Ministry of Water and Power

Preface

- Power/Electricity is known to be one of the basic needs in civilized, developed and industrialized societies and the same sense of need for it grows day by day here in Afghanistan as the country is on the verge of getting progressed in many areas.
- People are urging the government of Afghanistan to take effective steps in restoring and dispatching electricity to, as soon as possible, provinces and villages in order to help develop or upgrade living standards.
- Even before the period of continuous war in Afghanistan as a result of which most of the energy/power recourses were totally or partially damaged, people had limited access to electricity.
- To focus on the history of Power/electricity in Afghanistan, the first electricity station with capacity of 40 lights was built and used in the palace of King Abdurahman in 1983 and after wards more small power plants or stations were built namely; the 20 KW thermal engine in ARG (presidential Palace) in 1911, the 19 KW engine of Jalalabad Province in 1915, the 15 KW engine in Paghman a district of Kabul in 1916
- In 1920, the Jabal Al-saraj Power Plant was built and fixed on the two sub-rivers flowing from Panjshir River, and the line was transferred to Capital Kabul simultaneously and the said small station is still in use.
- Government of Afghanistan declared a new policy to promote private sector and industrialization and provide them with facilities of starting business in Afghanistan, which is why, more electricity was needed and therefore, from the year 1935 to 1951 many other Power Plants were built and developed as listed below:

No	Name of Plant	Production Capacity	Year of Establishment
1	Chalwar Cha Power Plant, Herat	80 Kw	1936
2	Baba-ie-W\ali Power Plant, Kandahar	330 KW	1935
3	Diesel Power Plant, Kabul	300 KW	1937
4	Diesel Power Plant of Pashtoon, Co. Kandahar	150	1937
5	Diesel Power Plant of Gen Press Co. Kandahar	500 KW	1938
6	Diesel Power Plant , Pashmina Bafi, Kandahar	300 KW	1938
7	Diesel Power Plant of Cotton Ind., Kunduz	500 KW	1938
8	Chak Wardak, Hydro Power Plant	3360 KW	1940
9	Pulkhumri-1, Hydro Power Plant	4800 KW	1941
10	Kunduz-Baghlan Hydro Power plant	1200 KW	1943

Due to world war-II, construction of a number of power production projects was halted and that is why the Sorubi Hydro Power Plant was established in 1951.
Other power generating plants which were built and put into use later on are as below:

No	Name and Location of Plant	Capacity	Date of Establishment
1	Sorubi Hydro Power Plant	22 MW	1957
2	Mahipar Hydro Power Plant	66 M	1967
3	Naghlu Hydro Power Plant	100 MW	1967
4	Darunta Hydro Power Plant	11,55 MW	1964
5	Pulkhumri-1 Hydro Power Plant	4 MW	1970
6	Pulkhumri-II Hydro Power Plant	9 MW	1962
7	Kajaki Hydro Power Plant	33 MW	1975
8	Thermal Power Plant of North-West Kabul	45 MW	1985
9	Thermal Power Plant of HudKhail, Kabul	43 MW	1978

As we can see the above, number of Power Generating Plants in Afghanistan as compared to the demand of people are insufficient and can not fulfill the need of electricity even in few large cities.
Since the establishment of transitional government, Ministry of Water and Power following from the reconstruction and rehabilitation of stations and sub offices belonging to the Ministry, has been making numerous efforts to reduce tension in the area of power shortage and has tried to help rehabilitate the over all damaged power system in Afghanistan and look for short and long term possible procedures to make the electricity available.

Ministry of Water and Power has tried to temporarily solve the problem of power shortage by importing electricity from neighboring countries for instance the 110KV Transmission Line of Hairatan through Mazare Sharif and Sheberghan and the second 110 KV transmission Line of Aqina in border with Turkmenistan going through the district of Andkhui of Jozjan Province and mainly for Sheberghan has been established.

The 20 KV transmission Line of Zarang has been rehabilitated.
The 110KV transmission Line of Sher Khan Bandar(Harbor) in border of Tajikistan and Afghanistan and the Hydro Power Plant of Kunduz Province were rehabilitated.
The 220 KV Transmission Line of Turghondai which crosses the border between Herat and Turkmenistan as well as the city power network of Herat Province were recently opened.
The 20 KV and the 132 KV Transmission Line of Astan Khurasan of Iran through border with Herat has recently been built.

