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Inception Note on Distribution Franchisee Options at Mazar-e-sherif and Khayr Khana sites

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In this note

- **Terms of Reference**
- **Proposed Approach and Methodology**
- **Area Profile**
- **Technical Analysis**
 - System specifications
 - Load duration curve
- **Commercial Analysis**
 - Consumer mix
 - Consumption mix
 - Commercial details
- **Energy Flow**
- **Way Forward**

Terms of Reference

Terms of Reference

- Reviewing and broadly analyzing the data collected from the Mazar-e-sherif and Khayr Khana sites
- Providing three conceptual operating contract options for providing electricity services in Mazar-e-sherif and in Khayr Khana (comprising descriptions of the essential elements of the contract that specify, among other things, principles involved, incentive mechanisms employed and means of providing fuel, setting tariffs and other necessary contract elements)
- Conducting a 6 to 8 hour working session at CRISIL's headquarters with Afghan power and energy officials
- Submitting a final report covering the design principles and three conceptual operating contract operations outlined above

Proposed Approach and Methodology

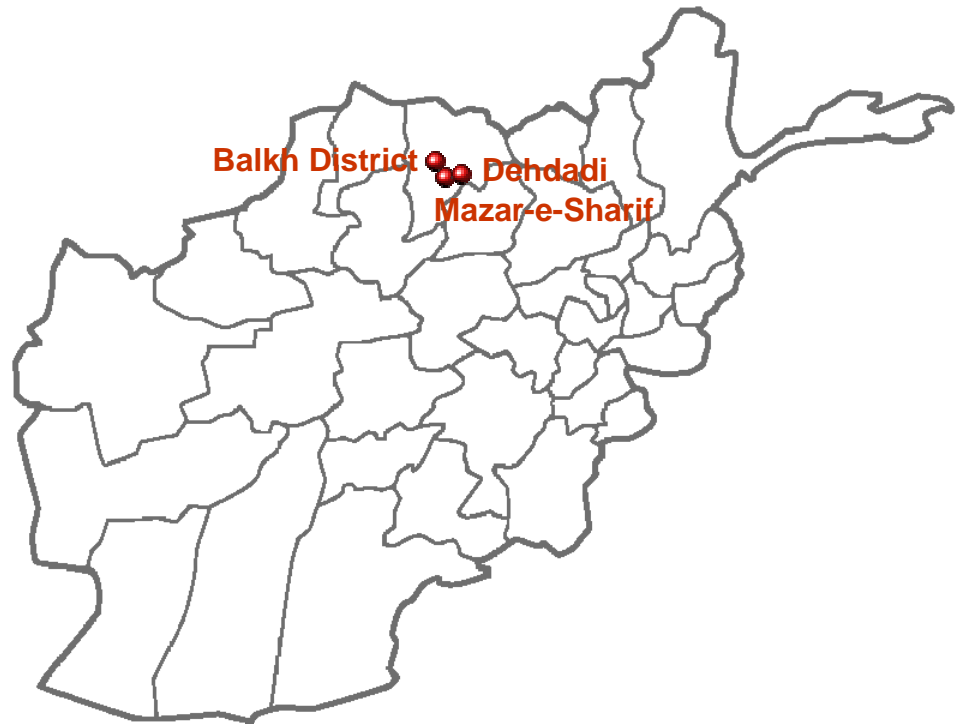
Approach and Methodology

- Step 1: Developing an understanding of the proposed distribution areas by review of information provided and identifying data gaps
- Step 2: Completing the review after receipt of the data gaps
- Step 3: Developing a concept note on options for franchising and relevant issues
- Step 4: Discussion on the concept note with comments received
- Step 5: Final report on the options for appointing distribution franchisees
- Step 6: Conducting a 6 to 8 hour working session with Afghan power and energy officials

Area Profile

Mazar-e-Sharif

- **Coverage area encompasses**
 - 11 municipal districts in Mazar-e-sharif
 - Dehdadi
 - Balkh District
- **MeS capital city of Balkh province**
 - Has a population of ~300,600*
- **Region sources all its power from Uzbekistan at cheap prices**
 - \$0.029/ kWh cost of supply
- **Has the second cheapest tariffs applicable in Afghanistan**
 - Afs. 3/ kWh for Residential
 - Afs. 8/ kWh for others
- **Faces severe shortage of power**
 - Only 44% of demand met in 2005
 - Shortage currently countered by regular load-shedding



*: Official estimates.

