50-498/499

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

October 13, 1998

LICENSEE: STP Nuclear Operating Company

FACILITY: SOUTH TEXAS PROJECT, UNITS 1 AND 2 (STP)

SUBJECT: SUMMARY OF SEPTEMBER 15, 1998, AFTERNOON MEETING ON RISK-INFORMED OPERATIONS AT STP

On September 15, 1998, the NRC staff met with the licensee in a seminar-type format on the above subject. The presentation was made by S. Rosen of STP Nuclear Operating Company. The bulk of NRC's Office of Nuclear Reactor Regulation was in attendance, as well as NRC representatives from other NRC offices. Attached is a copy of the slides that were presented.

The licensee presented an overview of their probabilistic risk assessment (PRA) program at STP. This included discussion in the areas of the licensee's PRA development, configuration risk management program (CRMP), use of NRC-approved extended allowed outage times (for emergency AC power, essential cooling water and essential chilled water systems), and graded quality assurance. Regarding the CRMP, the licensee uses risk-profiles to assess the cumulative effects of equipment out of service and to manage the risk to keep it below certain thresholds. Regarding the extended allowed outage times discussed above, this permits the licensee to schedule major emergency diesel generator, essential chiller and essential cooling water system maintenance while at power. This has resulted in numerous benefits for the licensee including managing risk levels to acceptably low levels at power with corresponding reductions to risk during refueling outages, reducing refueling outage scope and duration, and improving the time-averaged material condition of the plant.

The licensee uses graded quality assurance to combine risk-based, deterministic-based, and performance-based information analyses to establish appropriate levels of programmatic controls for systems, structures and components in order to provide necessary assurance that items will operate safely and activities are accomplished as prescribed (this program was approved by NRC on November 6, 1997). The licensee indicated that implementation of graded quality assurance has shown that of the first 6 systems analyzed, only 5% of the components are highly risk significant and 71% are not risk significant. The licensee stated that in order to be able to fully focus on the risk significant components in these systems, they need to be able to change the classification of the components that are safety-related, but not risk significant, to

DF01

non-safety-related. The licensee's implementation of graded quality assurance and its challenges were discussed in detail in a separate meeting with the NRC staff earlier on the same day. A separate meeting summary will be issued for that meeting.

Thomas W. Alexion

Thomas W. Alexion, Project Manager
Project Directorate IV-1
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Docket Nos. 50-498 and 50-499

Attachment: Slides Presented

cc w/att: See next page

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Attachment: Slides Presented

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Meeting Summary Memoranda dated October 13, 1998

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ATTACHMENT

FOR
NUCLEAR REGULATORY COMMISSION STAFF
SEPTEMBER 15, 1998

STP PRA PROGRAM

- COMPREHENSIVE RISK MANAGEMENT PROGRAM
- PRA APPLICATIONS IMPLEMENTED
  - Maintenance Rule
  - Configuration Risk Management/On-line Maintenance
  - Shutdown Risk Management
  - Technical Specifications Optimization
  - Severe Accident Management Program
  - Generation/Engineering Support
- PRA APPLICATIONS UNDER DEVELOPMENT
  - Graded Quality Assurance
  - Motor Operated Valves
  - Risk Based Inservice Testing
  - NRC Safety Goal Pilot Project
- STP RISK MODEL CONFIGURATION CONTROL
  - Configuration Control Program
  - Configuration Control Program Self-assessment

CHRONOLOGY OF PRA DEVELOPMENT AT STP

- ★ 1982 - Initiated work on PSA Model
- ★ 1989 - Full scope Level 1 PSA including External Events
- ★ 1990 - Risk-based evaluation of Technical Specifications
- ★ 1992 - NRC staff issues SER on the STP Level 1 PSA
- ★ 1992 - STP IPE per Generic Letter 88-20
- ★ 1992 - Level 2 PSA
- ★ 1993 - NRC staff approves revised Tech Spec AOTs and Surveillance Intervals based on PSA
- ★ 1994 - PSA input to satisfy Maintenance Rule requirements
- ★ 1994 - On-line maintenance evaluations
- ★ 1995 - NRC staff approves STP Level 2 PSA / IPE for internal events.
- ★ 1995 - 21 day diesel generator special test exception technical specification submitted to NRC
- ★ 1995 - Shutdown PSA (ORAM and RISKMAN models)
- ★ 1996 - 14 Day DG/7 Day DG/EW AOT Tech Spec Change Approval by NRC
- ★ 1997 - Graded Quality Assurance Safety Evaluation Report Approval by NRC
- ★ CURRENT WORK - IST, AOVs, MOVs, Appendix J, Graded QA Implementation, Improved Technical Specifications, Safety Goal Pilot

"In the end, I believe it will be this industry--hopefully with the assistance of a risk-informed regulatory fabric--that will raise safety-related performance up to the point that it will be above the margins of safety that we would like to have, and far above what is required. And the only way that we will be able to tell the difference is with the support of quantitative risk information. Let us also remember that ultimately what we create has to be usable and used by the men and women who work every day at this country's nuclear installations." (emphasis added)

Commissioner Nils J. Diaz
U. S. Nuclear Regulatory Commission

Remarks before the
1998 NRC Regulatory Information Conference
Washington, D.C.
April 14, 1998

What are the Elements of "Quantitative Risk Information"?

- The frequency of accident or transient initiators and the readiness of safety systems to respond if challenged are the elements of Quantitative Risk Information.
- At STP, we use our Configuration Risk Management Program to control and monitor the readiness of our safety systems

South Texas Project Configuration Risk Management Program

- History:
  - Late 1994 -First configurations generated
  - Mid 1995 - Risk Assessment Calculator (RAsCal) software developed and used to generate risk profiles
  - January 1996 - Actual component out-of-service data based on "functional" collected
  - July 1996 - RAsCal 1.0 approved under Station Software Quality Assurance Program
  - January 1997 - On-Line Maintenance Risk becomes monthly Station Performance Indicator
  - January 1998 - On-Line Maintenance Risk included in Station Incentive Compensation Plan

South Texas Project Configuration Risk Management Program

- **Establishes potentially risk-significant threshold for weekly planned on-line maintenance activities**
  - 1E-06 weekly threshold based on EPRI PSA Applications Guide
  - If threshold is exceeded, increased management oversight and compensatory measures implemented, as appropriate
  - Weekly threshold provides adequate barrier for implementation of corrective actions