To take into account the huge potential of Power energy in our country, we can say there is a hope that some day in future our county will be able to export power energy so it is clearly out of the strategic plans of the Ministry to use the imported electricity.

In order to further enlighten the achievements and progress made so far by the Ministry of Water and Power, we have arranged a presentation on the said topic.

As long as the people of Afghanistan are getting more and more confident on the services and efforts of the Ministry and also securing power energy is part of economical and development strategies of the government, it is soon expected that there will a considerable increase in Power and energy since the Ministry of Water and Power is intent to do whatever they can to invite and promote the private sector to invest in the power sector.

We are on the belief that private sector investment is playing a vital role in power supply and that the existence of required and sufficient power/energy is not possible unless the private sector participates.

The current policies and laws of the government are quiet satisfactory as regards the foreign investment and security.

We thus are in the position to invite the investors either national of foreign to take decisive steps to invest in the sector of power and energy in Afghanistan, as our country has the possibility of once becoming the hot market internationally in the same sector.

Afghanistan is a country which has sufficient power/energy recourses :

- Total Hydro Power Potential 23000 MW
- Majority of Traditional Power Recourses: Gas, Petroleum, Coal
- Non Traditional Power Recourses (New and Renewable) ::
- Sun, Wind, Bio Gas, Micro Hydel

The Install Capacities of Power Generation :

- Hydro 256 MW
- Thermal 88MW
- Diesel 29 MW

Current Production Capacity

- Hydro 180 MW
- Thermal 45 MW
- Diesel 28 MW

- **Pole Khomry-1**: Install capacity of 4.8 MW and Active Capacity of 2 MW
- **Kod-e-Barq Plan of Mazar-e-Sharif**
- Rest of the Capacities provided by the Ministries of Main and Industries and Light Industries and Food makes a total of 21.11 MW.

Required Amount of Energy Based on Master Plan

•A total of 2642 MW is the required amount of Electricity , while the electricity consumption per head is 400 KW a year.

- 9.7 % percent of the required electricity is produced internally and from locally available recourses.
- And the absorption capacity for the Imported electricity is 267 MW

- The existing quantity of the imported energy /Power is 60. MW
- Imported as well as locally produced Electricity/Energy meets the 12,3% of the general demand for electricity.

Basic Goals of the MWP

- The Sub-Offices and branches representing the Ministry will gain the ability to serve the serve their respective sectors and distracts independently and in a responsible manner as well as concordant with commercial community.
- Providing a proper set of developing and enhancing policies and guidance for power sector according to the over all national development policies.
- Establishment of an Independent Regulatory Office.

- To encourage investment (private sector's participation) in Power.
- To extend of power facility to far flung areas.
- To develop proper methods of putting the new and renewable energies into use.

- To act on behalf of Government of Afghanistan in power issues internationally or on the issues connections of Transmission Lines.

Achievements and The Works Done

- Laying out the General Power Policy and it its presentation for approval.
- Commencement of reconstruction works on Naghlu and Mahipar.
- Rehabilitation of thermal power in Kabul.
- Power Renovation in Substations up to the capacity of 50MW
- Rehabilitation and establishment of some 128 Transformer Stations.
- Extension of the transmission line by 713 Km.
- Provinces such as Badghis, Badakhshan, Samangan, Urzgan, Paktia, Kandahar, Helmand, Kapisa, Bamian, Kabul, Takhar, Faryab, Ghazni, Khost, Ghor, Zabul are electrified by ( ) diesel generator.
- The ongoing repair and rehabilitation activities on the power generating plants of Naghlu, Chak Wardak, Ghori, Charikar and JabaleSaraj
- Total of 664Milion KV/Hr was generated through the year 1382.
- 147 Million KW/Hr was produced through 1382.
- A total of 300 Electric Poles were produced in the year 1382.
- A total of 2000 wooden poles were produced and put into power use in 1382.
- 65 Km Power cable was repaired in stations in Kabul.
- Study and examination of Micro Hydles in provinces such as Badakhshan. Parwan, Samangan, Kunduz, Bamian, and Kabul.

