TTCMARCONI

Case study

Installation PCM30U-OCH at Dukovany Nuclear Power Plant

Branch: Power utility

Customer: České energetické závody ČEZ

Country: CZ

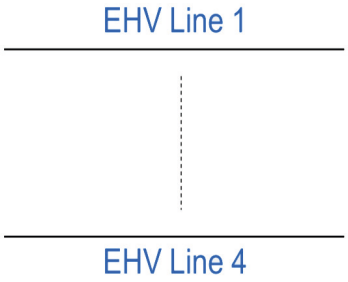
Result: A fast and reliable communication between differential and distance protections is ensured between the nuclear power plant and the distribution system.

Project target: Replacement of the earlier generation of the PCM30U-OCH device for fast, reliable and secure communication of the distance and differential protections of the line between the four blocks of the Dukovany nuclear power plant and the Slavětice substation.

Solution: PCM30U-OCH teleprotection equipment

CUSTOMER: ČEZ

It is the largest energy company in the Czech Republic and the parent company of the ČEZ Group which brings together dozens of other companies. CEZ is the owner of most of the major power plants in the Czech Republic, including the Temelin and Dukovany nuclear power plants. CEZ however also represents a producer or supplier of energy in 7 countries and has a strong position among energy companies in the Central and Southeast Europe.



PROBLEM DESCRIPTION

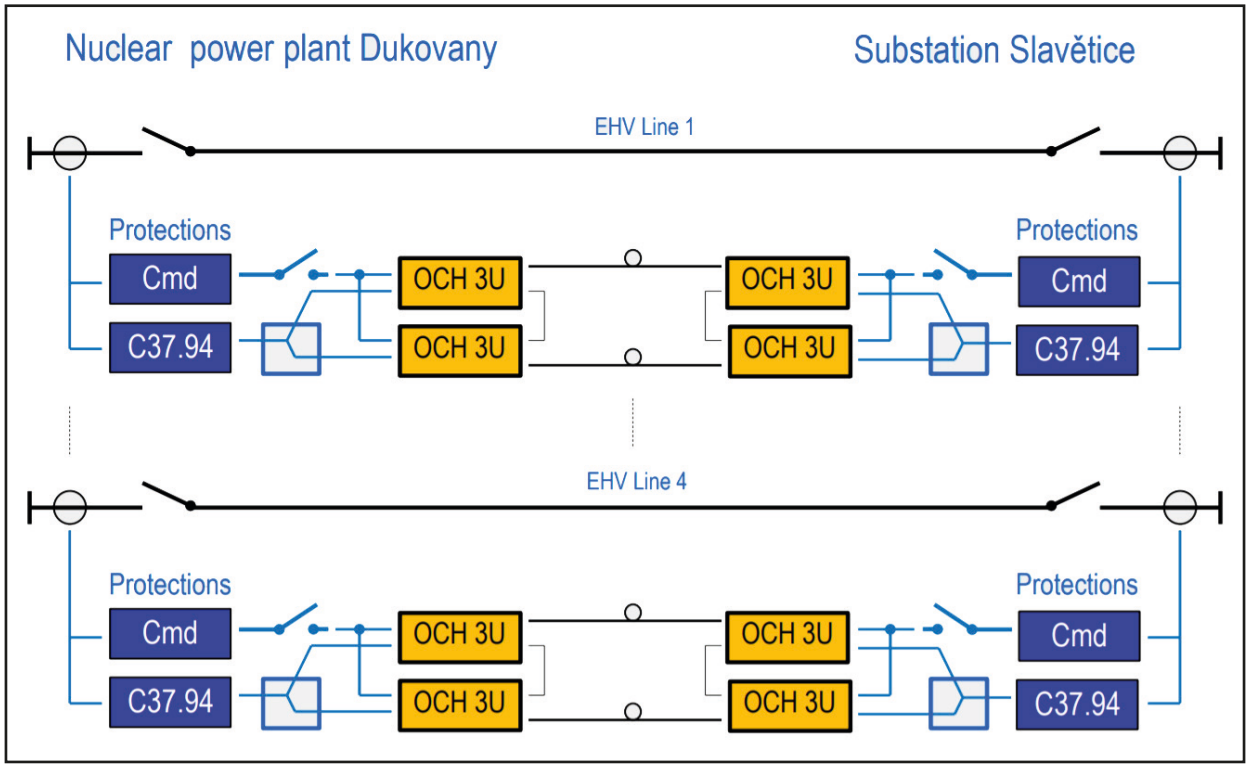
The lead between the power station and the power plant requires maximum protection, because in the event of a failure the power plant does not have to supply energy and must restrict or completely stop production. The restoration of production then takes place in the order of hours, which entails large financial losses. In the case of such a large installed performance, this also places great demands on security of supply from other sources.

The PCM30U-OCH equipment has been a part of the protection of the Dukovany Nuclear Power Plant since 1997. Recently, the third generation of the PCM30U-OCH was installed in connection with the line protection innovations. As in the past, the equipment was to ensure the simultaneous transmission of distance and differential protection between the four power plant blocks and the substation using redundant lines and devices.

SOLUTION

The simultaneous transfer of commands and signals of the differential protection between the Dukovany nuclear power plant and the Slavětice substation is provided by one backed-up PCM30U-OCH / 3U device for each of the four blocks. The pair of devices on each side is interconnected on the electrical interface E1, the transmission to the opposite side takes place via two optical paths for each relation. Commands are applied to the inputs and outputs of the main and backup sessions, the optical signal is split in a splitter into the inputs of both sessions and added to their outputs. In idle status, only light output in the main route is active.

In case of failure, the light is activated at the output of the backup route. In the event of a trip of the route or of any device, therefore, there will be no loss of connection between the distance and the differential protections.



"Thanks to the installation of our PCM30UOCH, our customer has been able to quickly and efficiently transfer the necessary communication between the power station and the substation, including detailed monitoring of the status of transmission paths and devices, recording time and speed of transferred commands or database of failures," says Libor Jedlička, Project Manager of TTC Marconi.

Libor Jedlička, Product manager TTC MARCONI

Kontakty

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