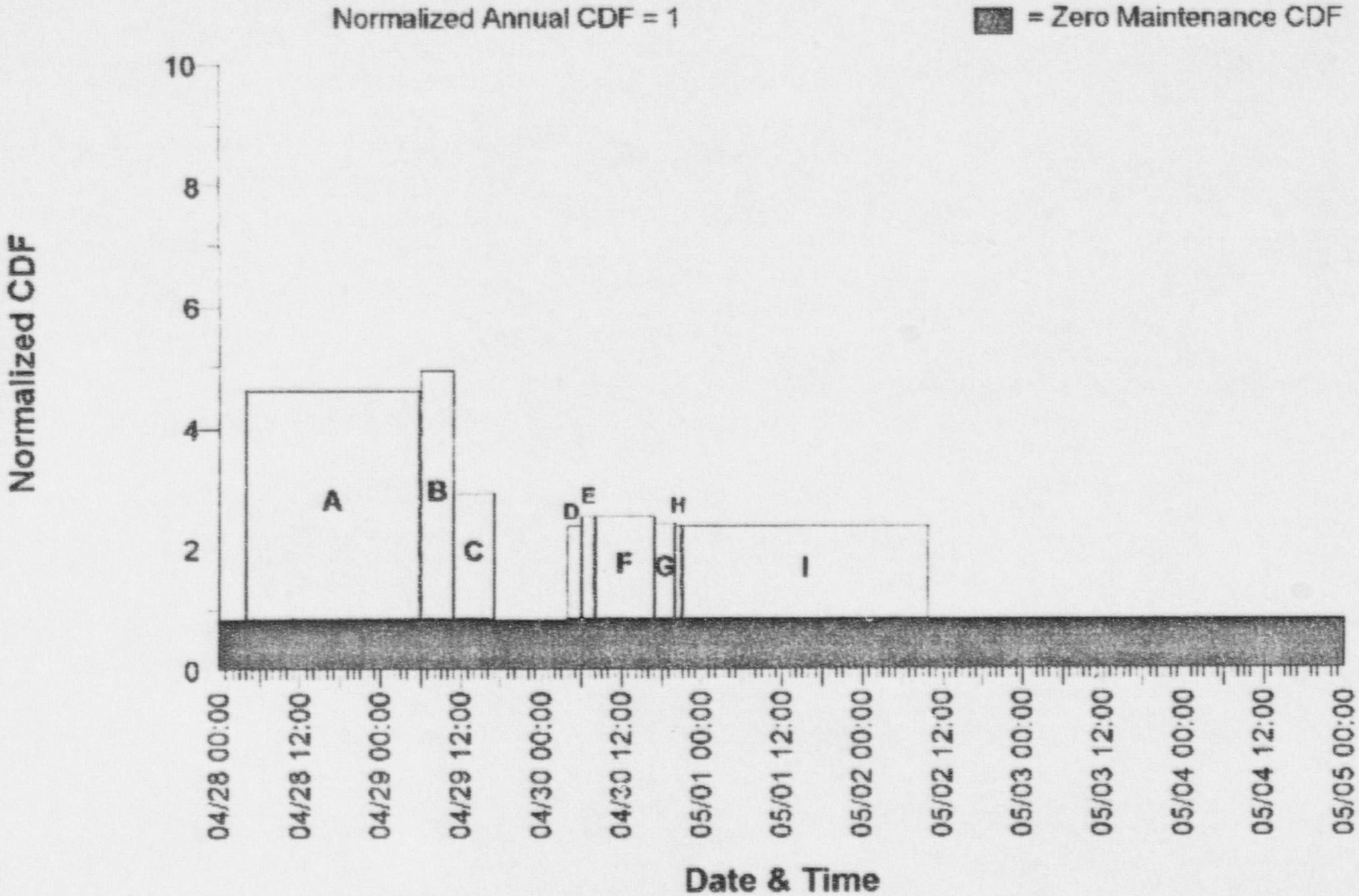
South Texas Project Configuration Risk Management Program

- **Risk Profiles:**
  - Meets 50.65(a)(3) portion of the Maintenance Rule for assessing the cumulative effects of equipment out of service
  - Communicated every Monday morning in Daily Communication & Teamwork (DC&T) meeting
  - Control Room staff (Shift Technical Advisor) enters Functional status on a train/system level into RAsCal
  - Previous week's risk communicated every Wednesday morning in DC&T meeting

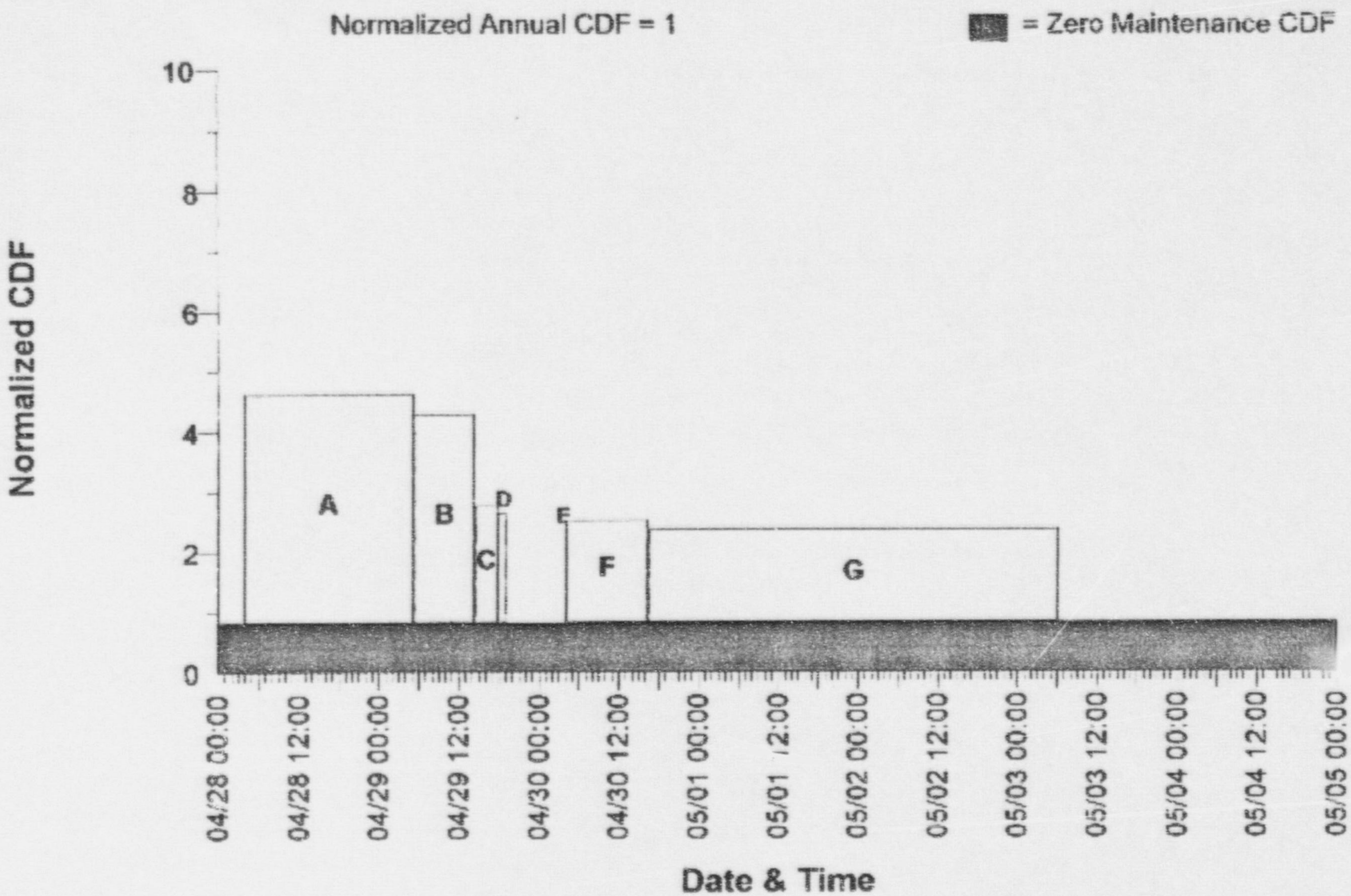
South Texas Project Configuration Risk Management Program

- **PRA Interface:**
  - Over 12,000 maintenance states in current database
  - 5500+ Single Train Maintenance States
  - 6900+ Cross Train Maintenance States to support Extended AOT for Essential Cooling Water System (7 days) and Standby Diesel Generators (14 days)
- **Results:**
  - Monthly, Three Month Average, Quarterly, and Annual risk are represented graphically
  - Actual risk is adjusted by availability factor and normalized annually to determine risk in "pure" units of events/year

