January 13, 1997

MEMORANDUM TO: David B. Matthews, Chief
Generic Issues and Environmental Projects Branch
Division of Reactor Program Management, NRR

FROM: James H. Wilson, Senior Project Manager Original Signed By:
Generic Issues and Environmental Projects Branch
Division of Reactor Program Management, NRR

SUBJECT: SUMMARY OF PUBLIC MEETING HELD ON JANUARY 6, 1997, TO DISCUSS THE BOILING WATER REACTOR OWNERS' GROUP (BWROG) PSA CERTIFICATION PROCESS

On January 6, 1997, the staff attended a public meeting in the GE Nuclear Energy offices in Washington, DC to discuss lessons learned from the BWROG probabilistic safety assessment (PSA) certification process. A list of attendees and their affiliations is provided as Attachment 1. A copy of the handouts used by the BWROG in its presentation is provided as Attachment 2.

The BWROG has developed a certification process to assist its members in achieving two objectives: 1) to assure the quality of PSAs for applications; and 2) to assure that each utility has a process in place for maintaining the level of quality. Effectively, the certification process is a structured peer review performed by a team of PSA experts drawn from the utility PSA groups and contractors.

Greg Krueger, of PECo Energy, gave a presentation based on the vugraphs in Attachment 2. He addressed the background and status of the BWROG effort, discussed the pilot application of the process to three plants, and gave an overview of the results of the application and the lessons learned. The pilot application is considered to have been very successful, both in terms of providing feedback on the strengths and weaknesses of their PSAs to the utilities involved and in terms of providing useful feedback on the certification process itself, which has been subsequently streamlined and improved. Rick Hill, GE, stated that he anticipated that a report, describing the results of the pilot application and the certification process, will be made available to the NRC before the end of January 1997.

Project No. 691

Attachments: As stated

cc w/ attachments: See next page

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

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See next page

Attachment 1

LIST OF ATTENDEES AT MEETING WITH BWROG HELD IN
WASHINGTON, DC ON JANUARY 6, 1997

NAME	AFFILIATION
G. Parry	NRR/NRC
M. Cheok	NRR/NRC
B. Hardin	RES/NRC
R. Hill	GE
E. Vezey	GE
B. Bradley	NEI
G. Krueger	PECO Energy
E. Page	Detroit Edison
C. Nierode	NSP
L. Bedell	Entergy
B. Ford	Entergy

PSA Peer Review Certification Process

BWR Owners Group

January 6, 1997

Discussion Topics

- Background
- Status
- Pilot Plant Application
- Process Feedback
- Results/Benefits

Background

- Catalysts behind development of the PSA Peer Review Certification Guidelines were:
  - Industry and NRC interest in risk-informed regulation
  - Increasing use of PSA-based applications
  - Issues of perceived differences among PSAs
  - Desire consistency
  - Sharing of experience and information

