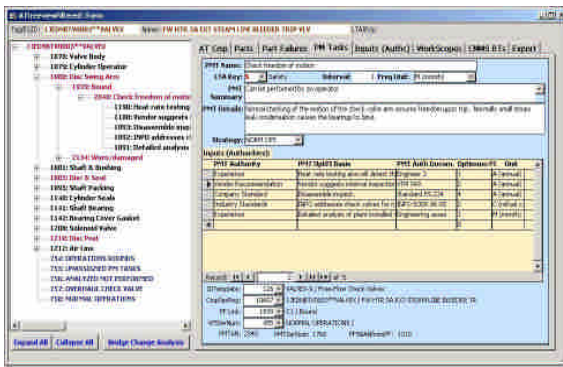
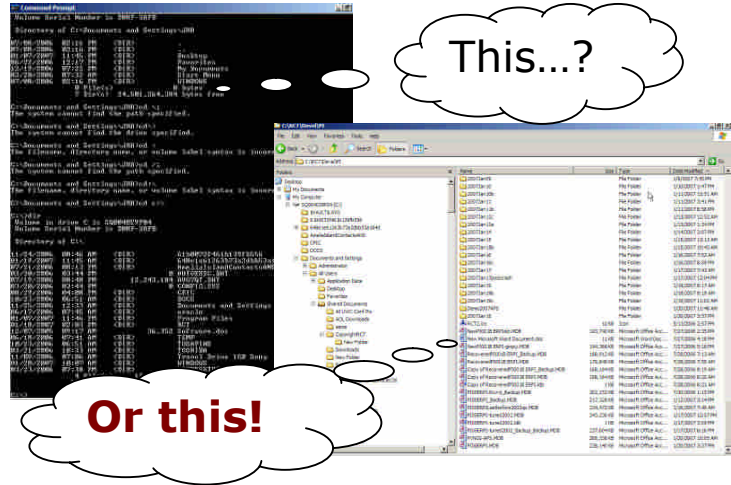


Design-Based Owner's Manuals

Simplify design bases

Functions designed for public health and safety require special assurance. Deterministic 10CFR50A or PRA establish design basis risks and SSC functional importance. By being available, SSC provide design basis safety functions. Maintaining the design basis assures special treatments translate into actionable nuclear activities (10CFR50B).

Historically, documents and drawings maintained designs. Today, tens of thousands of SSCs make relational database (RDB) methods necessary. RDBs develop SSC design requirement details from FSAR design bases. RDBs can trace SSC changes over plant life, reducing errors. For new construction, RDBs manage design bases from license application through operating life consistently. They provide a clean slate to develop design documentation from the ground up, for the plant lifetime.

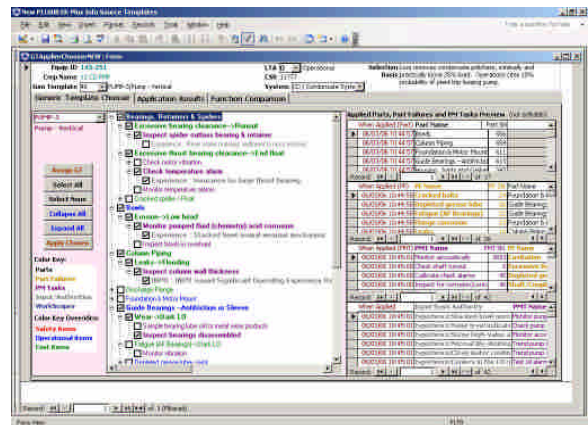


Owner's need end use documents such as work procedures, P&ID, MEL, FSAR, Tech Specs, system descriptions... provide the source materials. Manuals identify systems, functional bases, master equipment lists, design control classifications, part procurement, diagnostic tests, installation requirements, PM, cal's, special treatments and other requirements relationally for the life of the plant. Owner's shouldn't need to develop risk criteria, equipment requirements, diagnostic tests, scheduled maintenance, work order time and cost projections, work estimates, staffing, performance guidance, reporting standards and operating benchmarks. Integrated RDB's should relationally provide them from sources.

Who benefits?