Capacity Building

- Internet facility has been installed to the ministry.
- Departments as well as provincial offices are enjoying the right of using of computer now.
- A total of 5 young personal of the Ministry have been sent abroad for higher education.
- A total of 59 male/female engineers and professional staff have been sent for training abroad.
- A total of 232 members of the Ministry gained training in the areas of computer, Network Modeling, Accounting and English Languages.
- A total of 22 members of the Ministry staff were sent to Korea for vocational training.
- 5 members of the Ministry staff attended a workshop on Development Programs Implementation, arranged by ADB.
- Renovation as well as mobilization of Power Technical Training Institute and its promotion from 12 grades to 14, where cuttently,320 students with 40 instructors are busy in learning. And they had some 80 graduates in the year 1382.

National Development Budgets for MWP

The Required National Development Budget for Power Sector from 1383- 1385 Budgetary Currency in $

Jfrom 1383- 1385 an onwards	1383	Production and Distribution of Power
1978. 75	181. 96	Required
488. 1	181. 96	Pledged
1490. 65	(-)	1489. 77

2.21

The number of development of projects is 45 and 33 of them belong to the year 1383 which are as follows:

- **Rehabilitation: 12 projects/Sites with budgets/cost of USD 86 Million.**
- **Renovation: 5 projects/sites with budgets/cost of USD 40. 7Million.**
- **Transitional: 2 projects/ with budget/ cost of USD 2. 8 Million.**
- **New: 14 projects/sites with budget/ cost of USD 52. 46 Million.**
- **Total of 33 projects with cost of USD 181. 46 Million.**
- **Dona red projects or co-donared projects are designed for year 1383, while a non- donored project can be included in case any donar appears.**

- **:Goals and Prominent Activities of the Ministry throughout 1383:**

1.Rehabilitation:

- Urgent renovation of Kabul as well as provincial power networks.
- Mobilization of 110KV transmission Line from Sorubi to Breshna Kot.
- Mobilization of 110 KV transmission Line between substations of eastern Kabul and Brishna Kote.
- Mobilization of Eastern Kabul as well as Brishna Kote Substations.
- Mobilization of Turbine- 1 and Turbine- 3 of Kajaki.
- Work progress on Mahipar and Sorubi Hydro Power Plants rehabilitation.
- Work opening on Pul-eKhumri 220 KV Transmission Line.
- Study on Naghlu Hydro Power Plant and arranging its Specifications.
- Study on Darunta Hydro Power Plant and arranging its Specifications.
- Study on Chark Wardak Power Plant and arranging its Specifications.
- Study on Kajaki- Kandahar 110 KV Transmission Line and arranging its Specifications.
- Study on Naghlu- North Substation of Kabul 11 Transmission Line and arranging its Specifications.
- Study as well as Specifications to extend as well as renovate Kabul city Power Network.

II. Transitional Projects:

- Studies as well as Specifications for the equipments of the Combine Cycle- Gas Turbine in North west Kabul and its award.
- Awarding the contract for remaining repair work on Kandahar (2x3. 5) Diesel Generator.

III. New Projects:

- Erection of the 132 KV Transmission Line from Iran to Heart and its Substation.
- Erection of the 220 KV Transmission Line from Turkmenistan to Heart and its Substation.
- Studies, Specifications, Planning and Design for 110 KV Transmission Line from Pul-e-Khumri to Kabul.
- Awarding contract for the Turbin-2 with capacity of 18.6 MW of Kajaki.
- Awarding contract for Economic and Technical study on Baghdara Hydro Power feasibility.
- Awarding contract for Economic and Technical study on Shebercghan Power Generating Gaz Turbine and the Studies continues.
- Work opening on extension of 110 KV Transmission Line from Andkhui Province to Maimana including its Substation.
- Installation and Montage of Diesel Generators in provinces which were deprived of electricity.
- Economic studies on extension of 220 KV Transmission Line from Pul-e-Khumri to Kunduz and Power supply to Imam Saheb in Kunduz, Sar-e-Pule, Parwan,and Kapisa.
- Opening of construction work on Micro Hydle in Istalif.
- Economic Studies on extension of 220 KV Transmission Line from Mazar-e-Sharif to Heart.
- Awarding contract for Economic study on Kajaki -2 Hydro Power Plant.
- Studies on installation of 110 KV Transmission line to Kabul, Logar, Paktia, Paktika, Ghazni, Khost
- Studies on installation of 110 KV Transmission line from Naghlu to Mehtarlan(Laghman), Jalal Abad, Kabul, Logar, Paktia, Paktika, Ghazni, Khost
- Studies on installation of 110 KV Circuit from Kajaki -2 to Kandahar.