Khair Khana

- **Coverage area encompasses**
 - Area connected to Junction 10 of Kabul distribution system
- **Densely populated suburb of Kabul city**
 - Has a population of ~1,000,000*
- **Sources expensive power through Hydro and Thermal generation**
 - \$0.153/ kWh average cost of power
- **Tariffs applicable**
 - Afs. 1.5 to 6/ kWh for Residential
 - Afs. 6 to 10/ kWh for others



*: Estimates as of 2003.

Technical Analysis

System Specifications

MeS

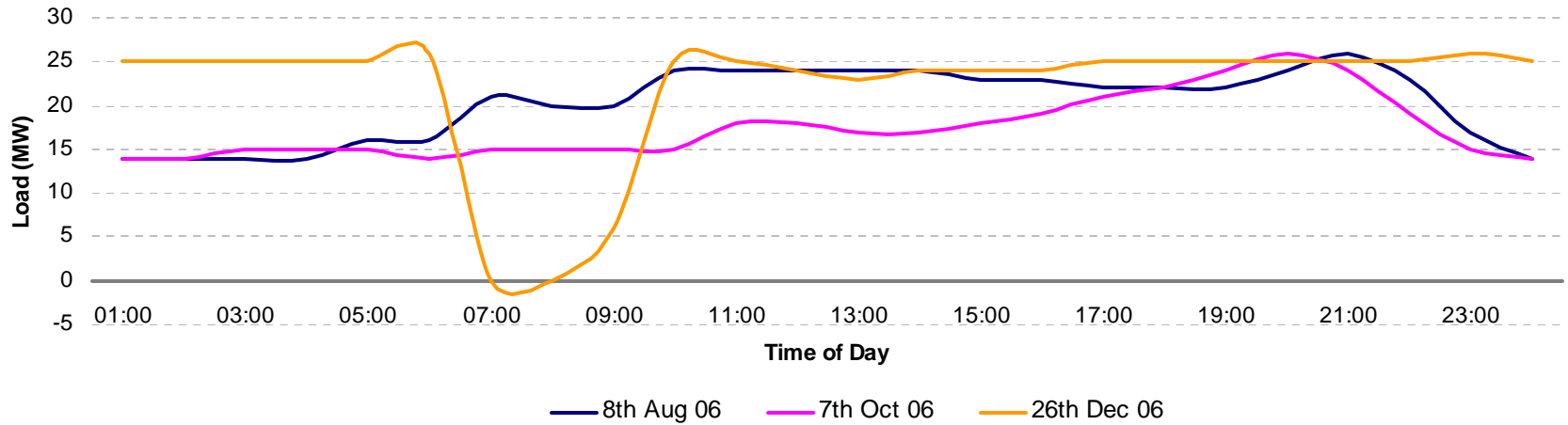
- **Load** - >50 MW
- **Sub Stations**
 - EHV Sub Stations (110 kV & above) – 1
 - 35/6 kV Sub Stations – 3
 - 6/0.4 kV DTRs – 440
- **Feeders**
 - 35 kV feeders – [Data Insufficient]
 - 6 kV feeders – [Data Insufficient]
- **Distribution Transformers**
 - DTRs – 554
- **Line Length**
 - 35 kV line length – kms
 - 6 kV line length – kms
 - LT line length – kms

Khair Khana

- **Load** - >41 MW
- **Sub Stations**
 - EHV Sub Stations (110 kV & above) – [Data Insufficient]
 - 35/6 kV Sub Stations [Data Insufficient]
 - 6/0.4 kV DTRs – [Data Insufficient]
- **Feeders**
 - 35 kV feeders – [Data Insufficient]
 - 6 kV feeders – [Data Insufficient]
- **Distribution Transformers**
 - DTRs - [Data Insufficient]
- **Line Length**
 - 35 kV line length – [Data Insufficient]
 - 6 kV line length – [Data Insufficient]
 - LT line length – [Data Insufficient]

