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ELECTRICAL TECHNICAL REPORT NATIONAL MUSEUM OF HISTORY





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1. ELECTRICAL INSTALLATIONS

The facility is built on the basis of projects implemented by the Institute of Studies and Designs Nr 1, Tirane 1979, adhering to the requirements and technical standards of electrical installations of the time.

For the evaluation of the existing situation we have referred to these projects as well as inspections and visits to the facility or communications with the maintenance specialists of the institution.

Below is a description of electrical installations and security systems based on the above information.

1.1 POWER SUPPLY

The power supply of the building is done by an already existing electrical cabinet which is located on the ground floor and is built at the same time as the building and of course the equipment and technologies of the time were used which are no longer in use.

Being in the position in the center of the city, this cabin has served for the supply of electricity to other buildings located around the Scanderbeg square like Hotel Tirana, Palace of Culture, etc.

The technical spaces dedicated to the supply of electricity are sufficient and with surfaces which are considerable, but the equipment and their configuration in these premises is not in accordance with the requirements of the facility. The medium voltage switches 20 kV and the transformers were in operation, but they are oil transformers, installed in the basement which are unsuitable for working in these enclosed underground environments.

Medium voltage boards that were in use at the time of construction are also in condition in these facilities although most of them are out of function.



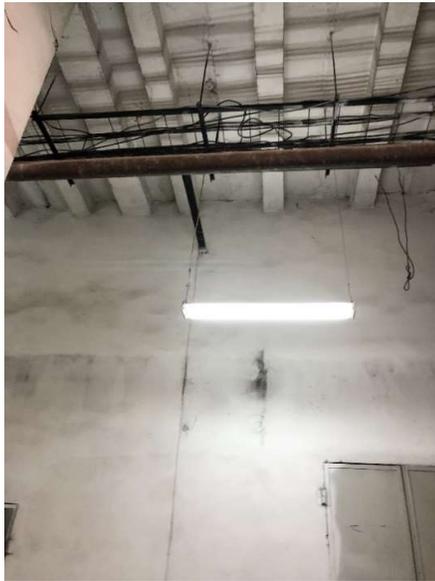
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The main low voltage network is conceived according to the initial design with copper busbars installed in the walls to supply the main low voltage electrical boards and the distribution is made with electrical cables with PVC insulation protection with different dimensions.

The crossings of the power lines are chosen mainly in corridors or at the poles designated for these services, through the metal infrastructure realized by hanging from the ceiling.





Low voltage boards are also built with protective devices with fuses, which have been in use at the time of construction, although in some cases they have been replaced with circuit breaker, the condition of these boards leaves much to be desired. They are no longer able to protect existing power lines and consumers and are no longer considered to adapt to new installations.

Their position is set in accordance with the line of installations conceived according to the existing model of the museum function, and the dimensions of the network are also in accordance with these installations.



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The measurement of electricity is done at low voltage, since the network was conceived for other users, and in recent years there has been an increase in consumers who receive electricity from these areas. It is very important to identify all consumers and their respective contracts that are supplied with electricity from these facilities as the intervention in the electricity network of the reconstruction will be complete and in cases when these are private customers, should be reviewed the possibility of the power supply be done by the museum cabinet.



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Based on the above information and considering the interventions that have been made over the years in the electricity network both in medium and low voltage, it is necessary to collect information from OSHEE for the interventions realized by OSHEE or if projects of recent years for intervention carried out by the institution itself, are available, in order not to carry technical problems and to find the appropriate technical solution.

1.2 SUPPLY FROM ALTERNATIVE ENERGY SOURCES.

Currently the Museum has a Diesel Generator that serves for the supply of electricity mainly for the lighting system and a part of the working sockets. It has been installed in recent years but has



been selected based on the current demand of customers who are in use. The generator operates through the switching panel which is located on the ground floor and operates automatically for commissioning of the generator in the absence of normal power from the Transformer.

There is no centralized UPS system that can serve for the supply of electricity to preferential customers or for special systems that can cover the needs of the Museum in accordance with the requirements of the respective installations.



