World Bulletin of Public Health (WBPH)
Available Online at: https://www.scholarexpress.net
Volume-40, November 2024
ISSN: 2749-3644

AGROSANOATE OF MAJILARIDE ELECTRICITY IS ANALYZED IN REAL TIME

Ochilov Dilshod Muborakbekovich – *Doctoral of Philosophy in technical Sciences (PhD)*
e-mail: ochilovdilshod131@gmail.com *ORCID ID 0009-0001-8215-4657*
Turdialiyev Begali Nurali o`g`li – *assistant* *e-mail:* begali.turdialiyev95@gmail.com

Karshi Institute of Irrigation and Agrotechnology at the National Research University "TIIAME"

Article history:

Received: August 24th 2024
Accepted: September 20th 2024

Abstract:

This article analyzes the operating conditions and causes of failure of electrical equipment. It has been shown that the assessment of the technical condition of agricultural electrical equipment, their effective use and increasing their reliability is the main factor for increasing production efficiency.

Keywords: agriculture, technological process, electric motor, failure, operation, interphase connection, insulation resistance, rotor braking.

Ensuring the economic stability of the country and its development are becoming an important issue on a global scale. As a result of the introduction and improvement of innovative technologies, the increase in the volume and quality of production is closely related to energy resources. Technologies, which were not available at all a few years ago, are now serving the overall GDP growth and development of states and also affecting the distribution in the labor market. The results of a scientific study on the conservation of energy resources around the world and the effective use of energy equipment show that no matter how much the power generation capacity increases, it is impossible to meet the increasing demand by wasting it, but rather save electricity and effectively use energy equipment will pay off.

The high technical and economic requirements for the quality and efficiency of technological processes necessitate the need to solve the problem of ensuring the reliability of electrical equipment systems involved in the production. Such systems include a large number of important elements such as electrical equipment, switching devices, power supplies, start-ups and protective equipment. This equipment works with various breakdowns in different working conditions. In this case, it leads to a significant reduction in their standard service life and the appearance of switching failures, and to a decrease in reliability by 30-40% from the calculated one. At the same time, it creates factors that increase fire safety. An important direction to increase the technical and economic level of production technologies and equipment is to ensure high reliability and technical safety of equipment operation. Certain methods and technical means of assessing the state of electrical equipment do not meet the level of requirements of the time. Therefore, it is an urgent task of today to diagnose the technical condition of the electric equipment being operated in production conditions, to create an innovative method of effective engineering methods and technical means of preventing the state of failure and increasing its reliability. The composition of electrical operations used in production is characterized by the types and models of electromotors, their work by climatic conditions, their power and distribution by the characteristics of the production areas.

The company currently manufactures asynchronous motors (ad) (A2, AO2, 4A, 4am, Air, 5A, RA and bashcalar) and specializes in the production of asynchronous motors (ao2...CX, 4A...C, AIRP) ishlatilmocda. Analysis and statistics of clearing asynchronous motors (A, A02) and asynchronous motors. Electric motor bridges require energy for each enterprise or the state as a whole, which has a negative impact on the economy.

Including a change in the structure of networks, a transformation of economic supply, moral and physical obsolescence of technical means, failure of outdated devices and insufficient financial means for their replacement. For this reason, the new series of asynchronous motor (5A, RA) is practically absent in agriculture, but the suspension of the asynchronous motor of the 4A, air, AIRP series is sufficient. This figure is on average 60% [1].

World Bulletin of Public Health (WBPH)
Available Online at: https://www.scholarexpress.net
Volume-40, November 2024
ISSN: 2749-3644

