after.dist. Losses		MWh									14,928	14,446	14,928

152	Group5			Year	2008										
153					1	2	3	4	5	6	7	8	9	10	11	12
154	NET ENERGY AVAILABLE				31	28	31	30	31	30	31	31	30			
155					Winter	Winter	Winter	Summer	Summer	Summer	Summer	Summer	Summer			
156																
157	Darunta			MWh	5,216	4,079	6,043	5,848	6,043	5,848	9,400	8,114	6,799			
158																
159																
160	Total Supply Group5			MWh	5,216	4,079	6,043	5,848	6,043	5,848	9,400	8,114	6,799			
161																
162	Hydro Only Supply				5,216	4,079	6,043	5,848	6,043	5,848	9,400	8,114	6,799			
163	Hydro Only Supply after dist. Losses				4,173	3,264	4,835	4,679	4,835	4,679	7,520	6,491	5,439			
164																
165	DEMAND	Tot. Customers		Tol	20%											
166	Group5	Allocation peak Watts			13,098	13,098	13,098	13,098	13,098	13,098	13,098	13,098	13,098	13,098	13,098	13,098
167	Domestic	0.0%	1,000		11,098	11,098	11,098	11,098	11,098	11,098	11,098	11,098	11,098	11,098	11,098	11,098
168	Commercial	0.0%	5,000		1,699	1,699	1,699	1,699	1,699	1,699	1,699	1,699	1,699	1,699	1,699	1,699
169	Government	0.0%	20,000		301	301	301	301	301	301	301	301	301	301	301	301
170																
171		Load Factors														
172	Domestic		40.0%	MWh	3,303	2,983	3,303	3,196	3,303	3,196	3,303	3,303	3,196			
173	Commercial		45.0%	MWh	2,844	2,569	2,844	2,753	2,844	2,753	2,844	2,844	2,753			
174	Government		45.0%	MWh	2,015	1,820	2,015	1,950	2,015	1,950	2,015	2,015	1,950			
175					8,162	7,373	8,162	7,899	8,162	7,899	8,162	8,162	7,899			
176	Hydro Supply Applied against Consumption				4,173	3,264	4,835	4,679	4,835	4,679	7,520	6,491	5,439			
177																
178	Hydro Supply Remaining supply after				0	0	0	0	0	0	0	0	0			
179																
180	Total Supply Applied				5,216	4,079	6,043	5,848	6,043	5,848	9,400	8,114	6,799			
181																
182	Darunta				5,216	4,079	6,043	5,848	6,043	5,848	9,400	8,114	6,799			
183	Dispatching level hydro supply				100%	100%	100%	100%	100%	100%	100%	100%	100%			
184																

109	Group4		Year	2008											
110				1	2	3	4	5	6	7	8	9	10	11	12
111	SUPPLY			Winter	Winter	Winter	Summer	Summer	Summer	Summer	Summer	Summer			
112	Mahipar	9,330	MWh	11,662	10,534	11,662	11,286	0	0	0	0	0			
113	Naghlu	21,204	MWh	21,204	19,152	21,204	20,520	21,204	34,200	35,340	35,340	20,520			
114	Sorobi	7,775	MWh	7,775	7,022	7,775	7,524	7,775	0	0	0	0			
115	NW Kabul	9,330	MWh	18,660	16,854	18,660	18,058	18,660	18,058	18,660	18,660	18,058			
116	Kabul Small Diesels	0	MWh	0	0	0	0	0	0	0	0	0			
117	Total Supply Group4		MWh	59,301	53,562	59,301	57,388	47,638	52,258	54,000	54,000	38,578			
118	Total Supply after Distribution Losses			47,440	42,849	47,440	45,910	38,111	41,806	43,200	43,200	30,862			
119	Hydro Only Supply			40,641	36,708	40,641	39,330	28,979	34,200	35,340	35,340	20,520			
120	Hydro only after Dist. Losses			32,513	29,366	32,513	31,464	23,183	27,360	28,272	28,272	16,416			
121															
122	DEMAND														
123			Tol	20%											
124	Group4	peak Watts		208,172	208,172	208,172	208,172	208,172	208,172	208,172	208,172	208,172	208,172	208,172	208,172
125	Domestic	1,000		196,206	196,206	196,206	196,206	196,206	196,206	196,206	196,206	196,206	196,206	196,206	196,206
126	Commercial	5,000		10,126	10,126	10,126	10,126	10,126	10,126	10,126	10,126	10,126	10,126	10,126	10,126
127	Government	20,000		1,840	1,840	1,840	1,840	1,840	1,840	1,840	1,840	1,840	1,840	1,840	1,840
128															
129		Load Factors													
130	Domestic	40.0%	MWh	58,391	52,740	58,391	56,507	58,391	56,507	58,391	58,391	56,507			
131	Commercial	45.0%	MWh	16,951	15,311	16,951	16,404	16,951	16,404	16,951	16,951	16,404			
132	Government	45.0%	MWh	12,323	11,130	12,323	11,925	12,323	11,925	12,323	12,323	11,925			
133			MWh	87,665	79,181	87,665	84,837	87,665	84,837	87,665	87,665	84,837			
134	Hydro Supply applied to demand			32,513	29,366	32,513	31,464	23,183	27,360	28,272	28,272	16,416			
135															
136	Remaining demand			55,152	49,815	55,152	53,373	64,482	57,477	59,393	59,393	68,421			
137	Thermal Supply after dist. Losses			14,928	13,483	14,928	14,446	14,928	14,446	14,928	14,928	14,446			
138	Thermal Supply applied to remaining demand			14,928	13,483	14,928	14,446	14,928	14,446	14,928	14,928	14,446			
139															
140	Remaining demand			40,224	36,332	40,224	38,927	49,554	43,031	44,465	44,465	53,975			
141															
142	Dispatching level Thermal			100%	100%	100%	100%	100%	100%	100%	100%	100%			
143	Dispatching Level Hydro			100%	100%	100%	100%	100%	100%	100%	100%	100%			
144															
145	Power Acquired from Transco														
146	Mahipar			11,662	10,534	11,662	11,286	0	0	0	0	0			
147	Naghlu			21,204	19,152	21,204	20,520	21,204	34,200	35,340	35,340	20,520			
148	Sorobi			7,775	7,022	7,775	7,524	7,775	0	0	0	0			
149	NW Kabul			18,660	16,854	18,660	18,058	18,660	18,058	18,660	18,660	18,058			
150	Kabul Small Diesels			0	0	0	0	0	0	0	0	0			
151															

77	Group3		Year	2008											
78				1	2	3	4	5	6	7	8	9	10	11	12
79	NET ENERGY AVAILABLE			31	28	31	30	31	30	31	31	30			
80				Winter	Winter	Winter	Summer	Summer	Summer	Summer	Summer	Summer			
81															
82	Tajikistan 110 kV		MWh	3,422	3,091	3,422	3,312	3,422	3,312	3,422	3,422	3,312			
83															
84	Total Supply Group3		MWh	3,422	3,091	3,422	3,312	3,422	3,312	3,422	3,422	3,312			
85	Total Supply after Distribution Losses			2,738	2,473	2,738	2,650	2,738	2,650	2,738	2,738	2,650			
86	DEMAND														
87															
88	Group3		Tot	20%											
89		peak Watts		22,334	22,334	22,334	22,334	22,334	22,334	22,334	22,334	22,334	22,334	22,334	22,334
90	Domestic	1,000		19,607	19,607	19,607	19,607	19,607	19,607	19,607	19,607	19,607	19,607	19,607	19,607
91	Commercial	5,000		2,549	2,549	2,549	2,549	2,549	2,549	2,549	2,549	2,549	2,549	2,549	2,549
92	Government	20,000		179	179	179	179	179	179	179	179	179	179	179	179
93															
94		Load Factors													
95	Domestic	40.0%	MWh	5,835	5,270	5,835	5,647	5,835	5,647	5,835	5,835	5,647			
96	Commercial	45.0%	MWh	4,267	3,854	4,267	4,129	4,267	4,129	4,267	4,267	4,129			
97	Government	45.0%	MWh	1,196	1,080	1,196	1,157	1,196	1,157	1,196	1,196	1,157			
98			MWh	11,297	10,204	11,297	10,933	11,297	10,933	11,297	11,297	10,933			
99	Supply Available for		MWh	2,738	2,473	2,738	2,650	2,738	2,650	2,738	2,738	2,650			
100															
101	Remaining supply after		MWh	0	0	0	0	0	0	0	0	0			
102															
103															
104	Total Supply Applied to Consmption			2,738	2,473	2,738	2,650	2,738	2,650	2,738	2,738	2,650			
105															
106	Dispatching level all supply			100%	100%	100%	100%	100%	100%	100%	100%	100%			
107	Tajikistan 110 kV			3,422	3,091	3,422	3,312	3,422	3,312	3,422	3,422	3,312			
108															

44	Group2		Year	2008											
45				1	2	3	4	5	6	7	8	9	10	11	12
46	NET ENERGY AVAILABLE			31	28	31	30	31	30	31	31	30			
47				Winter	Winter	Winter	Summer	Summer	Summer	Summer	Summer	Summer			
48															
49	Uzbekistan 110kV		MWh	12,321	11,128	12,321	11,923	12,321	11,923	12,321	12,321	11,923			
50															
51	Total Supply Group2			12,321	11,128	12,321	11,923	12,321	11,923	12,321	12,321	11,923			
52	Total Supply after Distribution Losses			9,857	8,903	9,857	9,539	9,857	9,539	9,857	9,857	9,539			
53															
54	DEMAND														
55															
56	Group2		Tol	20%											
57		peak Watts		97,453	97,453	97,453	97,453	97,453	97,453	97,453	97,453	97,453	97,453	97,453	97,453
58	Domestic	1,000		91,440	91,440	91,440	91,440	91,440	91,440	91,440	91,440	91,440	91,440	91,440	91,440
59	Commercial	5,000		4,775	4,775	4,775	4,775	4,775	4,775	4,775	4,775	4,775	4,775	4,775	4,775
60	Government	20,000		1,238	1,238	1,238	1,238	1,238	1,238	1,238	1,238	1,238	1,238	1,238	1,238
61															
62		Load Factors													
63	Domestic	40.0%	MWh	27,213	24,579	27,213	26,335	27,213	26,335	27,213	27,213	26,335			
64	Commercial	45.0%	MWh	7,993	7,220	7,993	7,736	7,993	7,736	7,993	7,993	7,736			
65	Government	45.0%	MWh	8,292	7,490	8,292	8,025	8,292	8,025	8,292	8,292	8,025			
66			MWh	43,498	39,289	43,498	42,095	43,498	42,095	43,498	43,498	42,095			
67	Supply Available		MWh	9,857	8,903	9,857	9,539	9,857	9,539	9,857	9,857	9,539			
68															
69	Remaining supply		MWh	0	0	0	0	0	0	0	0	0			
70															
71															
72	Total Supply Applied to Consmption			9,857	8,903	9,857	9,539	9,857	9,539	9,857	9,857	9,539			
73															
74															
75	Uzbekistan 110kV		MWh	9,857	8,903	9,857	9,539	9,857	9,539	9,857	9,857	9,539			
76	Dispatching level all supply			100%	100%	100%	100%	100%	100%	100%	100%	100%			

1	Group1		Year	2008											
2				1	2	3	4	5	6	7	8	9	10	11	12
3	NET ENERGY AVAILABLE			31	28	31	30	31	30	31	31	30	31	30	31
4				Winter	Winter	Winter	Summer	Summer	Summer	Summer	Summer	Summer	Summer	Winter	Winter
5	Distribution Technical Losses			20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
6															
7															
8															
9	Turkmenistan 110kV		MWh	5,134	4,637	5,134	4,968	5,134	4,968	5,134	5,134	4,968			
10															
11	Total Supply Group1			5,134	4,637	5,134	4,968	5,134	4,968	5,134	5,134	4,968			
12	Total Supply after Distribution Losses			4,107	3,709	4,107	3,974	4,107	3,974	4,107	4,107	3,974			
13															
14	DEMAND														
15	Group1		Tol	20%											
16		peak Watts		67,068	67,068	67,068	67,068	67,068	67,068	67,068	67,068	67,068	67,068	67,068	67,068
17	Domestic	1,000		60,312	60,312	60,312	60,312	60,312	60,312	60,312	60,312	60,312	60,312	60,312	60,312
18	Commercial	5,000		6,281	6,281	6,281	6,281	6,281	6,281	6,281	6,281	6,281	6,281	6,281	6,281
19	Government	20,000		475	475	475	475	475	475	475	475	475	475	475	475
20															
21		Load Factors													
22	Domestic	40.0%	MWh	17,949	16,212	17,949	17,370	17,949	17,370	17,949	17,949	17,370			
23	Commercial	45.0%	MWh	10,515	9,497	10,515	10,176	10,515	10,176	10,515	10,515	10,176			
24	Government	45.0%	MWh	3,182	2,874	3,182	3,079	3,182	3,079	3,182	3,182	3,079			
25			MWh	31,646	28,583	31,646	30,625	31,646	30,625	31,646	31,646	30,625			
26	Import Supply available		MWh	4,107	3,709	4,107	3,974	4,107	3,974	4,107	4,107	3,974			
27															
28	Total Consumption			4,107	3,709	4,107	3,974	4,107	3,974	4,107	4,107	3,974			
29															
30	Total Supply Applied to Consmption			4,107	3,709	4,107	3,974	4,107	3,974	4,107	4,107	3,974			
31															
32	Dispatching														
33	Turkmenistan 110kV		MWh	4,107	3,709	4,107	3,974	4,107	3,974	4,107	4,107	3,974			
34	Dispatching level			100%	100%	100%	100%	100%	100%	100%	100%	100%			
35															
36															
37															
38															
39															
40															
41															
42															
43															

348														
349			2007											
350			1	2	3	4	5	6	7	8	9	10	11	12
351	Power Bought from Gencos													
352	Turkmenistan 110kV	MWH	5,580	5,040	5,580	5,400	5,580	5,400	5,580	5,580	5,400	5,580	5,400	5,580
353	Uzbekistan 110kV	MWH	13,392	12,096	13,392	12,960	13,392	12,960	13,392	13,392	12,960	13,392	12,960	13,392
354	Tajikistan 110 kV	MWH	3,720	3,360	3,720	3,600	3,720	3,600	3,720	3,720	3,600	3,720	3,600	3,720
355	Turkmenistan 220kV	MWH	-	-	-	-	-	-	-	-	-	-	-	-
356	Uzbekistan 220kV	MWH	-	-	-	-	-	-	-	-	-	-	-	-
357	Tajikistan 220 kV	MWH	-	-	-	-	-	-	-	-	-	-	-	-
358	Sheberghan	MWH	-	-	-	-	-	-	-	-	-	-	-	-
359														
360	Mahipar	MWH	12,276	11,088	12,276	11,880	-	-	-	-	-	-	-	-
361	Naghlu	MWH	22,320	20,160	22,320	21,600	22,320	36,000	37,200	37,200	21,600	22,320	21,600	22,320
362	Sorobi	MWH	8,184	7,392	8,184	7,920	8,184	-	-	-	-	-	-	-
363	NW Kabul	MWH	19,642	17,741	19,642	19,008	19,642	19,008	19,642	19,642	19,008	19,642	19,008	19,642
364	Kabul Small Diesels	MWH	-	-	-	-	-	-	-	-	-	-	-	-
365			-	-	-	-	-	-	-	-	-	-	-	-
366	Darunta	MWH	4,881	3,817	5,654	5,472	8,482	5,472	5,654	4,881	4,090	4,226	4,723	7,931
367		MWH	-	-	-	-	-	-	-	-	-	-	-	-
368	Kajaki	MWH	18,414	16,632	18,414	17,820	18,414	27,540	36,047	36,047	34,884	36,047	34,884	36,047
369	Kandahar Small Diesel	MWH	7,589	6,854	7,589	7,344	7,589	7,344	7,589	7,589	7,344	7,589	7,344	7,589
370	Kajaki II	MWH	-	-	-	-	-	-	-	-	-	-	-	-
371			-	-	-	-	-	-	-	-	-	-	-	-
372	Energy purchased from Gencos	MWH	109,516	98,356	110,252	106,695	101,275	110,799	121,702	120,967	102,783	106,209	103,384	109,728

322	SUMMARY		2007											
323			1	2	3	4	5	6	7	8	9	10	11	12
324	Power Sold to Discos after Transmission Losses													
325														
326	Turkmenistan 110kV	MWH	5,134	4,637	5,134	4,968	5,134	4,968	5,134	5,134	4,968	5,134	4,968	5,134
327	Uzbekistan 110kV	MWH	12,321	11,128	12,321	11,923	12,321	11,923	12,321	12,321	11,923	12,321	11,923	12,321
328	Tajikistan 110 kV	MWH	3,422	3,091	3,422	3,312	3,422	3,312	3,422	3,422	3,312	3,422	3,312	3,422
329	Turkmenistan 220kV	MWH	-	-	-	-	-	-	-	-	-	-	-	-
330	Uzbekistan 220kV	MWH	-	-	-	-	-	-	-	-	-	-	-	-
331	Tajikistan 220 kV	MWH	-	-	-	-	-	-	-	-	-	-	-	-
332	Sheberghan	MWH	-	-	-	-	-	-	-	-	-	-	-	-
333														
334	Mahipar	MWH	11,662	10,534	11,662	11,286	-	-	-	-	-	-	-	-
335	Naghlu	MWH	21,204	19,152	21,204	20,520	21,204	34,200	35,340	35,340	20,520	21,204	20,520	21,204
336	Sorobi	MWH	7,775	7,022	7,775	7,524	7,775	-	-	-	-	-	-	-
337	NW Kabul	MWH	18,660	16,854	18,660	18,058	18,660	18,058	18,660	18,660	18,058	18,660	18,058	18,660
338	Kabul Small Diesels	MWH	-	-	-	-	-	-	-	-	-	-	-	-
339														
340	Darunta	MWH	4,637	3,626	5,372	5,198	8,058	5,198	5,372	4,637	3,885	4,015	4,487	7,534
341		MWH												
342	Kajaki	MWH	17,493	15,800	17,493	16,929	17,493	26,163	34,244	34,244	33,140	34,244	33,140	34,244
343	Kandahar Small Diesel	MWH	7,209	6,512	7,209	6,977	7,209	6,977	7,209	7,209	6,977	7,209	6,977	7,209
344	Kajaki II	MWH	-	-	-	-	-	-	-	-	-	-	-	-
345														
346	Energy Supplied to Discos	MWH	109,516	98,356	110,252	106,695	101,275	110,799	121,702	120,967	102,783	106,209	103,384	109,728
347			-	-	-	-	-	-	-	-	-	-	-	-

279	STS			Year	2007										
280					1	2	3	4	5	6	7	8	9	10	11	12
281	NET ENERGY AVAILABLE				31	28	31	30	31	30	31	31	30	31	30	31
282					Winter	Winter	Winter	Summer	Summer	Summer	Summer	Summer	Summer	Summer	Winter	Winter
283																
284	Kajaki			MWh	17,493	15,800	17,493	16,929	17,493	26,163	34,244	34,244	33,140	34,244	33,140	34,244
285	Kandahar Small Diesel				7,209	6,512	7,209	6,977	7,209	6,977	7,209	7,209	6,977	7,209	6,977	7,209
286	Kajaki II				0	0	0	0	0	0	0	0	0	0	0	0
287																
288	Total Supply STS			MWh	24,703	22,312	24,703	23,906	24,703	33,140	41,454	41,454	40,117	41,454	40,117	41,454
289	Total Supply after Distribution Losses				17,292	15,618	17,292	16,734	17,292	23,198	29,018	29,018	28,082	29,018	28,082	29,018
290	Hydro Only Supply				17,493	15,800	17,493	16,929	17,493	26,163	34,244	34,244	33,140	34,244	33,140	34,244
291	Hydro only after Dist. Losses				12,245	11,060	12,245	11,850	12,245	18,314	23,971	23,971	23,198	23,971	23,198	23,971
292																
293	DEMAND		Tot. Customers	Tot	20%											
294	STS		Allocation peak Watts		64,726	64,726	64,726	64,726	64,726	64,726	64,726	64,726	64,726	64,726	64,726	64,726
295	Domestic	0.0%	1,000	0	53,058	53,058	53,058	53,058	53,058	53,058	53,058	53,058	53,058	53,058	53,058	53,058
296	Commercial	0.0%	5,000	0	11,346	11,346	11,346	11,346	11,346	11,346	11,346	11,346	11,346	11,346	11,346	11,346
297	Government	0.0%	20,000	0	322	322	322	322	322	322	322	322	322	322	322	322
298																
299			Load Factors													
300	Domestic		40.0%	MWh	15,790	14,262	15,790	15,281	15,790	15,281	15,790	15,790	15,281	15,790	15,281	15,790
301	Commercial		45.0%	MWh	18,993	17,155	18,993	18,381	18,993	18,381	18,993	18,993	18,381	18,993	18,381	18,993
302	Government		45.0%	MWh	2,153	1,945	2,153	2,084	2,153	2,084	2,153	2,153	2,084	2,153	2,084	2,153
303			Demand	MWh	36,937	33,362	36,937	35,745	36,937	35,745	36,937	36,937	35,745	36,937	35,745	36,937
304	Hydro Supply Applied to Demand				12,245	11,060	12,245	11,850	12,245	18,314	23,971	23,971	23,198	23,971	23,198	23,971
305																
306	Hydro Supply Remaining supply after				0	0	0	0	0	0	0	0	0	0	0	0
307																
308	Remaining demand				24,691	22,302	24,691	23,895	24,691	17,431	12,966	12,966	12,547	12,966	12,547	12,966
309																
310	Thermal Supply after dist. Losses				5,047	4,558	5,047	4,884	5,047	4,884	5,047	5,047	4,884	5,047	4,884	5,047
311	Demand to be supplied by Thermal				24,691	22,302	24,691	23,895	24,691	17,431	12,966	12,966	12,547	12,966	12,547	12,966
312	Thermal Supply applied to remaining demand				5,047	4,558	5,047	4,884	5,047	4,884	5,047	5,047	4,884	5,047	4,884	5,047
313																
314	Total Consumption Servable				17,292	15,618	17,292	16,734	17,292	23,198	29,018	29,018	28,082	29,018	28,082	29,018
315	Total Supply Applied to Consumption				17,292	15,618	17,292	16,734	17,292	23,198	29,018	29,018	28,082	29,018	28,082	29,018
316	Dispatching level Hydro supply				100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
317	Dispatching level Thermal supply				100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
318																
319																
320																
321																

