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د افغانستان برېښنا شرکت
Da Afghanistan Breshna Sherkat - DABS

Da Afghanistan Breshna Sherkat (DABS)

Operational Division

Planning & Engineering Directorate

Head of Engineering

Survey & Design of Transmission Line Department

The 220KV branch Transmission line Connection of 44.5Km from
Asqalan-Substation to Dashti-Archi District New Substation



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1. Project scope

1.1 Project

The project covers the survey, design, manufacture, testing, supply, insurance, packing for export, shipment, delivery to site, unloading, provision of access roads, temporary permissions from the relevant land owners to construct the overhead line foundations/towers, civil works and erection and installation of equipment gantry to gantry, testing on completion, commissioning and setting to work for the project of overhead Transmission line from Asqalan- substation to the new planned 220 kV Dashte-Archi substation for Approximately length of 44.5 Km. single circuit and single conductor per phase.

The project comprises the execution on a turnkey basis (loop in and loop out connection).

The connection Line should not cross-residential, Commercial, Governmental areas, or Agriculture land.

1.2 Introduction

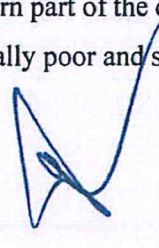

Kunduz province is one of the northeastern provinces of Afghanistan. Its capital is Kunduz, which is one of the most important commercial and port cities of Afghanistan. Kunduz province has a population of more than 900 or 970 thousand people, about 70% of whom earn their livelihood from livestock and agriculture. And this province has eight districts, and the largest district is Imam Sahib.

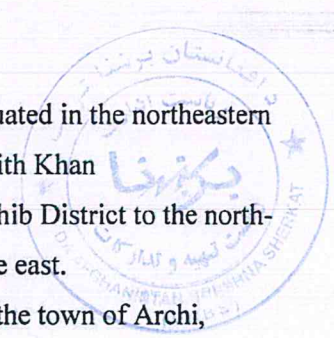
1.2.1 Dasht-i-Archi District

The Archi District , also known as Dasht-i-Archi is situated in the northeastern part, of Kunduz,Province in Afghanistan. It borders, with Khan Abad and Kunduz districts to the south-west, Imam Sahib District to the north-west, Tajikistan to the north and Takhar Province to the east.

The population is 74,900 (2006). The district center is the town of Archi, located in the northern part of the district.

The district is generally poor and seriously affected during the wars.



1.2.1-1 Dasht-e Archi Climate Summary

Located at an elevation of None meters (0 feet) above sea level, Dasht-e Archi has a Mid-latitude steppe climate (Classification: BSk). The district's yearly temperature is 21.85°C (71.33°F) and it is 6.15% higher than Afghanistan's averages. Dasht-e Archi typically receives about 17.2 millimeters (0.68 inches) of precipitation and has 45.99 rainy days (12.6% of the time) annually.

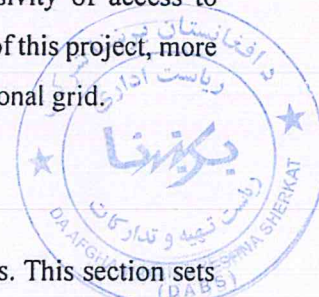
province	Kunduz
Longitude	69.1581192
Latitude	37.1228583
Attitude/Elevation	Nonem (0ft)
Local time	Wednesday 08:44
Annual high temperature	25.4°C (77.72°F)
Annual low temperature	14.59°C (58.26°F)
Average annual precip.	17.2mm (0.68in)
Warmest month	July (41.19°C / 106.14°F)
Coldest Month	January (2.19°C / 35.94°F)
Wettest Month	February (40.53mm / 1.6in)
Driest Month	August (0.18mm / 0.01in)
Number of days with rainfall (≥ 1.0 mm)	45.99 days (12.6%)
Days with no rain	319.01 days (87.4%)
Humidity	41.6%

1.3 Benefits of the project.

The Project Development Objective (PDO) is to provide access to electricity for the households, institutions, and businesses in selected areas of Aqcha districts of Jawzjan province, Afghanistan. The higher-level project construction objective is expected that functionalize government commitment to the overall objectives such as alleviating poverty and ensuring inclusivity of access to benefit all segments of the population. After the completion of this project, more than 70 percent of mentioned district will connect to the national grid.

2. Scope of Supply and Services

The project will be implemented on a turn-key contract basis. This section sets out the scope of supply and services for the (220) kV makes connection of (single



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circuit, single conductor lattice towers) from the Asqalan Substation to the new planned Substation in Dashti-Archi district.

