

**Improving Assigning Rules Inventory Numbers To Fixed Assets In Electricity Supply  
Enterprises**

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**Abstract**

Thousands of fixed assets are used in the supply of electricity to large enterprises. Most of them are special equipment used only in the field of power transmission. Given the characteristics of enterprises in this sector of the economy, it is difficult to prevent the integrity and misuse of fixed assets. In order to maintain proper accounting, it is necessary to develop certain rules for the rational grouping of fixed assets according to their functions. It is also necessary to create certain rules for assigning inventory numbers. It is impossible to increase the industrial potential of the economy, stimulate entrepreneurship, improve the welfare of the population and improve the quality of life without ensuring the reliable operation of the electricity sector. In order to ensure the reliable operation of the industry, it is necessary to start with the proper organization of accounting in the industry. This is because accounting prepares and submits reliable and accurate business reports. This article discusses the specific rules for assigning inventory numbers to fixed assets in power supply companies.

**Key words :** Power supply company, accounting, fixed assets, inventory number, digit.

**Introduction**

On March 27, 2019, the President of the Republic of Uzbekistan adopted Resolution No. PQ-4249 "On the Strategy for further development and reform of the electricity sector in the Republic of Uzbekistan." According to the decision, the "Uzbekenergo" joint-stock company was liquidated. Instead, various state enterprises have been set up to perform the functions of "Uzbekenergo" joint-stock company. In particular, a joint-stock company "Thermal Power Stations" ("Issiqlik elektr stansiyalari" AJ) was established, which manages thermal power plants and power plants generating electricity and heat energy. In addition, a joint-stock company "National Electric Networks of Uzbekistan" ("Ozbekiston milliy elektr tarmoqlari" AJ) was established, which is responsible for the operation and development of trunk power grids. The newly established JSC "Regional Electric Networks" ("Hududiy elektr tarmoqlari" AJ) is responsible for managing the regional power grid enterprises that distribute and sell electricity to end users.

In modern market conditions in Uzbekistan, the development of a competitive environment in the electricity sector and the attraction of investment require a radical improvement of the institutional and legal framework for activities in the field of electricity generation and supply.

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A number of foreign scientists have conducted research on the study and improvement of accounting in electricity generating and supplying enterprises.

In particular, Darren Bush, a professor at the University of Houston in the United States, also published the results of his research (Bush, 2008, p. 285). Much discussion and effort have been devoted to the use of market power screens to detect market power that might arise from existing generation asset portfolios or utility acquisition of new generation assets. The quest is to find the “Holy Grail”. In this case, the Grail being sought is a market power detection mechanism that minimizes the costs to all parties involved while finding the majority of market power exercises. The expenditures are not trivial. Production of data that might be needed to satisfy an extensive inquiry could be costly in terms of time and money. And the U.S. Federal Energy Regulatory Commission (FERC) could also spend a great deal of time conducting an extensive investigation—time that might be spent examining other industries or other aspects of the electricity industry.

According to Afanasev D.O., Fedorova Ye.A. va Gilenko Ye.V. (Afanasyev et al., 2020, p. 1915), the modern global trend in electricity market deregulation poses for the scientists and practitioners a whole lot of new challenging problems in risk management, modeling and forecasting of electricity prices. The complexity of these tasks is to a large extent due to the peculiarities of electricity as a commodity, among the latter being: the non-storable nature of electricity; coincidence of the time moments of electricity production and consumption; high price volatility and the presence of spikes; price inelasticity of the short-term demand; the mean-reversion property of electricity price; differences in marginal costs for different power production technologies. All these features of electricity as a commodity are quite expectedly reflected in its pricing, with the latter being a key aspect of the electricity market operation due to high capital intensity of the industry and the long time periods of the establishment and operation of energy facilities.

According to a Russian economist Goryayeva K.A. (Goryayeva K. A., 2015, p. 2), in the Russian Federation, a significant part of the cost of electricity supplied by suppliers to consumers is the cost of purchasing electricity from wholesale producers (sellers). In particular, the cost of such purchases and power supply of electricity is 35% of the price charged to consumers.

According to the research of another Russian economist E.Yu. Fedotovskaya (Fedotovskaya Y.Y., 2007, pp. 22), it is expedient to determine the composition of expenses included in the required gross proceeds of electric power enterprises. The required gross revenue includes:

1. Costs associated with the creation and sale of the finished product;
2. Expenses related to profit after tax;
3. Non-selling expenses.