265		Year	2007											
266	Power Procurement NEPS		1	2	3	4	5	6	7	8	9	10	11	12
267	Turkmenistan 220kV	MWh												
268	Uzbekistan 220kV	MWh												
269	Tajikistan 220 kV	MWh												
270	Sheberghan	MWh												
271														
272	Mahipar	MWh												
273	Naghlu	MWh												
274	Sorobi	MWh												
275	Darunta	MWh												
276	NW Kabul	MWh												
277	Kabul Small Diesels	MWh												
278														

228	Kabul Small Dies after.dist. Losses		MWh												
229															
230	KABUL		Year												
231															
232	Kabul Area Total Supply after dist losses														
233	Hydro Only Suppl after.dist. Losses														
234															
235	DEMAND	Tot. Customers													
236	Group4+Group5	peak Watts		184,392	184,392	184,392	184,392	184,392	184,392	184,392	184,392	184,392	184,392	184,392	184,392
237	Domestic	1,000		172,753	172,753	172,753	172,753	172,753	172,753	172,753	172,753	172,753	172,753	172,753	172,753
238	Commercial	5,000		9,854	9,854	9,854	9,854	9,854	9,854	9,854	9,854	9,854	9,854	9,854	9,854
239	Government	20,000		1,784	1,784	1,784	1,784	1,784	1,784	1,784	1,784	1,784	1,784	1,784	1,784
240															
241		Load Factors													
242	Domestic	40.0%	MWh												
243	Commercial	45.0%	MWh												
244	Government	45.0%	MWh												
245		Demand	MWh												
246	Hydro Supply Available for	in Kabul													
247															
248															
249	Remaining demand after hydro all used up														
250															
251	Supply Procured from NTS - Salang														
252															
253															
254	220 Supply used in the North Before dist. Losses														
255	Supply Procured from NTS - Salang bef dist losses														
256	Total 220 + Sheberghan bef dist losses														
257															
258	Remaining demand in Kabul after N. Salang														
259															
260	Thermal Supply applied to remaining demand														
261															
262	Dispatching level hydro														
263	Dispatching level Thermal														
264	Dispatching level 220 Imports & Sheb - Kabul														

185	NTS			Year											
186	Group1+Group2+Group3														
187	North of Salang														
188	Supply (bef Dist losses)														
189	Turkmenistan 110kV														
190	Uzbekistan 110kV														
191	Tajikistan 110 kV														
192	Turkmenistan 220kV														
193	Uzbekistan 220kV														
194	Tajikistan 220 kV														
195	Sheberghan														
196	Total Supply North of Salang														
197	220 Imports & Sheberghan														
198	220/Sheb supply after dist. Losses														
199															
200	DEMAND	GROUP1 + GROUP2 + GROUP3													
201	North of Salang														
202					155,713	155,713	155,713	155,713	155,713	155,713	155,713	155,713	155,713	155,713	155,713
203	Domestic		1,000		142,799	142,799	142,799	142,799	142,799	142,799	142,799	142,799	142,799	142,799	142,799
204	Commercial		5,000		11,338	11,338	11,338	11,338	11,338	11,338	11,338	11,338	11,338	11,338	11,338
205	Government		20,000		1,577	1,577	1,577	1,577	1,577	1,577	1,577	1,577	1,577	1,577	1,577
206															
207			Load Factors												
208	Domestic		40.0%	MWh											
209	Commercial		45.0%	MWh											
210	Government		45.0%	MWh											
211			Demand	MWh											
212															
213	220 Used North of Salang aft dist losses			MWh											
214															
215	Remaining 220/Sheb BEFORE dist. Loss			MWh											
216	Remaining 220/Sheb AFTER dist. Losse:			MWh											
217	Limit of Salang Pass Line		575	MWh											
218															
219	Available to send over Salang BEFORE DIST LOSSE														
220															
221	Calculation of Serving Kabul														
222	Available from North of Salang AFT dist losses														
223	Mahipar	after.dist. Losses		MWh											
224	Naghlu	after.dist. Losses		MWh											
225	Sorobi	after.dist. Losses		MWh											
226	Darunta	after.dist. Losses		MWh											
227	NW Kabul	after.dist. Losses		MWh											

152	Group5			Year	2007										
153					1	2	3	4	5	6	7	8	9	10	11	12
154	NET ENERGY AVAILABLE				31	28	31	30	31	30	31	31	30	31	30	31
155					Winter	Winter	Winter	Summer	Summer	Summer	Summer	Summer	Summer	Summer	Winter	Winter
156																
157	Darunta			MWh	4,637	3,626	5,372	5,198	8,058	5,198	5,372	4,637	3,885	4,015	4,487	7,534
158																
159																
160	Total Supply Group5			MWh	4,637	3,626	5,372	5,198	8,058	5,198	5,372	4,637	3,885	4,015	4,487	7,534
161																
162	Hydro Only Supply				4,637	3,626	5,372	5,198	8,058	5,198	5,372	4,637	3,885	4,015	4,487	7,534
163	Hydro Only Supply after dist. Losses				3,246	2,538	3,760	3,639	5,640	3,639	3,760	3,246	2,720	2,810	3,141	5,274
164																
165	DEMAND		Tot. Customers	Tol	20%											
166	Group5		Allocation peak Watts		10,915	10,915	10,915	10,915	10,915	10,915	10,915	10,915	10,915	10,915	10,915	10,915
167	Domestic	0.0%	1,000		9,248	9,248	9,248	9,248	9,248	9,248	9,248	9,248	9,248	9,248	9,248	9,248
168	Commercial	0.0%	5,000		1,416	1,416	1,416	1,416	1,416	1,416	1,416	1,416	1,416	1,416	1,416	1,416
169	Government	0.0%	20,000		251	251	251	251	251	251	251	251	251	251	251	251
170																
171			Load Factors													
172	Domestic		40.0%	MWh	2,752	2,486	2,752	2,664	2,752	2,664	2,752	2,752	2,664	2,752	2,664	2,752
173	Commercial		45.0%	MWh	2,370	2,141	2,370	2,294	2,370	2,294	2,370	2,370	2,294	2,370	2,294	2,370
174	Government		45.0%	MWh	1,679	1,517	1,679	1,625	1,679	1,625	1,679	1,679	1,625	1,679	1,625	1,679
175					6,802	6,144	6,802	6,583	6,802	6,583	6,802	6,802	6,583	6,802	6,583	6,802
176	Hydro Supply Applied against Consumption				3,246	2,538	3,760	3,639	5,640	3,639	3,760	3,246	2,720	2,810	3,141	5,274
177																
178	Hydro Supply Remaining supply after				0	0	0	0	0	0	0	0	0	0	0	0
179																
180	Total Supply Applied				4,637	3,626	5,372	5,198	8,058	5,198	5,372	4,637	3,885	4,015	4,487	7,534
181																
182	Darunta				4,637	3,626	5,372	5,198	8,058	5,198	5,372	4,637	3,885	4,015	4,487	7,534
183	Dispatching level hydro supply				100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
184																

109	Group4			Year	2007										
110					1	2	3	4	5	6	7	8	9	10	11	12
111	SUPPLY				Winter	Winter	Winter	Summer	Summer	Summer	Summer	Summer	Summer	Summer	Winter	Winter
112	Mahipar	9,330	MWh		11,662	10,534	11,662	11,286	0	0	0	0	0	0	0	0
113	Naghlu	21,204	MWh		21,204	19,152	21,204	20,520	21,204	34,200	35,340	35,340	20,520	21,204	20,520	21,204
114	Sorobi	7,775	MWh		7,775	7,022	7,775	7,524	7,775	0	0	0	0	0	0	0
115	NW Kabul	9,330	MWh		18,660	16,854	18,660	18,058	18,660	18,058	18,660	18,660	18,058	18,660	18,058	18,660
116	Kabul Small Diesels	0	MWh		0	0	0	0	0	0	0	0	0	0	0	0
117	Total Supply Group4		MWh		59,301	53,562	59,301	57,388	47,638	52,258	54,000	54,000	38,578	39,864	38,578	39,864
118	Total Supply after Distribution Losses				41,510	37,493	41,510	40,171	33,347	36,580	37,800	37,800	27,004	27,904	27,004	27,904
119	Hydro Only Supply				40,641	36,708	40,641	39,330	28,979	34,200	35,340	35,340	20,520	21,204	20,520	21,204
120	Hydro only after Dist. Losses				28,449	25,696	28,449	27,531	20,285	23,940	24,738	24,738	14,364	14,843	14,364	14,843
121																
122	DEMAND															
123				Tol	20%											
124	Group4	peak Watts			173,477	173,477	173,477	173,477	173,477	173,477	173,477	173,477	173,477	173,477	173,477	173,477
125	Domestic	1,000			163,505	163,505	163,505	163,505	163,505	163,505	163,505	163,505	163,505	163,505	163,505	163,505
126	Commercial	5,000			8,438	8,438	8,438	8,438	8,438	8,438	8,438	8,438	8,438	8,438	8,438	8,438
127	Government	20,000			1,534	1,534	1,534	1,534	1,534	1,534	1,534	1,534	1,534	1,534	1,534	1,534
128																
129		Load Factors														
130	Domestic	40.0%	MWh		48,659	43,950	48,659	47,089	48,659	47,089	48,659	48,659	47,089	48,659	47,089	48,659
131	Commercial	45.0%	MWh		14,126	12,759	14,126	13,670	14,126	13,670	14,126	14,126	13,670	14,126	13,670	14,126
132	Government	45.0%	MWh		10,269	9,275	10,269	9,938	10,269	9,938	10,269	10,269	9,938	10,269	9,938	10,269
133			MWh		73,054	65,984	73,054	70,697	73,054	70,697	73,054	73,054	70,697	73,054	70,697	73,054
134	Hydro Supply applied to demand				28,449	25,696	28,449	27,531	20,285	23,940	24,738	24,738	14,364	14,843	14,364	14,843
135																
136	Remaining demand				44,605	40,289	44,605	43,166	52,769	46,757	48,316	48,316	56,333	58,211	56,333	58,211
137	Thermal Supply after dist. Losses				13,062	11,798	13,062	12,640	13,062	12,640	13,062	13,062	12,640	13,062	12,640	13,062
138	Thermal Supply applied to remaining demand				13,062	11,798	13,062	12,640	13,062	12,640	13,062	13,062	12,640	13,062	12,640	13,062
139																
140	Remaining demand				31,544	28,491	31,544	30,526	39,707	34,117	35,254	35,254	43,693	45,149	43,693	45,149
141																
142	Dispatching level Thermal				100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
143	Dispatching Level Hydro				100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
144																
145	Power Acquired from Transco															
146	Mahipar				11,662	10,534	11,662	11,286	0	0	0	0	0	0	0	0
147	Naghlu				21,204	19,152	21,204	20,520	21,204	34,200	35,340	35,340	20,520	21,204	20,520	21,204
148	Sorobi				7,775	7,022	7,775	7,524	7,775	0	0	0	0	0	0	0
149	NW Kabul				18,660	16,854	18,660	18,058	18,660	18,058	18,660	18,660	18,058	18,660	18,058	18,660
150	Kabul Small Diesels				0	0	0	0	0	0	0	0	0	0	0	0
151																

77	Group3		Year	2007											
78				1	2	3	4	5	6	7	8	9	10	11	12
79	NET ENERGY AVAILABLE			31	28	31	30	31	30	31	31	30	31	30	31
80				Winter	Winter	Winter	Summer	Summer	Summer	Summer	Summer	Summer	Summer	Winter	Winter
81															
82	Tajikistan 110 kV		MWh	3,422	3,091	3,422	3,312	3,422	3,312	3,422	3,422	3,312	3,422	3,312	3,422
83															
84	Total Supply Group3		MWh	3,422	3,091	3,422	3,312	3,422	3,312	3,422	3,422	3,312	3,422	3,312	3,422
85	Total Supply after Distribution Losses			2,396	2,164	2,396	2,318	2,396	2,318	2,396	2,396	2,318	2,396	2,318	2,396
86	DEMAND														
87															
88	Group3		Tot	20%											
89		peak Watts		18,612	18,612	18,612	18,612	18,612	18,612	18,612	18,612	18,612	18,612	18,612	18,612
90	Domestic	1,000		16,339	16,339	16,339	16,339	16,339	16,339	16,339	16,339	16,339	16,339	16,339	16,339
91	Commercial	5,000		2,124	2,124	2,124	2,124	2,124	2,124	2,124	2,124	2,124	2,124	2,124	2,124
92	Government	20,000		149	149	149	149	149	149	149	149	149	149	149	149
93															
94		Load Factors													
95	Domestic	40.0%	MWh	4,863	4,392	4,863	4,706	4,863	4,706	4,863	4,863	4,706	4,863	4,706	4,863
96	Commercial	45.0%	MWh	3,556	3,211	3,556	3,441	3,556	3,441	3,556	3,556	3,441	3,556	3,441	3,556
97	Government	45.0%	MWh	996	900	996	964	996	964	996	996	964	996	964	996
98			MWh	9,414	8,503	9,414	9,111	9,414	9,111	9,414	9,414	9,111	9,414	9,111	9,414
99	Supply Available for		MWh	2,396	2,164	2,396	2,318	2,396	2,318	2,396	2,396	2,318	2,396	2,318	2,396
100															
101	Remaining supply after		MWh	0	0	0	0	0	0	0	0	0	0	0	0
102															
103															
104	Total Supply Applied to Consmption			2,396	2,164	2,396	2,318	2,396	2,318	2,396	2,396	2,318	2,396	2,318	2,396
105															
106	Dispatching level all supply			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
107	Tajikistan 110 kV			3,422	3,091	3,422	3,312	3,422	3,312	3,422	3,422	3,312	3,422	3,312	3,422
108															

44	Group2		Year	2007											
45				1	2	3	4	5	6	7	8	9	10	11	12
46	NET ENERGY AVAILABLE			31	28	31	30	31	30	31	31	30	31	30	31
47				Winter	Winter	Winter	Summer	Summer	Summer	Summer	Summer	Summer	Summer	Winter	Winter
48															
49	Uzbekistan 110kV		MWh	12,321	11,128	12,321	11,923	12,321	11,923	12,321	12,321	11,923	12,321	11,923	12,321
50															
51	Total Supply Group2			12,321	11,128	12,321	11,923	12,321	11,923	12,321	12,321	11,923	12,321	11,923	12,321
52	Total Supply after Distribution Losses			8,624	7,790	8,624	8,346	8,624	8,346	8,624	8,624	8,346	8,624	8,346	8,624
53															
54	DEMAND														
55															
56	Group2		Tol	20%											
57		peak Watts		81,211	81,211	81,211	81,211	81,211	81,211	81,211	81,211	81,211	81,211	81,211	81,211
58	Domestic	1,000		76,200	76,200	76,200	76,200	76,200	76,200	76,200	76,200	76,200	76,200	76,200	76,200
59	Commercial	5,000		3,979	3,979	3,979	3,979	3,979	3,979	3,979	3,979	3,979	3,979	3,979	3,979
60	Government	20,000		1,032	1,032	1,032	1,032	1,032	1,032	1,032	1,032	1,032	1,032	1,032	1,032
61															
62		Load Factors													
63	Domestic	40.0%	MWh	22,677	20,483	22,677	21,946	22,677	21,946	22,677	22,677	21,946	22,677	21,946	22,677
64	Commercial	45.0%	MWh	6,661	6,017	6,661	6,446	6,661	6,446	6,661	6,661	6,446	6,661	6,446	6,661
65	Government	45.0%	MWh	6,910	6,242	6,910	6,687	6,910	6,687	6,910	6,910	6,687	6,910	6,687	6,910
66			MWh	36,249	32,741	36,249	35,079	36,249	35,079	36,249	36,249	35,079	36,249	35,079	36,249
67	Supply Available		MWh	8,624	7,790	8,624	8,346	8,624	8,346	8,624	8,624	8,346	8,624	8,346	8,624
68															
69	Remaining supply		MWh	0	0	0	0	0	0	0	0	0	0	0	0
70															
71															
72	Total Supply Applied to Consmption			8,624	7,790	8,624	8,346	8,624	8,346	8,624	8,624	8,346	8,624	8,346	8,624
73															
74															
75	Uzbekistan 110kV		MWh	8,624	7,790	8,624	8,346	8,624	8,346	8,624	8,624	8,346	8,624	8,346	8,624
76	Dispatching level all supply			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

1	Group1		Year	2007										
2				1	2	3	4	5	6	7	8	9	10	11	12
3	NET ENERGY AVAILABLE			31	28	31	30	31	30	31	31	30	31	30	31
4				Winter	Winter	Winter	Summer	Summer	Summer	Summer	Summer	Summer	Summer	Winter	Winter
5	Distribution Technical Losses			30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
6															
7															
8															
9	Turkmenistan 110kV		MWh	5,134	4,637	5,134	4,968	5,134	4,968	5,134	5,134	4,968	5,134	4,968	5,134
10															
11	Total Supply Group1			5,134	4,637	5,134	4,968	5,134	4,968	5,134	5,134	4,968	5,134	4,968	5,134
12	Total Supply after Distribution Losses			3,594	3,246	3,594	3,478	3,594	3,478	3,594	3,594	3,478	3,594	3,478	3,594
13															
14	DEMAND														
15	Group1		Tol	20%											
16		peak Watts		55,890	55,890	55,890	55,890	55,890	55,890	55,890	55,890	55,890	55,890	55,890	55,890
17	Domestic	1,000		50,260	50,260	50,260	50,260	50,260	50,260	50,260	50,260	50,260	50,260	50,260	50,260
18	Commercial	5,000		5,234	5,234	5,234	5,234	5,234	5,234	5,234	5,234	5,234	5,234	5,234	5,234
19	Government	20,000		396	396	396	396	396	396	396	396	396	396	396	396
20															
21		Load Factors													
22	Domestic	40.0%	MWh	14,957	13,510	14,957	14,475	14,957	14,475	14,957	14,957	14,475	14,957	14,475	14,957
23	Commercial	45.0%	MWh	8,762	7,914	8,762	8,480	8,762	8,480	8,762	8,762	8,480	8,762	8,480	8,762
24	Government	45.0%	MWh	2,652	2,395	2,652	2,566	2,652	2,566	2,652	2,652	2,566	2,652	2,566	2,652
25			MWh	26,371	23,819	26,371	25,521	26,371	25,521	26,371	26,371	25,521	26,371	25,521	26,371
26	Import Supply available		MWh	3,594	3,246	3,594	3,478	3,594	3,478	3,594	3,594	3,478	3,594	3,478	3,594
27															
28	Total Consumption			3,594	3,246	3,594	3,478	3,594	3,478	3,594	3,594	3,478	3,594	3,478	3,594
29															
30	Total Supply Applied to Consmption			3,594	3,246	3,594	3,478	3,594	3,478	3,594	3,594	3,478	3,594	3,478	3,594
31															
32	Dispatching														
33	Turkmenistan 110kV		MWh	3,594	3,246	3,594	3,478	3,594	3,478	3,594	3,594	3,478	3,594	3,478	3,594
34	Dispatching level			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
35															
36															
37															
38															
39															
40															
41															
42															
43															

