

## **Best Practice for Component Reliability Assessments Applied to Nuclear Instrumentation**

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### **ABSTRACT**

I have been asked by Corporate Risk Associates to research methods for predicting component reliability. These components may be instruments or devices which contain multiple electronic subcomponents. This report includes a discussion of the different possible methods, their advantages and disadvantages and the circumstances under which they are best used.

The report considers the use of Bayesian analysis and Safety Integrity Levels (SILs) and also discusses methods appropriate for assessing reliability in relation to a radiation detector.

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