

This study focused on the seismic behavior of ductile and brittle pipelines that follows the Korean design criteria. Since there is not sufficient historical data available for pipelines damaged by seismic loading in Korea, the author examine the confidence level of repair rate (RR) provided by HAZUS, which was developed based on US design criteria and US earthquake historical data. The finite element analyses were performed to compare stresses and strains mobilized in pipelines using representative soil and pipe parameters for both Korean and US. The presentation was adequate and there are some minor issues must be addressed as follows:

01: RR appeared in Page 392 Line 26 but not in the previous section. Maybe expansion of 'RR' should be addressed first.

02: In Page 393 Line 1, the PPV may be PGV.

03: Please double check the pipeline diameter in Table 2. The  $D \geq 100$  mm in second row may be  $D \geq 1000$  mm.

04: In Table 4, loose, medium dense, and dense sand has an identical unit weight of  $19 \text{ kN/m}^3$ , which typically differs from what is found in practice. Although unit weight of the sand may not be a sensitive parameter for this study, short discussion of having an identical unit weight for different type of sand will be helpful.

05: In Page 395 Line 22, it is stated that the mobilized stress in pipelines linearly increases as ground stiffness decreases. However, Fig. 6 shows that the mobilized stress in pipelines for clay is smaller than that for loose sand. Thus, the above statement (Line 22) hold true only for dry sand. As shown in Fig. 6, clay lies between loose sand and medium dense sand, and further discussion may necessary. Similar trend are also shown in Fig. 8 and statement in Page 396 Line 14 needs a modification.