

Hydro-Electric High Head Pipeline Saddle Refurbishment

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The hydro-electric power station is located near the river Conwy in North Wales. The high head pipeline, originally constructed around the 1930's, delivers water to the power station from the reservoir to power the turbines. It is a 1.8m diameter riveted steel pipeline with support plinths located between 8m and 10m centres, spanning a length of 5km.

Years of wear and tear has naturally resulted in the need to repair and replace the bearing pipe supports. EKSPAN offered a new bearing design, which after 7 years in use proved to be a lasting solution, in contrast to the original bearing design based around a steel-on-steel contact which had resulted on a fair proportion failing after several attempts to replace them in the last 10 years.

JOB BRIEF

- Supplied: 228 Bearing Plinths in total refurbished over a 4 year period
- Project Team
- Client: NPower
- Main Contractor: EKSPAN Ltd.
- Start Date: 2006
- Completion Date: Ongoing



Once again EKSPAN's experience and aptitude comes into play when challenged to work in harsh environments as this project has shown. During the refurbishment process, our skilled team of engineers have had to work in remote open locations exposed to extreme weather conditions such as heavy rainfall, with limited access for emergency vehicles.

The fall of the land is high and steep, with boggy, rough, and uneven terrain to contend with. With the pipeline also located in a SSSI area (site of special scientific interest) within a National Park, EKSPAN have had to take on board additional considerations to ensure work procedures do not conflict with environmental regulations. 228 bearing plinths in total are being refurbished over a period of 4 years.

As principal contractor, EKSPAN have been carrying out a 4 year programme of major refurbishment works on the High Head Pipeline – replacing the existing High Head Pipeline concrete supports with new composite/stainless steel pipe support bearings, generally located 500mm above ground level, but some also in very difficult areas where the pipeline is above 2000mm from ground level.

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