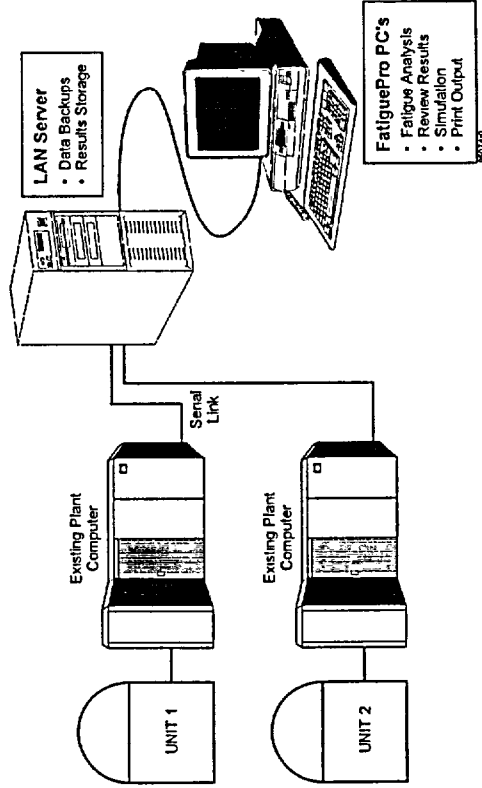


Fatigue Monitoring



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BACKGROUND

- **Fulfills Plant Technical Specification Transient Counting Requirements**
- **Best Approach for Addressing NRC Issues**
 - Bulletins 79-13, 88-08, 88-11
 - Pressurizer Surge Line Stratification and Pressurizer Insurge/Outsurge addressed using actual plant data
- **Reduced Fatigue Usage Compared to Design Projections**
- **Significantly More Knowledge of Plant Cycles**
 - Focused evaluation of critical areas
 - Ability to assess alternate operating approaches
 - Ability to rapidly evaluate plant transients
- **Plant Life Extension**
 - Projected fatigue usage and cycle counting estimates
 - Required to demonstrate fatigue is adequately managed
 - Environmental fatigue issues require more refined approach
 - Implementation now will require significantly less effort later
- **Simulation Capabilities to do “What-If” Studies**



SUPPORT AREAS

- **Stress-Based Fatigue Monitoring**
 - ◊ Stress-based fatigue (on-line stress analysis) for critical components
 - ◊ Takes account of actual plant transient severity and number of occurrences
 - ◊ Powerful graphics review of all relevant plant parameters, resulting stress, and fatigue usage
- **Automated Cycle Counting and Cycle-Based Fatigue Monitoring**
 - ◊ “Smart logic” counts and categorizes plant transients
 - ◊ All events and important parameters saved by software
 - ◊ Fulfills plant Technical Specification cycle counting requirements
 - ◊ Powerful, graphics review of all events
 - ◊ Cycle-based fatigue, utilizing cycle counts, for less severe components
- **Fatigue Crack Growth Monitoring**
 - ◊ Performs fatigue crack growth flaw tolerance assessments (actual or postulated flaws)
 - ◊ Takes account of actual plant transient severity and number of occurrences
 - ◊ Can be used to justify continued operation or determine re-inspection interval

