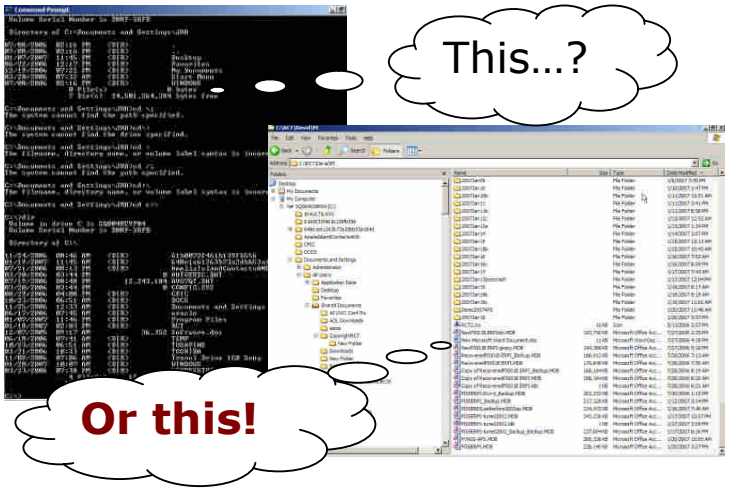
Design Basis – Simplified for Owners

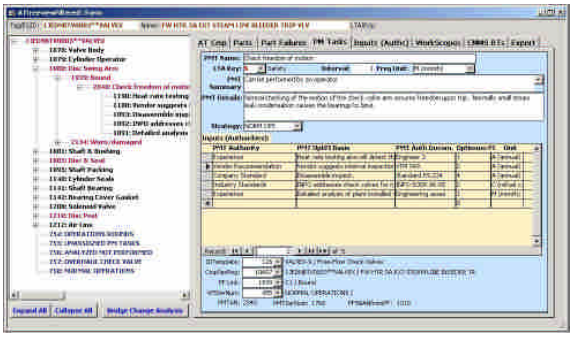


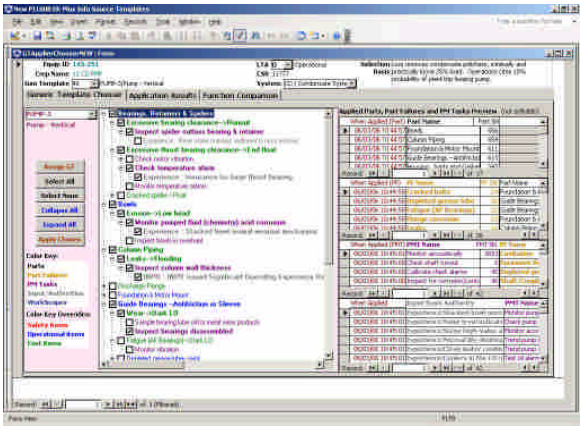
Automate control practices

Operational challenges occur day in and out –plants need parts – even new plants! Paper procurement is slow. Why saddle plants with outdated document methods? Who would give crews obsolete controls, manuals or hardware? Information is no different. Many tools support new units' operation. Production depends on reliable equipment. Equipment depends on parts. Developing clear parts requirements under Part 50 requires Structures, Systems and Components (SSC) FSAR Safety Analysis end use classification. Risk-informed PRA-based classification – the new method, or deterministic safety analysis – the traditional way, develop part treatments from the design basis (DB). End use identifies ways SSC affect DB safety event outcomes. SSC significantly affecting outcomes is classified *Safety Related* (SR). Part 50 Appendix B *special treatment* requirements apply to safety classified parts. DB accident consequences determine procurement special treatments like design control, receipt inspections, pedigrees… activities that insure performance. Engineers perform *dedication*, the process selecting special quality treatments. Dedication develops SR equipment procurement special treatment requirements.

What's the benefit?

Efficient procurement improves safety, lowering cost. From engineering DB accident scenarios, experts identify equipment failure consequences, identifying failure risks for SSC parts that influence safety. Thirty years of plant operations have accumulated volumes of accident analysis. Part failure risk analysis should be easily reusable on similar applications. PRA-based risk methods augment deterministic analysis, particularly for new designs. Basic methods remain the same: understand the SSC that cause risk, assuring their system functions.





Why the design basis source?