348														
349			2006											
350			1	2	3	4	5	6	7	8	9	10	11	12
351	Power Bought from Gencos													
352	Turkmenistan 110kV	MWH	5,580	5,040	5,580	5,400	5,580	5,400	5,580	5,580	5,400	5,580	5,400	5,580
353	Uzbekistan 110kV	MWH	13,392	12,096	13,392	12,960	13,392	12,960	13,392	13,392	12,960	13,392	12,960	13,392
354	Tajikistan 110 kV	MWH	3,720	3,360	3,720	3,600	3,720	3,600	3,720	3,720	3,600	3,720	3,600	3,720
355	Turkmenistan 220kV	MWH	-	-	-	-	-	-	-	-	-	-	-	-
356	Uzbekistan 220kV	MWH	-	-	-	-	-	-	-	-	-	-	-	-
357	Tajikistan 220 kV	MWH	-	-	-	-	-	-	-	-	-	-	-	-
358	Sheberghan	MWH	-	-	-	-	-	-	-	-	-	-	-	-
359														
360	Mahipar	MWH	12,276	11,088	12,276	11,880	-	-	-	-	-	-	-	-
361	Naghlu	MWH	22,320	20,160	22,320	21,600	22,320	36,000	37,200	37,200	21,600	22,320	21,600	22,320
362	Sorobi	MWH	8,184	7,392	8,184	7,920	8,184	-	-	-	-	-	-	-
363	NW Kabul	MWH	9,821	8,870	9,821	9,504	9,821	9,504	9,821	9,821	9,504	19,642	19,008	19,642
364	Kabul Small Diesels	MWH	-	-	-	-	-	-	-	-	-	-	-	-
365			-	-	-	-	-	-	-	-	-	-	-	-
366	Darunta	MWH	6,101	4,771	7,068	6,840	7,068	5,472	5,654	7,321	6,134	6,339	4,723	4,881
367		MWH	-	-	-	-	-	-	-	-	-	-	-	-
368	Kajaki	MWH	18,414	16,632	18,414	17,820	18,414	17,820	18,414	18,414	17,820	18,414	17,820	18,414
369	Kandahar Small Diesel	MWH	7,589	6,854	7,589	7,344	7,589	7,344	7,589	7,589	7,344	7,589	7,344	7,589
370	Kajaki II	MWH	-	-	-	-	-	-	-	-	-	-	-	-
371			-	-	-	-	-	-	-	-	-	-	-	-
372	Energy purchased from Gencos	MWH	101,346	90,836	102,265	98,966	90,602	92,536	95,621	97,204	79,485	91,465	87,174	90,079

322	SUMMARY		2006											
323			1	2	3	4	5	6	7	8	9	10	11	12
324	Power Sold to Discos after Transmission Losses													
325														
326	Turkmenistan 110kV	MWH	5,134	4,637	5,134	4,968	5,134	4,968	5,134	5,134	4,968	5,134	4,968	5,134
327	Uzbekistan 110kV	MWH	12,321	11,128	12,321	11,923	12,321	11,923	12,321	12,321	11,923	12,321	11,923	12,321
328	Tajikistan 110 kV	MWH	3,422	3,091	3,422	3,312	3,422	3,312	3,422	3,422	3,312	3,422	3,312	3,422
329	Turkmenistan 220kV	MWH	-	-	-	-	-	-	-	-	-	-	-	-
330	Uzbekistan 220kV	MWH	-	-	-	-	-	-	-	-	-	-	-	-
331	Tajikistan 220 kV	MWH	-	-	-	-	-	-	-	-	-	-	-	-
332	Sheberghan	MWH	-	-	-	-	-	-	-	-	-	-	-	-
333														
334	Mahipar	MWH	11,662	10,534	11,662	11,286	-	-	-	-	-	-	-	-
335	Naghlu	MWH	21,204	19,152	21,204	20,520	21,204	34,200	35,340	35,340	20,520	21,204	20,520	21,204
336	Sorobi	MWH	7,775	7,022	7,775	7,524	7,775	-	-	-	-	-	-	-
337	NW Kabul	MWH	9,330	8,427	9,330	9,029	9,330	9,029	9,330	9,330	9,029	18,660	18,058	18,660
338	Kabul Small Diesels	MWH	-	-	-	-	-	-	-	-	-	-	-	-
339														
340	Darunta	MWH	5,796	4,533	6,715	6,498	6,715	5,198	5,372	6,955	5,828	6,022	4,487	4,637
341		MWH												
342	Kajaki	MWH	17,493	15,800	17,493	16,929	17,493	16,929	17,493	17,493	16,929	17,493	16,929	17,493
343	Kandahar Small Diesel	MWH	7,209	6,512	7,209	6,977	7,209	6,977	7,209	7,209	6,977	7,209	6,977	7,209
344	Kajaki II	MWH	-	-	-	-	-	-	-	-	-	-	-	-
345														
346	Energy Supplied to Discos	MWH	101,346	90,836	102,265	98,966	90,602	92,536	95,621	97,204	79,485	91,465	87,174	90,079
347														

279	STS			Year	2006										
280					1	2	3	4	5	6	7	8	9	10	11	12
281	NET ENERGY AVAILABLE				31	28	31	30	31	30	31	31	30	31	30	31
282					Winter	Winter	Winter	Summer	Summer	Summer	Summer	Summer	Summer	Summer	Winter	Winter
283																
284	Kajaki			MWh	17,493	15,800	17,493	16,929	17,493	16,929	17,493	17,493	16,929	17,493	16,929	17,493
285	Kandahar Small Diesel				7,209	6,512	7,209	6,977	7,209	6,977	7,209	7,209	6,977	7,209	6,977	7,209
286	Kajaki II				0	0	0	0	0	0	0	0	0	0	0	0
287																
288	Total Supply STS			MWh	24,703	22,312	24,703	23,906	24,703	23,906	24,703	24,703	23,906	24,703	23,906	24,703
289	Total Supply after Distribution Losses				14,822	13,387	14,822	14,343	14,822	14,343	14,822	14,822	14,343	14,822	14,343	14,822
290	Hydro Only Supply				17,493	15,800	17,493	16,929	17,493	16,929	17,493	17,493	16,929	17,493	16,929	17,493
291	Hydro only after Dist. Losses				10,496	9,480	10,496	10,157	10,496	10,157	10,496	10,496	10,157	10,496	10,157	10,496
292																
293	DEMAND	Tot. Customers		Tot. Customers												
294	STS	Allocation	peak Watts		53,938	53,938	53,938	53,938	53,938	53,938	53,938	53,938	53,938	53,938	53,938	53,938
295	Domestic	0.0%	1,000	0	44,215	44,215	44,215	44,215	44,215	44,215	44,215	44,215	44,215	44,215	44,215	44,215
296	Commercial	0.0%	5,000	0	9,455	9,455	9,455	9,455	9,455	9,455	9,455	9,455	9,455	9,455	9,455	9,455
297	Government	0.0%	20,000	0	268	268	268	268	268	268	268	268	268	268	268	268
298																
299		Load Factors														
300	Domestic		40.0%	MWh	13,158	11,885	13,158	12,734	13,158	12,734	13,158	13,158	12,734	13,158	12,734	13,158
301	Commercial		45.0%	MWh	15,828	14,296	15,828	15,317	15,828	15,317	15,828	15,828	15,317	15,828	15,317	15,828
302	Government		45.0%	MWh	1,795	1,621	1,795	1,737	1,795	1,737	1,795	1,795	1,737	1,795	1,737	1,795
303		Demand		MWh	30,781	27,802	30,781	29,788	30,781	29,788	30,781	30,781	29,788	30,781	29,788	30,781
304	Hydro Supply Applied to Demand				10,496	9,480	10,496	10,157	10,496	10,157	10,496	10,496	10,157	10,496	10,157	10,496
305																
306	Hydro Supply Remaining supply after				0	0	0	0	0	0	0	0	0	0	0	0
307																
308	Remaining demand				20,285	18,322	20,285	19,630	20,285	19,630	20,285	20,285	19,630	20,285	19,630	20,285
309																
310	Thermal Supply after dist. Losses				4,326	3,907	4,326	4,186	4,326	4,186	4,326	4,326	4,186	4,326	4,186	4,326
311	Demand to be supplied by Thermal				20,285	18,322	20,285	19,630	20,285	19,630	20,285	20,285	19,630	20,285	19,630	20,285
312	Thermal Supply applied to remaining demand				4,326	3,907	4,326	4,186	4,326	4,186	4,326	4,326	4,186	4,326	4,186	4,326
313																
314	Total Consumption Servable				14,822	13,387	14,822	14,343	14,822	14,343	14,822	14,822	14,343	14,822	14,343	14,822
315	Total Supply Applied to Consumption				14,822	13,387	14,822	14,343	14,822	14,343	14,822	14,822	14,343	14,822	14,343	14,822
316	Dispatching level Hydro supply				100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
317	Dispatching level Thermal supply				100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
318																
319																
320																
321																

265		Year	2006											
266	Power Procurement NEPS		1	2	3	4	5	6	7	8	9	10	11	12
267	Turkmenistan 220kV	MWh												
268	Uzbekistan 220kV	MWh												
269	Tajikistan 220 kV	MWh												
270	Sheberghan	MWh												
271														
272	Mahipar	MWh												
273	Naghlu	MWh												
274	Sorobi	MWh												
275	Darunta	MWh												
276	NW Kabul	MWh												
277	Kabul Small Diesels	MWh												
278														

228	Kabul Small Dies after.dist. Losses		MWh												
229															
230	KABUL		Year												
231															
232	Kabul Area Total Supply after dist losses														
233	Hydro Only Suppl after.dist. Losses														
234															
235	DEMAND	Tot. Customers													
236	Group4+Group5	peak Watts		153,660	153,660	153,660	153,660	153,660	153,660	153,660	153,660	153,660	153,660	153,660	153,660
237	Domestic	1,000		143,961	143,961	143,961	143,961	143,961	143,961	143,961	143,961	143,961	143,961	143,961	143,961
238	Commercial	5,000		8,212	8,212	8,212	8,212	8,212	8,212	8,212	8,212	8,212	8,212	8,212	8,212
239	Government	20,000		1,487	1,487	1,487	1,487	1,487	1,487	1,487	1,487	1,487	1,487	1,487	1,487
240															
241		Load Factors													
242	Domestic	40.0%	MWh												
243	Commercial	45.0%	MWh												
244	Government	45.0%	MWh												
245		Demand	MWh												
246	Hydro Supply Available for	in Kabul													
247															
248															
249	Remaining demand after hydro all used up														
250															
251	Supply Procured from NTS - Salang														
252															
253															
254	220 Supply used in the North Before dist. Losses														
255	Supply Procured from NTS - Salang bef dist losses														
256	Total 220 + Sheberghan bef dist losses														
257															
258	Remaining demand in Kabul after N. Salang														
259															
260	Thermal Supply applied to remaining demand														
261															
262	Dispatching level hydro														
263	Dispatching level Thermal														
264	Dispatching level 220 Imports & Sheb - Kabul														

185	NTS			Year											
186	Group1+Group2+Group3														
187	North of Salang														
188	Supply (bef Dist losses)														
189	Turkmenistan 110kV														
190	Uzbekistan 110kV														
191	Tajikistan 110 kV														
192	Turkmenistan 220kV														
193	Uzbekistan 220kV														
194	Tajikistan 220 kV														
195	Sheberghan														
196	Total Supply North of Salang														
197	220 Imports & Sheberghan														
198	220/Sheb supply after dist. Losses														
199															
200	DEMAND	GROUP1 + GROUP2 + GROUP3													
201	North of Salang														
202					129,761	129,761	129,761	129,761	129,761	129,761	129,761	129,761	129,761	129,761	129,761
203	Domestic		1,000		118,999	118,999	118,999	118,999	118,999	118,999	118,999	118,999	118,999	118,999	118,999
204	Commercial		5,000		9,448	9,448	9,448	9,448	9,448	9,448	9,448	9,448	9,448	9,448	9,448
205	Government		20,000		1,314	1,314	1,314	1,314	1,314	1,314	1,314	1,314	1,314	1,314	1,314
206															
207			Load Factors												
208	Domestic		40.0%	MWh											
209	Commercial		45.0%	MWh											
210	Government		45.0%	MWh											
211			Demand	MWh											
212															
213	220 Used North of Salang aft dist losses			MWh											
214															
215	Remaining 220/Sheb BEFORE dist. Loss			MWh											
216	Remaining 220/Sheb AFTER dist. Losse:			MWh											
217	Limit of Salang Pass Line		575	MWh											
218															
219	Available to send over Salang BEFORE DIST LOSSES														
220															
221	Calculation of Serving Kabul														
222	Available from North of Salang AFT dist losses														
223	Mahipar	after.dist. Losses		MWh											
224	Naghlu	after.dist. Losses		MWh											
225	Sorobi	after.dist. Losses		MWh											
226	Darunta	after.dist. Losses		MWh											
227	NW Kabul	after.dist. Losses		MWh											

152	Group5			Year	2006										
153					1	2	3	4	5	6	7	8	9	10	11	12
154	NET ENERGY AVAILABLE				31	28	31	30	31	30	31	31	30	31	30	31
155					Winter	Winter	Winter	Summer	Summer	Summer	Summer	Summer	Summer	Summer	Winter	Winter
156																
157	Darunta			MWh	5,796	4,533	6,715	6,498	6,715	5,198	5,372	6,955	5,828	6,022	4,487	4,637
158																
159																
160	Total Supply Group5			MWh	5,796	4,533	6,715	6,498	6,715	5,198	5,372	6,955	5,828	6,022	4,487	4,637
161																
162	Hydro Only Supply				5,796	4,533	6,715	6,498	6,715	5,198	5,372	6,955	5,828	6,022	4,487	4,637
163	Hydro Only Supply after dist. Losses				3,477	2,720	4,029	3,899	4,029	3,119	3,223	4,173	3,497	3,613	2,692	2,782
164																
165	DEMAND	Tot. Customers		Tot. Customers												
166	Group5	Allocation peak Watts			9,096	9,096	9,096	9,096	9,096	9,096	9,096	9,096	9,096	9,096	9,096	9,096
167	Domestic	0.0%	1,000		7,707	7,707	7,707	7,707	7,707	7,707	7,707	7,707	7,707	7,707	7,707	7,707
168	Commercial	0.0%	5,000		1,180	1,180	1,180	1,180	1,180	1,180	1,180	1,180	1,180	1,180	1,180	1,180
169	Government	0.0%	20,000		209	209	209	209	209	209	209	209	209	209	209	209
170																
171		Load Factors														
172	Domestic		40.0%	MWh	2,294	2,072	2,294	2,220	2,294	2,220	2,294	2,294	2,220	2,294	2,220	2,294
173	Commercial		45.0%	MWh	1,975	1,784	1,975	1,912	1,975	1,912	1,975	1,975	1,912	1,975	1,912	1,975
174	Government		45.0%	MWh	1,399	1,264	1,399	1,354	1,399	1,354	1,399	1,399	1,354	1,399	1,354	1,399
175					5,668	5,120	5,668	5,486	5,668	5,486	5,668	5,668	5,486	5,668	5,486	5,668
176	Hydro Supply Applied against Consumption				3,477	2,720	4,029	3,899	4,029	3,119	3,223	4,173	3,497	3,613	2,692	2,782
177																
178	Hydro Supply Remaining supply after				0	0	0	0	0	0	0	0	0	0	0	0
179																
180	Total Supply Applied				5,796	4,533	6,715	6,498	6,715	5,198	5,372	6,955	5,828	6,022	4,487	4,637
181																
182	Darunta				5,796	4,533	6,715	6,498	6,715	5,198	5,372	6,955	5,828	6,022	4,487	4,637
183	Dispatching level hydro supply				100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
184																

109	Group4			Year	2006										
110					1	2	3	4	5	6	7	8	9	10	11	12
111	SUPPLY				Winter	Winter	Winter	Summer	Summer	Summer	Summer	Summer	Summer	Summer	Winter	Winter
112	Mahipar	9,330	MWh		11,662	10,534	11,662	11,286	0	0	0	0	0	0	0	0
113	Naghlu	21,204	MWh		21,204	19,152	21,204	20,520	21,204	34,200	35,340	35,340	20,520	21,204	20,520	21,204
114	Sorobi	7,775	MWh		7,775	7,022	7,775	7,524	7,775	0	0	0	0	0	0	0
115	NW Kabul	9,330	MWh		9,330	8,427	9,330	9,029	9,330	9,029	9,330	9,330	9,029	18,660	18,058	18,660
116	Kabul Small Diesels	0	MWh		0	0	0	0	0	0	0	0	0	0	0	0
117	Total Supply Group4		MWh		49,971	45,135	49,971	48,359	38,309	43,229	44,670	44,670	29,549	39,864	38,578	39,864
118	Total Supply after Distribution Losses				29,982	27,081	29,982	29,015	22,985	25,937	26,802	26,802	17,729	23,918	23,147	23,918
119	Hydro Only Supply				40,641	36,708	40,641	39,330	28,979	34,200	35,340	35,340	20,520	21,204	20,520	21,204
120	Hydro only after Dist. Losses				24,385	22,025	24,385	23,598	17,387	20,520	21,204	21,204	12,312	12,722	12,312	12,722
121																
122	DEMAND															
123				Tot. Customers												
124	Group4	peak Watts			144,564	144,564	144,564	144,564	144,564	144,564	144,564	144,564	144,564	144,564	144,564	144,564
125	Domestic	1,000			136,254	136,254	136,254	136,254	136,254	136,254	136,254	136,254	136,254	136,254	136,254	136,254
126	Commercial	5,000			7,032	7,032	7,032	7,032	7,032	7,032	7,032	7,032	7,032	7,032	7,032	7,032
127	Government	20,000			1,278	1,278	1,278	1,278	1,278	1,278	1,278	1,278	1,278	1,278	1,278	1,278
128																
129		Load Factors														
130	Domestic	40.0%	MWh		40,549	36,625	40,549	39,241	40,549	39,241	40,549	40,549	39,241	40,549	39,241	40,549
131	Commercial	45.0%	MWh		11,772	10,632	11,772	11,392	11,772	11,392	11,772	11,772	11,392	11,772	11,392	11,772
132	Government	45.0%	MWh		8,557	7,729	8,557	8,281	8,557	8,281	8,557	8,557	8,281	8,557	8,281	8,557
133			MWh		60,878	54,987	60,878	58,914	60,878	58,914	60,878	60,878	58,914	60,878	58,914	60,878
134	Hydro Supply applied to demand				24,385	22,025	24,385	23,598	17,387	20,520	21,204	21,204	12,312	12,722	12,312	12,722
135																
136	Remaining demand				36,494	32,962	36,494	35,316	43,491	38,394	39,674	39,674	46,602	48,156	46,602	48,156
137	Thermal Supply after dist. Losses				5,598	5,056	5,598	5,417	5,598	5,417	5,598	5,598	5,417	11,196	10,835	11,196
138	Thermal Supply applied to remaining demand				5,598	5,056	5,598	5,417	5,598	5,417	5,598	5,598	5,417	11,196	10,835	11,196
139																
140	Remaining demand				30,896	27,906	30,896	29,899	37,893	32,977	34,076	34,076	41,185	36,960	35,768	36,960
141																
142	Dispatching level Thermal				100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
143	Dispatching Level Hydro				100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
144																
145	Power Acquired from Transco															
146	Mahipar				11,662	10,534	11,662	11,286	0	0	0	0	0	0	0	0
147	Naghlu				21,204	19,152	21,204	20,520	21,204	34,200	35,340	35,340	20,520	21,204	20,520	21,204
148	Sorobi				7,775	7,022	7,775	7,524	7,775	0	0	0	0	0	0	0
149	NW Kabul				9,330	8,427	9,330	9,029	9,330	9,029	9,330	9,330	9,029	18,660	18,058	18,660
150	Kabul Small Diesels				0	0	0	0	0	0	0	0	0	0	0	0
151																

77	Group3		Year	2006											
78				1	2	3	4	5	6	7	8	9	10	11	12
79	NET ENERGY AVAILABLE			31	28	31	30	31	30	31	31	30	31	30	31
80				Winter	Winter	Winter	Summer	Summer	Summer	Summer	Summer	Summer	Summer	Winter	Winter
81															
82	Tajikistan 110 kV		MWh	3,422	3,091	3,422	3,312	3,422	3,312	3,422	3,422	3,312	3,422	3,312	3,422
83															
84	Total Supply Group3		MWh	3,422	3,091	3,422	3,312	3,422	3,312	3,422	3,422	3,312	3,422	3,312	3,422
85	Total Supply after Distribution Losses			2,053	1,855	2,053	1,987	2,053	1,987	2,053	2,053	1,987	2,053	1,987	2,053
86	DEMAND														
87															
88	Group3		Tot. Customers												
89		peak Watts		15,510	15,510	15,510	15,510	15,510	15,510	15,510	15,510	15,510	15,510	15,510	15,510
90	Domestic	1,000		13,616	13,616	13,616	13,616	13,616	13,616	13,616	13,616	13,616	13,616	13,616	13,616
91	Commercial	5,000		1,770	1,770	1,770	1,770	1,770	1,770	1,770	1,770	1,770	1,770	1,770	1,770
92	Government	20,000		124	124	124	124	124	124	124	124	124	124	124	124
93															
94		Load Factors													
95	Domestic	40.0%	MWh	4,052	3,660	4,052	3,921	4,052	3,921	4,052	4,052	3,921	4,052	3,921	4,052
96	Commercial	45.0%	MWh	2,963	2,676	2,963	2,867	2,963	2,867	2,963	2,963	2,867	2,963	2,867	2,963
97	Government	45.0%	MWh	830	750	830	804	830	804	830	830	804	830	804	830
98			MWh	7,845	7,086	7,845	7,592	7,845	7,592	7,845	7,845	7,592	7,845	7,592	7,845
99	Supply Available for		MWh	2,053	1,855	2,053	1,987	2,053	1,987	2,053	2,053	1,987	2,053	1,987	2,053
100															
101	Remaining supply after		MWh	0	0	0	0	0	0	0	0	0	0	0	0
102															
103															
104	Total Supply Applied to Consmption			2,053	1,855	2,053	1,987	2,053	1,987	2,053	2,053	1,987	2,053	1,987	2,053
105															
106	Dispatching level all supply			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
107	Tajikistan 110 kV			3,422	3,091	3,422	3,312	3,422	3,312	3,422	3,422	3,312	3,422	3,312	3,422
108															