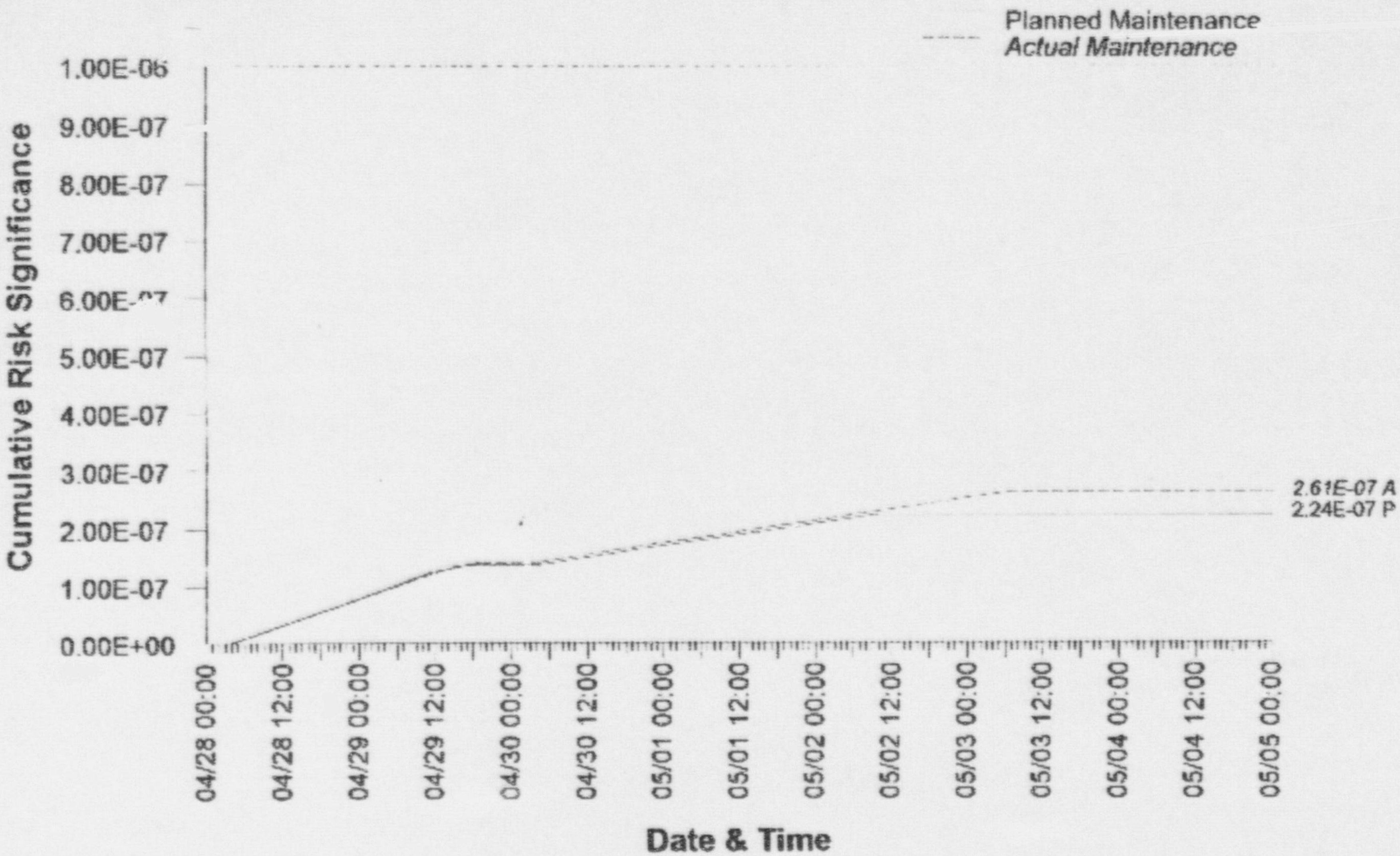
Planned Risk Profiles for Unit 1 Week of 04/28/97



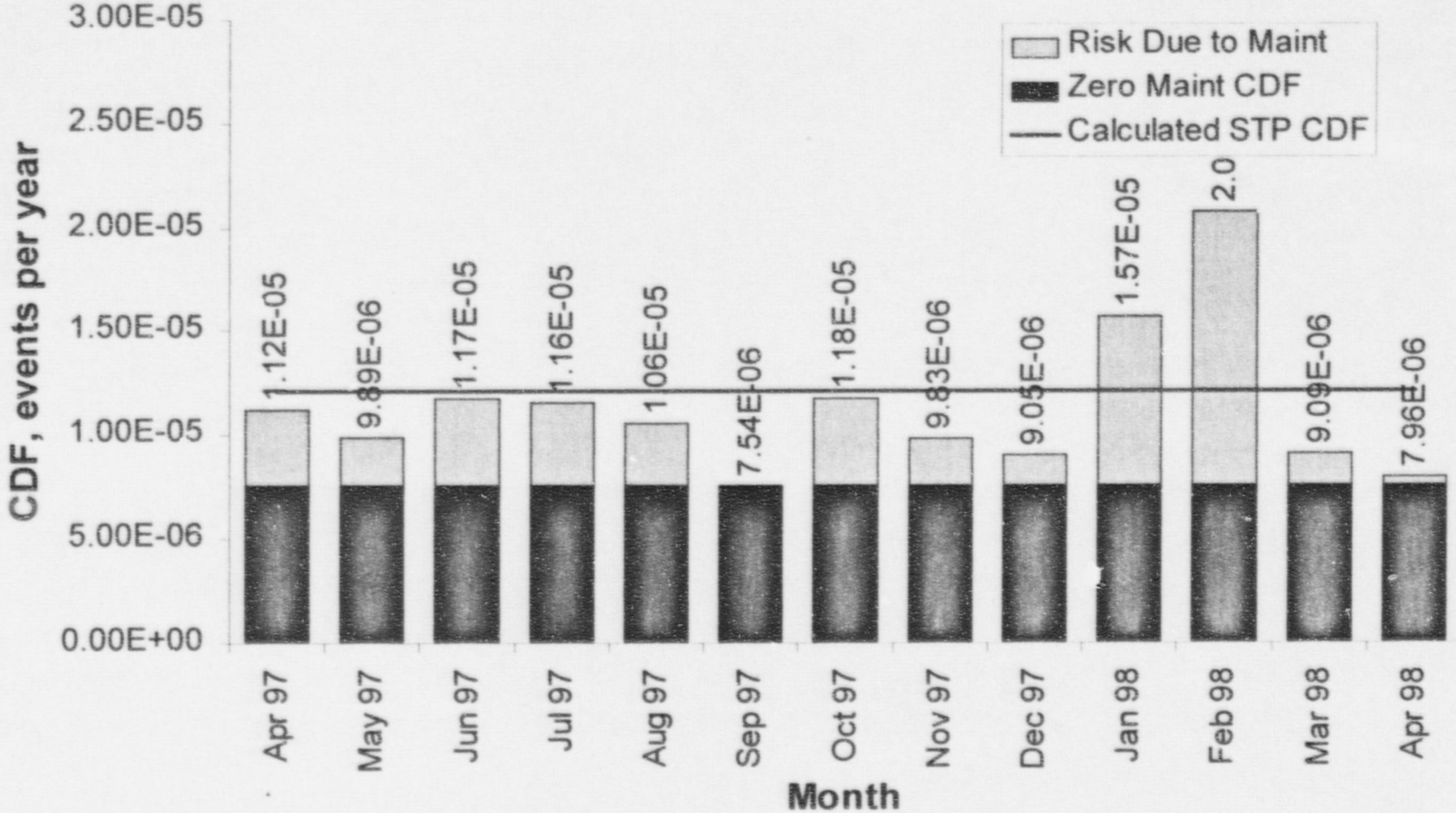
Actual Risk Profiles for Unit 1 Week of 04/28/97