Some components like control rods, fuel elements or pressure vessel welds, more clearly support nuclear safety functions. Roles of others in systems like Condensate have less direct, clear safety design basis. Although FSAR safety analysis or PRA establish non nuclear systems equipment safety risk, establishing risk deterministically takes effort. History and PRA have shown that otherwise harmless-looking non safety systems pose more risk than previously understood.

Whatever method classifies SSC safety risk, safety equipment performance needs assurance under all conditions over plant life. Safety related risk significance determines special treatments requirements. They go beyond 10CFR50 Appendix B. Condition monitoring, scheduled maintenance and condition directed rework/repair depend upon risk posed by these SSC components. Their performance must be assured for the life of the plant.

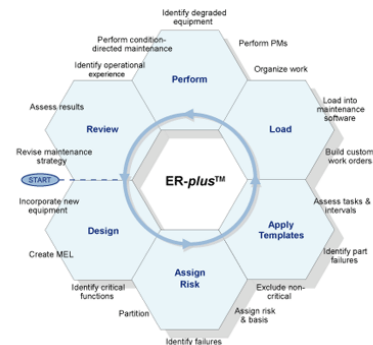


Why go to the design basis?

All plant's have a design basis. From the start of plant operations, maintenance programs, reporting, procurements, and other special treatments apply. Developing treatments directly from source design material reduces reinterpretation. Integrating sources reduce development time, errors, ad hoc reinterpretations, keeping dependent requirements as current as the design source itself. Redundant processes can be consolidated. Further, complete SSC design, materials selection, vender and other design justifications are available at *startup*. SSC functions and their system relationship will never be clearer. User simplicity, standard procurement, operational maintenance and plant symmetry all make the central design a repository for all source material references consistently over life of the plant.

Risk-informed design basis: *the Plant Owner's Manual*

The design basis provides tools that not only schedule new plant maintenance, but troubleshoot failures traceable to system functions and equipment providing them. ASME Section XI In-service Inspection code provides plant monitoring guidance beyond rules like 50.49, 50.65, 50.69 and Appendix B. The design basis develops standard, consistent repeatable PM, aggregating treatments into procedures and processes based on symmetry as well as risk. Many routine methods apply in a consistent, orderly way developing processes like PM. For consistent, complete, standardized design basis-traceable application products, systems, FSAR functions, & MEL provide new plant owners outstanding sources. End products traceable to design bases efficiently perform the best possible work over the plant life.

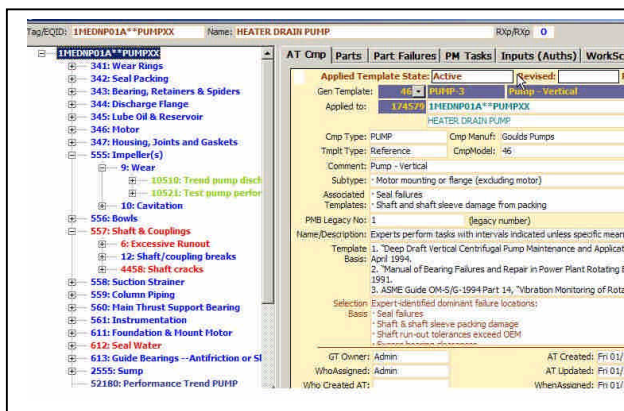


Designers providing owners with more complete startup source materials would be like providing new car owners their manual. In the early 1900's, auto drivers were also expert mechanics – they had to be. Today, we can go much further to give new plant owners meaningful performance measures, integrated standard parts lists, procurement documentation, procedures with performance limits, and scheduled maintenance plans – all from real-time source documentation at point-of-need end use! Ideally, plant designers deliver owners a strategy built-in as actionable processes to operate their new plants safely, economically, and as intended – providing their customers environmentally friendly, safe electricity at competitive costs. Now for the first time ,we can give nuclear plant owners an owners manual. Not just for them, but everyone!

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 vendors, 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:

- PRA FMEA Integral Design Basis
- Risk basis (DB)
- Equipment Criticality
- PRA System Risk
- Equipment Templates
- DB Work Orders
- Optimized work basis
- Trim™/ER plus™ DB software
- EAMS/CMMS WO integration
- Single Point Failures
- Cost projections