Load Duration Curve

MeS



Khair Khana

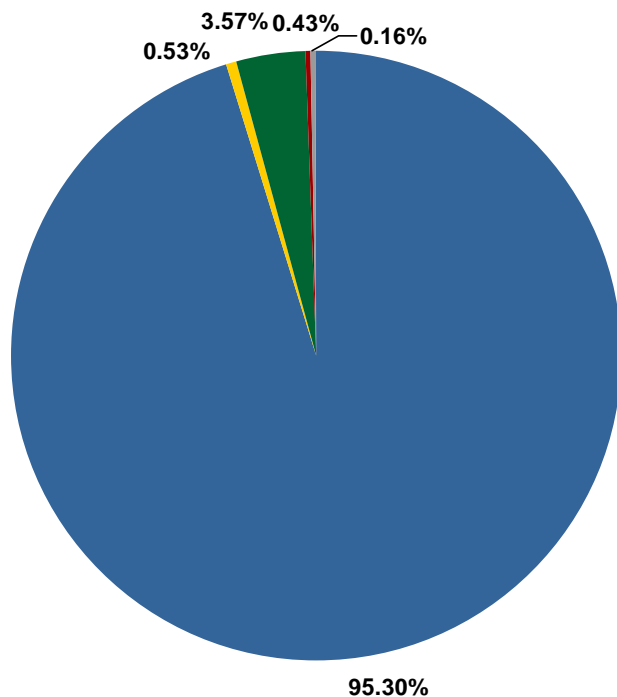
Data Insufficient

Commercial Analysis

Consumer Mix

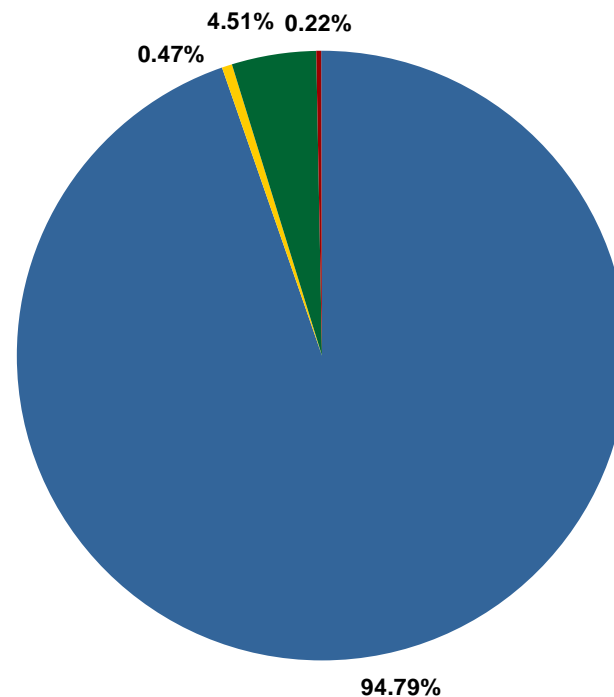
Mazar-e-Sharif

Total Consumers – 63,173



Khair Khana

Total Consumers – 23,814



■ Residential ■ Govt. ■ Commercial ■ Holly Places ■ UN & NGOs

■ Residential ■ Govt. ■ Commercial ■ Holly Places

Consumption Mix

Mazar-e-Sharif

Total Consumption –

Data Insufficient

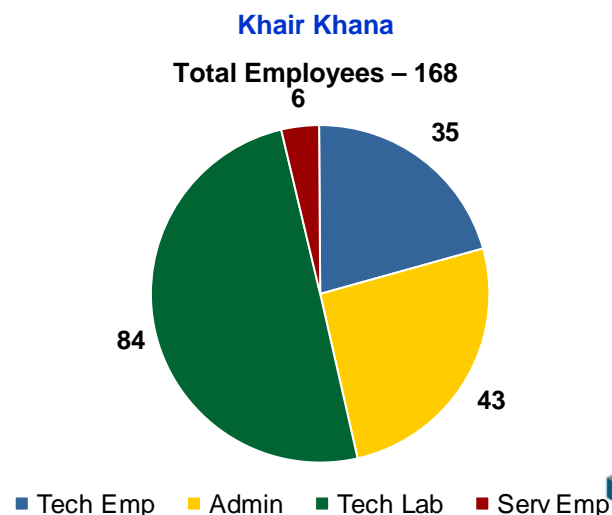
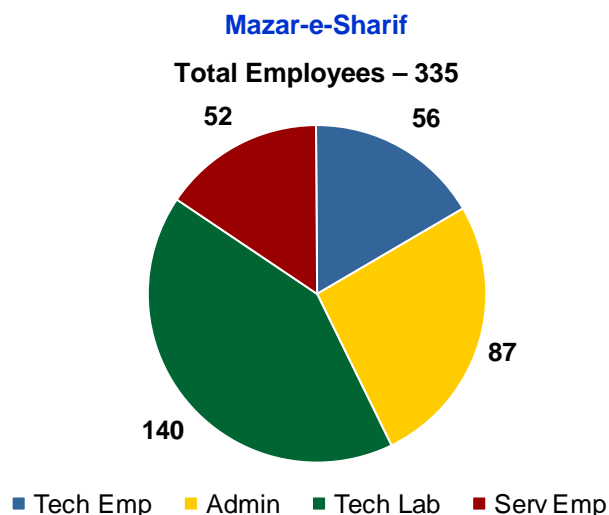
Khair Khana

Total Consumption –

Data Insufficient

Other Commercial Details

| | Mazar-e-Sharif | Khair Khana |
