

# Managing High Levels of Variable Generation in Distribution Circuits



## Why are distribution solar plants a problem for voltage regulation?

The rapidly varying nature of solar and wind can cause upwards of fifty large power fluctuations in a single day. This variability outpaces existing utility distribution volt/var control systems, resulting in substantial voltage issues.

### Problems:

- Required construction of dedicated feeders
- Long interconnect times
- Premature wear of load tap changers
- Persistent power quality problems
- Mis-operation of line regs & cap banks

Variations in Solar PV Plant Output  
Actual Field Measurements – PV Solar Generation (MW)