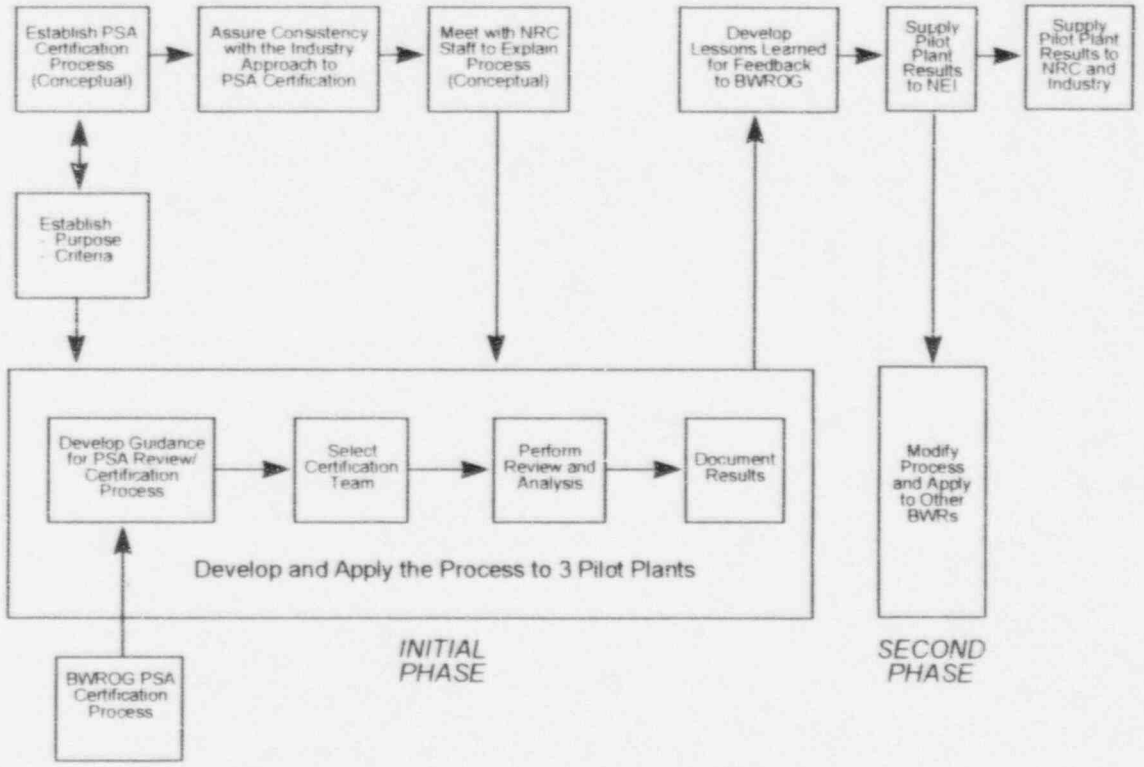
Background (continued)

- Purpose for the development of the process is to provide added assurance that PSA models are viable tools to be used in decision making and resource allocation.
- The process enhances the level of excellence by verifying accuracy, realism, completeness, and documentation of plant specific PSAs.

Status of BWROG Effort

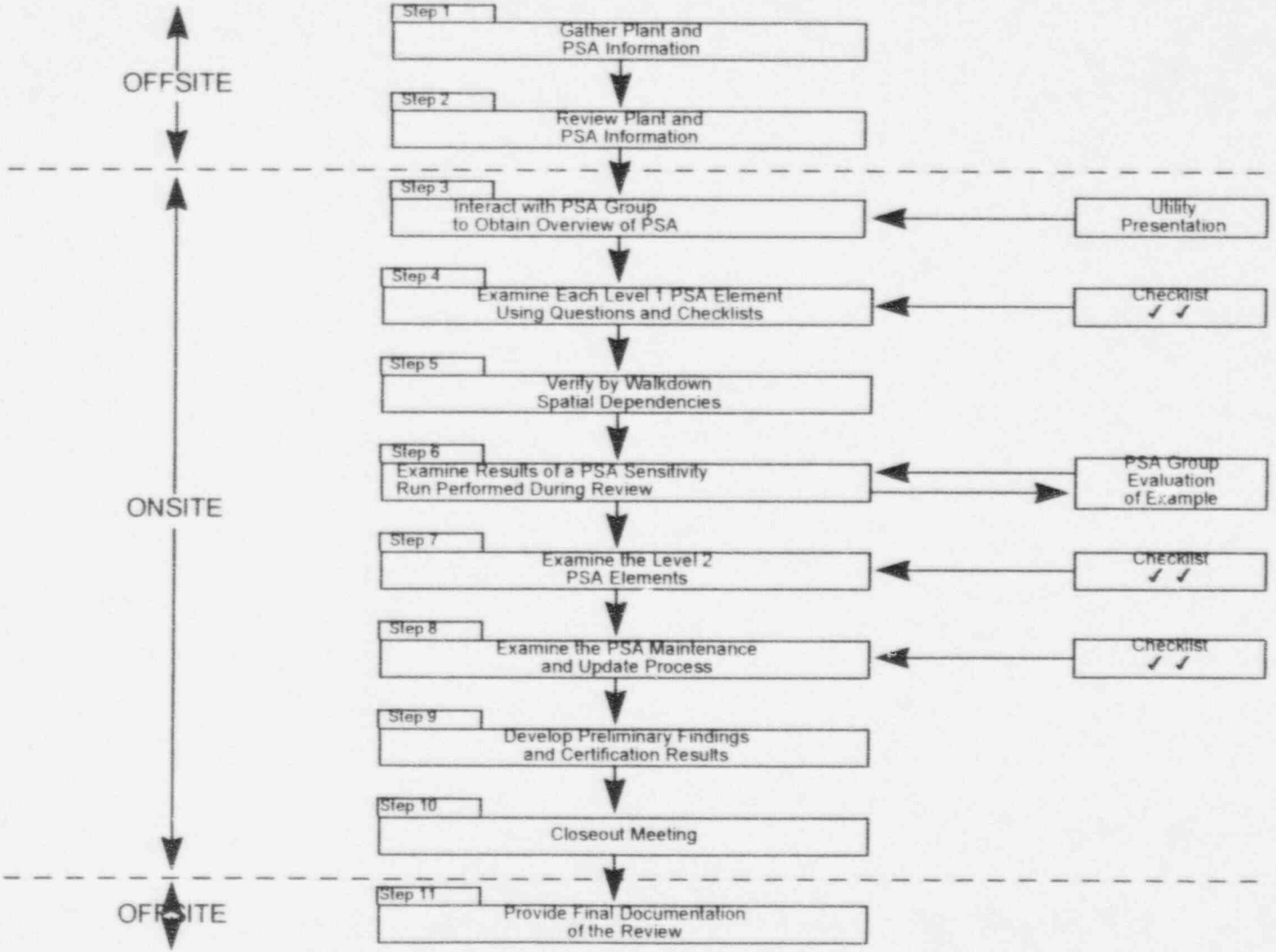
- Formulated the Certification Guidelines used in the peer review process
- Discussed approach with industry and NRC
- Applied process using 3 BWR pilot plants
- Revised Guidelines based on feedback from pilot plant trials