### **Materials and methods**

In conducting this research, first of all, the current regulatory documents governing the production and supply of electricity in Uzbekistan were scientifically studied. A research of them shows that in the last two years, more than 30 government decisions in this area have been issued in Uzbekistan.

During the research, data published by government statistics committee and electricity companies were collected and analyzed statistically.

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The financial statements of electricity generating and supplying companies in Uzbekistan, in particular their balance sheets, were obtained from open sources. Horizontal and vertical analyzes were performed on them.

The object of the study was the financial statements of electricity supply companies in Uzbekistan, including the joint-stock company Regional Electric Networks.

### Results

According to the Resolution of the President of the Republic of Uzbekistan dated March 27, 2019 No PQ-4249 "On the strategy for further development and reform of the electricity sector in the Republic of Uzbekistan" regional electricity distribution company - The joint-stock company Regional Electric Networks was established to manage the enterprises of the power grid.

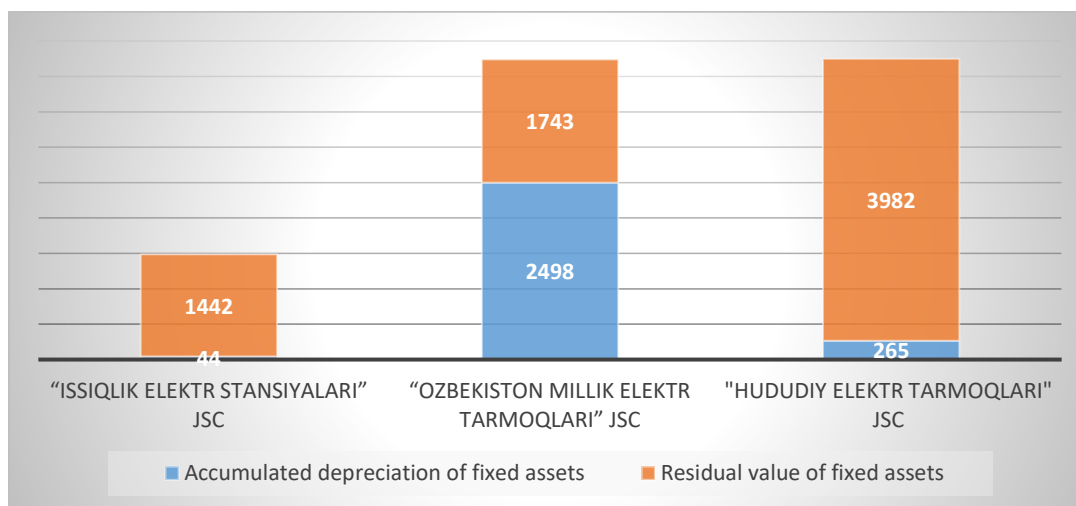
JSC Regional Electric Networks includes 16 enterprises. They are enterprises operating 0.4-6-10-35-110 kV power grids, as well as 14 regional power grid companies, which carry out new construction, reconstruction, capital and current repairs in the development of these facilities. [\(General Information about JSC "Hududiy Elektr Tarmoqlari," 2021\)](#)

14 regional power grid companies and 209 district and city power supply companies will supply electricity to 1,623 substations with a voltage of 35-110 kV. This electricity will then be delivered to consumers through 79,122 transformer substations and 252.6 thousand km of transmission lines. Consumers are domestic and legal entities of the Republic of Uzbekistan. [\(General Information about JSC "Hududiy Elektr Tarmoqlari," 2021\)](#)

Currently, JSC Regional Electric Networks:

- 110 kV substations with a capacity of 14895.6 thousand kV · A and 110 kV overhead lines with a length of 15267.5 km through 652 common transformers;
- 35 kV substations with a capacity of 6142.5 thousand kV · A and 35 kV overhead lines with a length of 13374.7 km through 971 common transformers;
- 0.4-6-10-35-110 kV overhead lines with a total length of 223987 km and 79122 transformer points will provide uninterrupted electricity. [\(General Information about JSC "Hududiy Elektr Tarmoqlari," 2021\)](#)

In addition, JSC "Ozbekiston millik elektr tarmoqlari" and JSC "Issiqlik elektr stansiyalari" have a large number of fixed assets (Figure 1).



