

**GOVERNMENT OF INDIA
POWER
LOK SABHA**

UNSTARRED QUESTION NO:3777
ANSWERED ON:21.08.2003
SILT EROSION IN HYDRO POWER STATIONS
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Will the Minister of POWER be pleased to state:

- (a) whether Hydro Power Stations are affected severely by silt erosion costing Rs.500 crore every year;
- (b) if so, whether Bharat Heavy Electricals Limited has developed a process for preventing the erosion; and
- (c) if so, the details thereof?

Answer

THE MINISTER OF STATE IN THE MINISTRY OF POWER (SHRIMATI JAYAWANTI MEHTA)

(a) : Silt erosion poses a serious problem for hydro power stations especially in the Himalayan region.

(b) & (c) : BHEL has reported that they have successfully developed the HighVelocity Oxy-Fuel (HVOF) thermal spray process. The process developed after experimentation in the laboratory has been tested at hydro power stations (Bairasiul, Shanan) where the results have been satisfactory.

In the thermal spray process, the coating material is melted in a high temperature zone and the molten droplets are propelled on to the substrate to be deposited as a layer.

Tungsten carbide powder is widely used in the HVOF spraying system. This is used to produce dense, high hardness and excellent wear resistance coatings to combat the erosion and corrosion occurring in hydro power plants. Tungsten Carbide Cobalt Chrome powder is preferred for abrasive wear of hydro turbine components when high corrosion resistance is needed.