Arc Fault

UL1699B
Task Group 1

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Solar America Board for Codes and Standards

Problems to be tackled:

1. It was discovered that the old method of testing resulted in listed products that **did not detect some arcs** in real world conditions

2. And, some listed products suffered from unwanted **nuisance tripping**

Objectives:

- Redefine test method and fixture
  (progress summarized here)

- Develop method to test unwanted tripping
  (not addressed yet)

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Guidelines

- Test method and setup must represent worst case real world conditions

- Must be agnostic to AFCI detection method

- Must be repeatable and consistent

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Existing Arc Gap

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Proposed Arc Gap

- More representative arc signature
- More repeatable
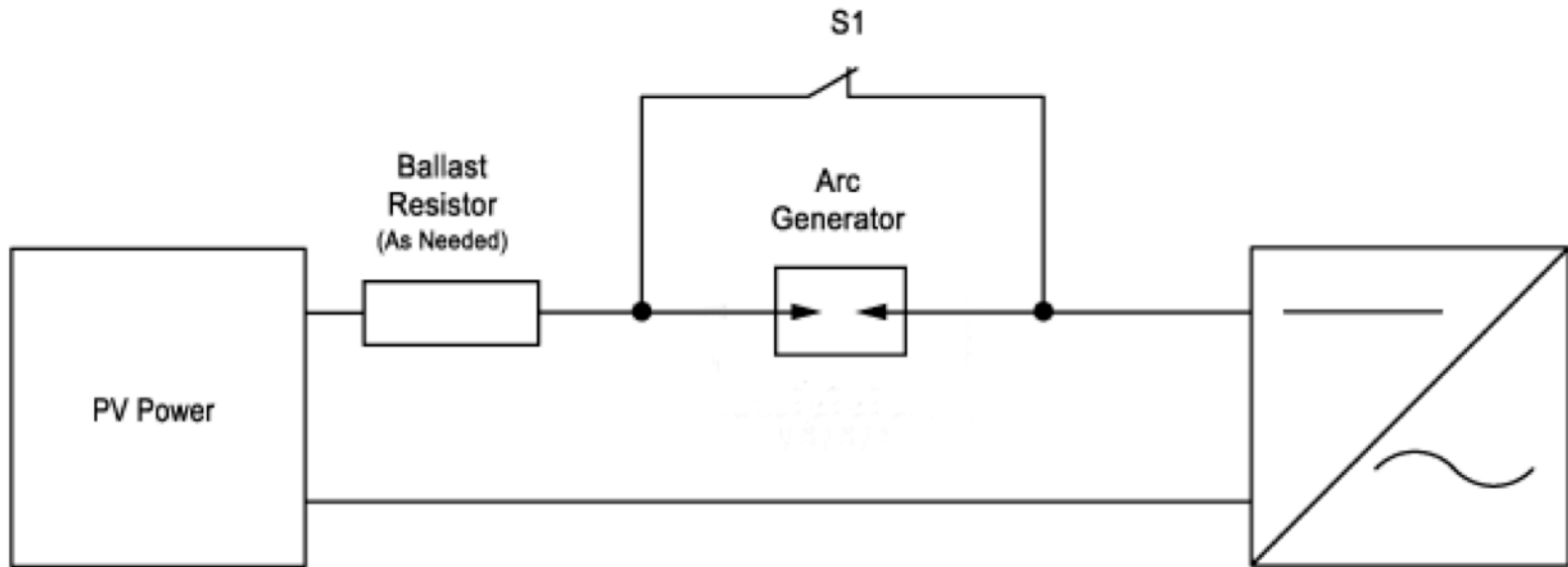
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Proposals

- Two test methods

  - Slow pull-apart – *to simulate separation of conductors/ connectors over time*

  - Step apart – *to measure tripping times*

- Two arc locations

  - Next to AFCI detector - *legacy*
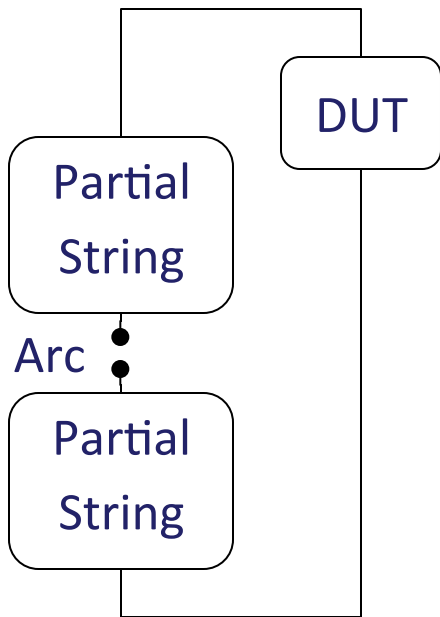
  - Middle of DC source – *worst case*