• IV. Reforms:

- Approval of Policy and Frame work for Ministry .
- Arranging specific ser of laws and regulations for power sector.
- Processing Tariff on the basis of self- sufficiency.
- Continuing efforts to promote and encourage commercialization.

Activities and short term Goals up to 2007

A. Physical infrastructure:

- Surobi, Mahipar as well as Naghlu Hydro Power Plants will be completely rehabilitated
- Mobilization and activating the combine Cycle Gaz Turbine in North west Kabul with capacity as 28.6 MW
- Mobilization of Kajakai Turbine-2 with capacity of 18X6 MW.
- Preparing to start work on Sheberghan Hydro Power Plant.
- Preparing to start work on Baghdara Hydro Power Plant.
- Mobilization and use of 220 KV Transmission Line from Kabul to Hairatan.
- Rehabilitation of Circuit- 1 and Circuit -2 from Kajaki to Kandahar.
- Installation /Mobilization of 110KV Transmission Line from
- Installation of 110 KV Transmission line from Andkhui to Maimana Including its Substations.
- Rehabilitation as well as extension of power networks in Kabul and large cities.
- Renovation of vocational training Institute and lying off some 100 graduates.
- Installation of mini- Power Plants in various cities of Afghanistan.
- Developing non-Traditional resources in Afghanistan.
- Preparing the technical and Economic report on Hydro Power Generating Plants on Kunar and Kokcha Rivers.
- Distribution of Power energy to 4000,000 new consumers in Capital and Provinces.

B. Reforms:

- Approval for the set laws and regulations in Power sector.
- Establishing an Independent Regulatory Organization.
- Establishing policy based-production and dispatching companies.

