

Siting in tectonically active regions. Two case-studies from gulf crossing in central Greece

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One approach in mitigating earthquake hazard is the study and evaluation of the faults and their displacements in potentially active regions, since the direct relation between low depth seismicity and active tectonics is generally accepted. This methodology was followed in the study of two major construction projects in Central Greece, namely the submerged tunnels of Amvrakikos and Maliakos gulfs.

The crossing of Amvrakikos gulf, which is under construction, concerns a region with a complicated geological structure and a particular tectonic deformation, as revealed by the study of the existed faults and the focal mechanism analyses of regional earthquakes. In the offshore section some small synsedimentary faults were located, while in coastal zone a series of normal faults striking NE-SW were mapped. The last, which affect the plioleistocene deposits, are characterized as potentially active faults.

The Maliakos gulf crossing, which is in the stage of final study, is located in a region undergoing remarkable geomorphological changes and presenting intense neotectonic movements and strong earthquakes.

Main offshore faults have been delineated into deeper stratigraphic horizons, while in the superficial ones the faults are minor. The most significant faults, in coastal zones, with a WNW-ESE direction, which formed the nearby neogene and quaternary basins, are considered as active.