



DEP in the Power Industry

The processes involved in the Power Industry lead to a wide variety of erosion, corrosion, wear and chemical attack problems. Whether in the nuclear, fossil, hydroelectric or renewable sectors of the marketplace, DEP is able to offer reliable solutions to many of the problems faced by power industry maintenance engineers.

Using products based on the latest polymer technology coupled with simple but effective application techniques, we are able to quickly and effectively restore worn plant to good working condition and protect equipment against many of the problems that it would otherwise suffer.

By this means, many costly replacement or maintenance operations can be avoided, as can unplanned downtime.

The following are just some of the areas that we work in:

Coal Preparation Plants

Here, the main problems addressed are those of wear on equipment such as coal directors, pipes and elbows, chutes and hoppers, screw conveyors, fans and blowers, pulverisers and fuel spinners. Using DEP's highly abrasion resistant epoxy lining materials as part of planned maintenance, severe abrasion problems can be averted ensuring that the lifetime of equipment is maximised.

Flue Gas Desulphurisation

The need to remove sulphurous gases from fossil fuel plants for environmental reasons creates its own maintenance problems. In particular, wear problems to ball mills, lime slurry pumps, agitator paddles, lime slurry injection pipes, gypsum screw conveyors and the like are common events which DEP can provide solutions to from its extensive product range.

Demineralisation Plants

The sulphuric acid used in demineralisation plants can have a devastating effect on steel and concrete structures. As a result, storage tanks, bunds, dosing pumps plinths, spillage troughs and the like need to be protected. DEP has the answer to such problems and can even offer coatings that are totally resistant to concentrated sulphuric acid.



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Steam Generation

Water is the life-blood of any power station and the need to provide it in large volumes means that main circulating water pumps need to function reliably and efficiently. Corrosion and wear are factors that result in reduced efficiency and downtime but this can be mitigated against by the use of DEP's erosion-corrosion resistant repair and coating materials. Worn pump components such as impellers, casings, cut waters and flow straighteners can be rebuilt to original dimensions and the use of protective coatings can prevent further corrosion and reduce wear. In this way, not only is the lifetime of the pump extended but its efficiency is improved, resulting in reduced operating costs.

Power generation

Erosion-corrosion is a common problem in both conventional and hydro-electric power plants. Here, corrosion, wear and cavitation damage to turbine components can be combated using DEP's ceramic enhanced repair and coating materials.

Water Condensation

Bimetallic corrosion, arising from contact of dissimilar metals, is a major problem with condenser tube sheets. Using DEP's non-electrically conducting materials, corrosion damage can first be rebuilt and the tube plate then coated to isolate the metals against galvanic cell creation. In this way the equipment is restored to its original condition and protected against deterioration in the future.

Similarly, wherever water and oxygen is present, corrosion is a potential problem which can be averted using DEP's range of erosion-corrosion barrier coatings on equipment such as condenser end plates, condensate return tanks, water boxes, vacuum pumps, cooling tower fans, etc.

Distribution

A common problem in power distribution is leaking oil from transformers which is not only a maintenance issue but also an environmental concern. DEP overcome the need for drainage prior to repair by offering a fast setting brushable repair material which simply sweeps away transformer oil contamination and forms a tenacious bond to the substrate. In this way leaking transformers can be easily repaired on site without the need of specialist equipment.