



Improvement of Geodesic Relief Points in the Construction of High-Voltage Electrical Networks using Modern Geodesic Tools (In the Example of Uchkurgon District)

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Abstract: This article discusses the effectiveness of topographic and geodetic surveying in determining the location and design of high-voltage power grids. Improving surveying using modern geodetic instruments, in particular, GPS navigators and total stations.

Keywords: Glonass network, GPS, GIS technology, relief points, GNSS systems, etc.

ENTRANCEThe importance of high-voltage power grids in the sustainable development of the energy supply sector, economic growth and improving the well-being of the population for the Republic of Uzbekistan is incomparable. Uninterrupted supply of electricity plays an important role, especially in supplying energy resources to industry and the population. Therefore, the highest accuracy and quality are required in the construction of power grids.

In addition, geodetic surveys play a significant role in the construction of high-voltage networks. In this process, the accuracy and reliability of geodetic relief point systems are of great importance for ensuring the successful implementation of network layout and construction processes. Modern improvements in geodetic instruments and methods, especially with the help of GNSS systems and total stations, allow for accurate measurements, which can reduce errors and save time in the construction of power networks.

Geodetic survey during the construction of high-voltage power grids in Uchkurgan district of Namangan regionreliefThe scientific and practical importance of improving the points using modern tools is very great.

Scientific novelty of the topic

GeodeticreliefThe scientific novelty of improving the points lies mainly in the use of modern geodetic instruments and methods. GeodeticreliefEnsuring the accurate location of points, carried out using high-precision GNSS systems and total stations, is important for the correct construction of high-voltage networks. By using these methods, all stages of network construction from the beginning to the end can be carried out accurately and perfectly. In turn, scientific innovations are introduced by studying the statistical analysis of these methods, improving the quality of measurement results, and minimizing errors.

Geodetic measurements, especially relief. The correct location of the points ensures the integrity and proper functioning of the electrical network. This scientific study analyzes the advantages of new approaches, advanced technologies and methods in conducting geodetic measurements.

Relevance of the topic

The construction of high-voltage power grids is one of the main directions in the development of the energy sector of Uzbekistan. The role of geodetic surveys in the construction of the grid is important in order to achieve reliable and efficient supply of electricity. The need for renewal of the energy grid in the Republic of Uzbekistan, modernization of existing networks and construction of new networks is increasing. In such conditions, the accuracy of geodetic points requires special attention to ensure the high-quality and safe operation of the network.

The resolutions of the President of Uzbekistan "On the development of the energy sector" set goals for the modernization of the electricity supply system, the construction of new high-voltage networks, and increasing energy efficiency. Programs have also been developed to develop geodetic surveys. These resolutions and decrees are aimed at geodetic relief helps improve points and ensure stable operation of power grids.

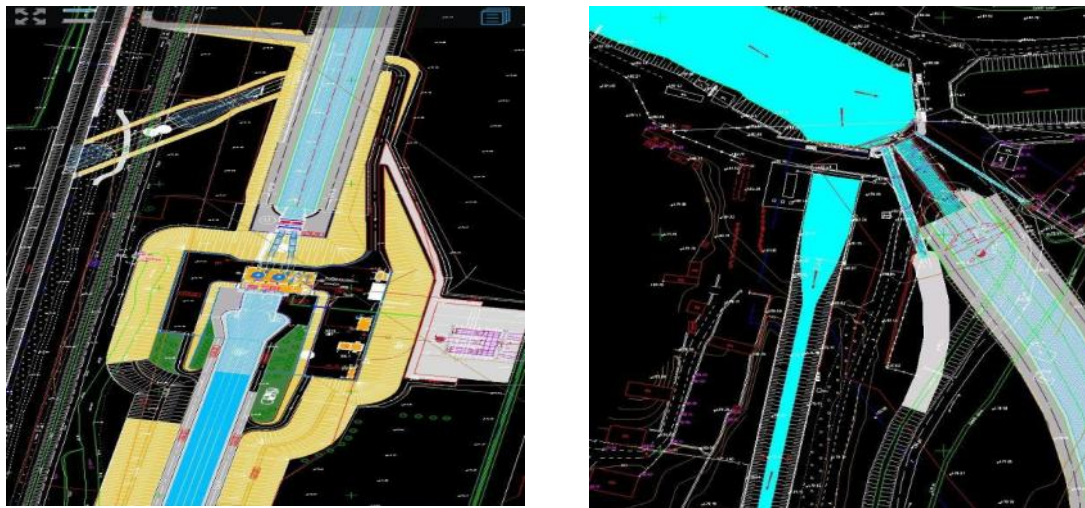


Figure 1: Topographical map of the object

Innovative novelty

Innovative innovations in the improvement of geodetic RP points using modern equipment during the construction of high-voltage power networks are manifested in the following main aspects:

1. When used during the network construction process, GNSS systems can provide high-precision measurements to accurately determine the location and terrain of the network.
2. Proper setup and integration of total stations helps to accurately perform measurements, ensure the quality of the network, and optimize the construction process.
3. Automation reduces the human factor and eliminates errors by accelerating and efficiently performing geodetic measurements.

Economic efficiency

The economic efficiency of improving geodetic RP points using modern geodetic instruments is related to the following aspects:

1. Save time: The construction process is accelerated due to the fact that measurements are taken quickly and accurately using modern geodetic instruments. This, in turn, reduces the overall time and cost of network construction.
2. Reduce errors and improve quality: By increasing the accuracy of geodetic points, construction errors are reduced, which saves additional costs and resources.

3. Improving energy efficiency: Energy efficiency improvements are achieved by building new high-voltage networks and modernizing existing ones, which will bring economic benefits in the long term.

Expected results

1. Increasing the accuracy of geodetic RP points: With modern tools, accuracy increases significantly, which reduces errors in network construction and increases the quality of work.
2. Improving the efficiency of the construction process: Improve the quality and speed of the construction process by increasing accuracy.
3. Economic savings: With the help of modern geodetic instruments, costs are reduced and overall economic efficiency is increased.

Conclusion

The improvement of geodetic RP points using modern instruments in the construction of high-voltage power networks is of great importance not only from a technical point of view, but also from an economic and scientific point of view. This scientific research, through the improvement of geodetic systems, will ensure the accuracy and efficiency of network construction. This process will also play a key role in the modernization of the energy sector of Uzbekistan and the construction of new networks. It is expected that the use of geodetic surveys and modern instruments will play a significant role in ensuring the reliability and stability of the network.

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