

  
Electrical Engineering Australia



APEX 2013 – Southern  
Renewable Energy & Future Grids  
4<sup>th</sup> September – Copthorne Hotel, Christchurch

**DESIGN+ENGINEERING**  
Dennis Keen – Sales & Technical Project Manager

**The Ground Fault Neutralizer (GFN)**  
“Not that Flash?”

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## Overview

- Arc Flash and Common Faults
- The Conventional Approach
- The Damage
- The Issues
- Resonant Earthing Overview
- The Ground Fault Neutralizer
- The Benefits
- The Synergy
- Conclusions

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## Arc Flash & Common Faults



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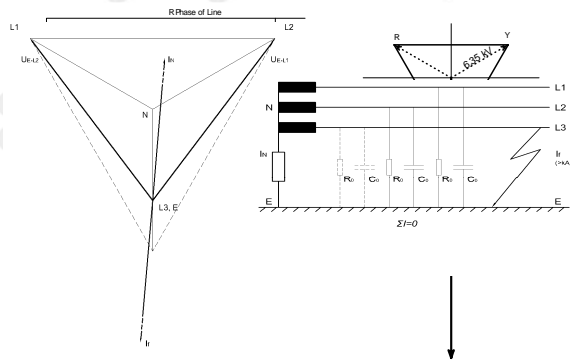
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## The Conventional Approach

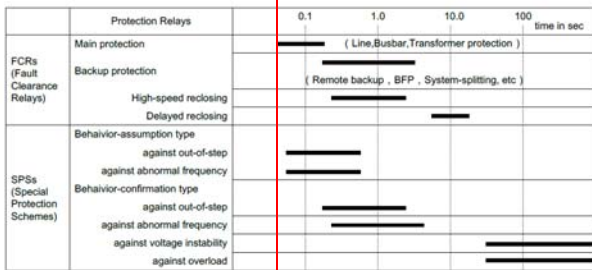


## Speed of Operation of Protection



Example fault clearing times for various kinds of protection relays\* time for operation of CBs is in addition to this.

60ms

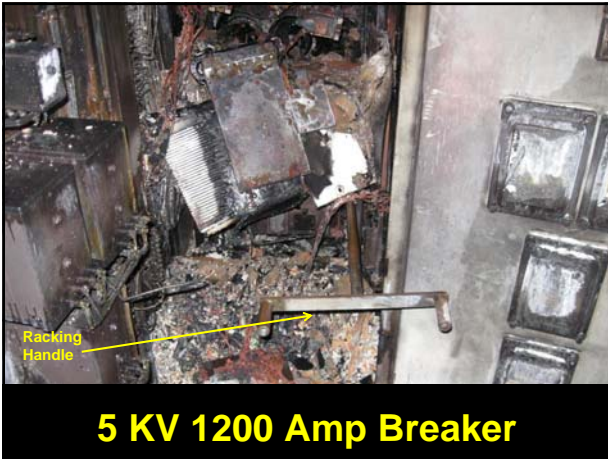


\* Ref: CIGRE B5.19 TB432-Oct. 2010; Protection Relay Coordination

## The Damage



With Conventional Protection only!



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**40  
Cal/cm<sup>2</sup>  
Arc  
Flash  
Suit**

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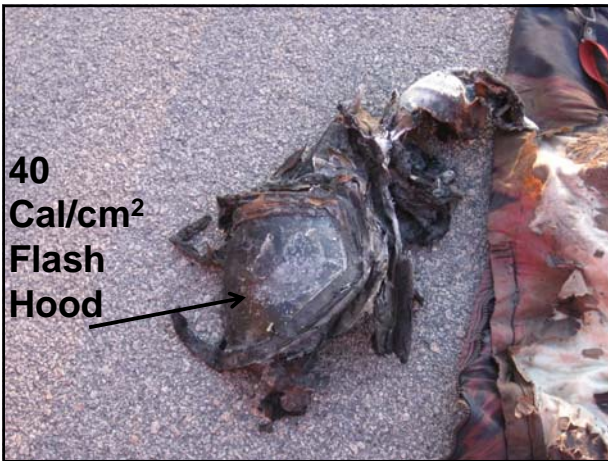
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**40  
Cal/cm<sup>2</sup>  
Flash  
Hood**

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