Pilot Plant Application



Details of BWROG PSA Certification Implementation Program

STEP-BY-STEP APPLICATION OF CERTIFICATION PROCESS AT PILOT PLANT



Pilot Plant Application (cont.)

- Focus of review was on two principal aspects:
  - Process for maintaining and updating the PSA
  - Technical details of the PSA
- Process is highly structured, allowing reviewers to investigate, compare, and assess key PSA elements

Pilot Plant Application (cont.)

- Example review item insights
  - Support system failure induced initiators and subsumed initiators may impact Grade 3 applications.
  - Event tree structures adequate to support most applications.
  - Enhancing the link (cross reference) between TH analyses and event trees is desirable.

Pilot Plant Application (cont.)

- Review item insights (continued)
  - Data analysis varied from plant to plant
    - At one plant, failure rates justified by plant specific data
    - At another plant, generic data was used
    - Conservative screening CCF values used at one plant
    - Maintenance unavailabilities and transient initiating event values typically plant specific

Pilot Plant Application (cont.)

- Review item insights (continued)
  - Timing and impact of a SORV and multiple SORVs on EOP actions and HPCI/RCIC operability need some enhancements.
  - Maintenance and update processes typically under development but not fully excercised at the time of the reviews.
  - Identification of potential standardized approaches.

Process Feedback

- Feedback on the Certification process fell into roughly four categories:
  - Streamlining the Process
  - Improving or Expanding Criteria
  - Editorial
  - Balancing of Resources

