PLC Based Dam Shutter for Control

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Abstract: *This paper based on controlling the process parameters such as level with real time implementation of gate controlling through DC motor using Programmable Logic Controller. In our proposed system, a programmable logic controller is used as an compact computer playing the major role of a control devices and switches provide incoming signals to the control unit. The system design is provided with two levels in which the one level in upper and one level in the lower outputs the ladder logic is actuated. This work uses PLC of DELTA DVP-SE series inbuilt with 8 digital inputs and provides 4 potential free outputs to control the miniaturized process depicted in the work..*

Keywords: PLC

I. INTRODUCTION

In Our India approximately there are 3200 dam present. In Gujarat, 202 dams are there out of them 95 dams have gates. Approximately, these dams cover 1,70,000 sq.km area for collecting water. There is also 2067.68 km long and complex canal network through which about 10 lakes hectares land gets water for irrigation and drinking purpose. The farmers are mostly dependent on rain and after that bore-well water for their crops. Recently, all the farmers use in flood irrigation system for planting their crops which needs more water. As we know, water is gradually becoming one of the most valuable natural resources. As the solution to problem we are developing this project to develop a PLC based system which detects or senses the water level in dam and thereby control the movement of gates automatically. Automation is use of various control systems for operating equipment in industries such as machinery, processes in factories.

The biggest benefit of automation is that it is saves labor work; it is also used to save energy and manpower to improve quality, accuracy and precision , reliability.

VII. CONCLUSION

In this paper, it represents an automatic controlling of a DC motor using PLC and HMI. This System model of a PLC based Dam automation system which is the completely automated can control the level of the dam gates using backup of the water. Thus using PLC and HMI the level of water in the dam is controlled effectively there by opening and closing the gates of the dam whenever the level increases. Therefore the use of Programmable logic control has opened doors for a level of automation Dam system and HMI also monitoring .