Earthquake Risk Management System Topology of Bursagaz Natural Gas Network, Bursa, Turkey

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Turkey is one of the most frequent earthquake occurred countries in the world. When we look at earthquakes occurred last fifteen year, over 18.000 people has lost their lifes .Especially the cities have high population and big industry areas are a part of 1 st degree earthquake zone. Bursa is one of these cities has a naturel gas network that is vulnerable against earthquakes which causes a grave risk for residential and industrial customers and people live in city.
The seismic safety of gas distribution has been the major project topic of distribution companies in past decades. In case of earthquakes the companies aim to secure their networks and minimize possible effects /potential risks of earthquake such as fire and explosion on the pipeline. Within this context Bursagaz Distribution Company created a pilot project in Bursa city of Turkey. Bursagaz is the one of private gas distribution Company which has Earthquake Risk Management Project in progress and also it is the second largest gas utility company which leads the innovated projects of gas sector in Turkey. After Bursagaz SCADA Project completed in 2012, network control system has been smarter and this was an opportunity to build earthquake Risk Management as well.
In Bursa city if any earthquake occurs, earthquake risk management system that set up Bursagaz network integrated with SCADA System, will evaluate acceleration data and generates earthquake acceleration data for scada. Scada decides what it is going to do with these acceleration data. When the Scada system is triggered with the data, the earthquake scada scenarios will be performed. The necessary valves and gas stations will be closed automatically and therefore gas supply will be stopped in some areas.
In addition when shortly after earthquake is over, exact emergency procedures and scenarios will be performed faster by emergency intervention system and actions will be taken by crews according to their roles. As a result of this, the network will continue safe gas supply with minimum losses and citizens safety will be ensured.

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