Generally, it includes the following:

- surveys
- design
- supply
- services
- installation
- Test and commissioning

All line components and services not explicitly mentioned but necessary for a turnkey type of contract for the transmission line.

The scope of supply and services related to the 220 kV transmission line comprises of the following:

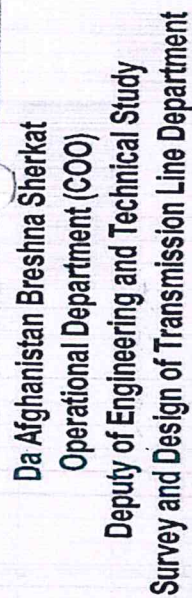
- familiarization with local conditions
- survey and verification of the proposed line route
- geodetic and geotechnical surveys (soil investigation) and other local investigations; including preparation of reports
- The integral design of all OHL components required to construct a functional 220 kV line is required. The studies shall include (but are not limited to) electrical, mechanical and civil works design. As a minimum they include preparation, submission and obtaining approval of all relevant design documents (main design, detailed design, fabrication drawings, as-built records), namely:
 - line design, including towers spotting, line profiles, clearance report; clearance drawings (internal - at the tower)
 - structural design and detailing of towers.
 - design of foundations
 - insulator sets and fittings, definition and utilization
 - conductor and OPGW system - electrical and mechanical calculations, fittings



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- OPGW fittings
 - earthing detailing
 - transposition scheme, if required
 - construction methodology design and documentation (stringing positions, sag-tension tables, site specific installation methodology)
 - all line components: manufacture or procurement, factory testing, packing, insurance, shipment, custom clearance, unloading, storage, local transportation, delivery to site and site storage
 - all required civil works, site preparation, access (permanent and temporary), storage yards, clearing, work areas, excavations
 - supply of specific tools and equipment required for erection, tests and commissioning
 - installation of foundations, erection of towers, installation of all required fittings, spacers, dampers, insulator strings, conductors, OPGW and earthing system and all specified tower furniture and signage.
 - Installation all line and accessories from dead end towers to gantries
 - connection to substation gantries, optical fiber connections to junction and termination boxes
 - site tests for commissioning
 - supply of spare parts and maintenance tools
 - Training of Employer's personnel.
 - Submission of documentation "as constructed" final documentation).
 - Site restoration, removal of all storage yards, work areas, debris and Leftover construction materials; works as required to leave the site clean and in acceptable condition.





**Da Afghanistan Breshna Sherkat
Operational Department (COO)**

Deputy of Engineering and Technical Study

Survey and Design of Transmission Line Department

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Note: The timeline is applicable at the beginning of the procurement process.

کور دینات مسیر لین انتقالی 220 کیلوولت از سب استیشن 20/220 کیلوولت الی سب استیشن جدید پلانی 20/220
کیلوولت ولسوالی دشت ارچی

No.	E	N
GN-3	E68°52'00.92"	N36°49'29.07"
1	E68°51'59.98"	N36°49'31.25"
2	E68°52'00.66"	N36°49'37.59"
3	E68°52'14.08"	N36°49'40.95"
4	E68°53'06.92"	N36°49'42.43"
5	E68°53'27.34"	N36°50'21.98"
6	E68°53'39.23"	N36°50'45.65"
7	E68°53'52.39"	N36°51'11.09"
8	E68°53'57.24"	N36°51'20.46"
9	E68°56'10.29"	N36°51'48.66"
10	E68°56'40.71"	N36°51'56.99"
11	E68°57'29.55"	N36°52'19.62"
12	E68°58'38.31"	N36°52'51.17"
13	E68°59'11.01"	N36°53'06.19"
14	E68°58'51.57"	N36°54'00.78"
15	E68°59'42.60"	N36°54'24.90"
16	E69°01'14.07"	N36°54'43.25"
17	E69°01'48.10"	N36°54'51.27"
18	E69°02'30.96"	N36°55'01.36"
19	E69°04'17.97"	N36°55'26.57"
20	E69°06'26.15"	N36°56'16.92"
21	E69°07'59.25"	N36°56'27.41"
22	E69°09'56.97"	N36°56'44.22"
23	E69°10'38.67"	N36°56'50.29"
24	E69°11'20.72"	N36°56'56.38"
25	E69°13'07.05"	N36°57'11.66"
26	E69°14'00.78"	N36°58'32.59"
27	E69°14'46.39"	N36°59'47.28"
28	E69°15'07.01"	N37°00'22.23"