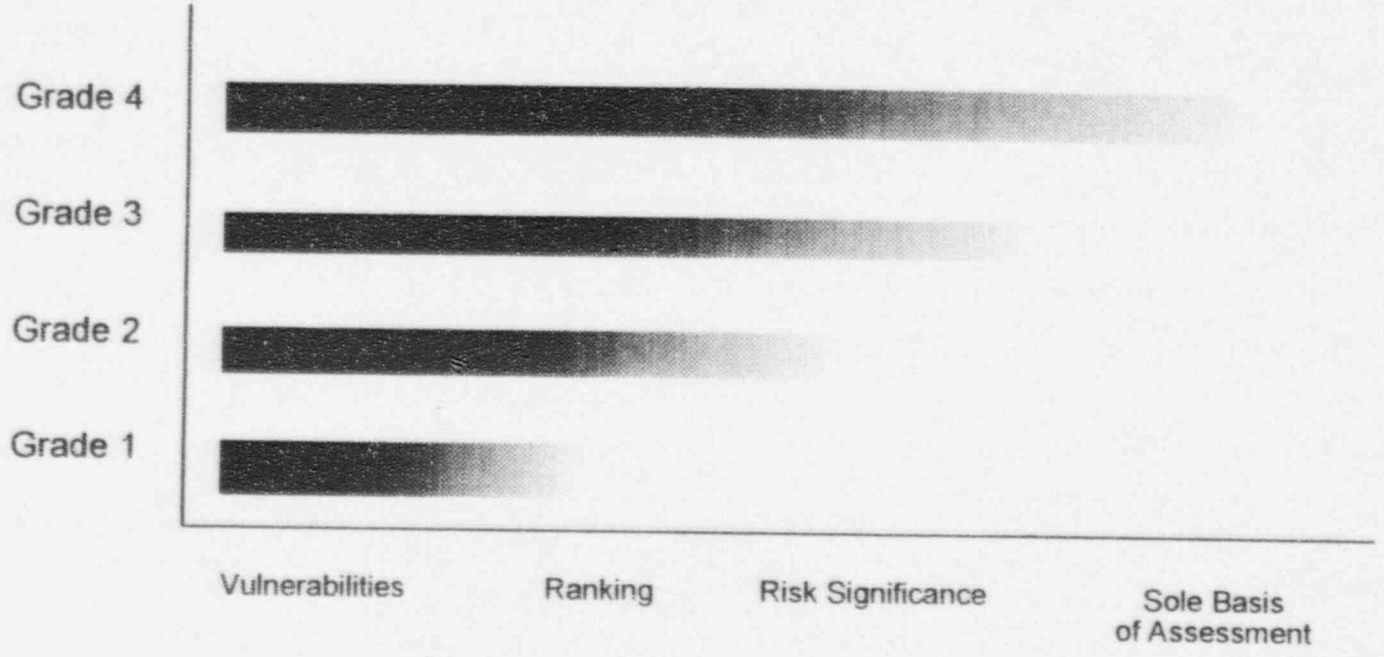
Process Feedback (cont.)

- Pilot Plant excercise collected 82 insights regarding process improvements.
  - 25% dealt with guideline improvements
  - 75% dealt with process streamlining
- Major improvements include:
  - Additional preparation by host utility
  - Daily feedback and calibration among reviewers

Results/Benefits

- Numerical measures (grades) are valuable for several reasons:
  - Identifies subelement differences
  - Used for communication of potential issues that need to be addressed
  - Some limited use in comparison among plants
  - Identifies areas that may require PSA application focus or dependence on non-PSA input

