Prosig PROTOR Case Study

Cockenzie

Coal Fired Power Station

Cockenzie Power Station, in East Lothian, Scotland closed down on 15th March 2013 after 45 years of power generation. The station opted out of the Large Combustion Plant Directive (LCPD) in January 2008 and as a consequence was required to close by December 2015 or after it had operated for 20,000 hours. These hours have now expired.

When Cockenzie opened in 1967, it was the largest power station in Scotland with four 300MW coal–fired turbine generators. The Power Station generated more than 150 Terawatt Hours (TWh) of electricity in its lifetime.

Planning permission has been approved for construction of a 1000MW gas–fired power station onthe site although no firm commitment to proceed has yet been made by the owners.

Prosig installed their PROTOR Online Vibration Monitoring System in 1994 to provide invaluableinformation to allow the condition of the machines to be evaluated and assessed by both operational staff and vibration experts.

Cockenzie

Coal-fired Power Station

The PROTOR system expanded over the years to provide continuous online monitoring for over 30 individual critical items of plant and over 750 signals.

Unitised PROTOR-3 units collect vibration data and up to 144 plant process parameters for each of the four main turbines.

Separate acquisition units also collected data from the Main Boiler Feed Pump, Start-standby feed pumps, FD Fans and ID Fans. In 2009 these units were upgraded to PROTOR-4 units in order to provided higher sampling resolution for the Main Boiler Feed pumps in particular.

A PROTOR server collects data from all units and provides the main user interface for real-time displays, alarm processing. PROTOR also provides plant process parameters via a network communication link to the local SCADA system for control room displays.

Local users can access PROTOR through the station network and remote access is provided via VPN.

Prosig's commitment to support and continuous evolution means that PROTOR has been collecting data at Cockenzie for nearly 20 years. Data has remained compatible over a variety of platforms. Where possible systems are backwards compatible as shown by the current mixture of PROTOR3 and PROTOR4 hardware. The flexibility of the new PROTOR4 hardware means that the same hardware can be used in a variety of configuration such monitoring a single steam-turbine or multiple Auxiliary Pumps each treated as a separate machine.

System consists of

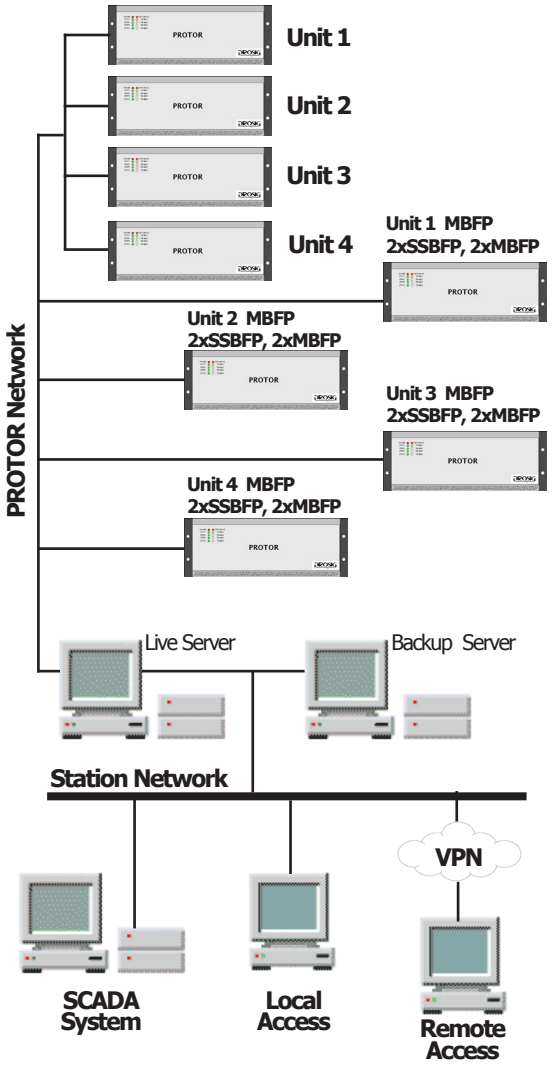
Hardware

4 x PROTOR-3 Units

To collect 32 dynamics & 144 static channels per unit

4 x PROTOR-4 Units

To collect data from Main Boiler Feed Pumps (MBFP), 2 x Start-Standby Feed Pumps (SSBFP) and 2 x Forced Draft Fans (FDF)



Contact Prosig

Prosig Ltd (UK)
Email: sales@prosig.com
Phone: +44 (0)1329 239925

Prosig USA Inc
Email: prosigusa@prosig.com
Phone: +1 248 443 2470