Earthquake Early Warning Disaster Mitigation System for Protecting Semiconductor Plant in Japan

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Abstract

Japan is an earthquake-prone country. Since 1995, major earthquakes have caused widespread damage in Kobe, Miyagi, Niigata. The consequences for businesses include not only the direct impact, including injuries to employees and damage to facilities, but also the indirect costs of interruptions to manufacturing activities. It is not possible to avoid earthquake in Japan.

A particular problem for semiconductor factories is the risk that earthquakes will result in leaks, corrosion or fires caused by the special hazardous gases and chemicals used in manufacturing processes. The continuity of manufacturing operations can also be seriously affected by damage to expensive and sensitive fabrication equipment.

Miyagi Oki has been developed with REIC a disaster mitigation system for industrial plants based on the use of earthquake early warning technology. Advance warning of approaching shock waves would provide time for a variety of actions to be taken in factory.

Followings actions will be realized by EEW introducing.
1. Ensuring that employees are in safe situations or evacuated to safe locations.
2. Prevention of secondary accidents through termination of supplies of special hazardous gases and chemicals.
3. Minimization of damage to equipment and products through shutdown of manufacturing facilities.