

Defects of REGULATORY GUIDE FOR REVIEWING SEISMIC DESIGN OF NUCLEAR POWER REACTOR FACILITIES(1981) of Japan

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At least there are two defects in REGULATORY GUIDE FOR REVIEWING SEISMIC DESIGN OF NUCLEAR POWER REACTOR FACILITIES(1981) of Japan.

One of the defects is that the way of the dynamic analysis is not provided. So that the simulation that regards the difference of arrival time (the difference of the phase) of seismic wave between opposite ends of a facility is not required. I think the simulation of the dynamic analysis should regard the difference of arrival time (the difference of the phase) of seismic wave of the base rock under the nuclear power reactor facility.

The other defect is the required earthquake-resisting capacity is only to the historical earthquake, to the earthquake that would be caused known active fault, and to the magnitude 6.5 short-distance-earthquake (10km distance from epicenter). But no historical earthquake and no active fault correspond to the 2000 Western Tottori Earthquake had been discovered at least before it occurred, and the 2000 Western Tottori Earthquake was magnitude 7.3.

But after the 2000 Western Tottori Earthquake, in Kusumi near the epicenter of the 2000 Western Tottori Earthquake, Daiei Inoue investigated the fault which was discovered by his air-photo interpretation and concluded that it was an active fault, and there was a strong possibility that it had moved on the 880 Izumo Earthquake.

But the conclusions of Daiei Inoue(2001) is not true. For the damage of the 2000 Western Tottori Earthquake was mainly occurred in Tottori prefecture. And the report of damage of the 880 Izumo Earthquake was only of Izumo district (eastern Shimane prefecture). And even Takahiro Hagiwara et al.(1982) which is the authority of Daiei Inoue et al.(2002) never permits epicenter of the 880 Izumo Earthquake to be in Tottori prefecture.

And for lack of the premise of C14 analysis of Daiei Inoue, his C14 analysis has no meaning on the estimation of the age of the last activity of the fault. For the difference in level between the top of granodiorite was not caused by movement of the fault but caused by differential erosion. For the fault line of the sketch of SE-wall of the trench is not on the border of the difference in level but in the thin basalt dike(see Fig,10 of Daiei Inoue et al.(2002)).

Inoue D., 2001, CRIEPI's Annual Research Reports 2001, p.106-107

http://criepi.denken.or.jp/en/e_publication/a2001/01seika53.pdf

Hagiwara T. et al., 1982, Kojishin, Tokyo-University press p.142-174

Inoue D. et al., 2002, Zisin vol.54, p.557-573