44	Group2		Year	2006											
45				1	2	3	4	5	6	7	8	9	10	11	12
46	NET ENERGY AVAILABLE			31	28	31	30	31	30	31	31	30	31	30	31
47				Winter	Winter	Winter	Summer	Summer	Summer	Summer	Summer	Summer	Summer	Winter	Winter
48															
49	Uzbekistan 110kV		MWh	12,321	11,128	12,321	11,923	12,321	11,923	12,321	12,321	11,923	12,321	11,923	12,321
50															
51	Total Supply Group2			12,321	11,128	12,321	11,923	12,321	11,923	12,321	12,321	11,923	12,321	11,923	12,321
52	Total Supply after Distribution Losses			7,392	6,677	7,392	7,154	7,392	7,154	7,392	7,392	7,154	7,392	7,154	7,392
53															
54	DEMAND														
55															
56	Group2		Tot. Customers												
57		peak Watts		67,676	67,676	67,676	67,676	67,676	67,676	67,676	67,676	67,676	67,676	67,676	67,676
58	Domestic	1,000		63,500	63,500	63,500	63,500	63,500	63,500	63,500	63,500	63,500	63,500	63,500	63,500
59	Commercial	5,000		3,316	3,316	3,316	3,316	3,316	3,316	3,316	3,316	3,316	3,316	3,316	3,316
60	Government	20,000		860	860	860	860	860	860	860	860	860	860	860	860
61															
62		Load Factors													
63	Domestic	40.0%	MWh	18,898	17,069	18,898	18,288	18,898	18,288	18,898	18,898	18,288	18,898	18,288	18,898
64	Commercial	45.0%	MWh	5,551	5,014	5,551	5,372	5,551	5,372	5,551	5,551	5,372	5,551	5,372	5,551
65	Government	45.0%	MWh	5,759	5,201	5,759	5,573	5,759	5,573	5,759	5,759	5,573	5,759	5,573	5,759
66			MWh	30,207	27,284	30,207	29,233	30,207	29,233	30,207	30,207	29,233	30,207	29,233	30,207
67	Supply Available		MWh	7,392	6,677	7,392	7,154	7,392	7,154	7,392	7,392	7,154	7,392	7,154	7,392
68															
69	Remaining supply		MWh	0	0	0	0	0	0	0	0	0	0	0	0
70															
71															
72	Total Supply Applied to Consmption			7,392	6,677	7,392	7,154	7,392	7,154	7,392	7,392	7,154	7,392	7,154	7,392
73															
74															
75	Uzbekistan 110kV		MWh	7,392	6,677	7,392	7,154	7,392	7,154	7,392	7,392	7,154	7,392	7,154	7,392
76	Dispatching level all supply			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

1	Group1		Year	2006										
2				1	2	3	4	5	6	7	8	9	10	11	12
3	NET ENERGY AVAILABLE			31	28	31	30	31	30	31	31	30	31	30	31
4				Winter	Winter	Winter	Summer	Summer	Summer	Summer	Summer	Summer	Summer	Winter	Winter
5	Distribution Technical Losses			40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%
6															
7															
8															
9	Turkmenistan 110kV		MWh	5,134	4,637	5,134	4,968	5,134	4,968	5,134	5,134	4,968	5,134	4,968	5,134
10															
11	Total Supply Group1			5,134	4,637	5,134	4,968	5,134	4,968	5,134	5,134	4,968	5,134	4,968	5,134
12	Total Supply after Distribution Losses			3,080	2,782	3,080	2,981	3,080	2,981	3,080	3,080	2,981	3,080	2,981	3,080
13															
14	DEMAND														
15	Group1		Tot. Customers												
16		peak Watts		46,575	46,575	46,575	46,575	46,575	46,575	46,575	46,575	46,575	46,575	46,575	46,575
17	Domestic	1,000		41,883	41,883	41,883	41,883	41,883	41,883	41,883	41,883	41,883	41,883	41,883	41,883
18	Commercial	5,000		4,362	4,362	4,362	4,362	4,362	4,362	4,362	4,362	4,362	4,362	4,362	4,362
19	Government	20,000		330	330	330	330	330	330	330	330	330	330	330	330
20															
21		Load Factors													
22	Domestic	40.0%	MWh	12,464	11,258	12,464	12,062	12,464	12,062	12,464	12,464	12,062	12,464	12,062	12,464
23	Commercial	45.0%	MWh	7,302	6,595	7,302	7,066	7,302	7,066	7,302	7,302	7,066	7,302	7,066	7,302
24	Government	45.0%	MWh	2,210	1,996	2,210	2,138	2,210	2,138	2,210	2,210	2,138	2,210	2,138	2,210
25			MWh	21,976	19,849	21,976	21,267	21,976	21,267	21,976	21,976	21,267	21,976	21,267	21,976
26	Import Supply available		MWh	3,080	2,782	3,080	2,981	3,080	2,981	3,080	3,080	2,981	3,080	2,981	3,080
27															
28	Total Consumption			3,080	2,782	3,080	2,981	3,080	2,981	3,080	3,080	2,981	3,080	2,981	3,080
29															
30	Total Supply Applied to Consmption			3,080	2,782	3,080	2,981	3,080	2,981	3,080	3,080	2,981	3,080	2,981	3,080
31															
32	Dispatching														
33	Turkmenistan 110kV		MWh	3,080	2,782	3,080	2,981	3,080	2,981	3,080	3,080	2,981	3,080	2,981	3,080
34	Dispatching level			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
35															
36															
37															
38															
39															
40															
41															
42															
43															

184	INCOME STATEMENT	NEPS	Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
185													
186	REVENUES:												
187	Sales of energy to Discos		$000	16,534	27,065	48,770	112,668	135,202	148,722	163,594	179,954	197,949	217,744
188													
189	EXPENSES:												
190	Total Power Purchases		$000	60,457	86,240	84,387	84,045	92,634	101,905	112,103	123,321	135,660	149,234
191	Expenses other than Power Purchase:												
192	Interest expense	4%	0	-	5,600	11,200	16,800	16,000	15,200	14,400	13,200	12,000	10,800
193	Depreciation expense - 40 years		$000	-	3,500	7,000	10,500	10,500	10,500	10,500	10,500	10,500	10,500
194	Transmission operating expenses		$000	2,235	2,603	3,763	7,414	9,493	10,265	11,115	12,050	13,078	14,209
195	Payroll	10.0% of revenue	$000	1,653	2,706	4,877	11,267	13,520	14,872	16,359	17,995	19,795	21,774
196	Training	1.0% of revenue	$000	165	271	488	1,127	1,352	1,487	1,636	1,800	1,979	2,177
197	Material (Inventc	2.0% of revenue	$000	331	541	975	2,253	2,704	2,974	3,272	3,599	3,959	4,355
198	Routine Mainten:	1.0% of Cap Inst.	$000	1,400	2,800	4,200	4,200	4,200	4,200	4,200	4,200	4,200	4,200
199	Other Expense	1.0% of revenue	$000	165	271	488	1,127	1,352	1,487	1,636	1,800	1,979	2,177
200	Social Charges	10.0% of payroll	$000	165	271	488	1,127	1,352	1,487	1,636	1,800	1,979	2,177
201	Total Expenses other than Power Purchase:			6,115	12,963	22,278	39,015	44,473	47,273	50,354	53,743	57,471	61,571
202													
203	TOTAL EXPENSES		$000	66,573	99,203	106,666	123,059	137,107	149,178	162,457	177,064	193,131	210,805
204													
205	NET OPERATING PROFIT		$000	(50,038)	(72,139)	(57,896)	(10,391)	(1,905)	(456)	1,137	2,890	4,818	6,939
206	Gross Margin			-303%	-267%	-119%	-9%	-1%	0%	1%	2%	2%	3%
207													
208	CASH FLOW		Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
209													
210	Net Income			(50,038)	(72,139)	(57,896)	(10,391)	(1,905)	(456)	1,137	2,890	4,818	6,939
211	Adjustments to net Income												
212	Depreciation			-	3,500	7,000	10,500	10,500	10,500	10,500	10,500	10,500	10,500
213	Capx			(140,000)	(140,000)	(140,000)	-	-	-	-	-	-	-
214	Grant/GoA Transfer			50,000	70,000	50,000		-	-	-	-	-	-
215	Debt			140,000	140,000	140,000	-20,000	-20,000	-20,000	-30,000	-30,000	-30,000	-30,000
216	Cash Flow			(38)	1,361	(896)	(19,891)	(11,405)	(9,956)	(18,363)	(16,610)	(14,682)	(12,561)
217													
218	BALANCE SHEET												
219	Cash		0	(38)	1,323	427	(19,464)	(30,869)	(40,825)	(59,187)	(75,797)	(90,479)	(103,040)
220	Assets		0	140,000	276,500	409,500	399,000	388,500	378,000	367,500	357,000	346,500	336,000
221	Total Assets		0	139,962	277,823	409,927	379,536	357,631	337,175	308,313	281,203	256,021	232,960
222													
223	Debt		0	140,000	280,000	420,000	400,000	380,000	360,000	330,000	300,000	270,000	240,000
224	Equity		0	(38)	(2,177)	(10,073)	(20,464)	(22,369)	(22,825)	(21,687)	(18,797)	(13,979)	(7,040)
225	Total Liabilities and Owners' Equity		0	139,962	277,823	409,927	379,536	357,631	337,175	308,313	281,203	256,021	232,960

149	SEPS	Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
150	MINI CASH FLOW											
151	Net Income		(21,045)	(19,795)	(17,131)	(12,825)	(4,002)	(4,002)	(4,002)	(4,002)	(4,002)	(4,002)
152	Adjustments to net Income											
153	Depreciation		-	500	1,500	1,625	1,750	1,750	1,750	1,750	1,750	1,750
154	Capx		(20,000)	(40,000)	(5,000)	(5,000)	-	-	-	-	-	-
155	Debt Proceeds		20,000	30,000	10,000	5,000	-	-	-	-	-	-
156	Grant Proceeds		20,000	30,000	5,000	10,000	-	-	-	-	-	-
157	Net Cash Flow		(1,045)	705	(5,631)	(1,200)	(2,252)	(2,252)	(2,252)	(2,252)	(2,252)	(2,252)
158												
159												
160	MINI-BALANCE SHEET											
161	Cash	0	(1,045)	(340)	(5,971)	(7,171)	(9,423)	(11,675)	(13,927)	(16,179)	(18,432)	(20,684)
162	Assets	0	20,000	59,500	63,000	66,375	64,625	62,875	61,125	59,375	57,625	55,875
163	Total Assets	0	18,955	59,160	57,029	59,204	55,202	51,200	47,198	43,196	39,193	35,191
164												
165	Debt	0	20,000	50,000	60,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000
166	Equity	0	(1,045)	9,160	(2,971)	(5,796)	(9,798)	(13,800)	(17,802)	(21,804)	(25,807)	(29,809)
167	Total Liabilities and Owners' Equity	0	18,955	59,160	57,029	59,204	55,202	51,200	47,198	43,196	39,193	35,191
168												
169		Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
170	NEPS											
171	Transmission Capital Expenditures	$000	140,000	140,000	140,000	-	-	-	-	-	-	-
172	Annual Total Capx	$000	140,000	140,000	140,000	-	-	-	-	-	-	-
173	Cumulative Total Capx	$000	140,000	280,000	420,000	420,000	420,000	420,000	420,000	420,000	420,000	420,000
174												
175	Depreciation expense - 40 years	$000	-	3,500	7,000	10,500	10,500	10,500	10,500	10,500	10,500	10,500
176	Transmission op expenses ($2 per MWh)	$000	2,235	2,603	3,763	7,414	9,493	10,265	11,115	12,050	13,078	14,209
177												
178	Wholesale Rate to NEPS DISCOS	cents US	2.00	3.00	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
179	Total Revenues Collected	$000	16,534	27,065	48,770	112,668	135,202	148,722	163,594	179,954	197,949	217,744
180												
181	Cost Escalation Factor 0%		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
182												
183												

107			Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
108	SEPS Capital Expeditures	SEPS											
109	Annual Total Capx		$000	20,000	40,000	5,000	5,000	-	-	-	-	-	-
110	Cumulative Total Capx		$000	20,000	60,000	65,000	70,000	70,000	70,000	70,000	70,000	70,000	70,000
111													
112	Depreciation expense - 40 years		$000	-	500	1,500	1,625	1,750	1,750	1,750	1,750	1,750	1,750
113	Transmission op expenses ($2 per MWh)		$000	582	799	976	976	1,767	1,767	1,767	1,767	1,767	1,767
114													
115	Wholesale Rate to SEPS DISCOS		cents US	2.00	3.00	4.00	5.00	5.50	5.50	5.50	5.50	5.50	5.50
116	Total Revenues Collected		$000	5,817	11,985	19,523	24,404	48,586	48,586	48,586	48,586	48,586	48,586
117													
118	Cost Escalation Factor	0%		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
119													
120													
121	INCOME STATEMENT	SEPS	Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
122													
123	REVENUES:												
124	Sales of energy to Discos		$000	5,817	11,985	19,523	24,404	48,586	48,586	48,586	48,586	48,586	48,586
125													
126	EXPENSES:												
127	Total Power Purchases		$000	22,857	25,488	27,632	27,632	40,115	40,115	40,115	40,115	40,115	40,115
128	Expenses other than Power Purchase:												
129	Interest expense	4%	0	-	800	2,000	2,400	2,600	2,600	2,600	2,600	2,600	2,600
130	Depreciation expense - 40 years		$000	-	500	1,500	1,625	1,750	1,750	1,750	1,750	1,750	1,750
131	Transmission operating expenses		$000	582	799	976	976	1,767	1,767	1,767	1,767	1,767	1,767
132	Payroll	10.0% of revenue	$000	2,286	2,549	2,763	2,763	4,012	4,012	4,012	4,012	4,012	4,012
133	Training	1.0% of revenue	$000	229	255	276	276	401	401	401	401	401	401
134	Material (Inventc	2.0% of revenue	$000	457	510	553	553	802	802	802	802	802	802
135	Routine Mainten:	1.0% of Cap Inst.	$000	200	600	650	700	700	700	700	700	700	700
136	Other Expense	1.0% of revenue	$000	229	255	276	276	401	401	401	401	401	401
137	Social Charges	10.0% of payroll	$000	23	25	28	28	40	40	40	40	40	40
138													
139	Total Expenses other than Power Purchase:			4,005	6,293	9,022	9,597	12,473	12,473	12,473	12,473	12,473	12,473
140													
141	TOTAL EXPENSES		$000	26,862	31,781	36,654	37,229	52,588	52,588	52,588	52,588	52,588	52,588
142													
143	NET OPERATING PROFIT		$000	(21,045)	(19,795)	(17,131)	(12,825)	(4,002)	(4,002)	(4,002)	(4,002)	(4,002)	(4,002)
144													
145	Gross Margin			-362%	-165%	-88%	-53%	-8%	-8%	-8%	-8%	-8%	-8%
146	Transmission cost per kWh		cents/kWh	1.4	1.6	1.8	2.0	1.4	1.4	1.4	1.4	1.4	1.4
147													
148													

				2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
71													
72													
73	Cost of Power Supply Obtained by TRANSCO												
74													
75	Turkmenistan 110kV			1,314	1,314	983	-	-	-	-	-	-	-
76	Uzbekistan 110kV			4,100	4,100	3,066	-	-	-	-	-	-	-
77	Tajikistan 110 kV			876	876	655	-	-	-	-	-	-	-
78	Turkmenistan 220kV			-	-	-	-	20,931	23,371	26,055	29,007	32,254	35,826
79	Uzbekistan 220kV			-	-	12,115	41,287	27,210	30,382	33,871	37,709	41,930	46,574
80	Tajikistan 220 kV			-	-	-	14,821	20,931	23,371	26,055	29,007	32,254	35,826
81	Sheberghan			-	-	4,660	15,880	10,466	11,685	13,027	14,503	16,127	17,913
82				-	-	-	-	-	-	-	-	-	-
83	Mahipar			1,093	1,093	1,093	1,038	2,077	2,077	2,077	2,077	2,077	2,077
84	Naghlu			7,060	7,060	7,060	7,060	7,060	7,060	7,060	7,060	7,060	7,060
85	Sorobi			917	917	917	1,568	1,568	1,568	1,568	1,568	1,568	1,568
86	NW Kabul			43,433	69,379	51,892	-	-	-	-	-	-	-
87	Kabul Small Diesels			-	-	-	-	-	-	-	-	-	-
88				-	-	-	-	-	-	-	-	-	-
89	Darunta			1,665	1,501	1,946	2,391	2,391	2,391	2,391	2,391	2,391	2,391
90				-	-	-	-	-	-	-	-	-	-
91	Kajaki			4,987	7,617	9,762	9,762	9,762	9,762	9,762	9,762	9,762	9,762
92	Kandahar Small Diesel			17,870	17,870	17,870	17,870	17,870	17,870	17,870	17,870	17,870	17,870
93	Kajaki II			-	-	-	-	12,483	12,483	12,483	12,483	12,483	12,483
94													
95													
96	Total Cost of power acquisition			83,314	111,728	112,019	111,677	132,749	142,020	152,218	163,436	175,775	189,349
97													
98													
99	CAPITAL EXPENDITURES / FINANCIAL												
100													
101	NEPS Capital Expeditures	Prem	$000	140,000	140,000	140,000							
102	SEPS Capital Expeditures	Nagaraj	$000	20,000	40,000	5,000	5,000						
103													
104													
105	SEPS Power Sold to Discos			290,854	399,514	488,085	488,085	883,380	883,380	883,380	883,380	883,380	883,380
106	NEPS Power Sold to Discos			826,725	902,151	1,393,421	3,219,094	3,862,913	4,249,204	4,674,124	5,141,537	5,655,691	6,221,260

28	Annual Energy delivered and sold to DISCC	Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
29	Turkmenistan 110kV		60,444	60,444	45,209	-	-	-	-	-	-	-
30	Uzbekistan 110kV		145,066	145,066	108,501	-	-	-	-	-	-	-
31	Tajikistan 110 kV		40,296	40,296	30,139	-	-	-	-	-	-	-
32	Turkmenistan 220kV		-	-	-	-	994,225	1,110,113	1,237,589	1,377,813	1,532,059	1,701,730
33	Uzbekistan 220kV		-	-	442,678	1,508,570	994,225	1,110,113	1,237,589	1,377,813	1,532,059	1,701,730
34	Tajikistan 220 kV		-	-	-	703,984	994,225	1,110,113	1,237,589	1,377,813	1,532,059	1,701,730
35	Sheberghan		-	-	147,559	502,857	331,408	370,038	412,530	459,271	510,686	567,243
36												
37	Mahipar		45,144	45,144	45,144	45,144	90,288	90,288	90,288	90,288	90,288	90,288
38	Naghlu		291,612	291,612	291,612	291,612	291,612	291,612	291,612	291,612	291,612	291,612
39	Sorobi		37,871	37,871	37,871	68,167	68,167	68,167	68,167	68,167	68,167	68,167
40	NW Kabul		137,539	219,701	164,324	-	-	-	-	-	-	-
41	Kabul Small Diesels		-	-	-	-	-	-	-	-	-	-
42												
43	Darunta		68,754	62,018	80,384	98,760	98,760	98,760	98,760	98,760	98,760	98,760
44												
45	Kajaki		205,970	314,630	403,201	403,201	403,201	403,201	403,201	403,201	403,201	403,201
46	Kandahar Small Diesel		84,884	84,884	84,884	84,884	84,884	84,884	84,884	84,884	84,884	84,884
47	Kajaki II		-	-	-	-	395,295	395,295	395,295	395,295	395,295	395,295
48	Total Energy delivered and sold to DISCOS		1,117,579	1,301,666	1,881,506	3,707,179	4,746,293	5,132,584	5,557,505	6,024,917	6,539,071	7,104,640
49												
50	Energy purchased from Gencos											
51	Turkmenistan 110kV		65,700	65,700	49,140	-	-	-	-	-	-	-
52	Uzbekistan 110kV		157,680	157,680	117,936	-	-	-	-	-	-	-
53	Tajikistan 110 kV		43,800	43,800	32,760	-	-	-	-	-	-	-
54	Turkmenistan 220kV		-	-	-	-	1,046,553	1,168,540	1,302,725	1,450,329	1,612,693	1,791,294
55	Uzbekistan 220kV		-	-	465,976	1,587,968	1,046,553	1,168,540	1,302,725	1,450,329	1,612,693	1,791,294
56	Tajikistan 220 kV		-	-	-	741,035	1,046,553	1,168,540	1,302,725	1,450,329	1,612,693	1,791,294
57	Sheberghan		-	-	155,325	529,323	348,851	389,513	434,242	483,443	537,564	597,098
58												
59	Mahipar		47,520	47,520	47,520	45,144	90,288	90,288	90,288	90,288	90,288	90,288
60	Naghlu		306,960	306,960	306,960	306,960	306,960	306,960	306,960	306,960	306,960	306,960
61	Sorobi		39,864	39,864	39,864	68,167	68,167	68,167	68,167	68,167	68,167	68,167
62	NW Kabul		144,778	231,264	172,973	-	-	-	-	-	-	-
63	Kabul Small Diesels		-	-	-	-	-	-	-	-	-	-
64												
65	Darunta		72,372	65,282	84,614	103,958	103,958	103,958	103,958	103,958	103,958	103,958
66												
67	Kajaki		216,810	331,189	424,422	424,422	424,422	424,422	424,422	424,422	424,422	424,422
68	Kandahar Small Diesel		89,352	89,352	89,352	89,352	89,352	89,352	89,352	89,352	89,352	89,352
69	Kajaki II		-	-	-	-	416,100	416,100	416,100	416,100	416,100	416,100
70	Total Energy delivered and sold to DISCOS		1,184,836	1,378,612	1,986,843	3,896,330	4,987,758	5,394,381	5,841,665	6,333,678	6,874,893	7,470,229

