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Utilization of Earthquake Early Warning and On-Site Strong Motion to disaster mitigation for High-Rise Building

Tomohiro Kubo^{1*}, Yoshiaki Hisada¹, Masahiro Murakami¹

¹Kogakuin University

The building manager must make not only the fire scheme for the large-scale building such as a high-rise building, but also the disaster prevention plan, due to Fire Service Act gone into effect on June 1, 2009. However, many high-rise buildings do not have the disaster prevention plan and system.

After a major earthquake, the about 10 security officers have to manage to rescue trapping people in the elevator and respond to the people in the building, gather the damage information of the building.

According to the above problems, we developed the Initial Response Support System for High-Rise Building using Earthquake Early Warning and On-site Strong Motion Data in order to carry out the initial response during a major earthquake. Furthermore, we applied the system to a high-rise building and studied the utilization of the system based on the PDCA (Plan Do Check Action) cycle.

As the result of the disaster drill, we found many people ignored the earthquake early warning announcement and did not avoid from the hazardous area and material. Therefore, we disseminate the response when people heard the earthquake early warning and confirm the necessity of the public outreach and education to utilize the information and warning.

Keywords: Earthquake Early Warning System, On-Site Strong Motion, Earthquake Disaster drill, Initial Response Plan