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Project Title: Supervision and Advice on Delivery of Software of on-line modeling system for the dispersion of gaseous pollutants and particulate matter in a selected power plant

Department:	The plan for technology development and emissions management in the electricity industry	Employer:	NRI
Project/Program Manager:	Mehrnoush Abedi	Executor:	Saeid Nazari Kudehi
Project Financial Code:	332001	Project Quality Code:	PPMPN03-2
Type of Project/Program:	Monitoring and consulting	Assistant:	Energy & Environment

Project Staff: Amir Sohrabi-kashani, Hamid Danaie, Mehrnoush Abedi

Keywords: Software production and development, outsourcing, software quality, requirements document, monitoring and consulting, software delivery

Project Necessity:

In recent years, software outsourcing has been welcomed by organizations for many reasons such as saving money and time as well as utilizing information and communication technology expertise to produce and develop better quality software. By definition, software outsourcing is a contract for the hiring of a software developer (company) by an organization. For an organization, it is important to consider the three issues of budget, timing, and project scope in deciding and selecting a developer company. Despite the many benefits, challenges are unrealistic forecasts in software production, large variations in requirements, high communication and inability to manage, lack of precise or realistic planning for deployment and operational support. In the delivery process, there are both the delivering and the receiving side. Upon request by the auditor, the deliverer sends inputs, including deliverables and outputs of the software project, to the delivery team under the preliminary agreement / contract.

Project Goals:

In recent years in Niroo Research Institute, relying on the outsourcing approach, various organizational areas, especially the centers, have outsourced the services they need in the field of software development in response to their processes. The development of an on-line modeling system for the distribution of gaseous pollutants and particulate matter in a selected power plant is an example of a software development outsourcing process. The purpose of defining the present project is to monitor and consult in the delivery of the above-mentioned software at the request of the director of the project to develop technologies to control the emission of air pollutants and greenhouse gases from the country's thermal power plants.

The scope of activities of the present project is as follows:

- Recognition and study of the field
- Review, analyze and finalize software requirements
- Determining the methodology of monitoring and consulting with project stakeholders
- Delivery of software
- Prepare a report

Abstract:

In order to facilitate the viewing of modeling results, a web-based software platform has been used so that all users can access their numerical and graphic outputs from meteorological modeling and air pollution by using their own username and password.

In this platform, the user can access the desired numerical and graphic outputs in a secure environment. The user can view the outputs of the air pollution model momentarily or at the desired dates and times, which is done using analysis. The results are stored in the database. After calculating and storing the modeling data, the user will be able to view the data and output on the web for the same day and days before.

Steps and Methodologies:

In order to monitor software delivery, all system requirements were reviewed and the software team was asked to prepare a software requirements document at the beginning of the work and submit it to the software stakeholders and users for approval. In the next neighborhood, in order to analyze and design the necessary consulting system, the software team was given and relevant reports were prepared.

Regarding the final testing of the software, preparation of the user guide and delivery of the software, the necessary consultation and supervision was performed by the monitoring team.

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

- Requirements document
- Design and implementation document
- User guide document