The Donars

- USAID
- World Bank
- Asian Development Bank
- Germany
- India
- Iran
- Korea

Areas Covered by Each Donor

List of List of Projects

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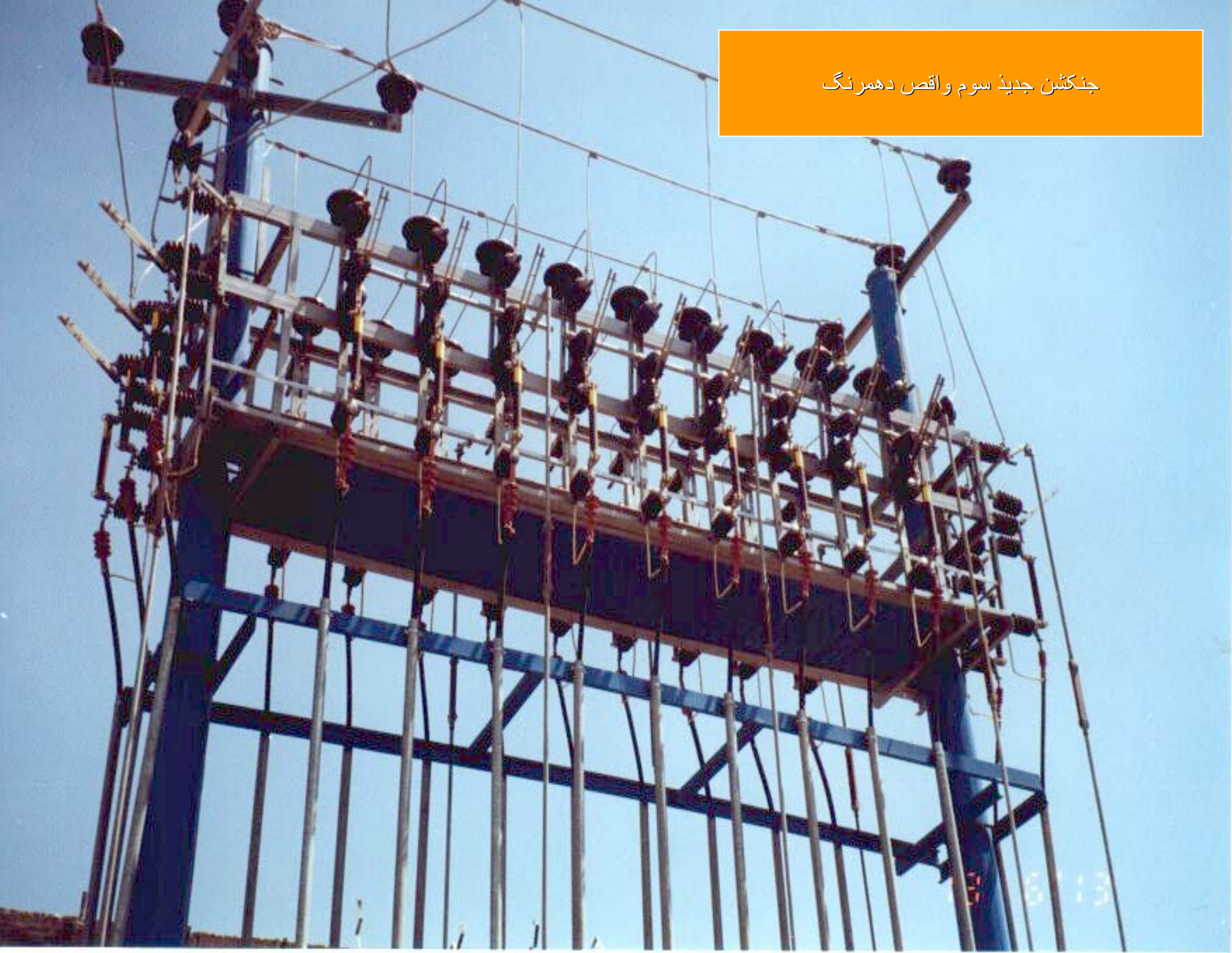
