

McMicken Battery Investigation

April 27, 2020 Update

Background

Around 5 p.m. on April 19, 2019, there were reports of smoke from the building housing the energy storage system at APS's McMicken site in Surprise, Ariz. Hazardous Material units and first responders arrived on scene to secure the area. Approximately three hours after the reports of smoke and shortly after the door was opened, the site experienced a catastrophic failure. Injured first responders were transported to area hospitals. An investigation led by APS, with first-responder representatives, the system integrator, manufacturers and third-party engineering and safety experts, is underway to determine the cause of the incident.

The investigation is following a methodical and thorough process to determine exactly what happened. While we have shared various learnings along the way, the pace of activity and timing for completing the investigation are secondary to safely conducting quality work. Periodic updates will be posted to report on the investigative process and progress being made. Until the investigation is completed, the parties involved cannot speculate about the cause of the incident. While the recovery of the first responders injured on scene during the incident remains top of mind for all involved with the investigation, their progress and status will not be included in these updates.

APS and the investigation team intend to share what they can of the ultimate findings, especially to the extent they are helpful to the industry and response agencies.

Investigation Update

- The battery modules believed to be where the event originated were thoroughly examined by a collaborative team of experts who have derived several key findings about the incident.
- As a result of evidence-gathering and modeling efforts, the APS investigation team met and arrived at the following:
 - A single rack of modules was compromised by the initiating thermal event; the fire did not spread to surrounding racks.
 - After the initiating event, the fire suppression agent was discharged.
 - The compromised modules emitted a mixture of explosive gases, which built up in the container.
 - The battery modules did not themselves explode; the gas mixture reached certain concentrations, came in contact with an unidentified ignition source and subsequently exploded.
- A report summarizing the findings and cause of the incident is being finalized and is expected to be available in the next few months. In parallel, APS is working with suppliers, consultants and engineers to construct new requirements for retrofitting existing battery systems and for use in procuring new storage systems in the future.