FirePro.

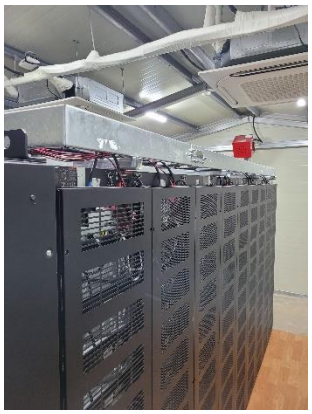
FirePro Fire Extinguishing Case in Energy Storage System (ESS)

(Solar Power Plant in South Korea)

Introduction

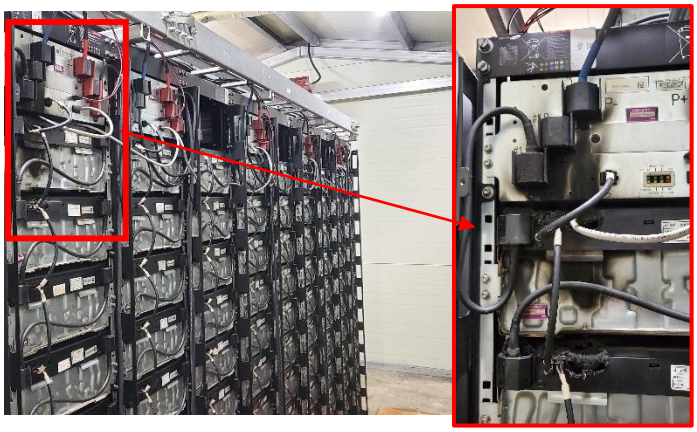
Two ESS rooms were used to store energy generated in a Solar Power Plant in Korea. The ESS were constructed in January 2022, and each had a capacity of 1506.8 KW each. The size of each ESS was 3m x 6m x 2.8m, and two FP-4200 FirePro generators were used to protect each room. Two smoke and two heat detectors were installed in each ESS room, in connection with the local control panel.





Fire Incident

On February 26th, 2022, a fire incident occurred inside one of the ESS rooms. The fire originated from the battery control part (PCB component connection point) due to heat inside the plastic module case. The fire was promptly detected by the smoke and heat detectors located above the battery modules, and the FirePro condensed aerosol generators were activated.




Results

FirePro agent successfully extinguished the fire on the battery control parts, preventing it from spreading to the battery cells inside the modules, thus preventing the occurrence of thermal runaway. The fire was contained and affected only the battery control parts, with no propagation to adjacent components. Thanks to the exceptional and prompt performance of the FirePro systems, the solar power ESS room was effectively protected, and no significant damage occurred to these ESS systems. FirePro agent is an efficient and effective solution for protecting against fires originating from electric and electronic components, making it an ideal choice for ESS applications where fires need to be extinguished at an early stage before spreading to the battery cells.