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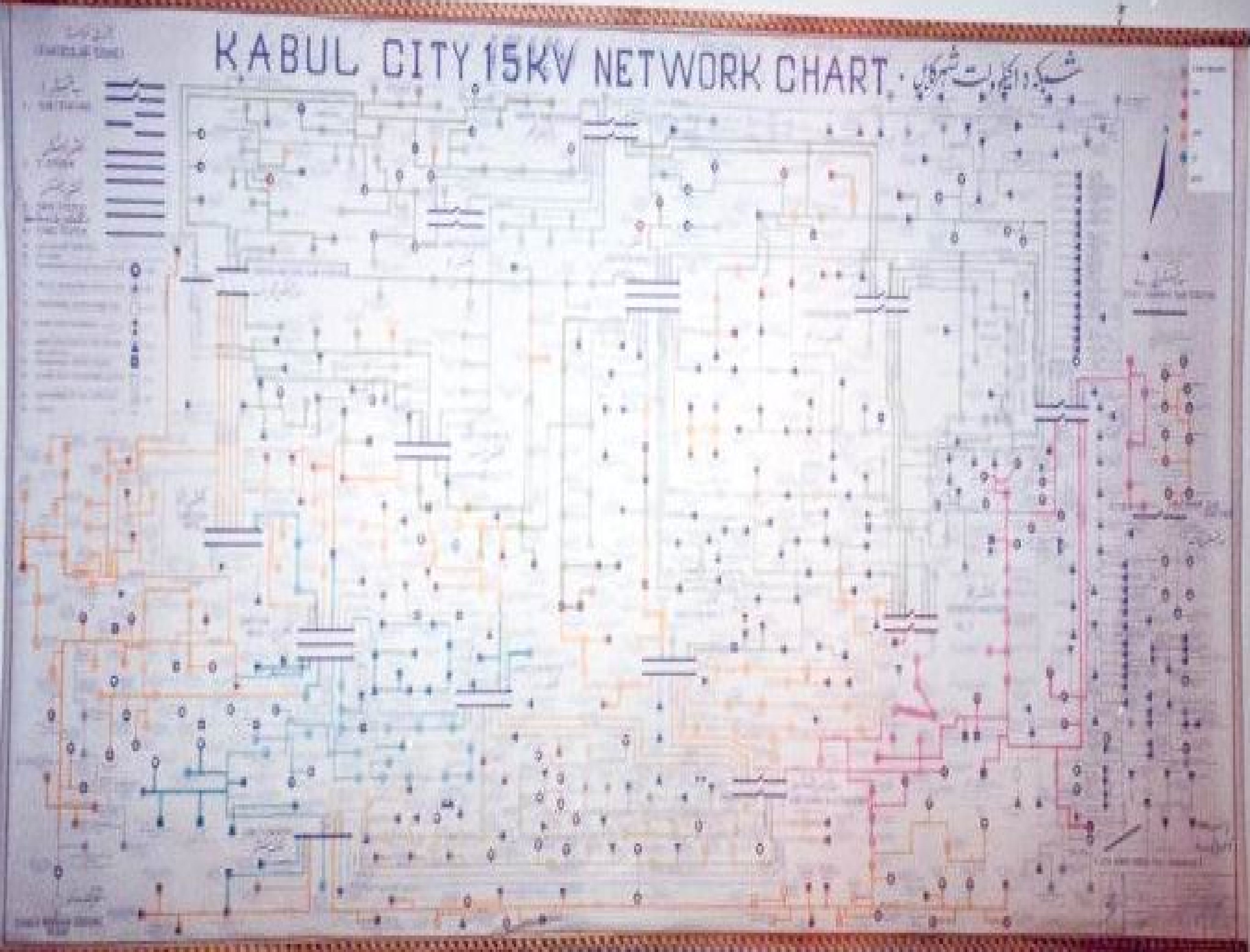
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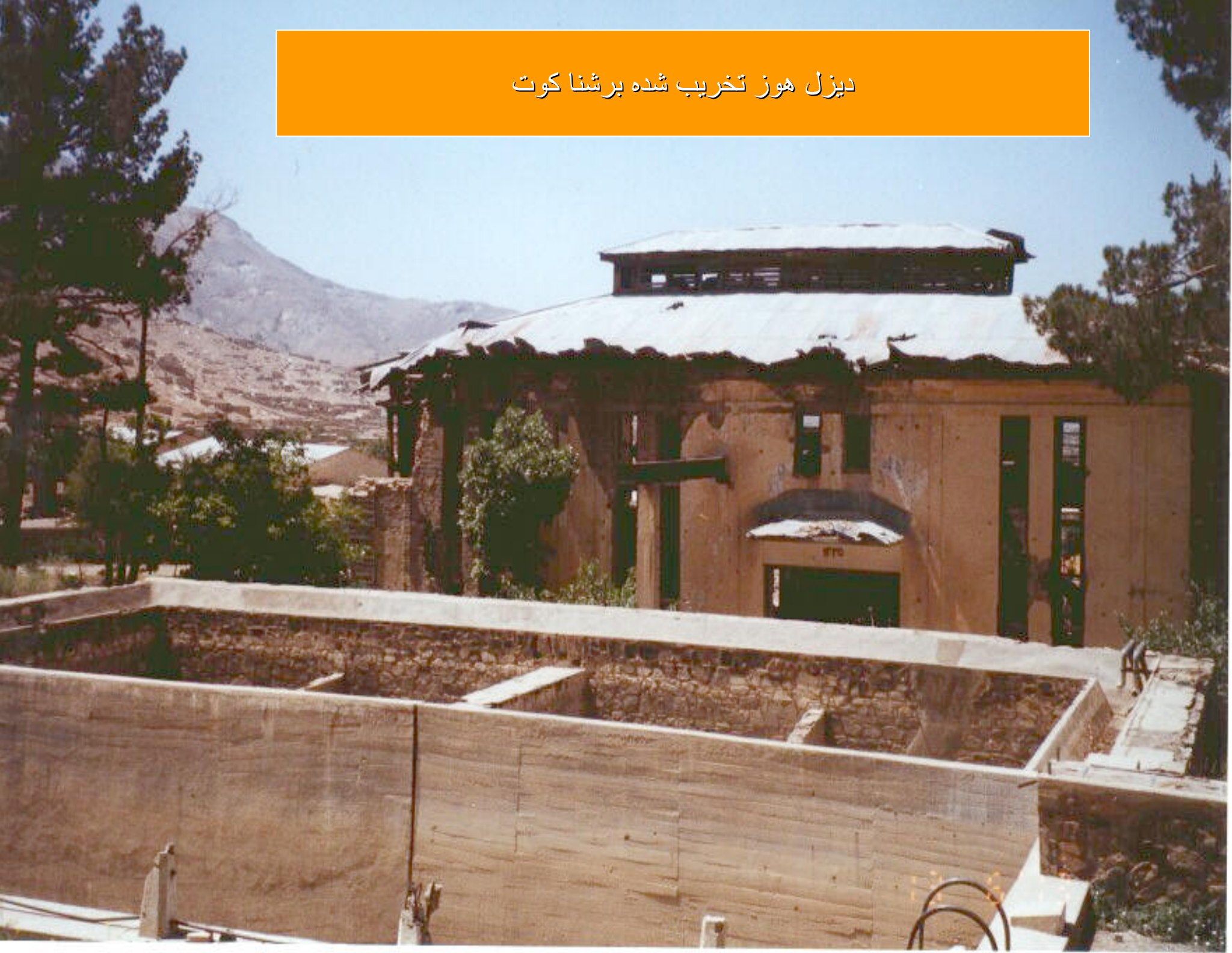