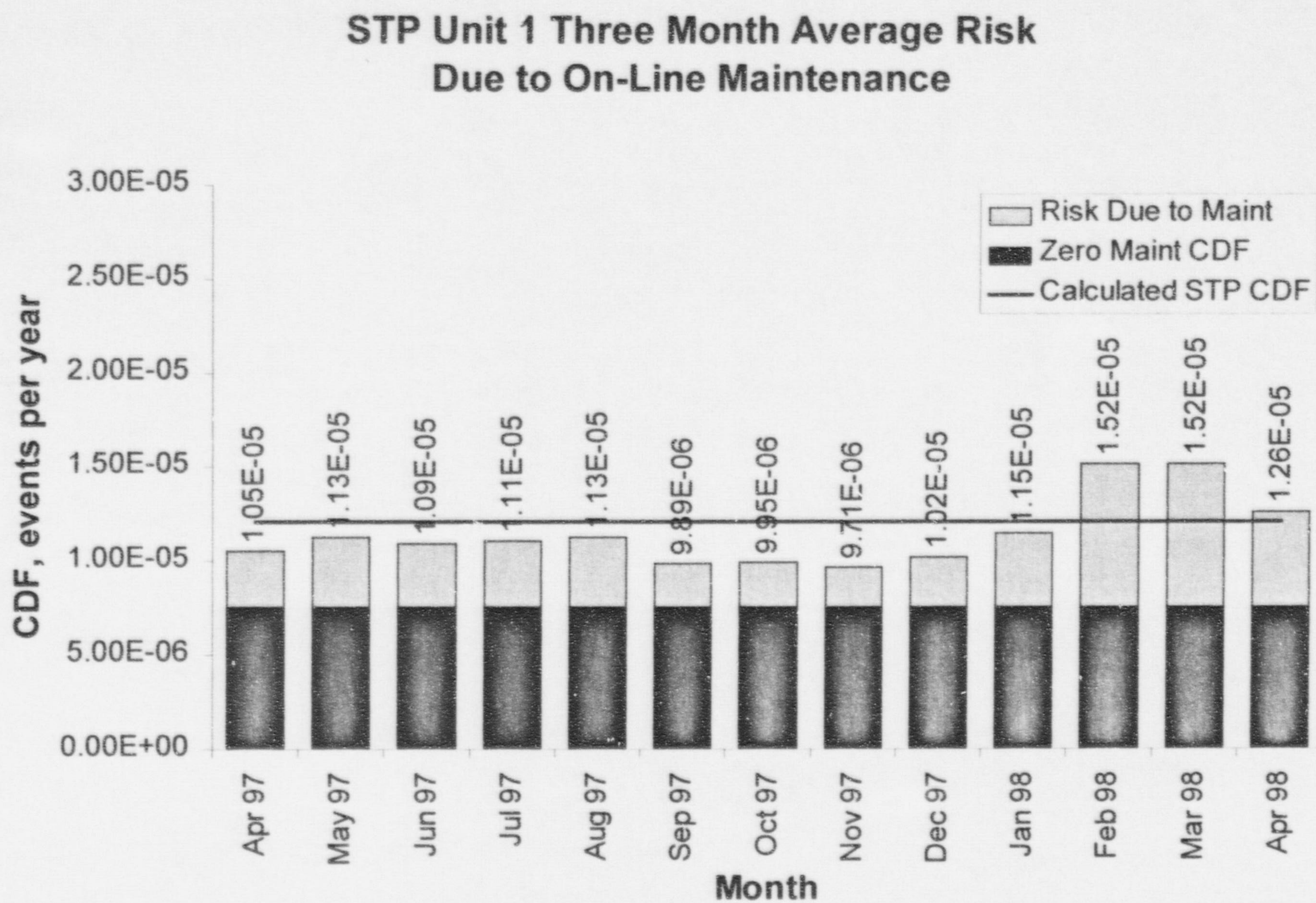


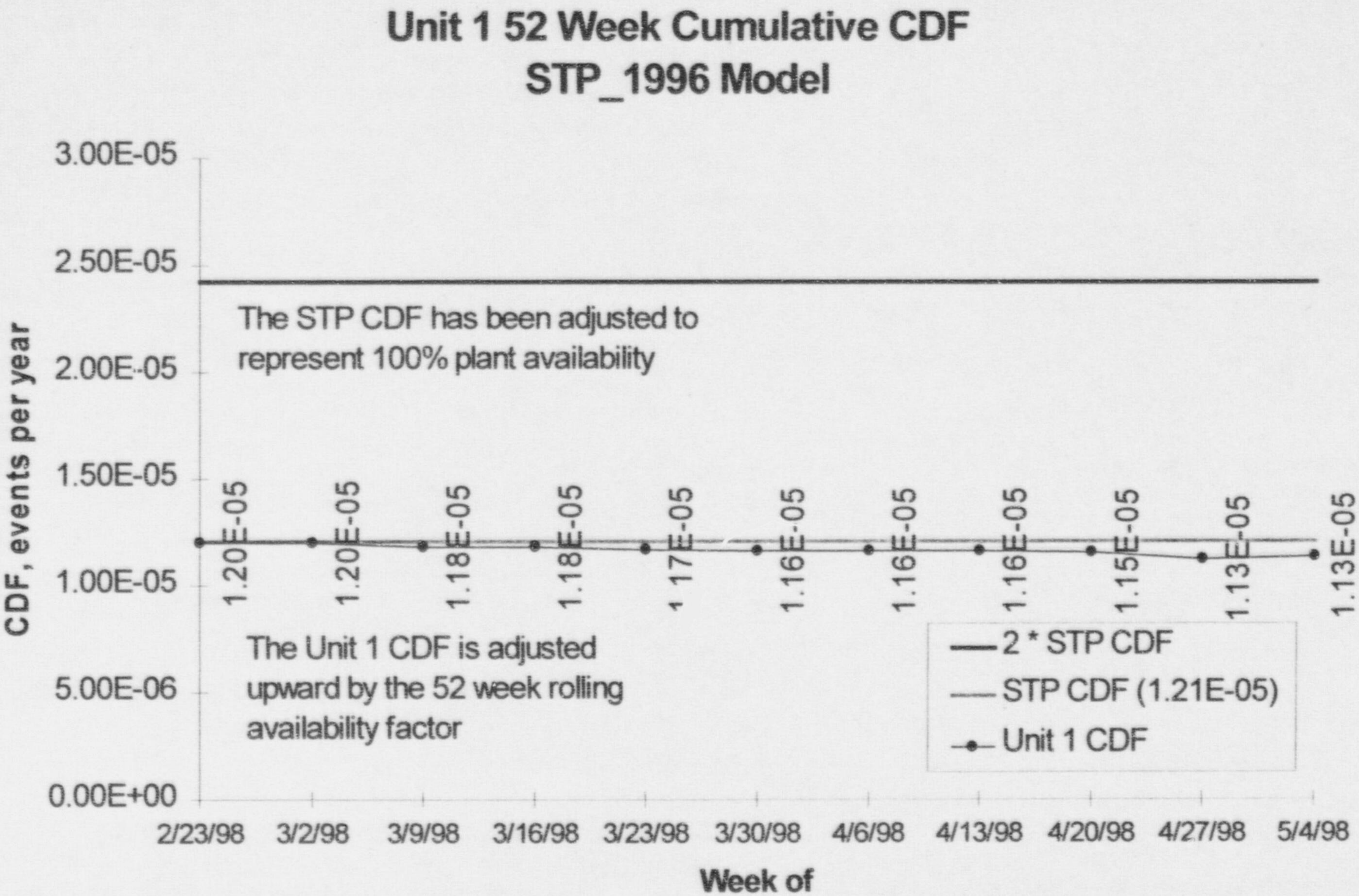
Actual Risk Profiles for Unit 1 Week of 04/28/97



