

Industrial techniques which used to eliminate erosion corrosion in heat exchanger tubes

Bahram Borooghani*, Sadeq Hooshmand Zaeferani

Abstract

Shell and tube design is the most usual type of heat exchangers in oil refineries and other large chemical processes. Due to their applications, there are various failures that may occur in these equipments. One of the most common failure reasons is erosion/corrosion problem in the tube section. Different factors affect this type of corrosion such as: particle size, flow velocity, flow direction and turbulence. Several researches have been carried out to eliminate or control erosion/corrosion in heat exchangers. Efficiency of different proposed methods are improved if the major parameters connected with erosion are carefully determined. Among of proposed techniques, it is recommended to use the method that is consonant with equipment situation and its application. It is also necessary to assist on economical aspects and select a technique that is not expensive. This paper discusses various techniques that are meant to remove or control erosion/corrosion in tube section of heat exchangers. Moreover, roles of various parameters and their solution procedure is investigated.

Keywords: heat exchanger, erosion corrosion, tubes