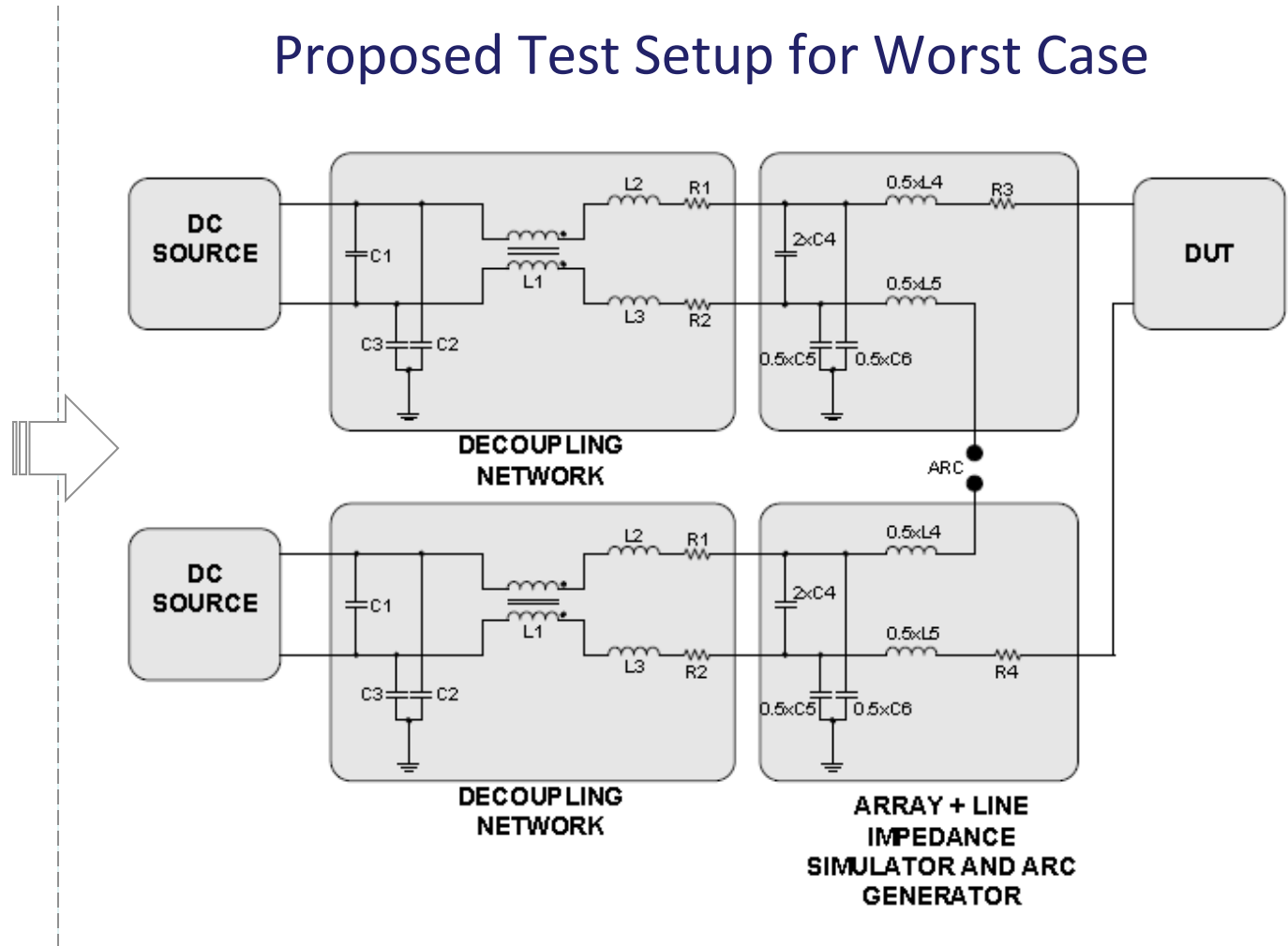Solar America Board for Codes and Standards

Existing Test Setup

- Arc generated close to the AFCI detector – not worst case

Concept

Proposed Test Setup for Worst Case

Questions?

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