HYDROELECTRIC POWER PLANTS AS A SUBJECT IN THE RE-USE OF INDUSTRIAL HERITAGE

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Abstract.

Changing technologies in the energy production sector imposes a pressure on historic electric plants which are specialized buildings / structures of industrial heritage. In comparison to other energy production plants, hydroelectric plants have lower operating expenses, longer service lives and higher efficiency. Still, there is an economic life for each hydroelectric plant also. In the USA, the economic life of a hydroelectric plant is defined to be 100 years, but FERC (Federal Energy Regulatory Commission) requires the certificate of a hydroelectric plant in the USA to be renewed in 30-50 years. In Turkey, the standard economic life of a hydroelectric plant is calculated to be 50 years.

A large number of electric plants in Turkey were built in 1950's. Therefore, although they are still functioning, theoretically they are at the end of their efficient lives. However, if their cultural properties are neglected, these structures and buildings will be under the threat of either being pulled down or abandoned completely after their industrial productivity and economic lives are over.

In this context, the necessity to consider the status of the hydroelectric plants built in the 20th century, will be an issue on the agenda of heritage conservation in Turkey in the near future. Beyond the evaluation of engineering and industrial productivity, it is an important issue in terms of our industrial heritage, regarding these buildings and structures: to specify the criteria for their cultural evaluation, to consider possibilities of conservation of these plants and to define measures and principles of approach. Therefore, within the study, strategies will be developed for the conservation and reuse of hydroelectric plants, through the evaluation of the experiences derived from different examples in various countries.

Keywords: *Hydroelectric plants, industrial heritage, architectural conservation, reuse, energy facilities.*