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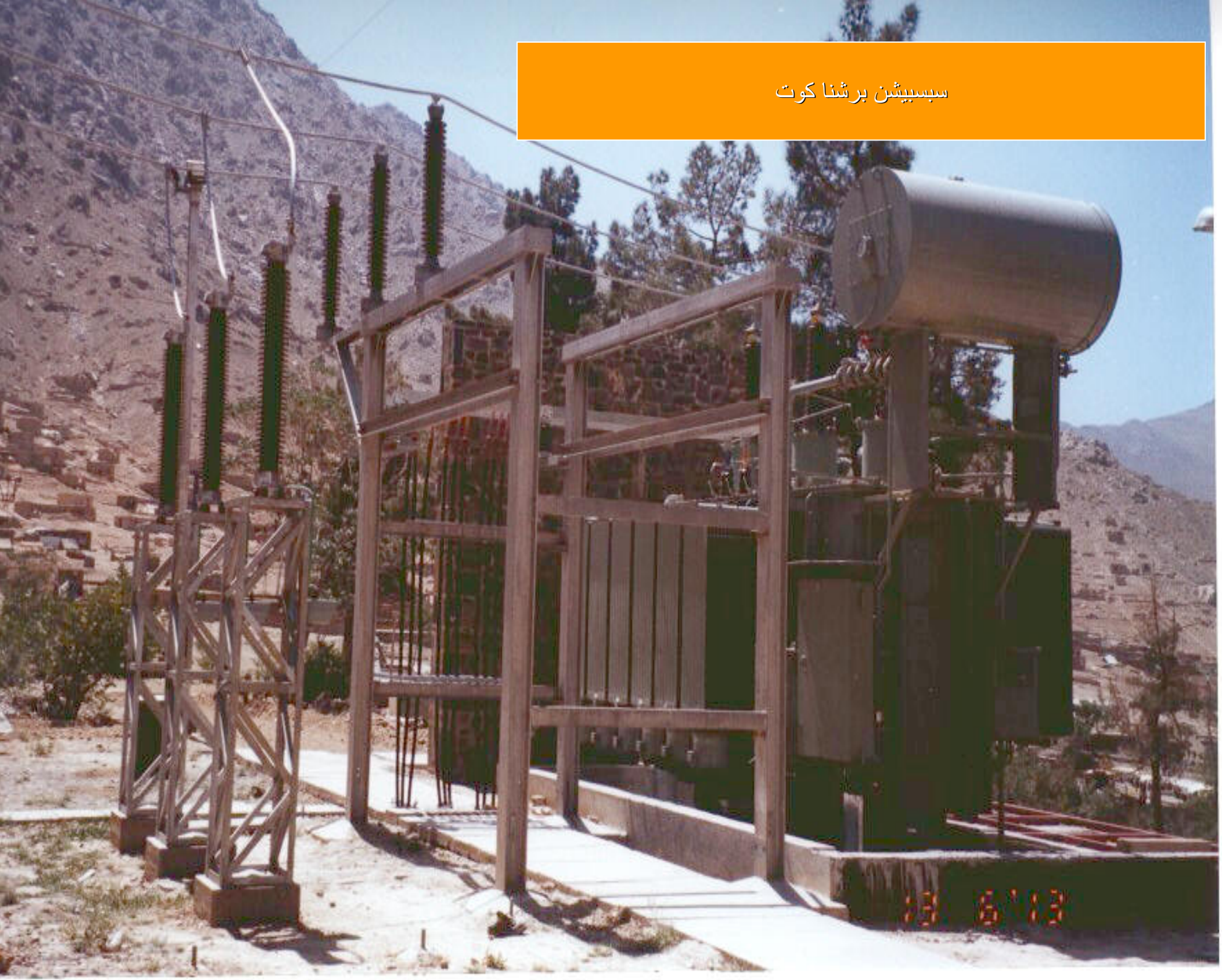
سبسیشن برشنا کوت


پایہ لین 119 کیلوات بین سبستیشن شرق و برشنا کوت


تعمیر کمباین سایکل گاز توربین شمال غرب کابل


داخل هال گاز توربین شمال غرب کابل