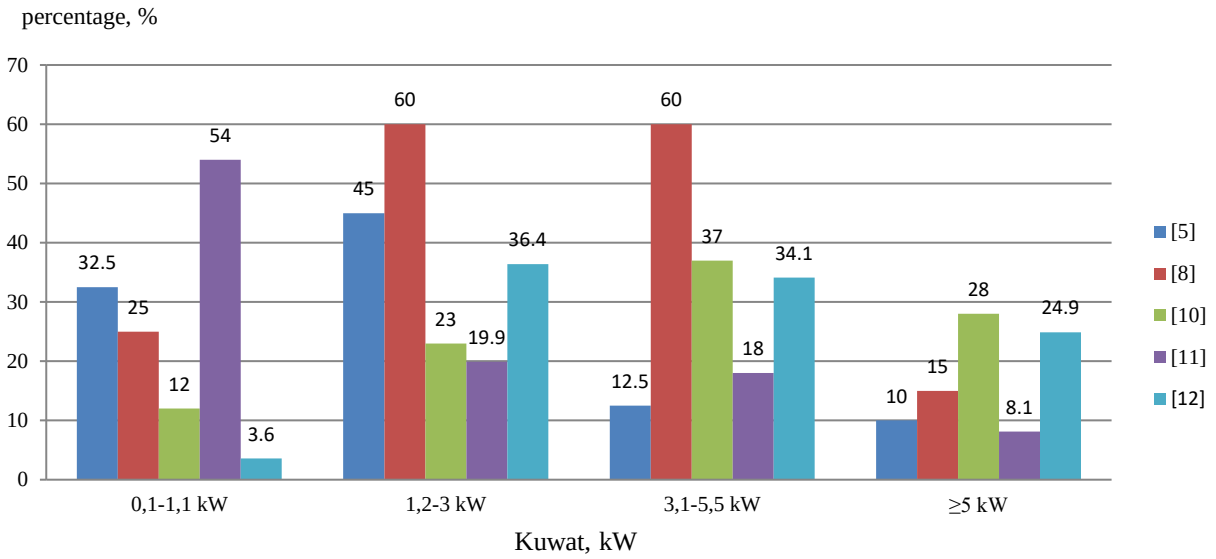

Figure 1.1. - Power distribution of electric motors (in percentage)

Under production conditions, asynchronous motors with 380/220 V with a power of 0.25-110 kW, with voltage synchronous circuits of 1000, 1500 and 3000 ayl/min are mainly used [2]. Power asynchronous motors up to 3 kW are widely used in agriculture and aquaculture. The power distribution of the electric motors in use (figure 1.1) is given.

According to research, low-power electromotors swing in agriculture increases by more than 70%, including 0.55 kW asynchronous motors at 42% artofi, and according to data this figure is 53%. From the analysis of electromotors under production conditions, we see that the amount of electric motors with a power of 3.0 kW increases by 60%, including electromotors up to 0.37 kW - 56.7%, up to 0.55 kW -27.8%. They are used in various business plans.

The most characteristic modes of asynchronous motors in aquaculture production conditions are: long-term operation mode (S1), short-term operation mode (S2), as well as short-term operation mode (S3)

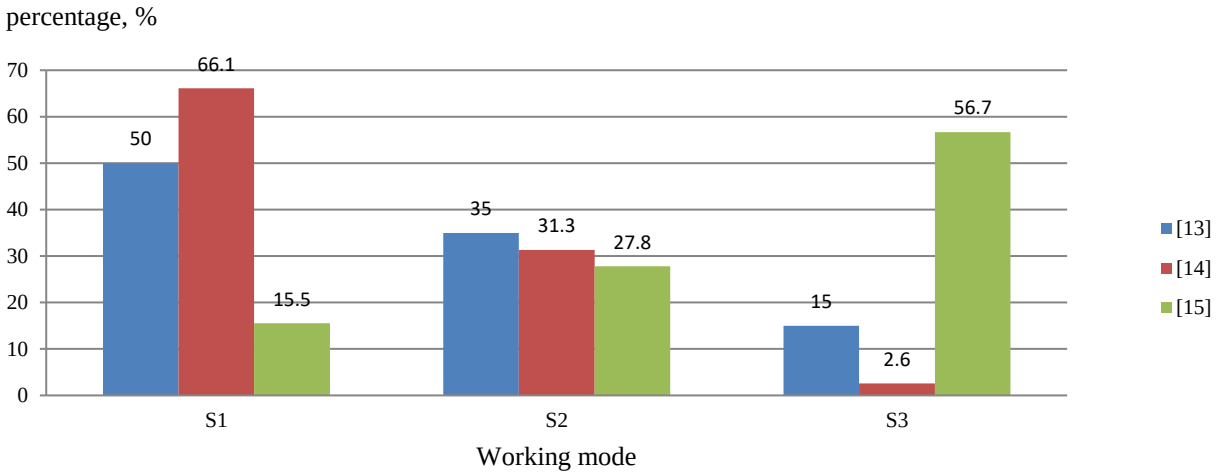

Figure 1.2. - Distribution of operating modes of electric motors (in percentage)

Electric drives that come into operation with electromotors are designed to carry out various work processes and operate in different operating modes. For example, the electromotors of vents designed for air

World Bulletin of Public Health (WBPH)
Available Online at: https://www.scholarexpress.net
Volume-40, November 2024
ISSN: 2749-3644

conditioning are AIRP80A6 series (56.7%) in long-term operation during the summer season, short-term operation during the winter season, or short-repeat Operation Mode (figure 1.2).