Analysis assures component parts meet system functional requirements. For a price, 10CFR50 Appendix B qualifications can be applied to all plant equipment, indiscriminately. Part 50 procurement is expensive, however. Completed analysis applies for the life-of-the-plant. Expensive first-of-a-kind procurements take development. Fortunately, they're infrequent. Once developed, extending analysis to different tags in similar applications leverages value. Reusing common analysis cost-effectively improves analysis quality, consistency and safety. Deterministically or PRA-derived, design basis determines special treatments. Special treatment requirements last the life of the plant. *Further, in principle, every analysis is done at least once – building the plant!*

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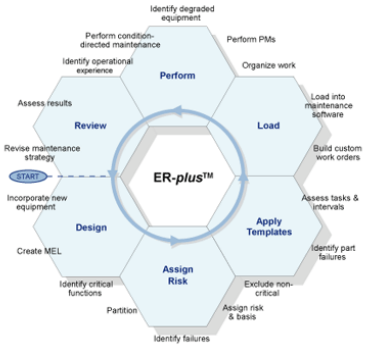
Reliability Tool: the Plant Owner's Manual



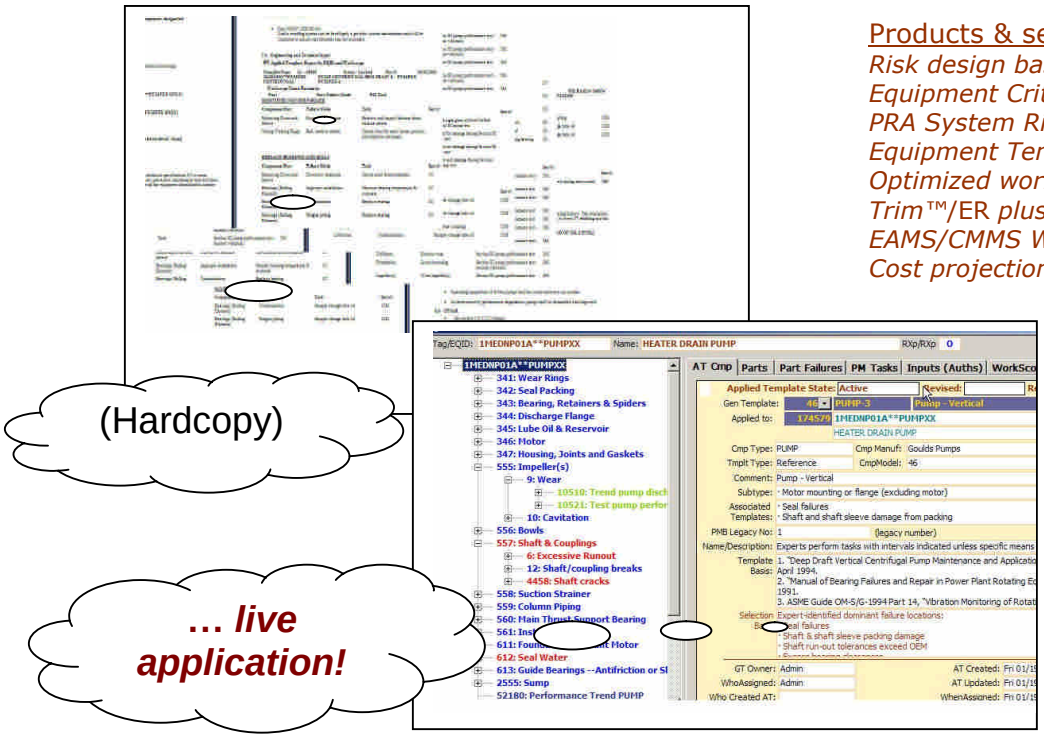
With new plant construction comes a design's basis – P&ID drawings, MEL, systems descriptions, vendor technical literature and other licensed design information. Special treatments are part – *providing an owner's manual*. CORE's copyrighted, patent-pending RCT software automates common equipment off-the-shelf template development for design basis application based on industry best practices, regulatory design basis, and supplemental operating experience. CORE's databases let nuclear professionals develop, evaluate, and apply design basis details quickly. Component libraries or experts quickly provide custom equipment templates. Additional details like technical papers, service descriptions, academic discounts and downloads are available at www.pmoptimization.com.

Plant reliability starts with the Design Basis. While utility regulation historically protected poor performers, loss of design basis shutdown some nuclear plants. Reconstructing design basis information adds tremendous costs. Economics powerfully justifies maintaining the design basis, for performance, safety and cost. Accurate, current plant information supports operations excellence.

Equipment Reliability Experts

CORE's design basis processes comply with codes, exceeding ANS, ASME and IEEE standards. CORE actively supports ANS Nuclear Facility Standards Committee, ASME's (Power Division) Reliability Availability and Maintainability (RAM), and the Society of Maintenance Reliability Professionals. Reliability exceeds INPO AP-913, *ER Process Description* and AP 928, *Work Control* through auditable compliance basis. CORE programs follow NEI 00-04, SSC Categorization Guideline (e.g., 50.69) and Regulatory Guide 1.201, Guidelines for Categorizing SSC in Nuclear Power Plants According to Safety Significance – guidelines for leading venders, as well as NRC, certifying new designs.

CORE's degreed, certified professionals carry years of nuclear maintenance experience. Most have professional licenses or additional proficiencies, like operations, project management or software application design. For more product & services information, visit www.pmoptimization.com. For professional or demo products, please call (303) 425-7408.



Products & services:
Risk design basis (DB)
Equipment Criticality
PRA System Risk
Equipment Templates
Optimized work & basis
Trim™/ER plus™ DB software
EAMS/CMMS WO integration
Cost projections