



Session 2C:
Liquid Cooling for Data Centers

Data centers employing liquid cooled servers require modifications to the fire protection design approach. This session highlights the growing adoption of liquid cooling technologies and what changes are occurring in fire protection as a result of the application. Key topics include the impact of cooling systems on smoke detection, the integration of backup power systems such as UPS and energy storage solutions (ESS), and the implications of different battery chemistries like lithium-ion and VRLA. The panel emphasizes hazard analysis and design effects, stressing the importance of aligning fire protection measures with evolving data center architectures and energy strategies. Additionally, the presentation addresses practical concerns such as managing stacked generators and fuel tanks outside buildings and adapting fire suppression systems to accommodate liquid cooling infrastructure. It underscores the need for advanced detection technologies, risk assessments, and compliance with NFPA standards to mitigate fire risks in these complex environments. The session provides a comprehensive view of current trends, challenges, and best practices for ensuring safety and reliability in next-generation data centers.

Lee Kaiser
Orr Protection



Lee Kaiser is Vice President of Engineering and Training for Orr Protection—a national fire protection contractor focusing on mission critical facilities. Lee is a professional engineer in both fire protection and mechanical engineering with licenses in several states. He leads the system design and technical training functions for Orr Protection. He is the immediate past-chair of NFPA 75 Technical Committee on Electronic Computer Systems, a principal member of NFPA 200, 418, and 915. He is chair of the Fire Suppression Systems Association Technical Committee and on the FSSA Board of Directors. Lee is from Louisville, Kentucky.