

Improved Fast Curve Setting Strategy

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- **Distribution Line High Fire Strategy**

Fast Curves are implemented in all electronic line relays and automatic reclosers on distribution lines that traverse high fire risk areas

- 1100 HFRA circuits total

- 900 station CBs currently have FCs

- 1100 automatic reclosers currently have FCs

The Fast Curve settings are enabled per System Operating Bulletin 322, under the following conditions:

- Red Flag Warning issued by the National Weather Service

- Fire Weather Threat declaration made by SCE Weather Service

- Fire Climate Zone declaration made by SCE Weather Service

- Thunderstorm Threat declaration made by SCE Weather Service

Distribution Line High Fire Strategy

Fast Curves were initially installed beginning in 2018 to provide faster tripping during adverse weather conditions

The goal is to reduce the overall fault energy (I^2t) by reducing the relay operate time during a fault

The strategy was recently reevaluated to determine if improvements could be made to –

- Reduce Fast Curve pickup to obtain better circuit coverage

- Add time delay to provide coordination with downstream fuses

New strategy approved by SCE Senior Management Feb/2022

Existing vs New Fast Curve Settings

Existing

Station Relay

Phase Pickup: 4x phase min trip

Phase Delay: 0 or 2 cycles

Ground Pickup: 4x ground min trip

Ground Delay: 0 or 2 cycles

RAR Relay

Phase Pickup: 5x phase min trip

Phase Delay: 0 cycles

Ground Pickup: None

New

Station Relay

Phase Pickup: 2.3x phase min trip

Phase Delay: 2 or 4 cycles

Ground Pickup: 5x ground min trip

Ground Delay: 2 or 4 cycles

RAR Relay

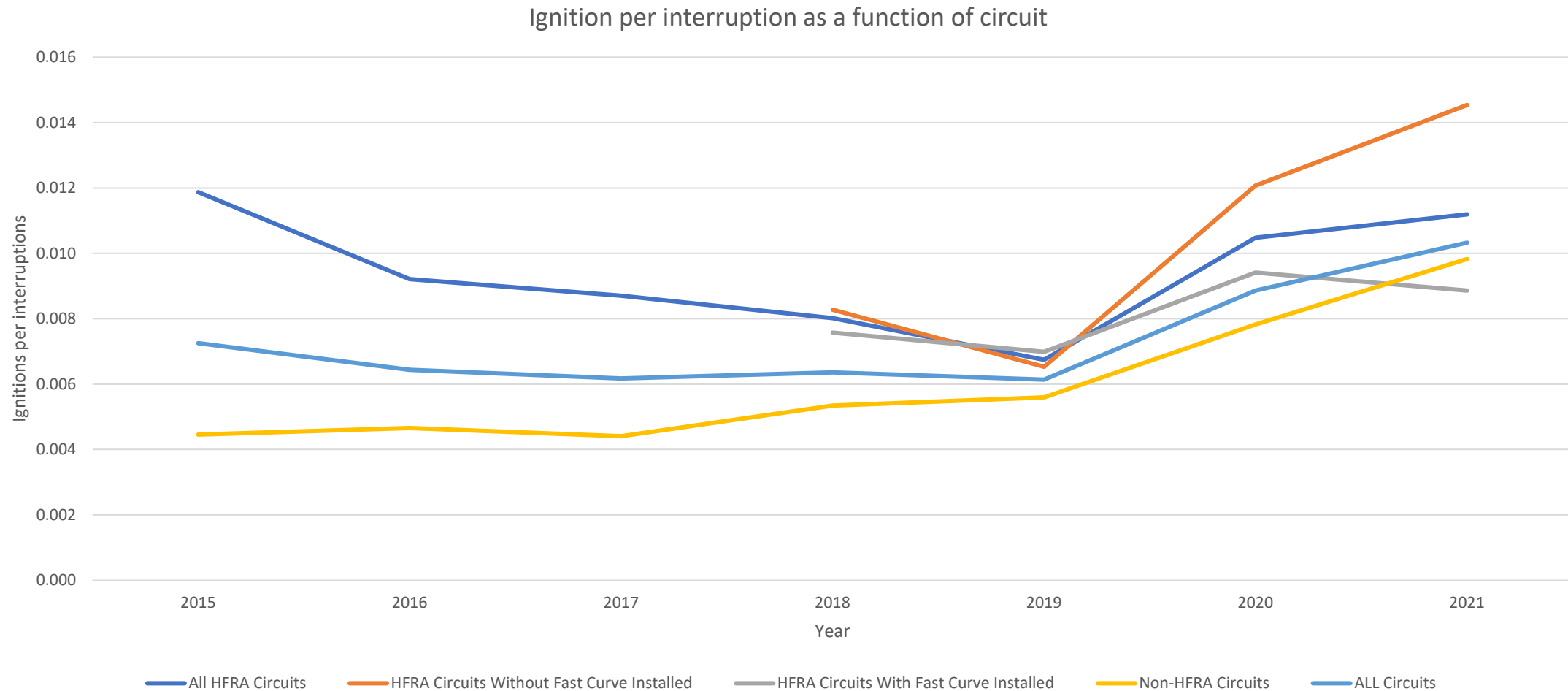
Phase Pickup: 2.3x phase min trip

Phase Delay: 2 or 4 cycles

Ground Pickup: 5x ground min trip

Ground Delay: 2 or 4 cycles

Fast Curve Ignition Reduction



Of the approximately 100 Fast Curve Trip operations complied from 2020, none resulted in reportable ignitions!

Questions?