ANNUAL FORECAST

TARIFFS

		Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
		Annual Tariff Incr	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turkmenistan 110kV	US Cents/kWh		2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Uzbekistan 110kV	US Cents/kWh		2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
Tajikistan 110 kV	US Cents/kWh		2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Turkmenistan 220kV	US Cents/kWh				2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Uzbekistan 220kV	US Cents/kWh				2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
Tajikistan 220 kV	US Cents/kWh				2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Sheberghan	US Cents/kWh				3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Mahipar	US Cents/kWh		2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30
Naghlu	US Cents/kWh		2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30
Sorobi	US Cents/kWh		2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30
NW Kabul	US Cents/kWh		30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
Kabul Small Diesels (If any)	US Cents/kWh		20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
Darunta	US Cents/kWh		2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30
Kajaki	US Cents/kWh		2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30
Kandahar Small Diesel	US Cents/kWh		20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
Kajaki II	US Cents/kWh						3.00	3.00	3.00	3.00	3.00	3.00

96		Year	2015											
97			1	2	3	4	5	6	7	8	9	10	11	12
98	MAXIMUM ENERGY TO DISCOS	Days												
99														
100														
101	Turkmenistan 110kV		-	-	-	-	-	-	-	-	-	-	-	-
102	Uzbekistan 110kV		-	-	-	-	-	-	-	-	-	-	-	-
103	Tajikistan 110 kV		-	-	-	-	-	-	-	-	-	-	-	-
104	Turkmenistan 220kV		209,920	189,605	209,920	203,148	209,920	203,148	209,920	209,920	203,148	209,920	203,148	209,920
105	Uzbekistan 220kV		209,920	189,605	209,920	203,148	209,920	203,148	209,920	209,920	203,148	209,920	203,148	209,920
106	Tajikistan 220 kV		209,920	189,605	209,920	203,148	209,920	203,148	209,920	209,920	203,148	209,920	203,148	209,920
107	Sheberghan		69,973	63,202	69,973	67,716	69,973	67,716	69,973	69,973	67,716	69,973	67,716	69,973
108														
109	Mahipar		23,324	21,067	23,324	22,572	-	-	-	-	-	-	-	-
110	Naghlu		21,204	19,152	21,204	20,520	21,204	34,200	35,340	35,340	20,520	21,204	20,520	21,204
111	Sorobi		13,995	12,640	13,995	13,543	13,995	-	-	-	-	-	-	-
112	NW Kabul		18,660	16,854	18,660	18,058	18,660	18,058	18,660	18,660	18,058	18,660	18,058	18,660
113	Kabul Small Diesels		-	-	-	-	-	-	-	-	-	-	-	-
114														
115	Darunta		8,114	6,346	9,400	9,097	9,400	9,097	9,400	8,114	6,799	7,026	7,852	8,114
116														
117	Kajaki		34,244	30,930	34,244	33,140	34,244	33,140	34,244	34,244	33,140	34,244	33,140	34,244
118	Kandahar Small Diesel		7,209	6,512	7,209	6,977	7,209	6,977	7,209	7,209	6,977	7,209	6,977	7,209
119	Kajaki II		33,573	30,324	33,573	32,490	33,573	32,490	33,573	33,573	32,490	33,573	32,490	33,573
120														-
121	Total Possible Energy Deliervable to Discos		860,055	775,841	861,342	833,557	838,017	811,121	838,159	836,872	795,143	821,648	796,197	822,736

49		Year	2015											
50			1	2	3	4	5	6	7	8	9	10	11	12
51	MAXIMUM ENERGY TO TRANSCO	Days	31	28	31	30	31	30	31	31	30	31	30	31
52														
53			MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh
54	Turkmenistan 110kV		-	-	-	-	-	-	-	-	-	-	-	-
55	Uzbekistan 110kV		-	-	-	-	-	-	-	-	-	-	-	-
56	Tajikistan 110 kV		-	-	-	-	-	-	-	-	-	-	-	-
57	Turkmenistan 220kV		220,968	199,584	220,968	213,840	220,968	213,840	220,968	220,968	213,840	220,968	213,840	220,968
58	Uzbekistan 220kV		220,968	199,584	220,968	213,840	220,968	213,840	220,968	220,968	213,840	220,968	213,840	220,968
59	Tajikistan 220 kV		220,968	199,584	220,968	213,840	220,968	213,840	220,968	220,968	213,840	220,968	213,840	220,968
60	Sheberghan		73,656	66,528	73,656	71,280	73,656	71,280	73,656	73,656	71,280	73,656	71,280	73,656
61														
62	Mahipar		24,552	22,176	24,552	23,760	-	-	-	-	-	-	-	-
63	Naghlu		22,320	20,160	22,320	21,600	22,320	36,000	37,200	37,200	21,600	22,320	21,600	22,320
64	Sorobi		14,731	13,306	14,731	14,256	14,731	-	-	-	-	-	-	-
65	NW Kabul		19,642	17,741	19,642	19,008	19,642	19,008	19,642	19,642	19,008	19,642	19,008	19,642
66	Kabul Small Diesels		-	-	-	-	-	-	-	-	-	-	-	-
67														
68	Darunta		8,541	6,680	9,895	9,576	9,895	9,576	9,895	8,541	7,157	7,395	8,266	8,541
69														
70	Kajaki		36,047	32,558	36,047	34,884	36,047	34,884	36,047	36,047	34,884	36,047	34,884	36,047
71	Kandahar Small Diesel		7,589	6,854	7,589	7,344	7,589	7,344	7,589	7,589	7,344	7,589	7,344	7,589
72	Kajaki II		35,340	31,920	35,340	34,200	35,340	34,200	35,340	35,340	34,200	35,340	34,200	35,340
73														-
74			905,322	816,675	906,676	877,428	882,124	853,812	882,272	880,918	836,993	864,893	838,102	866,038
75	TRANSMISSION LOSSES													-
76														-
77	Turkmenistan 110kV		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
78	Uzbekistan 110kV		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
79	Tajikistan 110 kV		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
80	Turkmenistan 220kV		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
81	Uzbekistan 220kV		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
82	Tajikistan 220 kV		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
83	Sheberghan		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
84														
85	Mahipar		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
86	Naghlu		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
87	Sorobi		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
88	NW Kabul		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
89	Kabul Small Diesels		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
90														
91	Darunta		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
92														
93	Kajaki		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
94	Kandahar Small Diesel		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
95	Kajaki II		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

1			Year	2015										
2			Month	1	2	3	4	5	6	7	8	9	10	11	12
3	POWER SUPPLY - INSTALLED CAPACITY			MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW
4			Status												
5	Turkmenistan 110kV	NTS1	existing	30	30	30	30	30	30	30	30	30	30	30	30
6	Uzbekistan 110kV	NTS2	existing	30	30	30	30	30	30	30	30	30	30	30	30
7	Tajikistan 110 kV	NTS3	existing	10	10	10	10	10	10	10	10	10	10	10	10
8	Turkmenistan 220kV	NTS	planned	300	300	300	300	300	300	300	300	300	300	300	300
9	Uzbekistan 220kV	NTS	planned	300	300	300	300	300	300	300	300	300	300	300	300
10	Tajikistan 220 kV	NTS	planned	300	300	300	300	300	300	300	300	300	300	300	300
11	Sheberghan	NTS	planned	100	100	100	100	100	100	100	100	100	100	100	100
12															
13	Mahipar	NTS4	in rehab	33	33	33	33	33	33	33	33	33	33	33	33
14	Naghlu	NTS4	in rehab	100	100	100	100	100	100	100	100	100	100	100	100
15	Sorobi	NTS4	in rehab	22	22	22	22	22	22	22	22	22	22	22	22
16	NW Kabul	NTS4	existing	44	44	44	44	44	44	44	44	44	44	44	44
17	Kabul Small Diesels	NTS4													
18															
19	Darunta	NTS5	in rehab	14	14	14	14	14	14	14	14	14	14	14	14
20															
21	Kajaki	STS	in rehab	51	51	51	51	51	51	51	51	51	51	51	51
22	Kandahar Small Dies	STS	existing	17	17	17	17	17	17	17	17	17	17	17	17
23	Kajaki II	STS	planned	50	50	50	50	50	50	50	50	50	50	50	50
24															
25	Total Capacity			1,401	1,401	1,401	1,401	1,401	1,401	1,401	1,401	1,401	1,401	1,401	1,401
26															-
27	POWER SUPPLY - AVAILABILITY:		Year												-
28	Technical, Fuel, Water, Commerical		Month												-
29	Turkmenistan 110kV			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
30	Uzbekistan 110kV			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
31	Tajikistan 110 kV			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
32	Turkmenistan 220kV			99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%
33	Uzbekistan 220kV			99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%
34	Tajikistan 220 kV			99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%
35	Sheberghan			99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%
36															
37	Mahipar			100%	100%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%
38	Naghlu			30%	30%	30%	30%	30%	50%	50%	50%	30%	30%	30%	30%
39	Sorobi			90%	90%	90%	90%	90%	0%	0%	0%	0%	0%	0%	0%
40	NW Kabul			60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
41	Kabul Small Diesels			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
42															
43	Darunta			82%	71%	95%	95%	95%	95%	95%	82%	71%	71%	82%	82%
44															
45	Kajaki			95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
46	Kandahar Small Diesel			60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
47	Kajaki II			95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
48															

96		Year	2014											
97			1	2	3	4	5	6	7	8	9	10	11	12
98	MAXIMUM ENERGY TO DISCOS	Days												
99														
100														
101	Turkmenistan 110kV		-	-	-	-	-	-	-	-	-	-	-	-
102	Uzbekistan 110kV		-	-	-	-	-	-	-	-	-	-	-	-
103	Tajikistan 110 kV		-	-	-	-	-	-	-	-	-	-	-	-
104	Turkmenistan 220kV		209,920	189,605	209,920	203,148	209,920	203,148	209,920	209,920	203,148	209,920	203,148	209,920
105	Uzbekistan 220kV		209,920	189,605	209,920	203,148	209,920	203,148	209,920	209,920	203,148	209,920	203,148	209,920
106	Tajikistan 220 kV		209,920	189,605	209,920	203,148	209,920	203,148	209,920	209,920	203,148	209,920	203,148	209,920
107	Sheberghan		69,973	63,202	69,973	67,716	69,973	67,716	69,973	69,973	67,716	69,973	67,716	69,973
108														
109	Mahipar		23,324	21,067	23,324	22,572	-	-	-	-	-	-	-	-
110	Naghlu		21,204	19,152	21,204	20,520	21,204	34,200	35,340	35,340	20,520	21,204	20,520	21,204
111	Sorobi		13,995	12,640	13,995	13,543	13,995	-	-	-	-	-	-	-
112	NW Kabul		18,660	16,854	18,660	18,058	18,660	18,058	18,660	18,660	18,058	18,660	18,058	18,660
113	Kabul Small Diesels		-	-	-	-	-	-	-	-	-	-	-	-
114														
115	Darunta		8,114	6,346	9,400	9,097	9,400	9,097	9,400	8,114	6,799	7,026	7,852	8,114
116														
117	Kajaki		34,244	30,930	34,244	33,140	34,244	33,140	34,244	34,244	33,140	34,244	33,140	34,244
118	Kandahar Small Diesel		7,209	6,512	7,209	6,977	7,209	6,977	7,209	7,209	6,977	7,209	6,977	7,209
119	Kajaki II		33,573	30,324	33,573	32,490	33,573	32,490	33,573	33,573	32,490	33,573	32,490	33,573
120														
121	Total Possible Energy Deliervable to Discos		860,055	775,841	861,342	833,557	838,017	811,121	838,159	836,872	795,143	821,648	796,197	822,736

49		Year	2014											
50			1	2	3	4	5	6	7	8	9	10	11	12
51	MAXIMUM ENERGY TO TRANSCO	Days	31	28	31	30	31	30	31	31	30	31	30	31
52														
53			MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh
54	Turkmenistan 110kV		-	-	-	-	-	-	-	-	-	-	-	-
55	Uzbekistan 110kV		-	-	-	-	-	-	-	-	-	-	-	-
56	Tajikistan 110 kV		-	-	-	-	-	-	-	-	-	-	-	-
57	Turkmenistan 220kV		220,968	199,584	220,968	213,840	220,968	213,840	220,968	220,968	213,840	220,968	213,840	220,968
58	Uzbekistan 220kV		220,968	199,584	220,968	213,840	220,968	213,840	220,968	220,968	213,840	220,968	213,840	220,968
59	Tajikistan 220 kV		220,968	199,584	220,968	213,840	220,968	213,840	220,968	220,968	213,840	220,968	213,840	220,968
60	Sheberghan		73,656	66,528	73,656	71,280	73,656	71,280	73,656	73,656	71,280	73,656	71,280	73,656
61														
62	Mahipar		24,552	22,176	24,552	23,760	-	-	-	-	-	-	-	-
63	Naghlu		22,320	20,160	22,320	21,600	22,320	36,000	37,200	37,200	21,600	22,320	21,600	22,320
64	Sorobi		14,731	13,306	14,731	14,256	14,731	-	-	-	-	-	-	-
65	NW Kabul		19,642	17,741	19,642	19,008	19,642	19,008	19,642	19,642	19,008	19,642	19,008	19,642
66	Kabul Small Diesels		-	-	-	-	-	-	-	-	-	-	-	-
67														
68	Darunta		8,541	6,680	9,895	9,576	9,895	9,576	9,895	8,541	7,157	7,395	8,266	8,541
69														
70	Kajaki		36,047	32,558	36,047	34,884	36,047	34,884	36,047	36,047	34,884	36,047	34,884	36,047
71	Kandahar Small Diesel		7,589	6,854	7,589	7,344	7,589	7,344	7,589	7,589	7,344	7,589	7,344	7,589
72	Kajaki II		35,340	31,920	35,340	34,200	35,340	34,200	35,340	35,340	34,200	35,340	34,200	35,340
73														
74			905,322	816,675	906,676	877,428	882,124	853,812	882,272	880,918	836,993	864,893	838,102	866,038
75	TRANSMISSION LOSSES													
76														
77	Turkmenistan 110kV		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
78	Uzbekistan 110kV		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
79	Tajikistan 110 kV		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
80	Turkmenistan 220kV		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
81	Uzbekistan 220kV		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
82	Tajikistan 220 kV		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
83	Sheberghan		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
84														
85	Mahipar		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
86	Naghlu		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
87	Sorobi		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
88	NW Kabul		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
89	Kabul Small Diesels		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
90														
91	Darunta		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
92														
93	Kajaki		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
94	Kandahar Small Diesel		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
95	Kajaki II		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

1			Year	2014										
2			Month	1	2	3	4	5	6	7	8	9	10	11	12
3	POWER SUPPLY - INSTALLED CAPACITY			MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW
4			Status												
5	Turkmenistan 110kV	NTS1	existing	30	30	30	30	30	30	30	30	30	30	30	30
6	Uzbekistan 110kV	NTS2	existing	30	30	30	30	30	30	30	30	30	30	30	30
7	Tajikistan 110 kV	NTS3	existing	10	10	10	10	10	10	10	10	10	10	10	10
8	Turkmenistan 220kV	NTS	planned	300	300	300	300	300	300	300	300	300	300	300	300
9	Uzbekistan 220kV	NTS	planned	300	300	300	300	300	300	300	300	300	300	300	300
10	Tajikistan 220 kV	NTS	planned	300	300	300	300	300	300	300	300	300	300	300	300
11	Sheberghan	NTS	planned	100	100	100	100	100	100	100	100	100	100	100	100
12															
13	Mahipar	NTS4	in rehab	33	33	33	33	33	33	33	33	33	33	33	33
14	Naghlu	NTS4	in rehab	100	100	100	100	100	100	100	100	100	100	100	100
15	Sorobi	NTS4	in rehab	22	22	22	22	22	22	22	22	22	22	22	22
16	NW Kabul	NTS4	existing	44	44	44	44	44	44	44	44	44	44	44	44
17	Kabul Small Diesels	NTS4													
18															
19	Darunta	NTS5	in rehab	14	14	14	14	14	14	14	14	14	14	14	14
20															
21	Kajaki	STS	in rehab	51	51	51	51	51	51	51	51	51	51	51	51
22	Kandahar Small Dies	STS	existing	17	17	17	17	17	17	17	17	17	17	17	17
23	Kajaki II	STS	planned	50	50	50	50	50	50	50	50	50	50	50	50
24															
25	Total Capacity			1,401	1,401	1,401	1,401	1,401	1,401	1,401	1,401	1,401	1,401	1,401	1,401
26															
27	POWER SUPPLY - AVAILABILITY:		Year												
28	Technical, Fuel, Water, Commerical		Month												
29	Turkmenistan 110kV			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
30	Uzbekistan 110kV			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
31	Tajikistan 110 kV			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
32	Turkmenistan 220kV			99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%
33	Uzbekistan 220kV			99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%
34	Tajikistan 220 kV			99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%
35	Sheberghan			99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%
36															
37	Mahipar			100%	100%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%
38	Naghlu			30%	30%	30%	30%	30%	50%	50%	50%	30%	30%	30%	30%
39	Sorobi			90%	90%	90%	90%	90%	0%	0%	0%	0%	0%	0%	0%
40	NW Kabul			60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
41	Kabul Small Diesels			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
42															
43	Darunta			82%	71%	95%	95%	95%	95%	95%	82%	71%	71%	82%	82%
44															
45	Kajaki			95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
46	Kandahar Small Diesel			60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
47	Kajaki II			95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
48															

96		Year										
97			2	3	4	5	6	7	8	9	10	11	12
98	MAXIMUM ENERGY TO DISCOS	Days											
99													
100													
101	Turkmenistan 110kV		-	-	-	-	-	-	-	-	-	-	-
102	Uzbekistan 110kV		-	-	-	-	-	-	-	-	-	-	-
103	Tajikistan 110 kV		-	-	-	-	-	-	-	-	-	-	-
104	Turkmenistan 220kV		189,605	209,920	203,148	209,920	203,148	209,920	209,920	203,148	209,920	203,148	209,920
105	Uzbekistan 220kV		189,605	209,920	203,148	209,920	203,148	209,920	209,920	203,148	209,920	203,148	209,920
106	Tajikistan 220 kV		189,605	209,920	203,148	209,920	203,148	209,920	209,920	203,148	209,920	203,148	209,920
107	Sheberghan		63,202	69,973	67,716	69,973	67,716	69,973	69,973	67,716	69,973	67,716	69,973
108													
109	Mahipar		21,067	23,324	22,572	-	-	-	-	-	-	-	-
110	Naghlu		19,152	21,204	20,520	21,204	34,200	35,340	35,340	20,520	21,204	20,520	21,204
111	Sorobi		12,640	13,995	13,543	13,995	-	-	-	-	-	-	-
112	NW Kabul		16,854	18,660	18,058	18,660	18,058	18,660	18,660	18,058	18,660	18,058	18,660
113	Kabul Small Diesels		-	-	-	-	-	-	-	-	-	-	-
114													
115	Darunta		6,346	9,400	9,097	9,400	9,097	9,400	8,114	6,799	7,026	7,852	8,114
116													
117	Kajaki		30,930	34,244	33,140	34,244	33,140	34,244	34,244	33,140	34,244	33,140	34,244
118	Kandahar Small Diesel		6,512	7,209	6,977	7,209	6,977	7,209	7,209	6,977	7,209	6,977	7,209
119	Kajaki II		30,324	33,573	32,490	33,573	32,490	33,573	33,573	32,490	33,573	32,490	33,573
120													
121	Total Possible Energy Deliervable to Discos		775,841	861,342	833,557	838,017	811,121	838,159	836,872	795,143	821,648	796,197	822,736

