

عنوان مقاله:

Identification, evaluation and prioritization of hazards caused by high voltage power towers in urban areas

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خلاصه مقاله:

In recent years, industrial advances in human societies have led to the rapid growth of electrical technology and its production and transmission, and this has led to an increase in power networks and the use of high voltages. While the energy from a high voltage power tower is not visible or palpable, it also has effects on human health and even the environment, depending on the intensity of the electromagnetic fields generated and the duration of exposure and human distance from these energy sources. It has a life that is sometimes very destructive. Therefore, the purpose of this study is to identify and evaluate the hazards caused by high voltage power towers in residential areas in order to prioritize and manage hazards to reduce or eliminate them. Therefore, at first, the power transmission process, equipment used in it and the safety, health and environmental hazards resulting from it, were identified and evaluated by the parameters of the Failure Modes and Effects Analysis (FMEA). Also, considering that one of the most important problems in the vicinity of residential areas with high voltage power transmission lines is the effects of magnetic field beams created around it, in order to determine the intensity of the magnetic field, 3D EMF TESTER device was used. Finally, the identified risks were scored based on the parameters of the research method and RPN was calculated for each. Then, with the help of SPSS software, the level of risk was calculated and the identified items were prioritized and analyzed based on it. According to the results, the highest RPN values were related to health risks and all risks in this group were in emergency situations.

کلمات کلیدی:

High voltage power transmission lines, Risk Assessment, Electromagnetic field, RPN

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