as compared to 2006 due to remedial actions taken by Delhi Jal board. Chorine less than 0.2 mg/l was detected in 13.4% and 0.1% samples in year 2006 and 2007 respectively. 3.5% of the water samples were found to contain total coliform in 2007, as compared to 10% in 2006. Total coliform counts exceeding 10 were detected in 1.3% samples in 2007 as compared to 4.8 in 2006. Faecal coliforms were detected in only 0.6% samples in 2007, as compared to 4.% in 2006. It is observed that water gets contaminated in distribution network, even if treated adequately at treatment works to render it safe and acceptable. This could be attributed to intermittent mode of water supply, use of inline booster pumps by consumers and leakages in service pipelines. It is desirable that quality of water be adequately safeguarded especially during distribution phase to protect the public health.

32. Metallurgy of Erosion of Under Water Parts in Hydro Electric Projects. ***D.B. Goel (3rd International Conference on Silting Problems in Hydropower Projects, 27-28 February 2008, New Delhi, India, pp. 1-12)***

This paper describes the various metallurgical aspects related to silt erosion in under water parts of hydro electric projects. The metallurgical parameters affecting erosion primarily are (i) composition of target material, (ii) cast structure, (iii) metallographc structure, (iv) mechanical properties and the (v) heat treatment practice. Among the various mechanical properties, the tensile toughness and work hardening tendency are observed to be the most important parameters controlling erosion resistance of a target material. The 13/4 martensitic steel, currently being considered as the most suitable material for under water parts, poses difficulty in repair welding of damaged components. It is now believed that suitable nitronic steels need to be developed for better weldability and erosion resistance. Work on a nitronic steel carried out it IIT Roorkee has revealed that this steel possesses better erosion resistance than the 13/4 steel.

33. Assessment of Sedimentation Pattern and Frequency of Flushing for a Small Reservoir – A Case Study. ***V.G. Bhave, Neena Isaac, P.B. Deolalikar (3rd International Conference on Silting Problems in Hydropower Projects, 27-28 February 2008, New Delhi, India, pp. 15-28)***

Reduction in storage capacity of the reservoir and inflow of sediment into the water conveyance systems are two of the main problems faced during development of hydropower projects in recent years. The flow velocities in river upstream of dam are reduced due to storage of water. As a result, the sediment transport capacity is reduced and sediment is deposited in the reservoirs. Prediction of sediment distribution in reservoirs is essential in feasibility studies and during planning stage for design of various components of new projects and for performance assessment of existing projects. Several methods including empirical and numerical simulation models developed for prediction of deposition pattern in reservoirs are reported in literature. The commony adopted approach of long-term simulation over 25 to 50 years is suitable for reservoirs having storage capacity much larger than the average annual sediment inflow. The criteria to be adopted for reservoirs with smaller capacity and large sediment inflow rate as in case of run-of-river power generation projects should be simulation for short term periods. The common practice is to restore the storage capacity of reservoir by hydraulic flushing/sluicing. In such cases, prediction of flushing frequency is important for estimating loss of revenue due to shutdown for flushing of sediment. Case study for prediction of sedimentation profile and flushing frequency of a reservoir for Tapovan Vishnugad Hydro Electric Project across river Dhauliganga is presented.

34. Sedimentation in Mangla Reservoir – Effects on Power Generation System and Mitigation Measures. ***Syed Muhammad Mehar Ali Shah, Graham Thompson (3rd International Conference on Silting Problems in Hydropower Projects, 27-28 February 2008, New Delhi, India, pp. 29-35)***

Mangla reservoir is the second biggest reservoir in Pakistan. It was constructed in 1967 as multipurpose dam project with priority for irrigation. It has a live storage of 5.34 MA which is used to transfer water from high flow season to low flow season. It has a power house with installed capacity of 1000 MW. Since its operation in 1967 it has lost about 20% of live storage. The pivot point of sediment delta has moved to about 4 miles away from the dam. The river intakes are in close proximity of the dam on left side of the main embankment. Sedimentation