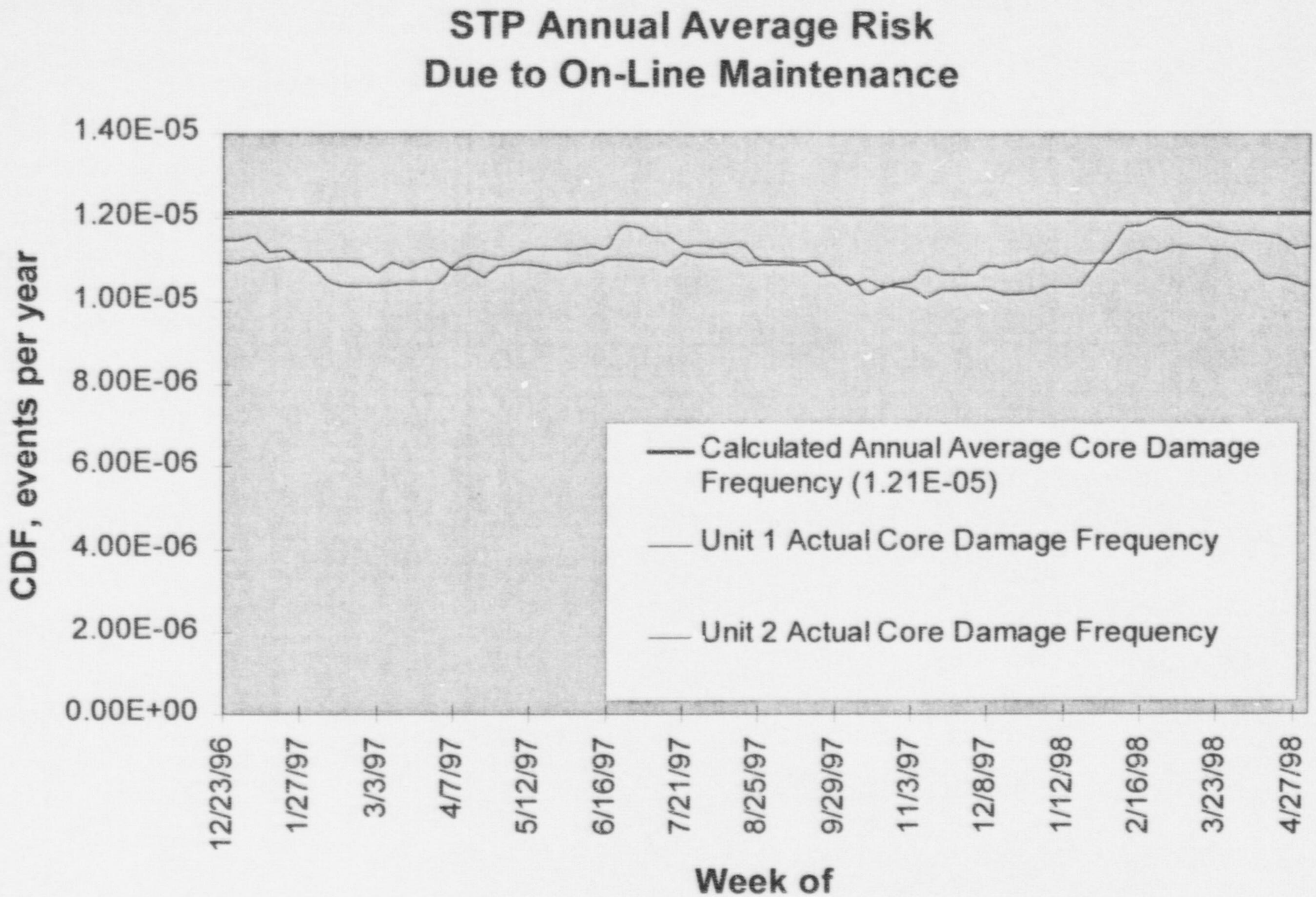
STP Unit 1 Monthly Risk Due to On-Line Maintenance




STP Unit 1 Three Month Average Risk
Due to On-Line Maintenance
CDF, events per year
3.00E-05
2.50E-05
2.00E-05
1.50E-05
1.00E-05
5.00E-06
0.00E+00
Risk Due to Maint
Zero Maint CDF
Calculated STP CDF
1.05E-05
1.13E-05
1.09E-05
1.11E-05
1.13E-05
9.89E-06
9.95E-06
9.71E-06
1.02E-05
1.15E-05
1.52E-05
1.52E-05
1.26E-05
Apr 97
May 97
Jun 97
Jul 97
Aug 97
Sep 97
Oct 97
Nov 97
Dec 97
Jan 98
Feb 98
Mar 98
Apr 98
Month



Unit 1 52 Week Cumulative CDF
STP_1996 Model
3.00E-05
2.50E-05
2.00E-05
1.50E-05
1.00E-05
5.00E-06
0.00E+00
CDF, events per year
The STP CDF has been adjusted to represent 100% plant availability
The Unit 1 CDF is adjusted upward by the 52 week rolling availability factor
1.20E-05
1.20E-05
1.18E-05
1.18E-05
1.17E-05
1.16E-05
1.16E-05
1.16E-05
1.15E-05
1.13E-05
1.13E-05
2 * STP CDF
STP CDF (1.21E-05)
Unit 1 CDF
2/23/98
3/2/98
3/9/98
3/16/98
3/23/98
3/30/98
4/6/98
4/13/98
4/20/98
4/27/98
5/4/98
Week of



STP Annual Average Risk
Due to On-Line Maintenance
1.40E-05
1.20E-05
1.00E-05
8.00E-06
6.00E-06
4.00E-06
2.00E-06
0.00E+00
CDF, events per year
Calculated Annual Average Core Damage Frequency (1.21E-05)
Unit 1 Actual Core Damage Frequency
Unit 2 Actual Core Damage Frequency
12/23/96
1/27/97
3/3/97
4/7/97
5/12/97
6/16/97
7/21/97
8/25/97
9/29/97
11/3/97
12/8/97
1/12/98
2/16/98
3/23/98
4/27/98
Week of

Commissioner Diaz
suggested that the industry develop
and use "quantitative risk
information".
The STP
**Configuration Risk
Management Program**
is fully responsive to this
challenge.

STP Use of Extended Allowed Outage Times (EAOTs) for Emergency AC Power, Essential Cooling Water and Essential Chilled Water Systems

- **A Technical Specification change was approved by NRC in late 1996 that extended allowed outage times from 72 hours to 14 days for emergency AC power and 7 days for Essential Cooling Water and Essential Chilled water systems. Outage durations for maintenance on these systems have been less than 5 days**
- **The Technical Specification also adds a requirement for a Configuration Risk Management Program to the administrative section of the specifications.**
- **Permits scheduling of major emergency diesel, essential chiller and essential cooling water system maintenance while at-power**
- **Scheduling these maintenance activities at-power allows them to be conducted when defense-in-depth is maximized**
- **Allows maintenance to be performed by experienced utility crews without requiring contractor staff augmentation**

- **Allows maintenance to be performed with enhanced supervisory and management focus compared to availability of these resources during refueling outages**

- **Risk levels are managed to acceptably low levels while at-power with corresponding reductions to risk while in refueling outages**

- **Refueling outage scope, complexity and duration are reduced by performing these significant maintenance tasks at-power**

- **Time-averaged material condition of the plant is improved with enhanced maintenance scheduling flexibility**

- **Nine EAOTs have been conducted at STP since approval by NRC of this key operational flexibility in 1996**

