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**Project Title:** Preparing the strategic document and roadmap for the development of the electrical power quality of Iran electricity grid

<b>Department:</b>	strategic document and roadmap for the development of the power electronic facilities of Iran electricity grid	<b>Employer:</b>	Niroo Research Institute
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<b>Project Financial Code:</b>	146103	<b>Project Quality Code:</b>	PPEEPN03
<b>Type of Project/Program:</b>	(Font:Times New Roman 10)	<b>Assistant:</b>	(Font:Times New Roman 10)

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### Keywords:

Electric power quality, power quality life cycle, customer load sensitivity, power quality improvement costs, sustainable power supply

### Project Necessity:

Power quality is a topic that has been considered by many researchers and those involved in electricity networks in the last two decades. During this period, due to fundamental changes such as restructuring and expanding the influence of distributed generation resources in the electricity network, the concept and importance of power quality has also undergone changes. Increasing the knowledge and sensitivity of customers' loads to the quality of electricity has forced electricity companies to pay serious attention to this issue and strive to provide the quality desired by customers. Another important issue in this regard is the issue of direct and indirect costs of power quality. Electricity companies should regulate the network to prevent disturbances by subscribers, correct disturbances when necessary, and finally consider financial issues arising from power quality.

Niroo Research Institute, with its role and mission in the fields of research and research in the country's electricity industry, can act as a pioneer in the comprehensive and complete management of research in the field of power quality in Iran's electricity network. In this regard, the present project seeks to prepare the appropriate roadmap in the field of power quality in the country's electricity network by conducting the necessary studies.

### Project Goals:

- 1- Determining the dimensions of the issue of power quality and the scope of this issue in the electricity industry
- 2- Determining the current situation of power quality in the country's electricity industry,

- 3- Determining the life cycle of power quality and the issues that change this cycle
- 4- Identifying the areas of power quality studies and future research in each of these areas
- 5- Developing a vision for power quality, setting goals, strategies and macro policies for power quality in the country's electricity network
- 6- Codification of micro-goals, measures and executive policies for the power quality roadmap in the country's electricity industry
- 7- Compilation of roadmaps and operational plans for power quality in the country's electricity industry
- 8- Codification of executive projects, budgeting and scheduling of each project
- 9- Division of labor of the involved institutions

### **Abstract:**

One of the most important and basic principles in research planning or research management in the industry of any country is to develop a development roadmap for that country. In the development roadmap of each country, the roadmap for the development of each industry is also seen and the compilation of the roadmap in each industry is prepared according to the macro goals of the development of that industry and the overhead documents of the country. In the development roadmap of each industry, there are several macro axes according to the macro needs and goals of that industry. There are many macro axes in the development of the country's electricity industry, and power quality is one of these axes. The present project, entitled Development of a roadmap for the quality of electrical power in Iran's electricity network, has tried to achieve these goals and has identified the measures to achieve this goal. It should be noted that parts of this project definition have been prepared in the same structure as other strategic documentation projects.

### **Steps and Methodologies:**

- Codification of the principles of electrical power quality document in Iran's electricity network
- Intelligence is the subject of power quality
- Codification of orienting elements
- Develop a plan of action
- Development of roadmap and action plan
- Develop an evaluation and improvement plan

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

Technical reports:

1. Codification of the principles of electrical power quality document in Iran's electricity network
2. Intelligence is the subject of power quality