49		Year											
50			2	3	4	5	6	7	8	9	10	11	12
51	MAXIMUM ENERGY TO TRANSCO	Days	28	31	30	31	30	31	31	30	31	30	31
52													
53			MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh
54	Turkmenistan 110kV		-	-	-	-	-	-	-	-	-	-	-
55	Uzbekistan 110kV		-	-	-	-	-	-	-	-	-	-	-
56	Tajikistan 110 kV		-	-	-	-	-	-	-	-	-	-	-
57	Turkmenistan 220kV		199,584	220,968	213,840	220,968	213,840	220,968	220,968	213,840	220,968	213,840	220,968
58	Uzbekistan 220kV		199,584	220,968	213,840	220,968	213,840	220,968	220,968	213,840	220,968	213,840	220,968
59	Tajikistan 220 kV		199,584	220,968	213,840	220,968	213,840	220,968	220,968	213,840	220,968	213,840	220,968
60	Sheberghan		66,528	73,656	71,280	73,656	71,280	73,656	73,656	71,280	73,656	71,280	73,656
61													
62	Mahipar		22,176	24,552	23,760	-	-	-	-	-	-	-	-
63	Naghlu		20,160	22,320	21,600	22,320	36,000	37,200	37,200	21,600	22,320	21,600	22,320
64	Sorobi		13,306	14,731	14,256	14,731	-	-	-	-	-	-	-
65	NW Kabul		17,741	19,642	19,008	19,642	19,008	19,642	19,642	19,008	19,642	19,008	19,642
66	Kabul Small Diesels		-	-	-	-	-	-	-	-	-	-	-
67													
68	Darunta		6,680	9,895	9,576	9,895	9,576	9,895	8,541	7,157	7,395	8,266	8,541
69													
70	Kajaki		32,558	36,047	34,884	36,047	34,884	36,047	36,047	34,884	36,047	34,884	36,047
71	Kandahar Small Diesel		6,854	7,589	7,344	7,589	7,344	7,589	7,589	7,344	7,589	7,344	7,589
72	Kajaki II		31,920	35,340	34,200	35,340	34,200	35,340	35,340	34,200	35,340	34,200	35,340
73													
74			816,675	906,676	877,428	882,124	853,812	882,272	880,918	836,993	864,893	838,102	866,038
75	TRANSMISSION LOSSES												
76													
77	Turkmenistan 110kV		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
78	Uzbekistan 110kV		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
79	Tajikistan 110 kV		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
80	Turkmenistan 220kV		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
81	Uzbekistan 220kV		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
82	Tajikistan 220 kV		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
83	Sheberghan		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
84													
85	Mahipar		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
86	Naghlu		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
87	Sorobi		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
88	NW Kabul		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
89	Kabul Small Diesels		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
90													
91	Darunta		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
92													
93	Kajaki		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
94	Kandahar Small Diesel		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
95	Kajaki II		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

1			Year											
2			Month	2	3	4	5	6	7	8	9	10	11	12
3	POWER SUPPLY - INSTALLED CAPACITY			MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW
4			Status											
5	Turkmenistan 110kV	NTS1	existing	30	30	30	30	30	30	30	30	30	30	30
6	Uzbekistan 110kV	NTS2	existing	30	30	30	30	30	30	30	30	30	30	30
7	Tajikistan 110 kV	NTS3	existing	10	10	10	10	10	10	10	10	10	10	10
8	Turkmenistan 220kV	NTS	planned	300	300	300	300	300	300	300	300	300	300	300
9	Uzbekistan 220kV	NTS	planned	300	300	300	300	300	300	300	300	300	300	300
10	Tajikistan 220 kV	NTS	planned	300	300	300	300	300	300	300	300	300	300	300
11	Sheberghan	NTS	planned	100	100	100	100	100	100	100	100	100	100	100
12														
13	Mahipar	NTS4	in rehab	33	33	33	33	33	33	33	33	33	33	33
14	Naghlu	NTS4	in rehab	100	100	100	100	100	100	100	100	100	100	100
15	Sorobi	NTS4	in rehab	22	22	22	22	22	22	22	22	22	22	22
16	NW Kabul	NTS4	existing	44	44	44	44	44	44	44	44	44	44	44
17	Kabul Small Diesels	NTS4												
18														
19	Darunta	NTS5	in rehab	14	14	14	14	14	14	14	14	14	14	14
20														
21	Kajaki	STS	in rehab	51	51	51	51	51	51	51	51	51	51	51
22	Kandahar Small Dies	STS	existing	17	17	17	17	17	17	17	17	17	17	17
23	Kajaki II	STS	planned	50	50	50	50	50	50	50	50	50	50	50
24														
25	Total Capacity			1,401	1,401	1,401	1,401	1,401	1,401	1,401	1,401	1,401	1,401	1,401
26														
27	POWER SUPPLY - AVAILABILITY:		Year											
28	Technical, Fuel, Water, Commerical		Month											
29	Turkmenistan 110kV			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
30	Uzbekistan 110kV			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
31	Tajikistan 110 kV			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
32	Turkmenistan 220kV			99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%
33	Uzbekistan 220kV			99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%
34	Tajikistan 220 kV			99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%
35	Sheberghan			99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%
36														
37	Mahipar			100%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%
38	Naghlu			30%	30%	30%	30%	50%	50%	50%	30%	30%	30%	30%
39	Sorobi			90%	90%	90%	90%	0%	0%	0%	0%	0%	0%	0%
40	NW Kabul			60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
41	Kabul Small Diesels			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
42														
43	Darunta			71%	95%	95%	95%	95%	95%	82%	71%	71%	82%	82%
44														
45	Kajaki			95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
46	Kandahar Small Diesel			60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
47	Kajaki II			95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
48														

96		Year	2012											2013
97			1	2	3	4	5	6	7	8	9	10	11	12	1
98	MAXIMUM ENERGY TO DISCOS	Days													
99															
100															
101	Turkmenistan 110kV		-	-	-	-	-	-	-	-	-	-	-	-	-
102	Uzbekistan 110kV		-	-	-	-	-	-	-	-	-	-	-	-	-
103	Tajikistan 110 kV		-	-	-	-	-	-	-	-	-	-	-	-	-
104	Turkmenistan 220kV		209,920	189,605	209,920	203,148	209,920	203,148	209,920	209,920	203,148	209,920	203,148	209,920	209,920
105	Uzbekistan 220kV		209,920	189,605	209,920	203,148	209,920	203,148	209,920	209,920	203,148	209,920	203,148	209,920	209,920
106	Tajikistan 220 kV		209,920	189,605	209,920	203,148	209,920	203,148	209,920	209,920	203,148	209,920	203,148	209,920	209,920
107	Sheberghan		69,973	63,202	69,973	67,716	69,973	67,716	69,973	69,973	67,716	69,973	67,716	69,973	69,973
108															
109	Mahipar		23,324	21,067	23,324	22,572	-	-	-	-	-	-	-	-	23,324
110	Naghlu		21,204	19,152	21,204	20,520	21,204	34,200	35,340	35,340	20,520	21,204	20,520	21,204	21,204
111	Sorobi		13,995	12,640	13,995	13,543	13,995	-	-	-	-	-	-	-	13,995
112	NW Kabul		18,660	16,854	18,660	18,058	18,660	18,058	18,660	18,660	18,058	18,660	18,058	18,660	18,660
113	Kabul Small Diesels		-	-	-	-	-	-	-	-	-	-	-	-	-
114															
115	Darunta		8,114	6,346	9,400	9,097	9,400	9,097	9,400	8,114	6,799	7,026	7,852	8,114	8,114
116															
117	Kajaki		34,244	30,930	34,244	33,140	34,244	33,140	34,244	34,244	33,140	34,244	33,140	34,244	34,244
118	Kandahar Small Diesel		7,209	6,512	7,209	6,977	7,209	6,977	7,209	7,209	6,977	7,209	6,977	7,209	7,209
119	Kajaki II		33,573	30,324	33,573	32,490	33,573	32,490	33,573	33,573	32,490	33,573	32,490	33,573	33,573
120															
121	Total Possible Energy Deliervable to Discos		860,055	775,841	861,342	833,557	838,017	811,121	838,159	836,872	795,143	821,648	796,197	822,736	860,055

49		Year	2012												2013
50			1	2	3	4	5	6	7	8	9	10	11	12	1
51	MAXIMUM ENERGY TO TRANSCO	Days	31	28	31	30	31	30	31	31	30	31	30	31	31
52															
53			MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh
54	Turkmenistan 110kV		-	-	-	-	-	-	-	-	-	-	-	-	-
55	Uzbekistan 110kV		-	-	-	-	-	-	-	-	-	-	-	-	-
56	Tajikistan 110 kV		-	-	-	-	-	-	-	-	-	-	-	-	-
57	Turkmenistan 220kV		220,968	199,584	220,968	213,840	220,968	213,840	220,968	220,968	213,840	220,968	213,840	220,968	220,968
58	Uzbekistan 220kV		220,968	199,584	220,968	213,840	220,968	213,840	220,968	220,968	213,840	220,968	213,840	220,968	220,968
59	Tajikistan 220 kV		220,968	199,584	220,968	213,840	220,968	213,840	220,968	220,968	213,840	220,968	213,840	220,968	220,968
60	Sheberghan		73,656	66,528	73,656	71,280	73,656	71,280	73,656	73,656	71,280	73,656	71,280	73,656	73,656
61															
62	Mahipar		24,552	22,176	24,552	23,760	-	-	-	-	-	-	-	-	24,552
63	Naghlu		22,320	20,160	22,320	21,600	22,320	36,000	37,200	37,200	21,600	22,320	21,600	22,320	22,320
64	Sorobi		14,731	13,306	14,731	14,256	14,731	-	-	-	-	-	-	-	14,731
65	NW Kabul		19,642	17,741	19,642	19,008	19,642	19,008	19,642	19,642	19,008	19,642	19,008	19,642	19,642
66	Kabul Small Diesels		-	-	-	-	-	-	-	-	-	-	-	-	-
67															
68	Darunta		8,541	6,680	9,895	9,576	9,895	9,576	9,895	8,541	7,157	7,395	8,266	8,541	8,541
69															
70	Kajaki		36,047	32,558	36,047	34,884	36,047	34,884	36,047	36,047	34,884	36,047	34,884	36,047	36,047
71	Kandahar Small Diesel		7,589	6,854	7,589	7,344	7,589	7,344	7,589	7,589	7,344	7,589	7,344	7,589	7,589
72	Kajaki II		35,340	31,920	35,340	34,200	35,340	34,200	35,340	35,340	34,200	35,340	34,200	35,340	35,340
73															
74			905,322	816,675	906,676	877,428	882,124	853,812	882,272	880,918	836,993	864,893	838,102	866,038	905,322
75	TRANSMISSION LOSSES														
76															
77	Turkmenistan 110kV		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
78	Uzbekistan 110kV		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
79	Tajikistan 110 kV		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
80	Turkmenistan 220kV		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
81	Uzbekistan 220kV		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
82	Tajikistan 220 kV		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
83	Sheberghan		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
84															
85	Mahipar		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
86	Naghlu		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
87	Sorobi		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
88	NW Kabul		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
89	Kabul Small Diesels		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
90															
91	Darunta		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
92															
93	Kajaki		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
94	Kandahar Small Diesel		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
95	Kajaki II		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

1			Year	2012											2013
2			Month	1	2	3	4	5	6	7	8	9	10	11	12	1
3	POWER SUPPLY - INSTALLED CAPACITY			MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW
4			Status													
5	Turkmenistan 110kV	NTS1	existing	30	30	30	30	30	30	30	30	30	30	30	30	30
6	Uzbekistan 110kV	NTS2	existing	30	30	30	30	30	30	30	30	30	30	30	30	30
7	Tajikistan 110 kV	NTS3	existing	10	10	10	10	10	10	10	10	10	10	10	10	10
8	Turkmenistan 220kV	NTS	planned	300	300	300	300	300	300	300	300	300	300	300	300	300
9	Uzbekistan 220kV	NTS	planned	300	300	300	300	300	300	300	300	300	300	300	300	300
10	Tajikistan 220 kV	NTS	planned	300	300	300	300	300	300	300	300	300	300	300	300	300
11	Sheberghan	NTS	planned	100	100	100	100	100	100	100	100	100	100	100	100	100
12																
13	Mahipar	NTS4	in rehab	33	33	33	33	33	33	33	33	33	33	33	33	33
14	Naghlu	NTS4	in rehab	100	100	100	100	100	100	100	100	100	100	100	100	100
15	Sorobi	NTS4	in rehab	22	22	22	22	22	22	22	22	22	22	22	22	22
16	NW Kabul	NTS4	existing	44	44	44	44	44	44	44	44	44	44	44	44	44
17	Kabul Small Diesels	NTS4														
18																
19	Darunta	NTS5	in rehab	14	14	14	14	14	14	14	14	14	14	14	14	14
20																
21	Kajaki	STS	in rehab	51	51	51	51	51	51	51	51	51	51	51	51	51
22	Kandahar Small Dies	STS	existing	17	17	17	17	17	17	17	17	17	17	17	17	17
23	Kajaki II	STS	planned	50	50	50	50	50	50	50	50	50	50	50	50	50
24																
25	Total Capacity			1,401	1,401	1,401	1,401	1,401	1,401	1,401	1,401	1,401	1,401	1,401	1,401	1,401
26																
27	POWER SUPPLY - AVAILABILITY:		Year													
28	Technical, Fuel, Water, Commerical		Month													
29	Turkmenistan 110kV			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
30	Uzbekistan 110kV			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
31	Tajikistan 110 kV			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
32	Turkmenistan 220kV			99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%
33	Uzbekistan 220kV			99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%
34	Tajikistan 220 kV			99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%
35	Sheberghan			99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%
36																
37	Mahipar			100%	100%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	100%
38	Naghlu			30%	30%	30%	30%	30%	50%	50%	50%	30%	30%	30%	30%	30%
39	Sorobi			90%	90%	90%	90%	90%	0%	0%	0%	0%	0%	0%	0%	90%
40	NW Kabul			60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
41	Kabul Small Diesels			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
42																
43	Darunta			82%	71%	95%	95%	95%	95%	95%	82%	71%	71%	82%	82%	82%
44																
45	Kajaki			95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
46	Kandahar Small Diesel			60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
47	Kajaki II			95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
48																

96		Year	2011											
97			1	2	3	4	5	6	7	8	9	10	11	12
98	MAXIMUM ENERGY TO DISCOS	Days												
99														
100														
101	Turkmenistan 110kV		-	-	-	-	-	-	-	-	-	-	-	-
102	Uzbekistan 110kV		-	-	-	-	-	-	-	-	-	-	-	-
103	Tajikistan 110 kV		-	-	-	-	-	-	-	-	-	-	-	-
104	Turkmenistan 220kV		209,920	189,605	209,920	203,148	209,920	203,148	209,920	209,920	203,148	209,920	203,148	209,920
105	Uzbekistan 220kV		209,920	189,605	209,920	203,148	209,920	203,148	209,920	209,920	203,148	209,920	203,148	209,920
106	Tajikistan 220 kV		209,920	189,605	209,920	203,148	209,920	203,148	209,920	209,920	203,148	209,920	203,148	209,920
107	Sheberghan		69,973	63,202	69,973	67,716	69,973	67,716	69,973	69,973	67,716	69,973	67,716	69,973
108														
109	Mahipar		23,324	21,067	23,324	22,572	-	-	-	-	-	-	-	-
110	Naghlu		21,204	19,152	21,204	20,520	21,204	34,200	35,340	35,340	20,520	21,204	20,520	21,204
111	Sorobi		13,995	12,640	13,995	13,543	13,995	-	-	-	-	-	-	-
112	NW Kabul		18,660	16,854	18,660	18,058	18,660	18,058	18,660	18,660	18,058	18,660	18,058	18,660
113	Kabul Small Diesels		-	-	-	-	-	-	-	-	-	-	-	-
114														
115	Darunta		8,114	6,346	9,400	9,097	9,400	9,097	9,400	8,114	6,799	7,026	7,852	8,114
116														
117	Kajaki		34,244	30,930	34,244	33,140	34,244	33,140	34,244	34,244	33,140	34,244	33,140	34,244
118	Kandahar Small Diesel		7,209	6,512	7,209	6,977	7,209	6,977	7,209	7,209	6,977	7,209	6,977	7,209
119	Kajaki II		33,573	30,324	33,573	32,490	33,573	32,490	33,573	33,573	32,490	33,573	32,490	33,573
120														
121	Total Possible Energy Deliervable to Discos		860,055	775,841	861,342	833,557	838,017	811,121	838,159	836,872	795,143	821,648	796,197	822,736

49		Year	2011											
50			1	2	3	4	5	6	7	8	9	10	11	12
51	MAXIMUM ENERGY TO TRANSCO	Days	31	28	31	30	31	30	31	31	30	31	30	31
52														
53			MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh
54	Turkmenistan 110kV		-	-	-	-	-	-	-	-	-	-	-	-
55	Uzbekistan 110kV		-	-	-	-	-	-	-	-	-	-	-	-
56	Tajikistan 110 kV		-	-	-	-	-	-	-	-	-	-	-	-
57	Turkmenistan 220kV		220,968	199,584	220,968	213,840	220,968	213,840	220,968	220,968	213,840	220,968	213,840	220,968
58	Uzbekistan 220kV		220,968	199,584	220,968	213,840	220,968	213,840	220,968	220,968	213,840	220,968	213,840	220,968
59	Tajikistan 220 kV		220,968	199,584	220,968	213,840	220,968	213,840	220,968	220,968	213,840	220,968	213,840	220,968
60	Sheberghan		73,656	66,528	73,656	71,280	73,656	71,280	73,656	73,656	71,280	73,656	71,280	73,656
61														
62	Mahipar		24,552	22,176	24,552	23,760	-	-	-	-	-	-	-	-
63	Naghlu		22,320	20,160	22,320	21,600	22,320	36,000	37,200	37,200	21,600	22,320	21,600	22,320
64	Sorobi		14,731	13,306	14,731	14,256	14,731	-	-	-	-	-	-	-
65	NW Kabul		19,642	17,741	19,642	19,008	19,642	19,008	19,642	19,642	19,008	19,642	19,008	19,642
66	Kabul Small Diesels		-	-	-	-	-	-	-	-	-	-	-	-
67														
68	Darunta		8,541	6,680	9,895	9,576	9,895	9,576	9,895	8,541	7,157	7,395	8,266	8,541
69														
70	Kajaki		36,047	32,558	36,047	34,884	36,047	34,884	36,047	36,047	34,884	36,047	34,884	36,047
71	Kandahar Small Diesel		7,589	6,854	7,589	7,344	7,589	7,344	7,589	7,589	7,344	7,589	7,344	7,589
72	Kajaki II		35,340	31,920	35,340	34,200	35,340	34,200	35,340	35,340	34,200	35,340	34,200	35,340
73														
74			905,322	816,675	906,676	877,428	882,124	853,812	882,272	880,918	836,993	864,893	838,102	866,038
75	TRANSMISSION LOSSES													
76														
77	Turkmenistan 110kV		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
78	Uzbekistan 110kV		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
79	Tajikistan 110 kV		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
80	Turkmenistan 220kV		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
81	Uzbekistan 220kV		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
82	Tajikistan 220 kV		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
83	Sheberghan		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
84														
85	Mahipar		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
86	Naghlu		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
87	Sorobi		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
88	NW Kabul		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
89	Kabul Small Diesels		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
90														
91	Darunta		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
92														
93	Kajaki		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
94	Kandahar Small Diesel		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
95	Kajaki II		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

1			Year	2011										
2			Month	1	2	3	4	5	6	7	8	9	10	11	12
3	POWER SUPPLY - INSTALLED CAPACITY			MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW
4			Status												
5	Turkmenistan 110kV	NTS1	existing	30	30	30	30	30	30	30	30	30	30	30	30
6	Uzbekistan 110kV	NTS2	existing	30	30	30	30	30	30	30	30	30	30	30	30
7	Tajikistan 110 kV	NTS3	existing	10	10	10	10	10	10	10	10	10	10	10	10
8	Turkmenistan 220kV	NTS	planned	300	300	300	300	300	300	300	300	300	300	300	300
9	Uzbekistan 220kV	NTS	planned	300	300	300	300	300	300	300	300	300	300	300	300
10	Tajikistan 220 kV	NTS	planned	300	300	300	300	300	300	300	300	300	300	300	300
11	Sheberghan	NTS	planned	100	100	100	100	100	100	100	100	100	100	100	100
12															
13	Mahipar	NTS4	in rehab	33	33	33	33	33	33	33	33	33	33	33	33
14	Naghlu	NTS4	in rehab	100	100	100	100	100	100	100	100	100	100	100	100
15	Sorobi	NTS4	in rehab	22	22	22	22	22	22	22	22	22	22	22	22
16	NW Kabul	NTS4	existing	44	44	44	44	44	44	44	44	44	44	44	44
17	Kabul Small Diesels	NTS4													
18															
19	Darunta	NTS5	in rehab	14	14	14	14	14	14	14	14	14	14	14	14
20															
21	Kajaki	STS	in rehab	51	51	51	51	51	51	51	51	51	51	51	51
22	Kandahar Small Dies	STS	existing	17	17	17	17	17	17	17	17	17	17	17	17
23	Kajaki II	STS	planned	50	50	50	50	50	50	50	50	50	50	50	50
24															
25	Total Capacity			1,401	1,401	1,401	1,401	1,401	1,401	1,401	1,401	1,401	1,401	1,401	1,401
26															
27	POWER SUPPLY - AVAILABILITY:		Year												
28	Technical, Fuel, Water, Commerical		Month												
29	Turkmenistan 110kV			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
30	Uzbekistan 110kV			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
31	Tajikistan 110 kV			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
32	Turkmenistan 220kV			99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%
33	Uzbekistan 220kV			99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%
34	Tajikistan 220 kV			99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%
35	Sheberghan			99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%
36															
37	Mahipar			100%	100%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%
38	Naghlu			30%	30%	30%	30%	30%	50%	50%	50%	30%	30%	30%	30%
39	Sorobi			90%	90%	90%	90%	90%	0%	0%	0%	0%	0%	0%	0%
40	NW Kabul			60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
41	Kabul Small Diesels			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
42															
43	Darunta			82%	71%	95%	95%	95%	95%	95%	82%	71%	71%	82%	82%
44															
45	Kajaki			95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
46	Kandahar Small Diesel			60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
47	Kajaki II			95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
48															

