

**SAMPLE PROJECT WRITING STYLE ( NOT IN FULL WORD, IT IS ONLY 400 WORDS FOR SAMPLE PURPOSE)**

The project consisted of upgrading the main switchboard for the Acme Widget Company. It was my responsibility to determine the total power requirements for the new plant, calculate the power consumption of the existing plant and determine the maximum available power supplied through an existing board and the 11kV/415V transformer. After analyzing the available information, I deduced that at least three alternatives for powering the new plant existed. A separate 11kV feeder could be brought onto the site to energise a new transformer and main board, the existing main board could be replaced with a new board or the existing main board could be upgraded. The last two options required the feeder cables to the main board to be upgraded.

Technically, all three options were acceptable, although the first two allowed for a greater flexibility for expansion in future years. I prepared estimates for each of the options. The client engineer indicated that minimizing the capital cost of the plant was of a higher priority than enhanced flexibility for expansion. On this basis, I issued a written recommendation indicating that, although other technical solutions existed, the upgrading of the main board involved the lowest capital cost and still provided the new plant with sufficient power requirements. The client accepted this option. I selected and sized power cables using Power pack software. I simulated the limits in current-carrying capacity and length of runs on the basis of voltage drop using this tool. I also performed simulation of the maximum number of cables that could be installed on a single cable ladder and in underground conduits. For the PLC system I applied a functional specification already in use by our Company. A subsection of this specification listed requirements of a Factory Acceptable Test (FAT) to be conducted at the configuration supplier's premises. I designed this test, the aim of which was to provide the consulting engineer with a reasonable confidence in the PLC software before it was installed and commissioned on-site. In a controlled environment and using the same PLC system hardware configuration to be installed on-site, various input signals were generated through a test rig to simulate field instruments. PLC outputs were recorded to verify the intended operation of the PLC program, as specified in the functional specification.

During the test, a number of problems surfaced with the configuration. The client engineer was present at the test and, after consultation with him, I gave recommendations and directions to the PLC programmer to overcome perceived problems and improve operation of the plant.