


کد سند: RO-S-F-28-02	معاونت پژوهشی	
تاریخ صدور: ۱۳۹۹/۴/۲۲		
تاریخ ویرایش: ۱۳۹۹/۵/۱۵	فرم خلاصه انگلیسی طرح / پروژه	پژوهشگاه نیرو

Project Title: Preparing Of Strategic Plan and Road Map For Expanding the Technologies Related to Maintenance in electric power Transmission.

Department:	Power Transmission Research Center	Employer:	Niroo Research Institute
Project/Program Manager:	Salman Rezazadeh	Executor:	Safar Farzalizadeh
Project Financial Code:	600034	Project Quality Code:	PTPN11
Type of Project/Program:	Strategic	Assistant:	Power Transmission

Project Staff: Saemeh Aghajani, Mojdeh Nateghi, Niloofar Nemati

Keywords: Power Transmission, Maintenance , Transmission lines, Power Substation, Reliability, Risk Analysis

Project Necessity:

After the construction of the main infrastructure of the countries in various industries (including the electric power industry), the main challenge facing the operators, managers and owners of these industries is to maintain and maintain them in the optimum conditions for their operation and service. This issue is generally addressed in the direction of asset conservation and management. The resulting disruption or discontinuity of industry can cover a wide range of economic, human, political, social, and environmental damages (from the local to the national). Discontinuance of industry functions can have various causes. One of the most important reasons for this is the occurrence of various failures and technical damage in various sectors of industry (equipment, structures, software sectors, etc.). In order to meet the needs of the power transmission sector, the accurate identification of the comprehensive maintenance and repair system and exploitation, provide a picture of the future of this technology in the mid-term and long-term horizons, determine and plan for the creation of hardware and software infrastructures necessary for Developing the current system to modernize its system, maintaining it and repairing it based on the capabilities and limitations of the country, and finally executing it, are among the measures to be considered in the form of a roadmap. Implementation of this project on a national scale can meet an important part of the needs of the operation, maintenance and repair sectors in the field of power transmission industry

Project Goals:

In each project, the mapping of the road must first be determined by the geographical range affected by the program implementation, the scope of the subjects under consideration and the time horizon to be considered. Therefore, the main objectives of this project are the elaboration of the principles for the development, operation, maintenance and repair technology of the power transmission sector.

Maintenance and repairs included a variety of techniques and technologies that have progressed significantly over time. The strategies and perspectives in the maintenance and repair industry (Nets) have undergone the process of ecstasy in the last century and there have been many changes in this field.

In short, the current view of maintenance (Nets) from a passive attitude in the early 20th century has become a proactive approach at the beginning of the 21st century. Many of these changes have been made in the last 40 years (since the 1970s).

Maintenance and repairs (NET) are carried out using two main approaches, which include preventive notes and predictive netting. On preventive NET, maintenance of equipment in certain time periods is based on a specific timetable. In other words, preventive maintenance and repair is based on the principle that repair operations are carried out according to the scheduling before the device reaches a breakdown stage. This method can be used as a calendar or operating clock, depending on the type of device. This approach also refers to time-based maintenance (TBM). On prognosticated NET, the maintenance and repair of equipment is carried out according to their conditions. In other words, in this method, in a given time period, a number of parameters of the equipment that can indicate its abnormal status are monitored and measured and, based on the data obtained, the need for action for the repair or replacement of parts and equipment is identified and based on it, The decision is taken regarding the required measures. In this approach, CBM is also said to be. The main objective of this project is to develop appropriate strategies, such as the development of required standards and regulations, the development of new technologies in the field of repair and maintenance, the improvement of statistical processes of disasters in the power transmission industry, and the provision of facilities for the use of various academic and industrial capacities and inventors to improve.

Abstract:

- Explain the problems of the power transmission industry in the field of repair and maintenance in the power transmission industry.
- Identify relevant documents and standards in the field of repairs and maintenance in the power transmission industry
- Identifying new technologies for improving repairs in the power transmission industry used in advanced countries.
- Development of an operational plan and roadmap for the implementation of the actions.
- Establish the basis for setting up the required standards for repair and maintenance in the power transmission industry.
- Strategic studies on the development of technologies and knowledge related to repair and maintenance in the power transmission industry.
- Establishing the bases for the formation of statistical events of accidents in transmission lines and posts in order to analyze incidents and continuous improvement of repair and maintenance indicators.
- Development of information base on technology developments in the field of repair and maintenance in the power transmission industry.

Steps and Methodologies:

- Preparing the Foundations of the strategic plan for technology development In association with Repairs and maintenance in the power transmission industry.
- Intelligence of technologies and knowledge related to maintenance in the power transmission industry.

- Codification of orienting elements .
- Develop a plan of actions and policies.
- Developing a roadmap and action plan.
- Developing an evaluation and updating program .

Main Results (technical outputs, patents, papers, books, reports, etc.):

Technical reports of steps one to six