**Figure 1: Information on the initial and accumulated depreciation values of fixed assets in electricity supply companies in Uzbekistan, in billions of soums (2019) (Annual reports of joint-stock companies, 2019)**

The main regulatory document reflecting the procedure for accounting for fixed assets in the accounting of enterprises in Uzbekistan is the National Accounting Standard No. 5 "Fixed assets". Recently, the industry is required to make extensive use of international financial reporting standards. From International Financial Reporting Standards, IAS 16 is referred to as the "Property, Plant and Equipment" account and contains the basic rules governing the accounting for property, plant and equipment.

According to National Standard 5, the unit of accounting for property, plant and equipment is the inventory item. It can be a separate item or property designed to perform a specific task. It can also be a set of items that have a common purpose and cannot perform their function independently. Let me explain in a simpler example. For example, software that controls all the components of a computer consists of individual elements that work as a whole mechanism: a processor, a monitor, a printer. In this case, as a rule, when there are several independent objects with different useful lives in one fixed asset, each such object is recognized in the accounting as a separate independent inventory item.

An inventory number must be assigned to each inventory item to maintain and monitor the use of fixed assets within the organization.

Each inventory item of movable and immovable property is assigned a unique inventory serial number, whether it is in use, in stock or in conservation.

It is advisable to specify the procedure for the formation of inventory numbers in the accounting policy of the enterprise or other local document. Typically, inventory numbers are recorded on inventory cards and serve to record fixed assets.

There are certain requirements when numbering with inventory numbers:

1. The inventory number must be unique, meaning that each inventory number must be different from the other. That is, there should not be more than one fixed asset with the same inventory number. The number assigned to the item of property, plant and equipment must be its own for the entire period of its existence in the enterprise. As a result, inventory numbers cannot be changed. Even when you lease an item of property, plant and equipment, the inventory number must be retained and used by the lessee. It is best not to use the inventory number again after the property, plant and equipment has been written off.

2. The legislation does not set requirements for the number of discharges in the inventory number of the fixed asset and the content of these discharges. Therefore, the numbering system can be developed independently. It is advisable to put the numbers in ascending order of origin. This is the simplest way to know the chronology of their origin. If the item of property, plant and equipment is complex, each item must have an inventory number assigned to the item of property, plant and equipment. In this case, the numbering system can be more complicated. An inventory number can contain both the whole complex number and the symbol of the individual elements. For example, a computer monitor with inventory number 20 can be set to 20-M. When using alphabetic symbols, they must be represented by an approved numbering system.

The inventory number is affixed to a token, which is affixed to the object by the person responsible for the material in the presence of a member of the commission on the inflow and outflow of assets, or painted directly on the object to save the label.

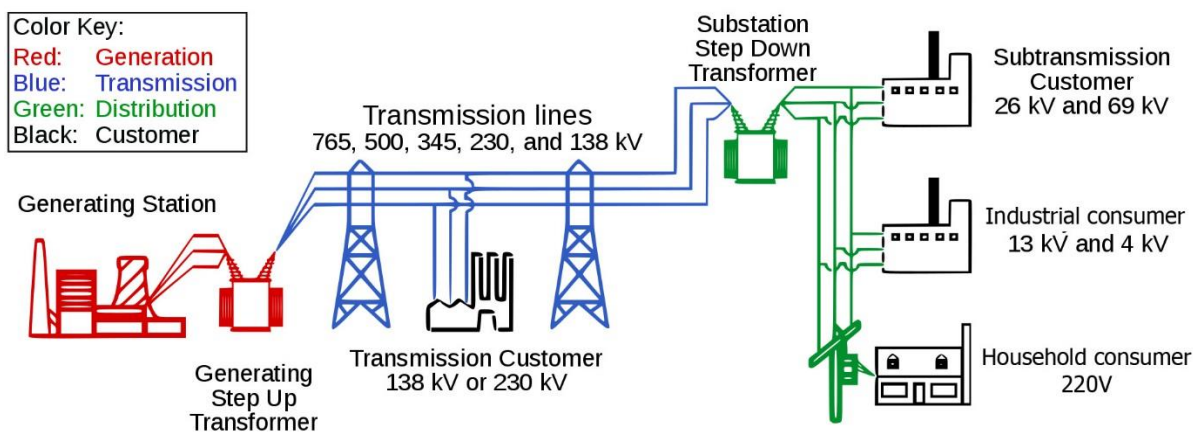
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The absence of inventory numbers in the fixed asset (if it is possible to record them) or the fact that the inventory numbers are not properly recorded (for example, taped), as well as their absence in the components of the complex can be considered a violation of accounting standards.