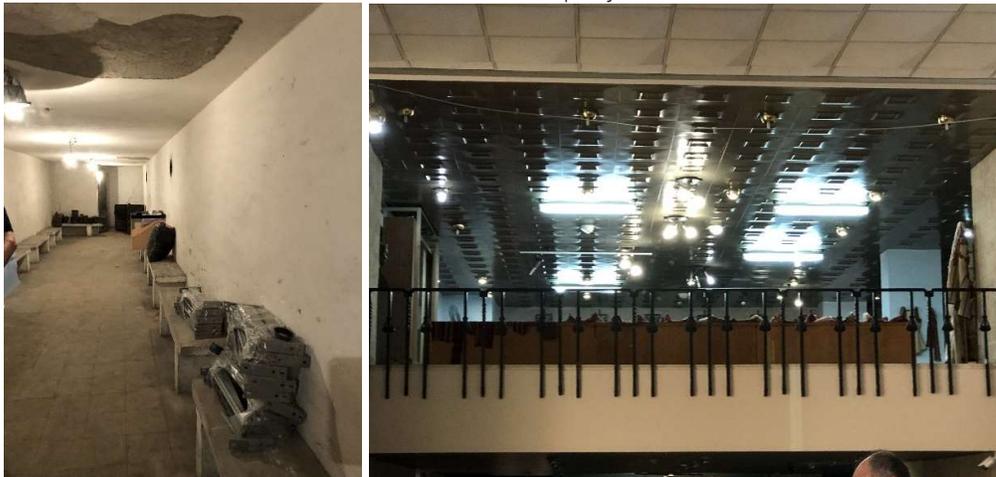
1.3 LIGHTING NETWORK

Currently the Museum has an internal lighting system realized mainly with electric conductors of the time of construction. No deep reconstructions have been made to be able to replace lines, cables, etc. in accordance with the relevant electrical materials. There have been in some cases replacement of switches and lighting control equipment but without interference in the lines and internal installations.

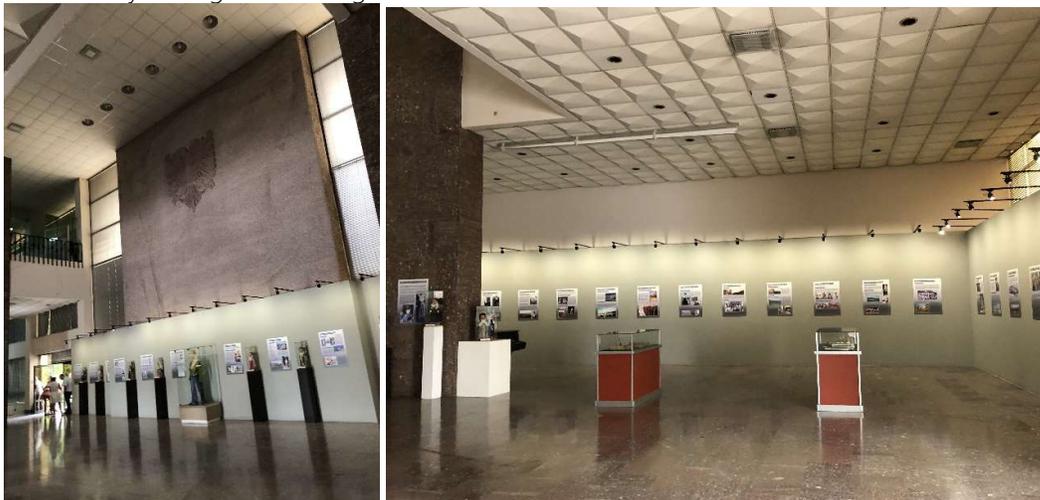
The interior lighting is realized with 40 w luminaires for the underground floor premises, but it is not in accordance with the requirements and lighting norms. Also, the lighting of the exhibition floors has been partially modified in recent years in accordance with the changes that these premises have undergone and replacements have been made of lighting fixtures and lighting lamps. The lighting is mainly with halogen lamps, fluorescent and in some cases even LED but not in accordance with the requirements and technical standards required for a museum institution.



