A Case-Based Construction for Maintenance Management Information System－A Case of Taichung Power Plant

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ABSTRACT

This paper presents a maintenance management information system to provide an improving solution for the maintenance procedure and system structure of Taichung Power Plant environment protection facilities control system. This system is developed via the combination of electronic automation, protocol translation, case-based reasoning and relational database. This system aims at reducing the control system trouble-shooting time to improve the reliability and performance of the equipments. In existence hardware architecture, the EP/ASH control network connects the various types of PLC controllers. This system utilizes the translation of the various protocols, and the integration of the RSView workstation interfaces to achieve the real-time data access and the monitoring of the whole factory. The maintain database is composed of the workstation build-in data points, control system ’s digital/analog signals, workstation data-logs and maintain cases. By web browser, the system provides the user a shared data resource platform. Through the case-based reasoning cycle, the system provides the troubleshooting suggestion for fault diagnostic by retrieving the past maintain case ’s knowledge and maintenance associated information, to assist the operators and engineers to do the troubleshooting task. To face the stricter and stricter environment protection policy, this maintenance management information system could decrease the times of repair request and reduce the trouble-shooting time. The use of this system shows the stability of the running of environment protection facilities of Taichung Power Plant is helpful, and improves the total performance.

Keywords : Electronic Automation ; Case-Based Reasoning ; Maintenance Management Information System ; Fault Diagnostic

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