In Uzbekistan, fixed assets in enterprises are accounted for by the following digits (codes) (The 21st National Accounting Standard, 2021)

- 0110 "Land area";
- 0111 "Landscaping";
- 0112 "Improvement of fixed assets received under a finance lease";
- 0120 "Buildings, structures and transmission facilities";
- 0130 "Machinery and equipment";
- 0140 "Furniture and office equipment";
- 0150 "Computer equipment and computer technology";
- 0160 "Vehicles";
- 0170 "Working and Productive Animals";
- 0180 "Perennial Plants";
- 0190 "Other fixed assets";
- 0199 "Preserved fixed assets".

In the power supply system, energy is supplied to consumers in the following sequence:



**Figure 2: Simplified diagram of electricity delivery from generation stations to consumers (Wikipedia contributors, 2021)**

Many fixed assets involved in the supply of electricity to consumers are accounted for in the following 2 accounts:

- 0120 - Power transmission systems on the account "Buildings, structures and transmission facilities";
- 0130 - Power transformers in the account "Machinery and equipment".

In order to establish the rules of inventory numbering, it is important to first identify and group the inventory objects of power transmission systems and power transformers.

Any power transmission line consists of the following parts:

1. Transmission wires;
2. Bases;
3. Insulators.

We recommend that energy supply companies together with transmission facilities in the account 0120 - "Buildings, structures and transmission facilities" each of the fixed assets by type in the following sub-accounts (Table 1)

**Table 1**

0120 – “Buildings, structures and facilities” sub-accounts (sub-codes) ([The 21st National Accounting Standard, 2021](#))

Fixed assets' type	Account code
Buildings	0121
Constructions	0122
Transmission wires	0123
Poles carrying conductive electrical wires	0124
Insulators	0125

We recommend that power supply companies, together with power transformers, account for each of the fixed assets in the following sub-accounts 0130 - "Machinery and equipment" by type:

**Table 2**

0130 – “Machinery and equipment” sub-accounts (sub-codes) ([The 21st National Accounting Standard, 2021](#))

Fixed assets' type	Account code
Amplifier machines and equipment (except booster transformers)	0131
Amplifier transformers	0132
Working machines and equipment	0133
Measuring and control instruments and laboratory equipment and devices	0134
Other machinery and equipment	0135-0139

We suggest that each object be assigned an inventory number of twelve digits in order to control the integrity of fixed assets and to organize their accounting.

**Table 3**

Twelve-digit inventory number structure

xx	xx	xxx	type	xxxxx
The last 2 digits of the financial accounting digit	Code of the Regional Electric Networks Enterprise or Regional Electric Networks	Item code		The order number of the item within its type

*Author's self made table*

In this case, the first two digits indicate the last 2 digits of the account in which the fixed asset is accounted for. The fourth and fifth symbols indicate the code of the regional power grid company or JSC "Regional power grid company" to which the fixed asset belongs. For example,



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the code of JSC Regional Electric Networks - 01, can be numbered by the code of JSC "Karakalpak Regional Electric Networks Enterprise" - 02.

The next three symbols indicate the type of object (for example, 10-meter reinforced concrete pillars can be numbered "01"). The other five characters represent the sequence number of the object within its type. For non-fixed assets, the symbols are marked with "Zero".

For example, consider the situation where a fixed asset is divided into types. If the fixed assets have an inventory number 240200300001, then 24 "Poles carrying conductive electrical wires" sub-code, 02 belongs to JSC "Karakalpak Regional Electric Networks Enterprise", 003 indicates belonging to a certain type of "Poles carrying conductive electrical wires" (column), 00001 - indicates the serial number of the object;

Let us now consider fixed assets divided into types. In the inventory number 210100000001 - 21 sub-account "Buildings", 01 - the code of JSC "Regional Electric Networks", 00 - the mark for non-classification, 00001 - the serial number of the object.

If the last 5 digits representing the ordinal number of the item in the inventory number do not represent the number of fixed assets of a particular type of enterprise, this five-digit number may be changed to six. If the item of property, plant and equipment is complex, each item must have an inventory number assigned to the item of property, plant and equipment. In this case, the numbering system is complicated, that is, in addition to the inventory number is written on the part of the complex fixed asset. An inventory number can contain both the whole complex number and the symbol of the individual elements. For example, the cooling equipment inside the booster transformer with inventory number 320100100015 can be designated as 320100100015-S. When using alphabetic symbols, they must be represented by an approved numbering system.