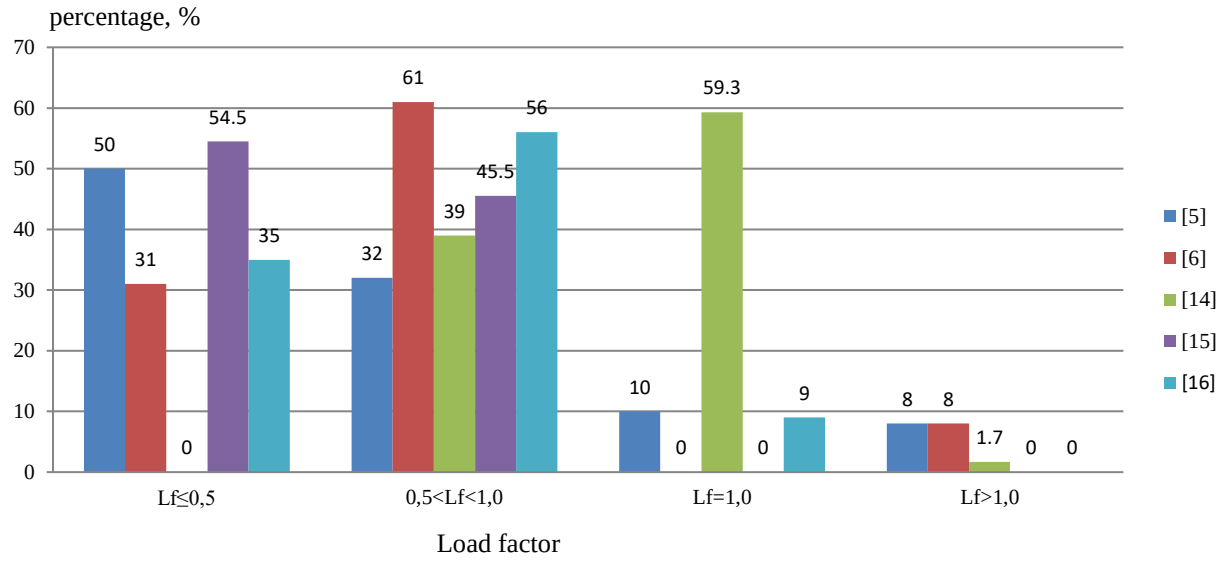

Figure 1.3. - Load distribution by power of electric motors (in percentage)

Analysis of the research shows that most ads operate at capacity without full load (figure 1.3). For example, in the absence of nominal voltages and technological overloads at pumping stations, the operating temperature of asynchronous motors was 40±8°s, in ventilator electric motors -47±15°s [3].

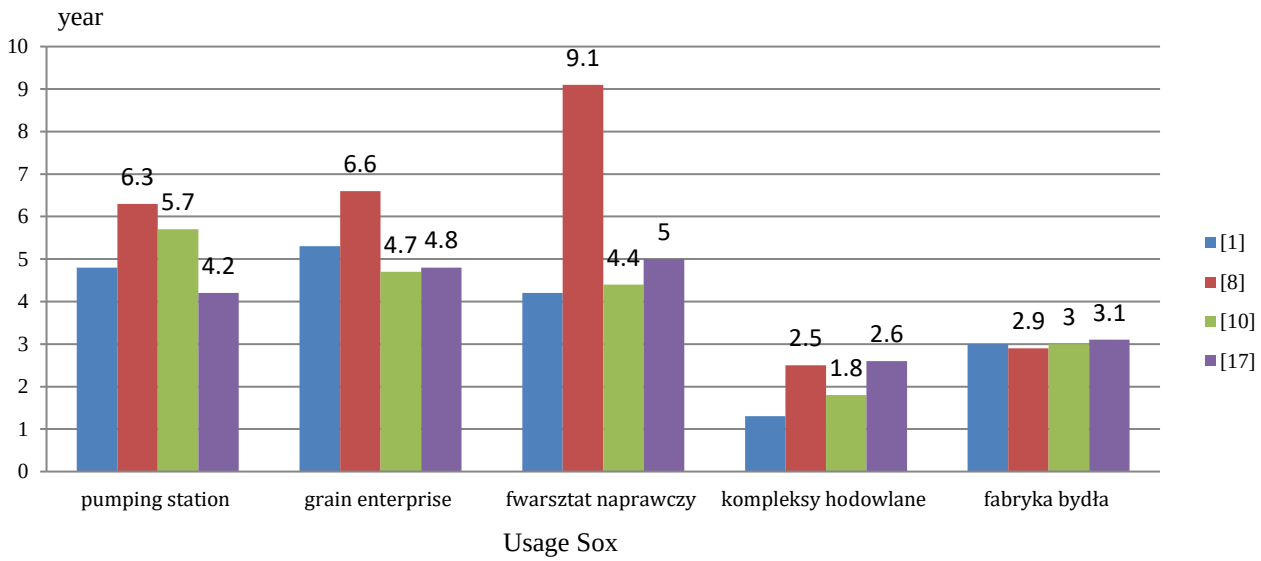

Figure 1.4. - Operating deadlines of electric motors (year) warsztat naprawczy warsztat naprawczy

