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Thermal Stratification by Steam Condensation of RCIC in Suppression Pool KOJI OKAMOTO, DAEHUN SONG, NEJDET ERKAN, The University of Tokyo — In Fukushima-Daiichi NPP accident, the RCIC operated more than a couple of days. The steam condensation at the supression pool may cause the thermal-stratification. The phenomena may affects on the capacity of RCIC and also the progression of the event in case of Severe Accident. To investigate the mechanism of formation of thermal stratification and the effects in suppression pool, down-sized SP model was designed and time resolved temperature and pressure data were acquired. During the experiments well-established stationary thermal stratification was detected since the start of steam injection. PIV was carried out to figure out the natural circulation due to the buoyancy and the mixing interface, which decides the pressure suppression capacity of suppression pool (SP). Numerical simulation was carried out with ANSYS CFX 14.0 in single phase and validated with experimental data.

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