### Discussion

Demand for electricity in Uzbekistan, as well as around the world, is growing from year to year. In 2018, Uzbekistan's gross domestic product (GDP) grew by 5.1 percent, while in 2019 it was 5.5 percent. Of this, 6.4% growth was observed in industrial production in the electricity-intensive sector ([ОСНОВНЫЕ ТЕНДЕНЦИИ СОЦИАЛЬНО-ЭКОНОМИЧЕСКОГО РАЗВИТИЯ РЕСПУБЛИКИ УЗБЕКИСТАН В 2019 ГОДУ, 2019](#)).

However, electricity production in 2019 increased by only 1% compared to the previous year ([Sanoat, 2019](#)). This is increasing the pressure on the electricity industry from year to year. As the growth of electricity in Uzbekistan lags behind the growth of GDP, in some seasons electricity is covered by purchases from neighboring countries and the use of energy-efficient means in various sectors of the economy.

However, electricity production in 2019 will increase by only 1% compared to the previous year ([Sanoat, 2019](#)). This is increasing the pressure on the electricity industry from year to year. Due to the fact that the growth of electricity in Uzbekistan lags behind the growth of GDP, in some seasons electricity is covered by purchases from neighboring countries and the use of energy-efficient means in the economy ([O'zbekiston Turkmanistondan elektr energiyasi import hajmini oshirdi, 2020](#)).

In Uzbekistan, according to National Standard No. 5, electricity supply is the unit of accounting of fixed assets in enterprises and is the object of inventory. It can be a separate item or property designed to perform a specific function. It can also be a set of items that have a common purpose and cannot perform their function independently. To give a simpler example, the software that controls all the components of a computer consists of separate elements that work as a whole mechanism: a processor, a monitor, a printer. In this case, as a rule, when there are several

independent objects with different useful lives in one fixed asset, each such object is recognized in the accounting as a separate independent inventory item.

An inventory number must be assigned to each inventory item to maintain and control the use of fixed assets within the power supply company. Each inventory item is assigned a unique inventory serial number, whether it is in use, in stock, or in conservation. It is advisable to specify the procedure for the formation of inventory numbers in the accounting policy of the enterprise or other local document.

The order of formation of inventory numbers can be specified in the accounting policy or other internal document of each enterprise. At present, the Instruction on Accounting in Budget Organizations in Budget Organizations in Uzbekistan contains rules for assigning fixed assets to inventory numbers.

Another significance of our scientific article is that prior to this article, no scientific research or its scientific results on the development of rules for the designation of fixed assets for power supply companies in Uzbekistan have not been published. It is possible to increase the efficiency of accounting for fixed assets by adopting in the power supply companies, in particular, the company Regional Electric Networks on the basis of internal guidelines, the rules for assigning fixed assets by inventory number proposed in the scientific article.

### **Conclusion**

Without ensuring the reliable operation of the electricity sector, it is impossible to increase the industrial potential of industries and regions of the country, stimulate the development of entrepreneurship, improve the welfare of the population and improve the quality of life. It is necessary to radically improve the institutional, organizational and legal framework for the production and supply of electricity in order to develop a competitive environment and attract investment in the electricity sector.

As a result of our research on the rules of inventory numbering of fixed assets in power supply companies, we came to the following conclusions:

1. In recent years, the regulations governing the production and supply of electricity in Uzbekistan have been radically updated. This is evidenced by the fact that in the last two years, Uzbekistan has issued more than 30 government decisions in this area.

2. According to the legislation, the unit of accounting for fixed assets is the object of inventory. It can be a separate item or property designed to perform a specific function. It can also be a set of items that have a common purpose and cannot perform their function independently. The process of defining the rules of inventory numbering should begin with the identification and grouping of power transmission systems and power transformers.

3. There are certain requirements when numbering with inventory numbers. First and foremost, they require that the inventory number be unique, meaning that each inventory number is different from the other. In addition, the legislation does not set requirements for the number of discharges in the inventory number of the fixed asset and the content of these discharges. Therefore, the numbering system can be developed independently. As a result, it helps to increase the efficiency of fixed assets accounting.

Providing uninterrupted electricity to a fast-growing economy is a pressing issue. It is an important task to control the accounting of electricity supply companies, especially fixed assets, and their integrity in the power supply companies responsible for meeting this need.



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