

SealBoss® Case Study

Date of Completion: October 19, 2011 - Present

Location: Haryana, India

Contractor: Various

Supplier: S.N. Engitech Developers Pvt. Ltd.

Client: Abir Infrastructure Private Limited

Scope: Client is experiencing water intrusion through joints and perimeter of the Malana Hydroelectric Dam. Malana is a run-of-river facility that uses water from Malana Stream, a tributary of the Parvati River. Construction began in January 1999, and the project was commissioned in July 2001.

Main features of the project are:

- Diversion barrage at Elevation 1900 meters, designed to pass a probable maximum flood (PMF) of 600 cumecs;
- Head regulator with four gates for regulating discharge up to 26.25 cumecs;
- Four desilting basin tanks to exclude particles down to 0.2 millimeter;
- Gravity dam made of 23 blocks with an average height of 20 meters;
- Reservoir to store about 250,000 cumecs of water for peaking power;
- Intake structure to draw water into the headrace tunnel;
- 3.3-kilometer-long, 3.65-meter-diameter headrace tunnel;
- 915-meter-long, 2.2-meter-diameter penstock;
- Surface powerhouse; and
- 22-kilometer-long 132-kilovolt transmission line.

Repair Method: S.N. Engitech removed all paint by chemical/manual means from the joints and perimeter cracks and prepared the surface with an application of epoxy compound to the face of the substrate. The applicators drilled holes at a 45 degree angle into said joints and cracks intersecting the substrate half way through thickness. Spacing of the ports was 3 packers / meter. SealBoss® 1510 and SealBoss® FlexGel2 (tm) were then injected into joints and cracks forming a watertight polyurethane seal. The surface was then treated with a moisture insensitive epoxy compound and fiber glass cloth for final water tight finish.