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# TOOLBOX TALKS

## “Just Reset It”

Many investigations of incidents have lack of training or need re-training as part of corrective action.

Recognizing field experience is a great way to learn, learning on your own *can be dangerous*.

During the operation of a solar site, there were AC (Alternating Current) breakers for the Power Conversion Station (PCS/Inverts) that had multiple repeated trips. Each time, there was a single technician that was dispatched to investigate and restore the system to operation. Since this was a common issue during the summer months, the technician was under instruction from management to immediately restore the system to operation and would typically reset the system and wait, if the system would trip again, the technician would rest the breaker. This could be up to several times per day.

Since the system had some OEM (Original Equipment Manufacturers) issues with the inverters, there were assumptions it was the inverter issue that was causing the breakers to trip. To compound the issue, there was additional reassures on leadership and the site team to keep the site online due to high PPA (Power Purchase Agreement) rate and summer grid reliability.

A new site manager then instructed the technician to stop repeatedly resetting breakers. Upon trip, the technician was to only reset the breaker once and if the breaker tripped again that day it was to remain offline. After engineering review, there was an issue with the design and rating of the AC breaker that caused it to trip specifically during high heat in the summer months.

Once the breaker issue was addressed, the inverter failure rate also declined. The repeated cycling and “hard” shutdowns of the inverter were contributing to the failures of the inverter.

The technician and leadership were unaware of the proper procedures to reset the breakers, understanding the true root cause, and risks associated with repeatedly resetting or cycling breakers under high load. The technician was aware of the daily risk he was subjecting. The site performs much better following the correct actions and the operational financials improved.

The biggest lesson learned was the breaker operations, resetting, proper investigation, and understanding the limitations of equipment. One major Human Performance error is not being trained on the work or equipment. Proper training is not only essential to safe operations, but also the right thing to do prior to “just resetting it.”

**Have you ever just done an action due to “production pressures”?**

**Do you understand the “why” behind each of your actions?**



Photo credit: AES