96		Year	2010											
97			1	2	3	4	5	6	7	8	9	10	11	12
98	MAXIMUM ENERGY TO DISCOS	Days												
99														
100														
101	Turkmenistan 110kV		-	-	-	-	-	-	-	-	-	-	-	-
102	Uzbekistan 110kV		-	-	-	-	-	-	-	-	-	-	-	-
103	Tajikistan 110 kV		-	-	-	-	-	-	-	-	-	-	-	-
104	Turkmenistan 220kV		209,920	189,605	209,920	203,148	209,920	203,148	209,920	209,920	203,148	209,920	203,148	209,920
105	Uzbekistan 220kV		209,920	189,605	209,920	203,148	209,920	203,148	209,920	209,920	203,148	209,920	203,148	209,920
106	Tajikistan 220 kV		209,920	189,605	209,920	203,148	209,920	203,148	209,920	209,920	203,148	209,920	203,148	209,920
107	Sheberghan		69,973	63,202	69,973	67,716	69,973	67,716	69,973	69,973	67,716	69,973	67,716	69,973
108														
109	Mahipar		23,324	21,067	23,324	22,572	-	-	-	-	-	-	-	-
110	Naghlu		21,204	19,152	21,204	20,520	21,204	34,200	35,340	35,340	20,520	21,204	20,520	21,204
111	Sorobi		13,995	12,640	13,995	13,543	13,995	-	-	-	-	-	-	-
112	NW Kabul		18,660	16,854	18,660	18,058	18,660	18,058	18,660	18,660	18,058	18,660	18,058	18,660
113	Kabul Small Diesels		-	-	-	-	-	-	-	-	-	-	-	-
114														
115	Darunta		8,114	6,346	9,400	9,097	9,400	9,097	9,400	8,114	6,799	7,026	7,852	8,114
116														
117	Kajaki		34,244	30,930	34,244	33,140	34,244	33,140	34,244	34,244	33,140	34,244	33,140	34,244
118	Kandahar Small Diesel		7,209	6,512	7,209	6,977	7,209	6,977	7,209	7,209	6,977	7,209	6,977	7,209
119	Kajaki II		33,573	30,324	33,573	32,490	33,573	32,490	33,573	33,573	32,490	33,573	32,490	33,573
120														
121	Total Possible Energy Deliervable to Discos		860,055	775,841	861,342	833,557	838,017	811,121	838,159	836,872	795,143	821,648	796,197	822,736

49		Year	2010											
50			1	2	3	4	5	6	7	8	9	10	11	12
51	MAXIMUM ENERGY TO TRANSCO	Days	31	28	31	30	31	30	31	31	30	31	30	31
52														
53			MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh
54	Turkmenistan 110kV		-	-	-	-	-	-	-	-	-	-	-	-
55	Uzbekistan 110kV		-	-	-	-	-	-	-	-	-	-	-	-
56	Tajikistan 110 kV		-	-	-	-	-	-	-	-	-	-	-	-
57	Turkmenistan 220kV		220,968	199,584	220,968	213,840	220,968	213,840	220,968	220,968	213,840	220,968	213,840	220,968
58	Uzbekistan 220kV		220,968	199,584	220,968	213,840	220,968	213,840	220,968	220,968	213,840	220,968	213,840	220,968
59	Tajikistan 220 kV		220,968	199,584	220,968	213,840	220,968	213,840	220,968	220,968	213,840	220,968	213,840	220,968
60	Sheberghan		73,656	66,528	73,656	71,280	73,656	71,280	73,656	73,656	71,280	73,656	71,280	73,656
61														
62	Mahipar		24,552	22,176	24,552	23,760	-	-	-	-	-	-	-	-
63	Naghlu		22,320	20,160	22,320	21,600	22,320	36,000	37,200	37,200	21,600	22,320	21,600	22,320
64	Sorobi		14,731	13,306	14,731	14,256	14,731	-	-	-	-	-	-	-
65	NW Kabul		19,642	17,741	19,642	19,008	19,642	19,008	19,642	19,642	19,008	19,642	19,008	19,642
66	Kabul Small Diesels		-	-	-	-	-	-	-	-	-	-	-	-
67														
68	Darunta		8,541	6,680	9,895	9,576	9,895	9,576	9,895	8,541	7,157	7,395	8,266	8,541
69														
70	Kajaki		36,047	32,558	36,047	34,884	36,047	34,884	36,047	36,047	34,884	36,047	34,884	36,047
71	Kandahar Small Diesel		7,589	6,854	7,589	7,344	7,589	7,344	7,589	7,589	7,344	7,589	7,344	7,589
72	Kajaki II		35,340	31,920	35,340	34,200	35,340	34,200	35,340	35,340	34,200	35,340	34,200	35,340
73														
74			905,322	816,675	906,676	877,428	882,124	853,812	882,272	880,918	836,993	864,893	838,102	866,038
75	TRANSMISSION LOSSES													
76														
77	Turkmenistan 110kV		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
78	Uzbekistan 110kV		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
79	Tajikistan 110 kV		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
80	Turkmenistan 220kV		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
81	Uzbekistan 220kV		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
82	Tajikistan 220 kV		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
83	Sheberghan		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
84														
85	Mahipar		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
86	Naghlu		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
87	Sorobi		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
88	NW Kabul		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
89	Kabul Small Diesels		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
90														
91	Darunta		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
92														
93	Kajaki		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
94	Kandahar Small Diesel		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
95	Kajaki II		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

1			Year	2010										
2			Month	1	2	3	4	5	6	7	8	9	10	11	12
3	POWER SUPPLY - INSTALLED CAPACITY			MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW
4			Status												
5	Turkmenistan 110kV	NTS1	existing	30	30	30	30	30	30	30	30	30	30	30	30
6	Uzbekistan 110kV	NTS2	existing	30	30	30	30	30	30	30	30	30	30	30	30
7	Tajikistan 110 kV	NTS3	existing	10	10	10	10	10	10	10	10	10	10	10	10
8	Turkmenistan 220kV	NTS	planned	300	300	300	300	300	300	300	300	300	300	300	300
9	Uzbekistan 220kV	NTS	planned	300	300	300	300	300	300	300	300	300	300	300	300
10	Tajikistan 220 kV	NTS	planned	300	300	300	300	300	300	300	300	300	300	300	300
11	Sheberghan	NTS	planned	100	100	100	100	100	100	100	100	100	100	100	100
12															
13	Mahipar	NTS4	in rehab	33	33	33	33	33	33	33	33	33	33	33	33
14	Naghlu	NTS4	in rehab	100	100	100	100	100	100	100	100	100	100	100	100
15	Sorobi	NTS4	in rehab	22	22	22	22	22	22	22	22	22	22	22	22
16	NW Kabul	NTS4	existing	44	44	44	44	44	44	44	44	44	44	44	44
17	Kabul Small Diesels	NTS4													
18															
19	Darunta	NTS5	in rehab	14	14	14	14	14	14	14	14	14	14	14	14
20															
21	Kajaki	STS	in rehab	51	51	51	51	51	51	51	51	51	51	51	51
22	Kandahar Small Dies	STS	existing	17	17	17	17	17	17	17	17	17	17	17	17
23	Kajaki II	STS	planned	50	50	50	50	50	50	50	50	50	50	50	50
24															
25	Total Capacity			1,401	1,401	1,401	1,401	1,401	1,401	1,401	1,401	1,401	1,401	1,401	1,401
26															
27	POWER SUPPLY - AVAILABILITY:		Year												
28	Technical, Fuel, Water, Commerical		Month												
29	Turkmenistan 110kV			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
30	Uzbekistan 110kV			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
31	Tajikistan 110 kV			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
32	Turkmenistan 220kV			99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%
33	Uzbekistan 220kV			99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%
34	Tajikistan 220 kV			99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%
35	Sheberghan			99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%
36															
37	Mahipar			100%	100%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%
38	Naghlu			30%	30%	30%	30%	30%	50%	50%	50%	30%	30%	30%	30%
39	Sorobi			90%	90%	90%	90%	90%	0%	0%	0%	0%	0%	0%	0%
40	NW Kabul			60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
41	Kabul Small Diesels			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
42															
43	Darunta			82%	71%	95%	95%	95%	95%	95%	82%	71%	71%	82%	82%
44															
45	Kajaki			95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
46	Kandahar Small Diesel			60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
47	Kajaki II			95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
48															

96		Year	2009											
97			1	2	3	4	5	6	7	8	9	10	11	12
98	MAXIMUM ENERGY TO DISCOS	Days												
99														
100														
101	Turkmenistan 110kV		-	-	-	-	-	-	-	-	-	-	-	-
102	Uzbekistan 110kV		-	-	-	-	-	-	-	-	-	-	-	-
103	Tajikistan 110 kV		-	-	-	-	-	-	-	-	-	-	-	-
104	Turkmenistan 220kV		-	-	-	-	-	-	-	-	-	-	-	-
105	Uzbekistan 220kV		209,920	189,605	209,920	203,148	209,920	203,148	209,920	209,920	203,148	209,920	203,148	209,920
106	Tajikistan 220 kV		-	-	-	-	-	203,148	209,920	209,920	203,148	209,920	203,148	209,920
107	Sheberghan		69,973	63,202	69,973	67,716	69,973	67,716	69,973	69,973	67,716	69,973	67,716	69,973
108														
109	Mahipar		11,662	10,534	11,662	11,286	-	-	-	-	-	-	-	-
110	Naghlu		21,204	19,152	21,204	20,520	21,204	34,200	35,340	35,340	20,520	21,204	20,520	21,204
111	Sorobi		13,995	12,640	13,995	13,543	13,995	-	-	-	-	-	-	-
112	NW Kabul		18,660	16,854	18,660	18,058	18,660	18,058	18,660	18,660	18,058	18,660	18,058	18,660
113	Kabul Small Diesels		-	-	-	-	-	-	-	-	-	-	-	-
114														
115	Darunta		8,114	6,346	9,400	9,097	9,400	9,097	9,400	8,114	6,799	7,026	7,852	8,114
116														
117	Kajaki		34,244	30,930	34,244	33,140	34,244	33,140	34,244	34,244	33,140	34,244	33,140	34,244
118	Kandahar Small Diesel		7,209	6,512	7,209	6,977	7,209	6,977	7,209	7,209	6,977	7,209	6,977	7,209
119	Kajaki II		-	-	-	-	-	-	-	-	-	-	-	-
120														
121	Total Possible Energy Deliervable to Discos		394,981	355,774	396,267	383,485	384,605	575,483	594,666	593,380	559,505	578,155	560,559	579,244

49		Year	2009											
50			1	2	3	4	5	6	7	8	9	10	11	12
51	MAXIMUM ENERGY TO TRANSCO	Days	31	28	31	30	31	30	31	31	30	31	30	31
52														
53			MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh
54	Turkmenistan 110kV		-	-	-	-	-	-	-	-	-	-	-	-
55	Uzbekistan 110kV		-	-	-	-	-	-	-	-	-	-	-	-
56	Tajikistan 110 kV		-	-	-	-	-	-	-	-	-	-	-	-
57	Turkmenistan 220kV		-	-	-	-	-	-	-	-	-	-	-	-
58	Uzbekistan 220kV		220,968	199,584	220,968	213,840	220,968	213,840	220,968	220,968	213,840	220,968	213,840	220,968
59	Tajikistan 220 kV		-	-	-	-	-	213,840	220,968	220,968	213,840	220,968	213,840	220,968
60	Sheberghan		73,656	66,528	73,656	71,280	73,656	71,280	73,656	73,656	71,280	73,656	71,280	73,656
61														
62	Mahipar		12,276	11,088	12,276	11,880	-	-	-	-	-	-	-	-
63	Naghlu		22,320	20,160	22,320	21,600	22,320	36,000	37,200	37,200	21,600	22,320	21,600	22,320
64	Sorobi		14,731	13,306	14,731	14,256	14,731	-	-	-	-	-	-	-
65	NW Kabul		19,642	17,741	19,642	19,008	19,642	19,008	19,642	19,642	19,008	19,642	19,008	19,642
66	Kabul Small Diesels		-	-	-	-	-	-	-	-	-	-	-	-
67														
68	Darunta		8,541	6,680	9,895	9,576	9,895	9,576	9,895	8,541	7,157	7,395	8,266	8,541
69														
70	Kajaki		36,047	32,558	36,047	34,884	36,047	34,884	36,047	36,047	34,884	36,047	34,884	36,047
71	Kandahar Small Diesel		7,589	6,854	7,589	7,344	7,589	7,344	7,589	7,589	7,344	7,589	7,344	7,589
72	Kajaki II		-	-	-	-	-	-	-	-	-	-	-	-
73														
74			415,770	374,499	417,124	403,668	404,848	605,772	625,964	624,610	588,953	608,585	590,062	609,730
75	TRANSMISSION LOSSES													
76														
77	Turkmenistan 110kV		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
78	Uzbekistan 110kV		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
79	Tajikistan 110 kV		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
80	Turkmenistan 220kV		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
81	Uzbekistan 220kV		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
82	Tajikistan 220 kV		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
83	Sheberghan		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
84														
85	Mahipar		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
86	Naghlu		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
87	Sorobi		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
88	NW Kabul		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
89	Kabul Small Diesels		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
90														
91	Darunta		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
92														
93	Kajaki		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
94	Kandahar Small Diesel		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
95	Kajaki II		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

1			Year	2009										
2			Month	1	2	3	4	5	6	7	8	9	10	11	12
3	POWER SUPPLY - INSTALLED CAPACITY			MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW
4			Status												
5	Turkmenistan 110kV	NTS1	existing	30	30	30	30	30	30	30	30	30	30	30	30
6	Uzbekistan 110kV	NTS2	existing	30	30	30	30	30	30	30	30	30	30	30	30
7	Tajikistan 110 kV	NTS3	existing	10	10	10	10	10	10	10	10	10	10	10	10
8	Turkmenistan 220kV	NTS	planned	-	-	-	-	-	-	-	-	-	-	-	-
9	Uzbekistan 220kV	NTS	planned	300	300	300	300	300	300	300	300	300	300	300	300
10	Tajikistan 220 kV	NTS	planned	-	-	-	-	-	300	300	300	300	300	300	300
11	Sheberghan	NTS	planned	100	100	100	100	100	100	100	100	100	100	100	100
12															
13	Mahipar	NTS4	in rehab	33	33	33	33	33	33	33	33	33	33	33	33
14	Naghlu	NTS4	in rehab	100	100	100	100	100	100	100	100	100	100	100	100
15	Sorobi	NTS4	in rehab	22	22	22	22	22	22	22	22	22	22	22	22
16	NW Kabul	NTS4	existing	44	44	44	44	44	44	44	44	44	44	44	44
17	Kabul Small Diesels	NTS4													
18															
19	Darunta	NTS5	in rehab	14	14	14	14	14	14	14	14	14	14	14	14
20															
21	Kajaki	STS	in rehab	51	51	51	51	51	51	51	51	51	51	51	51
22	Kandahar Small Dies	STS	existing	17	17	17	17	17	17	17	17	17	17	17	17
23	Kajaki II	STS	planned	-	-	-	-	-	-	-	-	-	-	-	-
24															
25	Total Capacity			751	751	751	751	751	1,051	1,051	1,051	1,051	1,051	1,051	1,051
26															
27	POWER SUPPLY - AVAILABILITY:		Year												
28	Technical, Fuel, Water, Commerical		Month												
29	Turkmenistan 110kV			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
30	Uzbekistan 110kV			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
31	Tajikistan 110 kV			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
32	Turkmenistan 220kV			99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%
33	Uzbekistan 220kV			99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%
34	Tajikistan 220 kV			99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%
35	Sheberghan			99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%
36															
37	Mahipar			50%	50%	50%	50%	0%	0%	0%	0%	0%	0%	0%	0%
38	Naghlu			30%	30%	30%	30%	30%	50%	50%	50%	30%	30%	30%	30%
39	Sorobi			90%	90%	90%	90%	90%	0%	0%	0%	0%	0%	0%	0%
40	NW Kabul			60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
41	Kabul Small Diesels			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
42															
43	Darunta			82%	71%	95%	95%	95%	95%	95%	82%	71%	71%	82%	82%
44															
45	Kajaki			95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
46	Kandahar Small Diesel			60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
47	Kajaki II			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
48															

96		Year	2008											
97			1	2	3	4	5	6	7	8	9	10	11	12
98	MAXIMUM ENERGY TO DISCOS	Days												
99														
100														
101	Turkmenistan 110kV		5,134	4,637	5,134	4,968	5,134	4,968	5,134	5,134	4,968	-	-	-
102	Uzbekistan 110kV		12,321	11,128	12,321	11,923	12,321	11,923	12,321	12,321	11,923	-	-	-
103	Tajikistan 110 kV		3,422	3,091	3,422	3,312	3,422	3,312	3,422	3,422	3,312	-	-	-
104	Turkmenistan 220kV		-	-	-	-	-	-	-	-	-	-	-	-
105	Uzbekistan 220kV		-	-	-	-	-	-	-	-	-	209,920	203,148	209,920
106	Tajikistan 220 kV		-	-	-	-	-	-	-	-	-	-	-	-
107	Sheberghan		-	-	-	-	-	-	-	-	-	69,973	67,716	69,973
108														
109	Mahipar		11,662	10,534	11,662	11,286	-	-	-	-	-	-	-	-
110	Naghlu		21,204	19,152	21,204	20,520	21,204	34,200	35,340	35,340	20,520	21,204	20,520	21,204
111	Sorobi		7,775	7,022	7,775	7,524	7,775	-	-	-	-	-	-	-
112	NW Kabul		18,660	16,854	18,660	18,058	18,660	18,058	18,660	18,660	18,058	18,660	18,058	18,660
113	Kabul Small Diesels		-	-	-	-	-	-	-	-	-	-	-	-
114														
115	Darunta		5,216	4,079	6,043	5,848	6,043	5,848	9,400	8,114	6,799	7,026	7,852	8,114
116														
117	Kajaki		34,244	30,930	34,244	33,140	34,244	33,140	34,244	34,244	33,140	34,244	33,140	34,244
118	Kandahar Small Diesel		7,209	6,512	7,209	6,977	7,209	6,977	7,209	7,209	6,977	7,209	6,977	7,209
119	Kajaki II		-	-	-	-	-	-	-	-	-	-	-	-
120														
121	Total Possible Energy Deliervable to Discos		126,847	113,940	127,674	123,556	116,012	118,426	125,730	124,444	105,696	368,236	357,411	369,324