GRADED QUALITY ASSURANCE

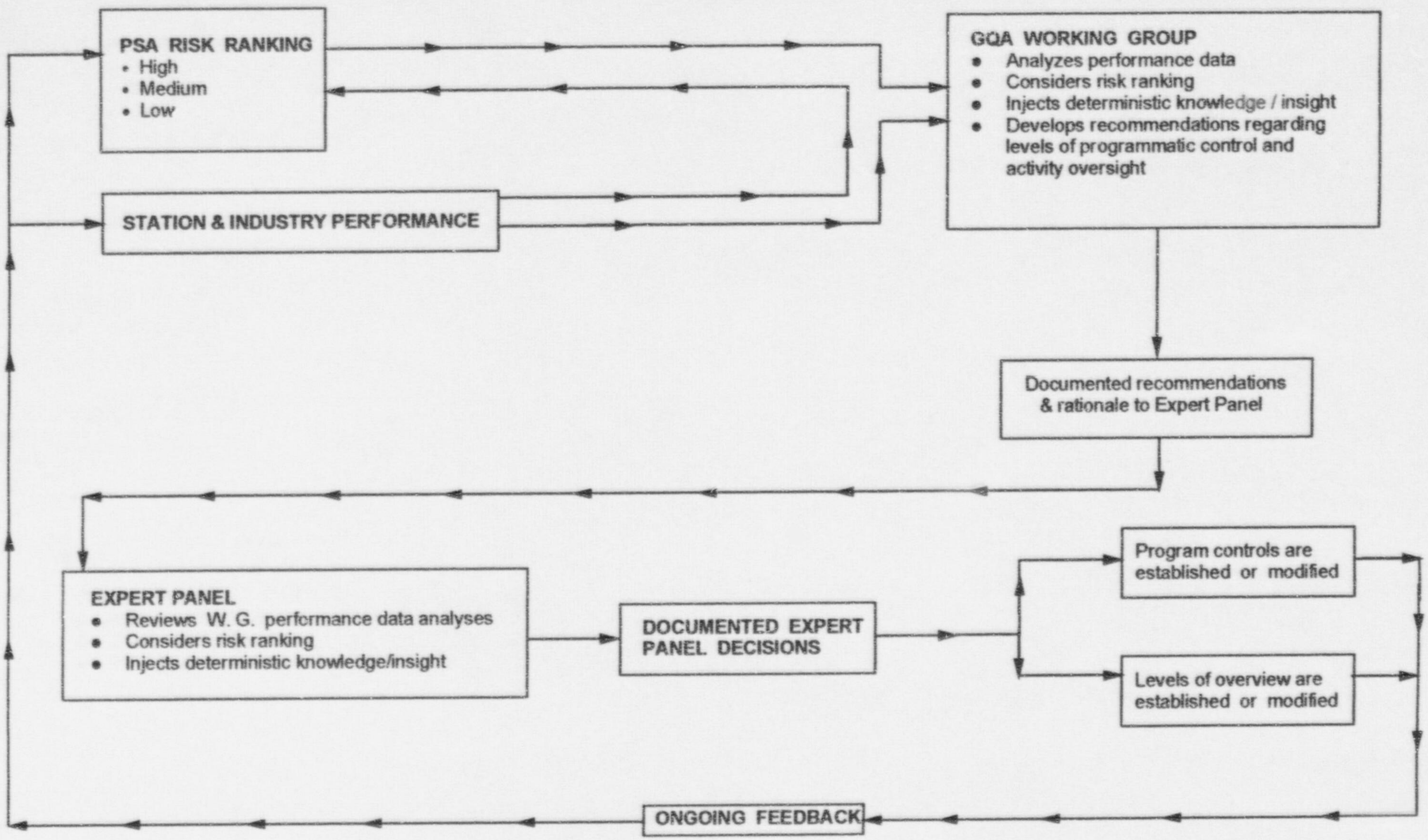
The process by which a risk-based methodology, deterministic and performance-based information analyses are combined to establish appropriate levels of programmatic controls for systems, structures, and components in order to provide necessary assurance that items will operate safely and activities are accomplished as prescribed.

GQA WORKING GROUP ACTIVITIES

- **Purpose** - Evaluate Station commitments and obligations against the relative risk significance of the function/activity.

- **Technical Approach** - Blending of risk, performance, and deterministic analyses using working groups and Expert Panel
- **Results** - Component-level Risk Significance Basis Documents are developed and issued for Station use.
- **Benefits** - Appropriately focus Station resources/processes based on risk significance

GRADED QUALITY ASSURANCE PROCESS



ESSENTIAL ELEMENTS OF GQA

- ✓ **Probabilistic Safety Assessment (PSA)**
- ✓ **Deterministic insight**
- ✓ **GQA Working Group**
- ✓ **CRM Expert Panel**
- ✓ **Continuous Performance Feedback**
- ✓ **Full QA Program**
- ✓ **Targeted QA Program**
- ✓ **Basic QA Program**

DETERMINISTIC INSIGHTS

All the knowledge and experience gained/retained related to design bases, Technical Specifications, plant operations, safety analyses, accident analyses, etc. that have no quantification as to likelihood of occurrence.

GQA WORKING GROUP MEMBERS

- Systems Engineering
- Design Engineering
- Risk & Reliability Analysis
- Maintenance / Work Control
- Operations
- Nuclear Licensing
- Quality Assurance
- Operating Experience

GQA WORKING GROUP ACTIVITIES

★ **ANALYZES PERFORMANCE DATA**

-Reviews plant/equipment performance history

-Reviews industry performance history

★ **CONSIDERS RISK RANKING**

- Formal documentation on risk role, as applicable
- Discussion of PSA assumptions, failure modes, etc.

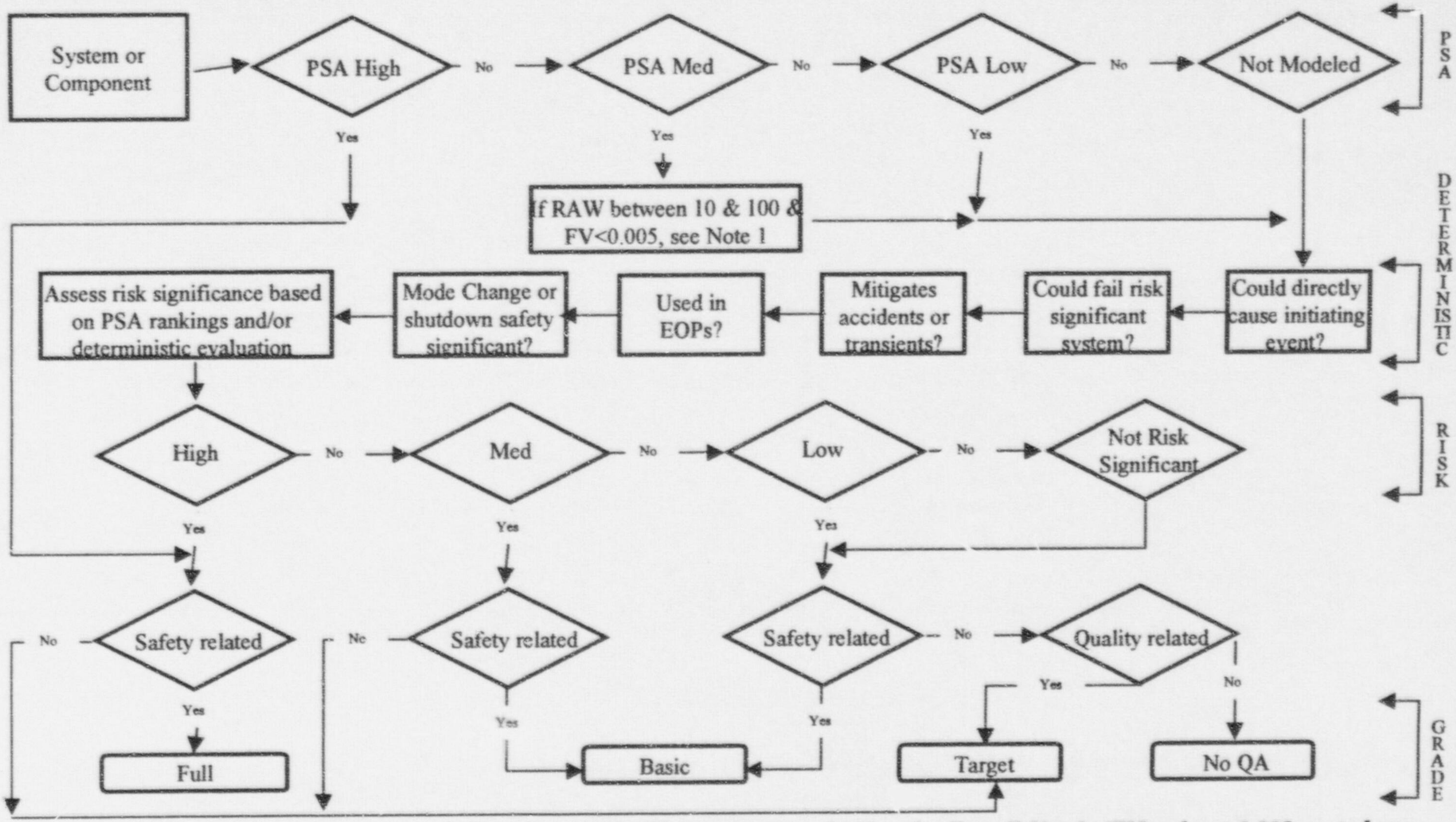
★ **INJECTS DETERMINISTIC KNOWLEDGE / INSIGHT**

- Design Basis multi-disciplinary involvement
- Document dissenting opinions

★ **DEVELOPS RECOMMENDATIONS REGARDING LEVELS OF PROGRAMMATIC CONTROL AND ACTIVITY OVERSIGHT**

- Documented in Risk Significance Basis Documents

GQA PROCESS



Note 1: SR Components with a Risk Achievement Worth (RAW) between 10 and 100 and a Fussell-Vesely (FV) value < 0.005 are to have Full QA applied to the critical attributes associated with that RAW and/or FV

