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Project Title: Identification, needs assessment and prioritization of standards and guidelines in power production field (materials part)

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Project Financial Code:	900005	Project Quality Code:	PGPN08-1
Type of Project/Program:	Applied and developmental	Assistant:	

Project Staff:

Project Necessity:

The purpose of this project is to identify and assess the standards and guidelines in the field of thermal power plant production (materials part) and prioritize to update the existing standards and guidelines in this field. Accurate identification of the required instructions of different production sectors in this field, including delivery instructions in operation and supply and required tests taking into account the opinions of stakeholders is one of the main objectives. The main route for the development of instructions will be determined in interaction with the representative of the parent company specialized in thermal electricity and expert panel meetings.

Project Goals:

Standards are documents that specify specifications and processes designed to maximize the reliability of materials, products, methods, and services that are used on a daily basis. The orientation of the electricity industry towards the standardization of items related to this industry requires that the technical specifications, operation and testing of equipment and systems related to the field of thermal power plant production be prepared and compiled as a standard / instruction. Many internal standards / guidelines related to this field have been developed in recent years; The corresponding international standards are updated every few years. Also, due to the climatic conditions of the country, some existing standards / guidelines need to be amended, revised and rewritten. As a result, it is necessary to review internal standards / guidelines and needs assessment to develop new standards / guidelines in the field of thermal power plant production. In this project, first the existing standards / guidelines and international standards in the field of thermal power plant production (focusing on materials) are identified and reviewed. Then, an expert panel consisting of stakeholders will be formed to obtain their opinions so that their opinions can be used when necessary.

The internal standards / guidelines are then compared with the corresponding international standards in terms of up-to-datedness and content, and their weaknesses and shortcomings are identified. Also, standards and guidelines that should be modified in accordance with the climatic conditions of the country are determined. After obtaining the opinions of stakeholders and summarizing them, at the end, prioritization of updating and comparative development of standards / instructions in the field of thermal power plant production (materials section) will be provided along with the required budget and schedule of each section. It is worth noting that in order to review the domestic standards / guidelines and the corresponding international standards of the reference and compare them, only the scope of work of the standard (Scope) is studied and examined (and not the whole standard).

Abstract:

The orientation of the electricity industry towards the standardization of items related to this industry requires that the technical specifications, operation and testing of equipment and systems related to the field of thermal power plant production be prepared and compiled as a standard / instruction. Some internal standards / guidelines related to this field have been developed in recent years; The corresponding international standards are updated every few years. Also, due to the climatic conditions of the country, some existing standards / guidelines need to be amended, revised and rewritten. On the other hand, due to the progress of technology and the emergence of new equipment and technologies, it is necessary to develop standards / guidelines related to them. As a result, it is necessary to review internal standards / guidelines and needs assessment to develop new standards / guidelines in the field of thermal power plant production. The present project entitled "Identification, needs assessment and prioritization of standards and guidelines in the field of production (materials sector)" with the aim of identifying and assessing the standards and guidelines of thermal power plant production (materials sector) and prioritizing to update existing standards and guidelines or develop standards And new adaptive guidelines in this area. Also, accurate identification of the instructions required by different production sectors in this field, including delivery instructions in operation and supply and required tests taking into account the views of stakeholders is one of the main objectives.

Steps and Methodologies:

In order to assess the need for comparative development of standards / instructions for delivery of the thermal power plant production area focusing on the materials sector, in the first stage, equipment and topics related to this field are identified and classified in terms of materials, some of which are: gas and steam turbine parts Boilers and periodic inspections and repairs. In the following, internal delivery standards / instructions related to each of the performed extraction categories and a list of international references related to each of them are prepared. In addition, an expert panel consisting of stakeholders will be formed to obtain their opinions at this stage so that their opinions can be used when necessary. In the second step, the internal standards / guidelines are compared with their respective reference standards in terms of up-to-date ness and content. For this purpose, the version of the standard used in the internal standard / instruction is first compared with the latest version of that standard. If there is an updated version of the relevant standard, the scope of work of the standards (Scope) will be studied. As a result, the standard / instructions that need to be modified and updated based on the reference standard are identified. Also, due to the existence of special climatic conditions in some parts of the country, the reference standards may not meet the needs of the country and therefore it is necessary to review and amend some internal standards / instructions according to the climatic conditions of the country. Therefore, in the second stage, the internal standard / guidelines are reviewed in terms of the impact of climatic conditions on that standard / guideline, and as a result, a list of internal standards / guidelines that are affected by climatic conditions and may need to be revised and amended is prepared. After extracting the list of standards / instructions that need to be revised or should be compiled, for the comprehensiveness and completeness

of the project in order to assess the need for comparative development of thermal power plant standards in the materials sector, in the third stage of the project by meeting and sending a questionnaire , Stakeholders will be inquired and polled. After conducting a needs assessment to update the existing standard / instructions, in the fourth stage of the project, based on the needs of the country and the existing problems and problems in the field of thermal power plant production, the review priority and comparative compilation of internal standard / instructions are determined. Also, at this stage, according to the set priorities, the required budget and schedule for updating the existing standard / guidelines or comparative development of new standards / guidelines in the mentioned field will be presented.

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

- Identification and classification of equipment, parts and topics related to the field of thermal power plant production in terms of materials
- Extract the list of internal delivery standards / instructions and related reference standards
- Comparison of internal standards / instructions with relevant reference standards in terms of up-to-datedness and technical and content adequacy
- Determine internal standards / guidelines that need to be amended and revised
- Determining the list of internal standards / guidelines that may need to be updated due to the climatic conditions of the country
- Prioritization of comparative formulation of standards / instructions in the field of thermal power plant production (materials part)
- Provide the required schedule and budget for the comparative development of standards / instructions in the field of thermal power plant production (materials part)