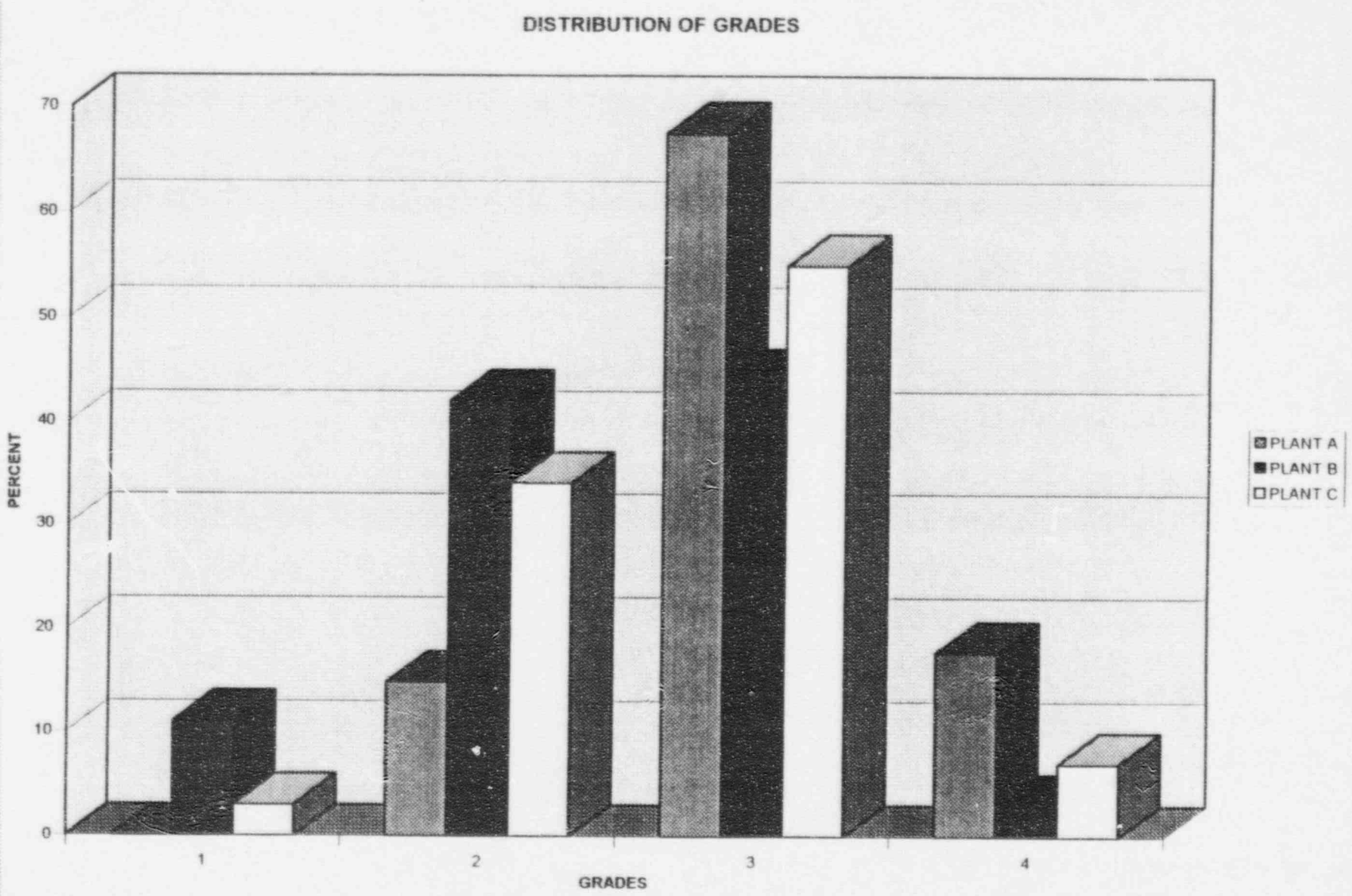
Grades

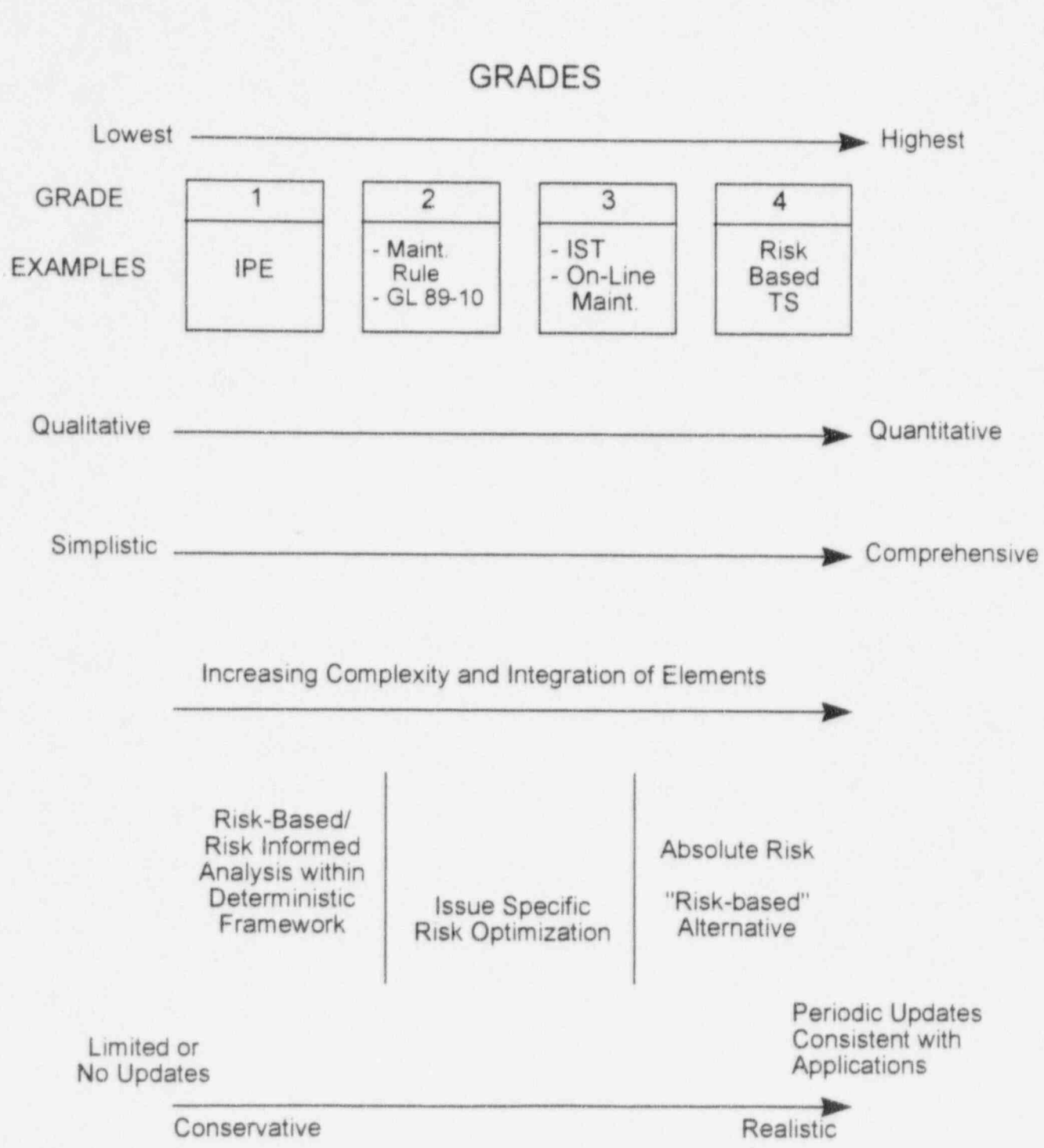


Spectrum of Applications Effectively
Supported by the PSA

Results/Benefits (cont.)

- Process establishes a uniform, reproducible method of assessing PSA quality and provides a useable critique in identifying areas for improvement.
- Provides cross pollination among utilities to maximize technology advances through sharing of successes.


DISTRIBUTION OF GRADES
PERCENT
70
60
50
40
30
20
10
0
1
2
3
4
GRADES
PLANT A
PLANT B
PLANT C



ATTRIBUTES OF THE PSA GRADES

Boiling Water Reactor Owners Group

cc: C. D. Terry
Vice President, Nuclear Engineering
Niagara Mohawk Power Corporation
Nine Mile Point-2
PO Box 63
Lycoming, NY 13093

D. B. Fetters
PECO Energy
Nuclear Group Headquarters
MC 62C-3
965 Chesterbrook Blvd.
Wayne, PA 19087

L. A. England
Entergy Operations Inc.
Grand Gulf Nuclear Station
PO Box 31995
Jackson, MS 39286

K. Sedney
GE Nuclear Energy
175 Curtner Ave, M/C 182
San Jose, CA 95125

T. J. Rausch
Commonwealth Edison Company
Nuclear Fuel Services
1400 Opus Place, 4th Floor ETWIII
Downers Grove, IL 60515