

EVALUATION ON THE IMPACTS OF DAMAGES TO HAZARDOUS FACILITIES IN TEHRAN BY POTENTIAL EARTHQUAKES

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Tehran is located in a seismic prone zone in Iran and has experienced many destructive earthquakes in its history. Considering the vulnerability and distribution of hazardous facilities in Tehran, it is predictable that during an earthquake, these facilities may experience severe damages. These damages not only may cause considerable loss, but also may induce secondary hazards (due to fire, explosion, etc.) that may increase damages and casualties in their surrounding urban fabrics.

In this paper the potential impacts of such damages will be presented and discussed. For this purpose, at first the location of some hazardous facilities (including gas stations, Tehran Oil Refinery and some other facilities) have been studied and mapped on appropriate scale for making necessary analysis, as shown in Figure 1.

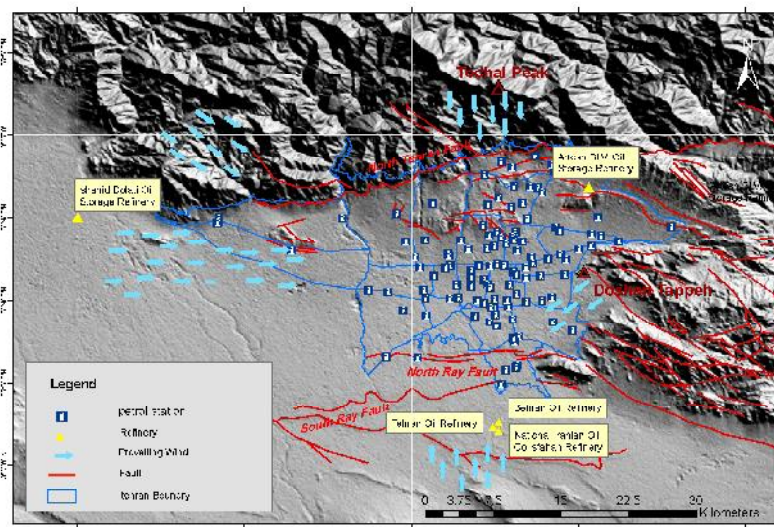


Figure 1. Distribution of some of the hazardous facilities in Tehran

Then according to the existing databases, the land uses around these facilities have been investigated. Furthermore, the population density and vulnerability of the built environment around these urban fabrics have been evaluated and the potential impacts of damages of hazardous facilities on their adjacent urban fabric have been evaluated. In the next stage the level of preparedness of local communities and response capacity have been studied. Finally by using the existing standards including (COMAH, 1999; SEVESO II, 1996), some guidelines have been presented for determining safe areas around these facilities. The results of this study can be used by urban planners and disaster management organizations in Tehran to increase safety and security of the city against potential earthquakes.

REFERENCES

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