The results of research and research on improving the reliability of asynchronous motors show that the amount of failure of asynchronous motors for various reasons in difficult areas of production conditions is 20-35% per year, and the average service life does not exceed 4 years. This represents a third of the accounting resource (20,000 hours) of modern asynchronous motors [4]. Data on the service life of

World Bulletin of Public Health (WBPH)
Available Online at: https://www.scholarexpress.net
Volume-40, November 2024
ISSN: 2749-3644

asynchronous motors are given in different field working machine types (Figure 1.4). Analysis of asynchronous motors and their operating modes shows that their service life is limited in relation to the specified regulatory sizes. Therefore, it is necessary to determine the low reliability indicators of asynchronous motors in production conditions, the reasons for the decrease in insulation resistance, the operating conditions and the factors and causes affecting them.

We can conclude that in order to increase the reliability of operation, it is necessary to correctly select the Electromotive power to the work machines, accurately determine the operating modes, correctly select and adjust the controls and protection, timely technical inspection, current and overhaul, increase the efficiency of operation. In particular, it is recommended to use protective equipment aimed at preventing switching overvoltage and reducing the degree of impact (curvature and amplitude). In most cases, an electric arc occurs when turning off electrical equipment, and the combustion process of the arc corresponds to the moment of separation of the contacts. In this case, the current and voltage magnitude range from its value up to the commutation to its amplitude magnitude.

Based on the analysis of the main failure factors of electrical equipment and the assessment of their technical condition, the main diagnostic parameter that causes the failure State has been determined, and the impact of the operation time of failures, which negatively affects the reliability of electrical equipment, on the useful work factor, is interconnected with the diagnostic parameter.When assessing the reliability of electrical equipment,the importance of the parameter of the effect of the operating period on the useful work coefficient was studied on the basis of the calculation algorithm, and the reliability level of the technical condition of the electrical equipment was determined at 0.9 that the useful work coefficient was 70%, equal.

LITERATURE USED

1. Isakov Compiled A.J., Berdyshev A.S., Kadyrov D.B. Improving the efficiency of the operation of electrical equipment. Agro ILM / / scientific application of the Journal of Agriculture of Uzbekistan. - Tashkent. 2018. Special issue. 67-68 B.
2. Medvedev A.A., Kabdin N.E. Vidi povrezhdeniy I prichini otkazov elektrodvigateley selskokhozyaystvennix elektroprivodov. - Primenenie elektroenergii I exploitation ustroystv selskogo elektrosnabjeniya. Moskovskiy Institut injenerov selskoxozyaystvennogo proizvodstva. - M., 1992. - S.3-12.
3. Konkin Yu.A. Concept technicheskogo servisa v APK. // Mechanization I electrification selskogo hozyaystva. 1990. №5. S.3-9.
4. Kondakov V.I., Mamedov F.A., Maruev S.A. Dynamics I nadezhnost asynchronnix motorey.- M.: RGA ZU, 1996. -144 P.
5. Proskurina N.A. Kompleksnaya informasionno-analiticheskaya I konsultasionnaya Sistema (informasionnaya Delovaya set) dlya selskix tovaroproizvoditeley. // Selskoxozyeystvennaya Nauka Siberia (1969-1999). SB.nauch.TR. SO RASCHN. - Novosibirsk, 1999.
6. Otraslevoy izuchenie sektora elektroenergetiki Uzbekistana. Promejutochny otchet. 2004 G. Tokyo Electric Powerpower Kompanii (Terso).
7. Isakov Compiled A., Rakhmatov A., Ochilov D. and Shadmanova G. Increasing reliability of nowep supply to electricity consumers.// Web of conferences 413, 05011 (2023). Interagromash-2023.
8. Isakov Compiled A. Rakhmatov.A. Ochilov D. Problems in reducing the waste of electricity.// Journal of irrigation and melioration (ISSN-2181-8584),t.:2019.№4(18).67-70b.