The way of distribution, type of lighting, positioning, etc., must be adapted to the environment where they are used, as currently they do not meet the technical requirements for lighting based on illuminotechnical calculations that must accompany the technical solution of these installations.



Emergency and evacuation lighting leaves much to be desired as it can not be evaluated as a system studied and in accordance with the requirements, and technical norms of installation given that in many settings it is lacking.



The outdoor lighting network is also realized with different lighting according to the interventions that have been realized during the last years through the lighting of the facade and also of the inner yard which are in some cases also out of service.



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The lighting of the facade is also not complete and in accordance with the requirements and aesthetic criteria of lighting, appreciating the importance of this building, its position and the cultural values that it carries as an object protected by IMK. The visible part of the square is somewhat brighter, but on the inside the other facades leave much to be desired, as they are not treated at all in terms of lighting.



1.4 TELEPHONE NETWORK AND LAN NETWORK

The initial project did not foresee a data communication network, but an internal telephone network which currently does not perform the services it needs to perform. There is a system of data communication realized in the premises that are in use by the Museum which is realized with external installations with plastic tray and adapted according to the requirements for each environment. The installations leave much to desire in terms of quality and standard required for



these systems. In some places the cables are outside the exposed and unprotected plastic tray. During the various interventions, partial installations were made in certain facilities but there is no proper network according to the requirements and relevant technical standards.

Certain facilities that need the communication network are not equipped with this plant, and the need to adapt the installation to the way of organizing work in these facilities is necessary.

1.5 FIRE DETECTION AND ALARM NETWORK

There is no smoke and fire detection and alarm system in accordance with the standards and norms required for this category of building. Given the importance but also the values of historical or cultural objects located in this building, the fire protection system must be guaranteed at the highest level of protection and security, combining all disciplines that are an active part of defense in the whole of these premises from the fire. Precisely the detection and alarm in case of fire, but also the combination and activation of other fire protection systems such as evacuation and active fire extinguishing system are necessary to ensure a safe environment.

1.6 VOICE NOTIFICATION SYSTEM

There is no audio notification system that can communicate with the public in case of various emergencies or can be integrated with the needs for various important notifications, etc. in accordance with the requirements, standards and norms of installation and safety for museum facilities.

1.7 ALARM SYSTEM FROM UNWANTED ENTRIES.

There is no alarm system from unwanted entries and thefts which is necessary for institutions to preserve objects of great historical value for our country. It was not foreseen in the original project either, but even with the last interventions it has not been possible to realize a security system of this level.

1.8 CCTV MONITORING SYSTEM.

In the interventions that have been made in recent years, a system of internal cameras has been installed, mainly thin, and external in certain areas but which do not cover all the premises of the Museum, are not in accordance with the requirements of the Museum and will have to be



reviewed. compliance with the internal technical organization of the Building. The quality of the view, recording, configuration and monitoring of the CCTV system must be in accordance with the norms and technical standards of surveillance for Museum objects.



1.9 CONTROLLED ENTRY SYSTEM.

There is a visitor entry system through the Turnstile Gate, which is installed at the entrance of the Museum and used through the ticket codebar, which has been installed in recent years. There is no complex entry and exit monitoring system for special facilities such as server rooms, archives, personnel control or special security facilities.

1.10 MUSEUM INFORMATION AND TECHNOLOGICAL SYSTEMS

There are no electronic information systems or services in the service of visitors to facilitate the receipt of information and visual and audio communication of visitors with the exhibited objects.

1.11 LIGHTNING AND EARTHING SYSTEM

A lightning rod system was foreseen in the initial project which is currently degraded and does not meet the technical requirements of its operation. Even the repetitive grounding system has not been checked and maintained to ensure its operation. No periodic inspections and interventions have been made in these years.



2. CONCLUSIONS AND PROPOSAL

Based on the above description for each system it is clear that the need for deep intervention in the reconstruction of the electricity network, communication systems, security and special technological systems suitable for the category of the Museum object is necessary.

This is not only because the existing systems do not meet the needs and requirements for the proper functioning of the work of the Museum but also because they are not in line with the museum line of the reconceptualization of the Museum.