People and Processes

The Aladon Network
THINK AHEAD

Reliability Centered Design (RCD)

RCD

When the detail design, procurement, installation and commissioning are complete, organizations then realize whether or not their business objectives are met. Throughout the design and project delivery process, the focus is "on time" and "on budget". Whether or not actual business objectives are met is only measured at the end of the project, sometimes after handover and startup. RCD considers these objectives from the start and avoid costly modifications and change orders.

Recommended Participants:

- Design engineers
- Operations
- Maintenance
- Asset owners
- OEMs
- Vendors
- Suppliers

Schedule of Activities:

- RCD Overview & Training
- Define business objectives
- Engineering Design
- Drawing
- Operating Context
- FMECA (RCA)
- Modeling
- Simulation Optimization

Prerequisites:

- 3 Day RCM2/3 Introductory Course

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Our RCD methodology involves all the stakeholders that will be involved in the life of the asset or facility - owners, stakeholders, designers, process engineers, operations, maintenance, vendors and equipment manufacturers. It does so by defining the business objectives for the new facility or asset right at the start and ends by simulating real life scenarios and optimization to ensure these objectives are met (with highest reliability and lowest cost).

The following steps are considered as part of our RCD process:

- Define business objectives (safety, environmental, operational, quality, etc.)
- Create baseline design required to meet user requirements (done by others)
- Define the operating context (create real life scenarios/operating conditions)
- Identify critical assets and systems (defined by business objectives)
- Perform FMECA on critical assets
- Collect asset reliability data and information
- Build reliability model and simulate base line design (using real life scenario)
- Review and optimize through alternatives and revised strategies
- Simulate revised options (if required)
- Submit final recommendations (ensure objectives are met)

RCD Outcomes and Benefits:

- Reliability based design leading to improved safety & environmental responsibility
- Facility/asset design meeting business objectives & stakeholder needs
- Improved inherent reliability & asset integrity
- Operating philosophy with matching failure management strategies
- Reliability build up from the lowest level components
- Maintenance program at startup
- Optimized safety and integrity with proper management of protective devices
- Lowest life-cycle cost for meeting business objectives (safety and production)
- Streamlined process