EXPERT PANEL REVIEW ACTIVITIES

THE COMPREHENSIVE RISK MANAGEMENT EXPERT PANEL

- PANEL COMPRISED OF SENIOR-LEVEL MANAGERS
- BLENDS DETERMINISTIC AND PROBABILISTIC INSIGHTS
- INCORPORATES FACTORS OUTSIDE SCOPE OF PSA/DETERMINISTIC ANALYSIS
- CONSIDERS THE USE OF EXPERT SOLICITATION (DELPHI METHODS)
- ASSESSES AGGREGATE AFFECTS OF ALL RISK INFORMED, PERFORMANCE BASED PROGRAMS

EXPERT PANEL FUNCTIONS

- STRUCTURES processes, MAKES decisions in accordance with its responsibilities under its charter, and MAINTAINS cognizance to ensure that its decisions are implemented

- COMPENSATES for the limitations of the PSA:
  - Uncertainties caused by model assumptions
  - Common cause or common mode failure rates
  - Treatment of support systems
  - Level of definition of cut sets, cut set truncation
  - Inclusion of repair and restoration of failed equipment
  - Human error rates
  - Limitations in the meaning of the importance measures.

- DIRECTS the activities of the Working Groups
  - Information gathering
  - Recommendation development

- ADVOCATES / COMMUNICATES the Comprehensive Risk Management Program

Functions to advance STP Personnel, NRC Staff and Public Understanding of and Support for the Comprehensive Risk Management Program.

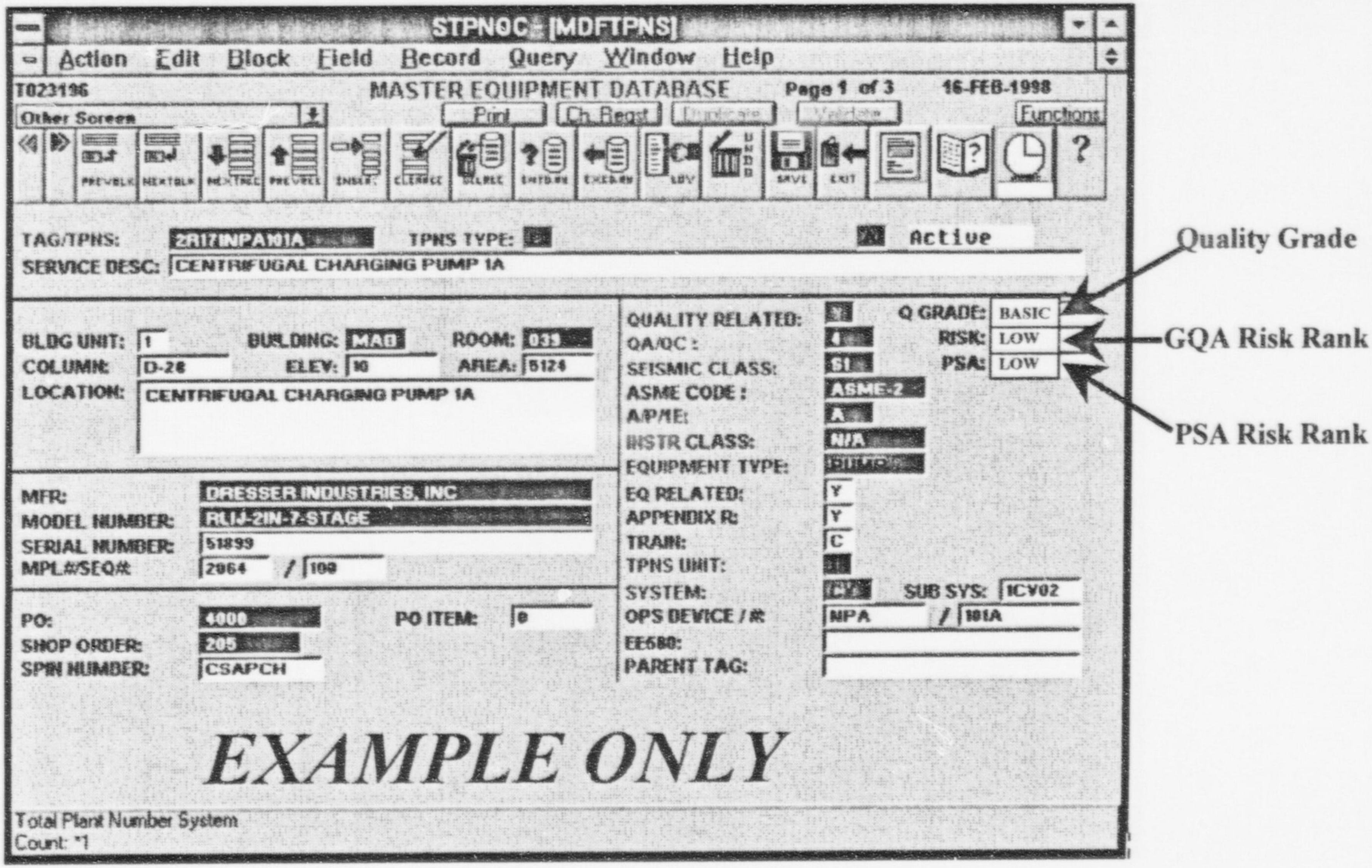
HOW IT IS APPLIED

Full Program - applied to high risk/safety significant SSCs and activities - Full program controls are the highest levels of controls and oversight, as prescribed in the OQAP.

Target Program - applied to non-safety related SSCs, for which 10 CFR50 Appendix B is not applicable, categorized as "high" or "medium" safety significant/risk importance. Specific program controls consistent with applicable portions of the full and basic program controls are applied to those items in a selected manner, "targeted" at those characteristics or critical attributes that render the SSC significant or important.

Basic Program - applied to SSCs and activities not “high” risk/safety significant or significant for other reasons, yet subject to 10 CFR 50 Appendix B

UPDATED MASTER EQUIPMENT DATABASE



STP - ACQUISITION AND USE OF PERFORMANCE DATA

PURPOSE IS TO MONITOR PERFORMANCE TO ENSURE THAT SYSTEM AND COMPONENT PERFORMANCE REMAINS ACCEPTABLE AFTER CHANGES MADE THROUGH GRADED QA PROGRAM ARE IMPLEMENTED

Acquire data from station and industry sources

Grade data for positive / negative performance

Categorize and analyze data for specific areas and develop recommendations

Supply recommendations to Expert Panel for final analysis and concurrence

PERFORMANCE DATA CATEGORIZATION

Overall Station Performance

- Operations
  - Safety Focus
  - Problem Identification
  - Problem Resolution
  - Quality of Work
  - Programs/Procedures
- Maintenance
  - Safety Focus
  - Problem Identification
  - Problem Resolution
  - Quality of Work
  - Programs/Procedures
- Engineering
  - Safety Focus
  - Problem Identification
  - Problem Resolution
  - Quality of Work
  - Programs/Procedures
- Support (Maint. Support, Chemistry, Health Physics, Security, Emergency Response, Quality Purchasing, Waste Management, etc.)
  - Safety Focus
  - Problem Identification
  - Problem Resolution
  - Quality of Work
  - Programs/Procedures
- Suppliers
  - Quality of Work
  - Problem Identification
  - Problem Resolution
  - Programs/Procedures
  - Contract Compliance

Generic Data

- Communication
- Training/Qualifications
- Management Oversight
- Procedure/Work Instruction Adequacy
- Contractor Control
- Work Practices (procedural adherence, STAR, ALARA, etc.)
- Housekeeping
- Staffing levels
- Coordination of Daily Activities
- Configuration Control/ Management
- Self-Assessments
- Condition Reporting/ Processing
- Testing
- Special Processes
- CAP Data

