Paper Title: Reliability Engineering Analytics Explained

Link: https://www.pemac.org/reliability-engineering-analytics-explained

Abstract:

Reliability Engineering is an established science with rigorous concepts involving mathematical and statistical methods and those can often appear daunting for some Maintenance or Risk Practitioners. It is the role of the Reliability Engineer to master, explain and apply those concepts as well as work with peers to make the correct decision(s) regarding the maintenance of operating assets or future design capabilities. Those decisions are crucial especially when it comes to the safety of frontline workers, capital investments or the preservation of the environment. This presentation essentially defines the role of the Reliability Engineer mainly in an Owner/Operator environment but also helps non-Reliability practitioners understand some of the basic tools used in this field.

The term “Reliability” is often generalized and not fully understood so this presentation helps clarify its definition and intent. Misinterpretation or incorrect calculations involving equipment life characteristics such as mean time to failure, bath tub curves or failure probabilities just to name few are covered in the presentation. Also explained, will be some of the most commonly used concepts in Reliability Engineering calculations as well as potential pitfalls encountered such as oversimplification, applying incorrect analytical approaches or mixing terms such as Availability and Reliability. The presentation will also define the “true” and “value-added” role of Reliability Engineering in an industrial environment and how it productively interfaces with other teams involving Maintenance Engineering, Risk Management or Spare Parts Management.

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