|---|-------------------|--------------------|
| Proportion of registered consumers of total consumers | 100% | 100% |
| Proportion of metered consumers of total consumers | Data Insufficient | Data Insufficient |
| Proportion of consumers billed of total consumers | 100% | 100% |
| Collection efficiency | 75% | Data Insufficient |
| No. of disconnected consumers | 235 | 909 (in year 2005) |
| Amount of arrears from disconnected consumers | Afs 4.16 Mn | Afs. 0.67 Mn |
| Billing cycle | 2 Months | 2 Months |
| Existence of Private Distributors | No | Yes |



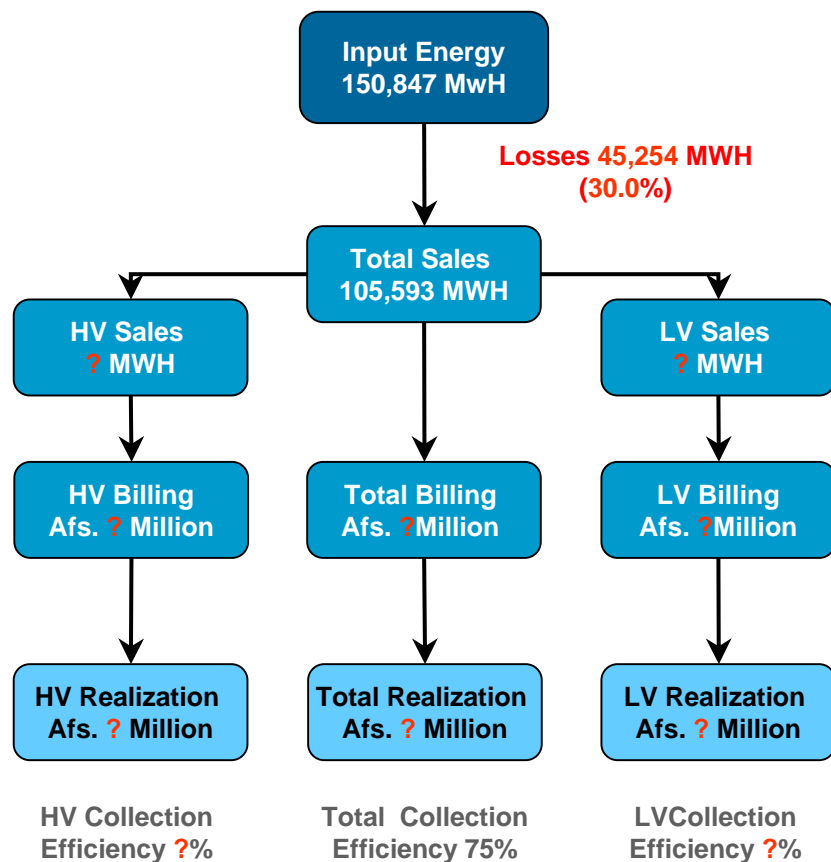
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Energy Flow