Specific Data - Maintenance

- Scheduling Adequacy
- Preventive
- Corrective
- Troubleshooting
- Mod. Installation
- Planning
- Minor Maintenance
- ECOs

Specific Data - Engineering

- Engineering Documentation
- System Engineer Walkdown
- Technical design adequacy
- System health
- Support of emergent issues
- 10CFR 50.59 process
- Temporary Modifications

Specific Data - Operations

- Shift Operations - (logs, turnover, watch, etc.)
- Major Evolutions
- System Walkdowns
- OTL/LCO Compliance
- Operator Aids
- Response to off-normal/ emergency condition
- Temp. Modifications
- Reactivity management

Specific Data - HP

- Radiological surveys
- Dosimetry
- Access control/radiological posting
- RWP preparation
- Decontamination activities

Specific Data - Waste Management

- Radwaste collection, storage, shipment solidification, & packaging
- Radiological effluent processing
- Non-radwaste / Material storage

Specific Data - Security

- Material&vehicle access control
- Personnel/visitor access control
- Protected area/vital area integrity
- Security drills
- Officer Patrol activities
- Lock control

STANDBY DIESEL GENERATOR SYSTEM

SBDG AND SUPPORT SYSTEMS - GRADED QA EVALUATION SUMMARY BY SYSTEM

	SAFETY RELATED								QUAL CLASS 7 (LIMITED QA)					NON-QUALITY RELATED					ALL
GRADE →	FULL	BASIC							TARGET					TARGET		NO QA			
		ASME LIMITED			NON ASME LTD														
↓ SYS ↓ *RISK* →	HIGH	MED	LOW	NRS	MED	LOW	NRS	TOTAL	HIGH	MED	LOW	NRS	TOTAL	HIGH	MED	LOW	NRS	TOTAL	TOTA
DIESEL GENERATOR	129	12	42	6	60	178	130	557	6	0	0	602	608	0	0	6	19	25	1190
FUEL OIL	246	0	6	34	0	48	230	564	0	0	0	227	227	0	0	0	257	257	1048
COMBUSTION AIR INTAKE	0	0	0	0	0	0	36	36	0	0	0	88	88	0	0	0	0	0	124
DIESEL EXHAUST	0	0	0	0	0	0	0	0	0	0	0	284	284	0	0	0	0	0	284
JACKET WATER	0	18	47	6	6	87	142	306	0	0	7	121	128	0	0	0	9	9	443
LUBE OIL	0	12	121	18	18	250	233	652	0	0	0	156	156	0	0	0	36	36	844
STARTING AIR	12	0	24	12	60	66	389	563	0	0	0	683	683	0	0	0	18	18	1264
DG BLDG HVAC	0	0	0	0	6	24	102	132	0	C	0	180	180	0	0	0	70	70	382
DG BUILDING	0	0	0	0	0	24	0	24	0	0	0	0	0	0	0	0	0	0	24
	387	42	240	78	150	677	1262	2834	6	0	7	2341	2354	0	0	6	409	415	5603
% OF SR:	13.7%	1.5%	8.5%	2.7%	5.3%	23.9%	44.5%	100.0%											
% OF TOTAL:	6.9%	0.7%	4.3%	1.4%	2.7%	12.1%	22.5%	50.6%	0.1%	0.0%	0.1%	41.8%	42.0%	0.0%	0.0%	0.1%	[illegible]%	7.4%	100.0%

NOTES: 1. ASME LIMITED consists of those non-high risk components identified in MED as ASME class, except for valves <= 1". ASME LIMITED totals are shown because these components would have to be procured as Code and therefore procurement cost savings would be limited even for low risk or non-risk significant components.

2. Condition Report 97-1271 initiated for the six Diesel Generator components (overspeed trip valves) having Quality Class 7S but ranked as high risk.

3. Quality Class 7 consists of 7B (Station Blackout), 7F (Fire Protection), 7P (PAMS Cat 2), 7R (Radwaste), or 7S (Seismic 2/1). All Class 7 SBDGS components are

4. The 246 SR high risk components in the Diesel Fuel Oil system include 240 separately tagged injection pumps (20 per DG) and injection nozzles (20 per DG).

STP GRADED QUALITY ASSURANCE RESULTS TO DATE

System	Total Components	Full QA	Basic QA	Target QA	No QA
Chemical and Volume Control	3,072	2	1,709	1,112	249
Essential Cooling Water	1,406	48	1,010	300	48
DG and "supporting" DO, DI, DX, JW,LU, SD, HG, XG	5,603	393	2,447	2,348	415
Radiation Monitoring	1,822	0	388	1,113	321
Reactor Coolant System	1,389	302	350	614	123
Electrical Auxiliary Building HVAC	2,280	90	1,173	676	341
Totals	15,572	835	7,077	6,163	1,497
% of Totals		5%	45%	40%	10%

STP GRADED QUALITY ASSURANCE RESULTS TO DATE

These results indicate that almost half (45%) of the components in the first six analyzed systems can be treated as "Basic QA", the minimum QA that can be applied to components previously identified as "safety-related".

Most of the remainder (50%) will have either no QA or only "targeted" elements of our Full QA program applied to some aspects of their design, procurement, maintenance, inspection or operation as determined by the risk analysis.

STP GRADED RISK SIGNIFICANCE RESULTS TO DATE

System	Total Components	Safety-Related	Non-Safety-Related	High	Medium	Low	Not Risk Significant
Chemical and Volume Control	3,073	1711	1362	4	178	433	2457
Essential Cooling Water	1,406	1058	348	48	127	199	1032
Diesel Generators	5,603	2840	2763	393	341	493	4376
Radiation Monitoring	1,822	388	1434	0	0	189	1649
Reactor Coolant System	1,389	652	737	294	266	396	433
Electrical Auxiliary Building HVAC	2,280	1263	1017	90	86	1036	1068
Totals	15573	7912	7661	829	998	2746	11000
% of Totals		51%	49%	5%	6%	18%	71%

STP RISK SIGNIFICANCE RESULTS TO DATE

- IN THE FIRST SIX SYSTEMS ANALYZED, ABOUT HALF OF THE TOTAL NUMBER OF COMPONENTS ARE SAFETY-RELATED

- **ONLY 5% ARE HIGHLY RISK SIGNIFICANT**
- **71% ARE NOT RISK SIGNIFICANT**

- IN ORDER TO BE ABLE TO FULLY FOCUS ON THE RISK SIGNIFICANT COMPONENTS IN THESE SYSTEMS, STP NEEDS TO BE ABLE TO **CHANGE** THE CLASSIFICATION OF THE COMPONENTS THAT ARE **SAFETY-RELATED, BUT NOT RISK SIGNIFICANT**, **TO NON-SAFETY-RELATED**

STP RISK SIGNIFICANCE RESULTS TO DATE-CONTINUED

- WE BELIEVE THAT TAKING THESE ACTIONS UNDER 10CFR50.59, AS PRESENTLY CODIFIED, COULD RESULT IN **UNREVIEWED SAFETY QUESTIONS** FOR MANY OF THESE COMPONENTS
- THE REVISIONS PROPOSED TO 10CFR50.59 IN SECY 98-171 WOULD, WE BELIEVE, MINIMIZE THE POTENTIAL FOR THIS UNDESIRABLE RESULT
- WE SUGGEST, HOWEVER, THAT A SPECIFIC DEFINITION OF **"MINIMAL",** CONSISTENT WITH THE DISCUSSIONS IN SECY 98-171, SHOULD BE ADDED TO THE DEFINITIONS IN THE PROPOSED RULE

SUGGESTED ADDITION TO DEFINITIONS IN THE STAFF'S PROPOSED REVISION TO 10CFR50.59 (a)

(7)*Less than minimal increase* means that

(a) a new failure mode as likely as existing modes has not been introduced and

(b) a change in the probability of a malfunction of equipment important to safety is so small or the uncertainties in determining whether a change in probability has occurred are such that it cannot be reasonably concluded that the probability has actually changed (i.e., there is no clear trend towards increasing the probability)