

KAVŞAKBENDİ HIGH DAM AND HYDROELECTRIC CENTRAL ADANA, AKDENİZ, TURKEY

Dynamic Barriers

Problem

A potential rockfall risk from the slopes next to the Kavsakbendi high dam and Hydroelectric power plant has been identified and found as a potential threat for the safety of the structures and the staff. During the site visit of our technical engineers, the slopes above the high dam structure were investigated and several large sized rocks with a high potential to fall were identified.

Along the hydroelectric power plant, large sized blocks and debris materials which were moved especially during the rainy season were detected. Both slope areas were endangering the health and safety of the structure and staff below.

Solution

Due to the above mentioned situation, the high dam structures were protected with a passive drapery system. The drapery material was designed as a 6x8 double-twisted wire mesh fabricated by 2.7mm, galvanized wire.

For the protection system of the hydroelectric power plant however, a 1000 kJ rockfall barrier has been installed due to the location of the slopes and dynamics of potential rockfall materials. As per the static analysis and energy calculations, the barriers will prevent 2-3 m³ big rocks and/or debris to fall onto the power plant structures.

For this project, a total amount of 9.100 m² area has been covered with wire mesh. At three different locations rockfall barriers were installed with a height of 4m and a length of 180m with a totally covered area of 720 m².

Client: ENERJİSA ENERJİ ÜRETİM A.Ş.

Designer / Consultant: MACCAFERRI TURKEY

Contractor: AGE İNŞAAT VE TİC. A.Ş.

Products used (Qty.)

- Dynamic barrier RB 1000	720
- Steelgrid	15.000 m ²

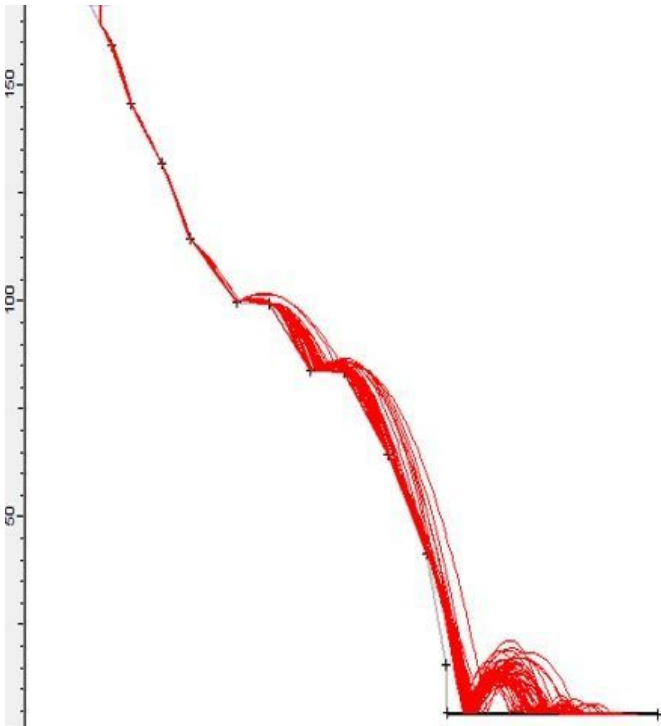
Date of construction: 04/2013 - 06/2013



Rockfall protection at the Hydroelectric Power Plant site



Rockfall protection at the Highdam site



Rockfall Barrier Analysis and application on site