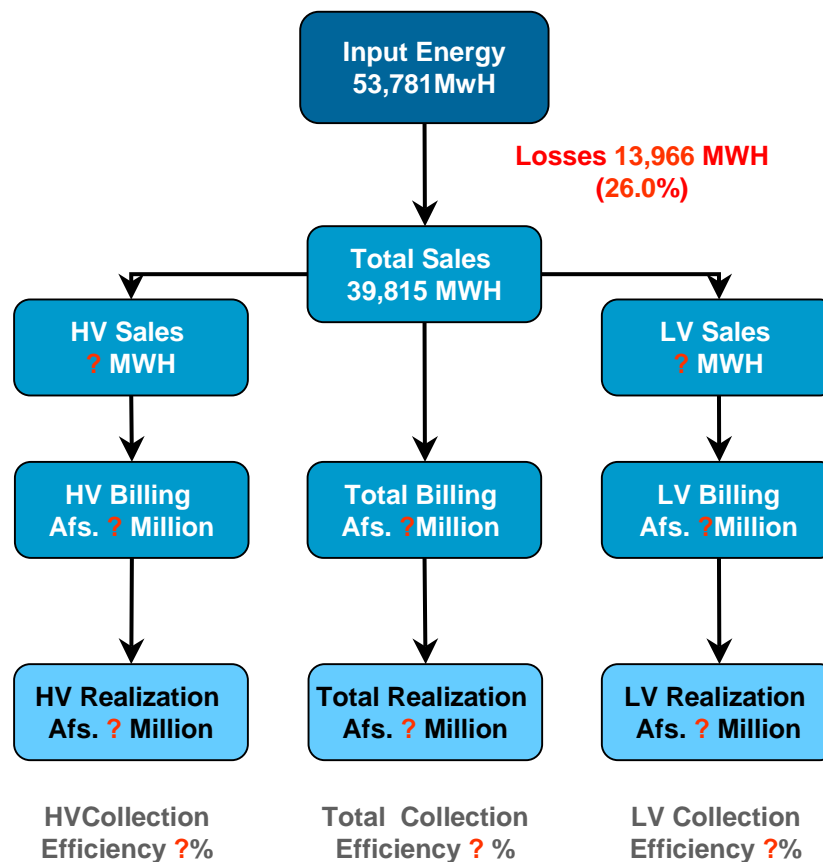
Energy Flow

MeS – Year 2005



AT & C Losses ? %
 ABR Afs./kWh ?
 RPU Afs./ kWh ?

Khair Khana –Year 2005



AT & C Losses ? %
 ABR Afs./kWh ?
 RPU Afs./kWh ?

Way Forward

Way Forward

- **Review after plugging data gaps**
- **Conduct in-depth technical and commercial data analysis**
 - Technical and commercial issues in the distribution area
 - Overview of regulatory issues: Retail tariff structure (including connection charges), tariff setting process, performance obligations including USO
 - Profiling areas of inefficiency with reasons
 - Developing performance improvement trajectory
- **Developing objectives for the distribution franchisee**
- **Construct options for franchisee structure that**
 - Suits the requirements of both the areas
 - Is beneficial for the consumers, utility as well as the Franchisee
- **Frame the key principles of franchisee agreement for the options developed**



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