49		Year	2008											
50			1	2	3	4	5	6	7	8	9	10	11	12
51	MAXIMUM ENERGY TO TRANSCO	Days	31	28	31	30	31	30	31	31	30	31	30	31
52														
53			MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh
54	Turkmenistan 110kV		5,580	5,040	5,580	5,400	5,580	5,400	5,580	5,580	5,400	-	-	-
55	Uzbekistan 110kV		13,392	12,096	13,392	12,960	13,392	12,960	13,392	13,392	12,960	-	-	-
56	Tajikistan 110 kV		3,720	3,360	3,720	3,600	3,720	3,600	3,720	3,720	3,600	-	-	-
57	Turkmenistan 220kV		-	-	-	-	-	-	-	-	-	-	-	-
58	Uzbekistan 220kV		-	-	-	-	-	-	-	-	-	220,968	213,840	220,968
59	Tajikistan 220 kV		-	-	-	-	-	-	-	-	-	-	-	-
60	Sheberghan		-	-	-	-	-	-	-	-	-	73,656	71,280	73,656
61														
62	Mahipar		12,276	11,088	12,276	11,880	-	-	-	-	-	-	-	-
63	Naghlu		22,320	20,160	22,320	21,600	22,320	36,000	37,200	37,200	21,600	22,320	21,600	22,320
64	Sorobi		8,184	7,392	8,184	7,920	8,184	-	-	-	-	-	-	-
65	NW Kabul		19,642	17,741	19,642	19,008	19,642	19,008	19,642	19,642	19,008	19,642	19,008	19,642
66	Kabul Small Diesels		-	-	-	-	-	-	-	-	-	-	-	-
67														
68	Darunta		5,491	4,294	6,361	6,156	6,361	6,156	9,895	8,541	7,157	7,395	8,266	8,541
69														
70	Kajaki		36,047	32,558	36,047	34,884	36,047	34,884	36,047	36,047	34,884	36,047	34,884	36,047
71	Kandahar Small Diesel		7,589	6,854	7,589	7,344	7,589	7,344	7,589	7,589	7,344	7,589	7,344	7,589
72	Kajaki II		-	-	-	-	-	-	-	-	-	-	-	-
73														
74			134,240	120,584	135,110	130,752	122,834	125,352	133,064	131,710	111,953	387,617	376,222	388,762
75	TRANSMISSION LOSSES													
76														
77	Turkmenistan 110kV		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
78	Uzbekistan 110kV		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
79	Tajikistan 110 kV		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
80	Turkmenistan 220kV		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
81	Uzbekistan 220kV		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
82	Tajikistan 220 kV		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
83	Sheberghan		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
84														
85	Mahipar		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
86	Naghlu		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
87	Sorobi		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
88	NW Kabul		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
89	Kabul Small Diesels		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
90														
91	Darunta		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
92														
93	Kajaki		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
94	Kandahar Small Diesel		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
95	Kajaki II		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

1			Year	2008										
2			Month	1	2	3	4	5	6	7	8	9	10	11	12
3	POWER SUPPLY - INSTALLED CAPACITY			MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW
4			Status												
5	Turkmenistan 110kV	NTS1	existing	30	30	30	30	30	30	30	30	30	30	30	30
6	Uzbekistan 110kV	NTS2	existing	30	30	30	30	30	30	30	30	30	30	30	30
7	Tajikistan 110 kV	NTS3	existing	10	10	10	10	10	10	10	10	10	10	10	10
8	Turkmenistan 220kV	NTS	planned	-	-	-	-	-	-	-	-	-	-	-	-
9	Uzbekistan 220kV	NTS	planned	-	-	-	-	-	-	-	-	-	300	300	300
10	Tajikistan 220 kV	NTS	planned	-	-	-	-	-	-	-	-	-	-	-	-
11	Sheberghan	NTS	planned	-	-	-	-	-	-	-	-	-	100	100	100
12															
13	Mahipar	NTS4	in rehab	33	33	33	33	33	33	33	33	33	33	33	33
14	Naghlu	NTS4	in rehab	100	100	100	100	100	100	100	100	100	100	100	100
15	Sorobi	NTS4	in rehab	22	22	22	22	22	22	22	22	22	22	22	22
16	NW Kabul	NTS4	existing	44	44	44	44	44	44	44	44	44	44	44	44
17	Kabul Small Diesels	NTS4													
18															
19	Darunta	NTS5	in rehab	9	9	9	9	9	9	14	14	14	14	14	14
20															
21	Kajaki	STS	in rehab	51	51	51	51	51	51	51	51	51	51	51	51
22	Kandahar Small Dies	STS	existing	17	17	17	17	17	17	17	17	17	17	17	17
23	Kajaki II	STS	planned	-	-	-	-	-	-	-	-	-	-	-	-
24															
25	Total Capacity			346	346	346	346	346	346	351	351	351	751	751	751
26															
27	POWER SUPPLY - AVAILABILITY:		Year												
28	Technical, Fuel, Water, Commerical		Month												
29	Turkmenistan 110kV			25%	25%	25%	25%	25%	25%	25%	25%	25%	0%	0%	0%
30	Uzbekistan 110kV			60%	60%	60%	60%	60%	60%	60%	60%	60%	0%	0%	0%
31	Tajikistan 110 kV			50%	50%	50%	50%	50%	50%	50%	50%	50%	0%	0%	0%
32	Turkmenistan 220kV			0%	0%	0%	0%	0%	0%	0%	0%	0%	99%	99%	99%
33	Uzbekistan 220kV			0%	0%	0%	0%	0%	0%	0%	0%	0%	99%	99%	99%
34	Tajikistan 220 kV			0%	0%	0%	0%	0%	0%	0%	0%	0%	99%	99%	99%
35	Sheberghan			0%	0%	0%	0%	0%	0%	0%	0%	0%	99%	99%	99%
36															
37	Mahipar			50%	50%	50%	50%	0%	0%	0%	0%	0%	0%	0%	0%
38	Naghlu			30%	30%	30%	30%	30%	50%	50%	50%	30%	30%	30%	30%
39	Sorobi			50%	50%	50%	50%	50%	0%	0%	0%	0%	0%	0%	0%
40	NW Kabul			60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
41	Kabul Small Diesels			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
42															
43	Darunta			82%	71%	95%	95%	95%	95%	95%	82%	71%	71%	82%	82%
44															
45	Kajaki			95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
46	Kandahar Small Diesel			60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
47	Kajaki II			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
48															

96		Year	2007											
97			1	2	3	4	5	6	7	8	9	10	11	12
98	MAXIMUM ENERGY TO DISCOS	Days												
99														
100														
101	Turkmenistan 110kV		5,134	4,637	5,134	4,968	5,134	4,968	5,134	5,134	4,968	5,134	4,968	5,134
102	Uzbekistan 110kV		12,321	11,128	12,321	11,923	12,321	11,923	12,321	12,321	11,923	12,321	11,923	12,321
103	Tajikistan 110 kV		3,422	3,091	3,422	3,312	3,422	3,312	3,422	3,422	3,312	3,422	3,312	3,422
104	Turkmenistan 220kV		-	-	-	-	-	-	-	-	-	-	-	-
105	Uzbekistan 220kV		-	-	-	-	-	-	-	-	-	-	-	-
106	Tajikistan 220 kV		-	-	-	-	-	-	-	-	-	-	-	-
107	Sheberghan		-	-	-	-	-	-	-	-	-	-	-	-
108														
109	Mahipar		11,662	10,534	11,662	11,286	-	-	-	-	-	-	-	-
110	Naghlu		21,204	19,152	21,204	20,520	21,204	34,200	35,340	35,340	20,520	21,204	20,520	21,204
111	Sorobi		7,775	7,022	7,775	7,524	7,775	-	-	-	-	-	-	-
112	NW Kabul		18,660	16,854	18,660	18,058	18,660	18,058	18,660	18,660	18,058	18,660	18,058	18,660
113	Kabul Small Diesels		-	-	-	-	-	-	-	-	-	-	-	-
114														
115	Darunta		4,637	3,626	5,372	5,198	8,058	5,198	5,372	4,637	3,885	4,015	4,487	7,534
116														
117	Kajaki		17,493	15,800	17,493	16,929	17,493	26,163	34,244	34,244	33,140	34,244	33,140	34,244
118	Kandahar Small Diesel		7,209	6,512	7,209	6,977	7,209	6,977	7,209	7,209	6,977	7,209	6,977	7,209
119	Kajaki II		-	-	-	-	-	-	-	-	-	-	-	-
120														
121	Total Possible Energy Deliervable to Discos		109,516	98,356	110,252	106,695	101,275	110,799	121,702	120,967	102,783	106,209	103,384	109,728

49		Year	2007											
50			1	2	3	4	5	6	7	8	9	10	11	12
51	MAXIMUM ENERGY TO TRANSCO	Days	31	28	31	30	31	30	31	31	30	31	30	31
52														
53			MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh
54	Turkmenistan 110kV		5,580	5,040	5,580	5,400	5,580	5,400	5,580	5,580	5,400	5,580	5,400	5,580
55	Uzbekistan 110kV		13,392	12,096	13,392	12,960	13,392	12,960	13,392	13,392	12,960	13,392	12,960	13,392
56	Tajikistan 110 kV		3,720	3,360	3,720	3,600	3,720	3,600	3,720	3,720	3,600	3,720	3,600	3,720
57	Turkmenistan 220kV		-	-	-	-	-	-	-	-	-	-	-	-
58	Uzbekistan 220kV		-	-	-	-	-	-	-	-	-	-	-	-
59	Tajikistan 220 kV		-	-	-	-	-	-	-	-	-	-	-	-
60	Sheberghan		-	-	-	-	-	-	-	-	-	-	-	-
61														
62	Mahipar		12,276	11,088	12,276	11,880	-	-	-	-	-	-	-	-
63	Naghlu		22,320	20,160	22,320	21,600	22,320	36,000	37,200	37,200	21,600	22,320	21,600	22,320
64	Sorobi		8,184	7,392	8,184	7,920	8,184	-	-	-	-	-	-	-
65	NW Kabul		19,642	17,741	19,642	19,008	19,642	19,008	19,642	19,642	19,008	19,642	19,008	19,642
66	Kabul Small Diesels		-	-	-	-	-	-	-	-	-	-	-	-
67														
68	Darunta		4,881	3,817	5,654	5,472	8,482	5,472	5,654	4,881	4,090	4,226	4,723	7,931
69														
70	Kajaki		18,414	16,632	18,414	17,820	18,414	27,540	36,047	36,047	34,884	36,047	34,884	36,047
71	Kandahar Small Diesel		7,589	6,854	7,589	7,344	7,589	7,344	7,589	7,589	7,344	7,589	7,344	7,589
72	Kajaki II		-	-	-	-	-	-	-	-	-	-	-	-
73														
74			115,997	104,180	116,771	113,004	107,322	117,324	128,824	128,050	108,886	112,515	109,519	116,220
75	TRANSMISSION LOSSES													
76														
77	Turkmenistan 110kV		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
78	Uzbekistan 110kV		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
79	Tajikistan 110 kV		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
80	Turkmenistan 220kV		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
81	Uzbekistan 220kV		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
82	Tajikistan 220 kV		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
83	Sheberghan		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
84														
85	Mahipar		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
86	Naghlu		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
87	Sorobi		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
88	NW Kabul		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
89	Kabul Small Diesels		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
90														
91	Darunta		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
92														
93	Kajaki		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
94	Kandahar Small Diesel		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
95	Kajaki II		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

1			Year	2007										
2			Month	1	2	3	4	5	6	7	8	9	10	11	12
3	POWER SUPPLY - INSTALLED CAPACITY			MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW
4			Status												
5	Turkmenistan 110kV	NTS1	existing	30	30	30	30	30	30	30	30	30	30	30	30
6	Uzbekistan 110kV	NTS2	existing	30	30	30	30	30	30	30	30	30	30	30	30
7	Tajikistan 110 kV	NTS3	existing	10	10	10	10	10	10	10	10	10	10	10	10
8	Turkmenistan 220kV	NTS	planned	-	-	-	-	-	-	-	-	-	-	-	-
9	Uzbekistan 220kV	NTS	planned	-	-	-	-	-	-	-	-	-	-	-	-
10	Tajikistan 220 kV	NTS	planned	-	-	-	-	-	-	-	-	-	-	-	-
11	Sheberghan	NTS	planned	-	-	-	-	-	-	-	-	-	-	-	-
12															
13	Mahipar	NTS4	in rehab	33	33	33	33	33	33	33	33	33	33	33	33
14	Naghlu	NTS4	in rehab	100	100	100	100	100	100	100	100	100	100	100	100
15	Sorobi	NTS4	in rehab	22	22	22	22	22	22	22	22	22	22	22	22
16	NW Kabul	NTS4	existing	44	44	44	44	44	44	44	44	44	44	44	44
17	Kabul Small Diesels	NTS4													
18															
19	Darunta	NTS5	in rehab	8	8	8	8	12	8	8	8	8	8	8	13
20															
21	Kajaki	STS	in rehab	33	33	33	33	33	51	51	51	51	51	51	51
22	Kandahar Small Dies	STS	existing	17	17	17	17	17	17	17	17	17	17	17	17
23	Kajaki II	STS	planned	-	-	-	-	-	-	-	-	-	-	-	-
24															
25	Total Capacity			327	327	327	327	331	345	345	345	345	345	345	350
26															
27	POWER SUPPLY - AVAILABILITY:		Year	2007											
28	Technical, Fuel, Water, Commerical		Month	1											
29	Turkmenistan 110kV			25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
30	Uzbekistan 110kV			60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
31	Tajikistan 110 kV			50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
32	Turkmenistan 220kV			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
33	Uzbekistan 220kV			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
34	Tajikistan 220 kV			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
35	Sheberghan			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
36															
37	Mahipar			50%	50%	50%	50%	0%	0%	0%	0%	0%	0%	0%	0%
38	Naghlu			30%	30%	30%	30%	30%	50%	50%	50%	30%	30%	30%	30%
39	Sorobi			50%	50%	50%	50%	50%	0%	0%	0%	0%	0%	0%	0%
40	NW Kabul			60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
41	Kabul Small Diesels			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
42															
43	Darunta			82%	71%	95%	95%	95%	95%	95%	82%	71%	71%	82%	82%
44															
45	Kajaki			75%	75%	75%	75%	75%	75%	95%	95%	95%	95%	95%	95%
46	Kandahar Small Diesel			60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
47	Kajaki II			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
48															

96		Year	2006											
97			1	2	3	4	5	6	7	8	9	10	11	12
98	MAXIMUM ENERGY TO DISCOS	Days												
99														
100			MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh		
101	Turkmenistan 110kV		5,134	4,637	5,134	4,968	5,134	4,968	5,134	5,134	4,968	5,134	4,968	5,134
102	Uzbekistan 110kV		12,321	11,128	12,321	11,923	12,321	11,923	12,321	12,321	11,923	12,321	11,923	12,321
103	Tajikistan 110 kV		3,422	3,091	3,422	3,312	3,422	3,312	3,422	3,422	3,312	3,422	3,312	3,422
104	Turkmenistan 220kV		-	-	-	-	-	-	-	-	-	-	-	-
105	Uzbekistan 220kV		-	-	-	-	-	-	-	-	-	-	-	-
106	Tajikistan 220 kV		-	-	-	-	-	-	-	-	-	-	-	-
107	Sheberghan		-	-	-	-	-	-	-	-	-	-	-	-
108														
109	Mahipar		11,662	10,534	11,662	11,286	-	-	-	-	-	-	-	-
110	Naghlu		21,204	19,152	21,204	20,520	21,204	34,200	35,340	35,340	20,520	21,204	20,520	21,204
111	Sorobi		7,775	7,022	7,775	7,524	7,775	-	-	-	-	-	-	-
112	NW Kabul		9,330	8,427	9,330	9,029	9,330	9,029	9,330	9,330	9,029	18,660	18,058	18,660
113	Kabul Small Diesels		-	-	-	-	-	-	-	-	-	-	-	-
114														
115	Darunta		5,796	4,533	6,715	6,498	6,715	5,198	5,372	6,955	5,828	6,022	4,487	4,637
116														
117	Kajaki		17,493	15,800	17,493	16,929	17,493	16,929	17,493	17,493	16,929	17,493	16,929	17,493
118	Kandahar Small Diesel		7,209	6,512	7,209	6,977	7,209	6,977	7,209	7,209	6,977	7,209	6,977	7,209
119	Kajaki II		-	-	-	-	-	-	-	-	-	-	-	-
120														
121	Total Possible Energy Deliervable to Discos		101,346	90,836	102,265	98,966	90,602	92,536	95,621	97,204	79,485	91,465	87,174	90,079

49		Year	2006											
50			1	2	3	4	5	6	7	8	9	10	11	12
51	MAXIMUM ENERGY TO TRANSCO	Days	31	28	31	30	31	30	31	31	30	31	30	31
52														
53			MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh
54	Turkmenistan 110kV		5,580	5,040	5,580	5,400	5,580	5,400	5,580	5,580	5,400	5,580	5,400	5,580
55	Uzbekistan 110kV		13,392	12,096	13,392	12,960	13,392	12,960	13,392	13,392	12,960	13,392	12,960	13,392
56	Tajikistan 110 kV		3,720	3,360	3,720	3,600	3,720	3,600	3,720	3,720	3,600	3,720	3,600	3,720
57	Turkmenistan 220kV		-	-	-	-	-	-	-	-	-	-	-	-
58	Uzbekistan 220kV		-	-	-	-	-	-	-	-	-	-	-	-
59	Tajikistan 220 kV		-	-	-	-	-	-	-	-	-	-	-	-
60	Sheberghan		-	-	-	-	-	-	-	-	-	-	-	-
61														
62	Mahipar		12,276	11,088	12,276	11,880	-	-	-	-	-	-	-	-
63	Naghlu		22,320	20,160	22,320	21,600	22,320	36,000	37,200	37,200	21,600	22,320	21,600	22,320
64	Sorobi		8,184	7,392	8,184	7,920	8,184	-	-	-	-	-	-	-
65	NW Kabul		9,821	8,870	9,821	9,504	9,821	9,504	9,821	9,821	9,504	19,642	19,008	19,642
66	Kabul Small Diesels		-	-	-	-	-	-	-	-	-	-	-	-
67														
68	Darunta		6,101	4,771	7,068	6,840	7,068	5,472	5,654	7,321	6,134	6,339	4,723	4,881
69														
70	Kajaki		18,414	16,632	18,414	17,820	18,414	17,820	18,414	18,414	17,820	18,414	17,820	18,414
71	Kandahar Small Diesel		7,589	6,854	7,589	7,344	7,589	7,344	7,589	7,589	7,344	7,589	7,344	7,589
72	Kajaki II		-	-	-	-	-	-	-	-	-	-	-	-
73														
74			107,396	96,264	108,364	104,868	96,088	98,100	101,370	103,037	84,362	96,995	92,455	95,537
75	TRANSMISSION LOSSES													
76														
77	Turkmenistan 110kV		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
78	Uzbekistan 110kV		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
79	Tajikistan 110 kV		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
80	Turkmenistan 220kV		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
81	Uzbekistan 220kV		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
82	Tajikistan 220 kV		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
83	Sheberghan		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
84														
85	Mahipar		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
86	Naghlu		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
87	Sorobi		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
88	NW Kabul		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
89	Kabul Small Diesels		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
90														
91	Darunta		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
92														
93	Kajaki		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
94	Kandahar Small Diesel		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
95	Kajaki II		5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

1			Year	2006										
2			Month	1	2	3	4	5	6	7	8	9	10	11	12
3	POWER SUPPLY - INSTALLED CAPACITY			MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW
4			Status												
5	Turkmenistan 110kV	NTS1	existing	30	30	30	30	30	30	30	30	30	30	30	30
6	Uzbekistan 110kV	NTS2	existing	30	30	30	30	30	30	30	30	30	30	30	30
7	Tajikistan 110 kV	NTS3	existing	10	10	10	10	10	10	10	10	10	10	10	10
8	Turkmenistan 220kV	NTS	planned	-	-	-	-	-	-	-	-	-	-	-	-
9	Uzbekistan 220kV	NTS	planned	-	-	-	-	-	-	-	-	-	-	-	-
10	Tajikistan 220 kV	NTS	planned	-	-	-	-	-	-	-	-	-	-	-	-
11	Sheberghan	NTS	planned	-	-	-	-	-	-	-	-	-	-	-	-
12															
13	Mahipar	NTS4	in rehab	33	33	33	33	33	33	33	33	33	33	33	33
14	Naghlu	NTS4	in rehab	100	100	100	100	100	100	100	100	100	100	100	100
15	Sorobi	NTS4	in rehab	22	22	22	22	22	22	22	22	22	22	22	22
16	NW Kabul	NTS4	existing	22	22	22	22	22	22	22	22	22	44	44	44
17	Kabul Small Diesels	NTS4		0	0	0	0	0	0	0	0	0	0	0	0
18															
19	Darunta	NTS5	in rehab	10	10	10	10	10	8	8	12	12	12	8	8
20															
21	Kajaki	STS	in rehab	33	33	33	33	33	33	33	33	33	33	33	33
22	Kandahar Small Dies	STS	existing	17	17	17	17	17	17	17	17	17	17	17	17
23	Kajaki II	STS	planned	-	-	-	-	-	-	-	-	-	-	-	-
24															
25	Total Capacity			307	307	307	307	307	305	305	309	309	331	327	327
26															
27	POWER SUPPLY - AVAILABILITY:		Year	2006											
28	Technical, Fuel, Water, Commerical		Month	1	2	3	4	5	6	7	8	9	10	11	12
29	Turkmenistan 110kV			25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
30	Uzbekistan 110kV			60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
31	Tajikistan 110 kV			50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
32	Turkmenistan 220kV			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
33	Uzbekistan 220kV			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
34	Tajikistan 220 kV			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
35	Sheberghan			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
36															
37	Mahipar			50%	50%	50%	50%	0%	0%	0%	0%	0%	0%	0%	0%
38	Naghlu			30%	30%	30%	30%	30%	50%	50%	50%	30%	30%	30%	30%
39	Sorobi			50%	50%	50%	50%	50%	0%	0%	0%	0%	0%	0%	0%
40	NW Kabul			60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
41	Kabul Small Diesels			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
42															
43	Darunta			82%	71%	95%	95%	95%	95%	95%	82%	71%	71%	82%	82%
44															
45	Kajaki			75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%
46	Kandahar Small Diesel			60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
47	Kajaki II			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
48															