

Mr. Harold W. Keiser

3

Distribution w/encl; w/Attachments 1-2:

DRS Master Exam File

PUBLIC

Nuclear Safety Information Center (NSIC)

Distribution w/encl; w/o Attachments 1-2:

Region I Docket Room (with concurrences)

J. Wiggins, DRS

L. Nicholson, DRS

R. Conte, DRS

D. Florek, Chief Examiner, DRS

NRC Resident Inspector

DRS OL Facility File

DRS File

J. Linville, DRP

S. Barber, DRP

L. Harrison, DRP

C. O'Daniell, DRP

Distribution w/encl; w/o Attachments 1-: VIA E-MAIL

B. McCabe, OEDO

R. Capra, PDI-2, NRR

R. Ennis, PM, NRR

Inspection Program Branch, NRR (IPAS)

R. Correia, NRR

F. Talbot, NRR

DOCDESK

DOCUMENT NAME: G:\OLHP\CONTE\HC9803S2.INS

To receive a copy of this document, indicate in the box: "C" = Copy without attachment/enclosure "E" = Copy with attachment/enclosure "N" = No copy

OFFICE	RI/DRS	RI/DRP	RI/DRS		
NAME		JLinville <i>MSJ for</i>	RConte <i>MSJ</i>		
DATE		10/14/98	10/15/98	10/ /98	10/ /98

OFFICIAL RECORD COPY

U.S. NUCLEAR REGULATORY COMMISSION  
REGION I

Docket No: 50-354

License Nos: NPF-57

Report No. 50-354/98-03 (OL) - SECOND SUPPLEMENT

Licensee: Public Service Electric and Gas Company

Facility: Hope Creek Generating Station

Location: P.O. Box 236  
Hancocks Bridge, New Jersey 08038

Examination Period: February 23, 1998 - March 4, 1998 (onsite)

Inspection Period: March 4 - March 12, 1998 (in-office)  
May 19 through 21, 1998 (onsite),  
May 22 through 28 (in-office)  
June 29, 1998 (Management Meeting)

Chief Examiner: D. Florek, Senior Operations Engineer

Examiners: J. Caruso, Operations Engineer  
T. Fish, Operations Engineer

Inspector: S. Barr, Operations Engineer

Approved by: R. Conte, Chief, Operator Licensing  
and Human Performance Branch  
Division of Reactor Safety

## EXECUTIVE SUMMARY

### Examination Report 50-354/98-03 (OL) - Second Supplement

Initial exams were administered to six senior reactor operator (SRO) instant applicants (one of which was a retake on the written portion of the examination) and five reactor operator (RO) applicants during the period of February 23 - March 2, 1998, at the Hope Creek Generating Station. A preliminary report was issued on April 28, 1998 and supplement was issued June 16, 1998. This report supplements both reports in order to address a meeting of June 29, 1998 and the final grading results because of applicant appeals. Details of the previous reports were not duplicated within. However this executive summary reflects a comprehensive update on major findings and conclusions.

### OPERATIONS

Five of five reactor operator applicants and four of five senior reactor applicants passed the exams. Also, a senior reactor operator applicant for a retake examination passed the written portion of the test. Written grading score distribution reflected poor preparations on the part of certain applicants and a potential program problem in screening or readying applicants to take the NRC examination. (Revised from previous report)

PSE&G staff submitted initially an inadequate examination to administer to applicants for an operator's license. A majority of the test items of each portion of the examination required replacement or significant modifications. Significant interactions between the NRC and PSE&G occurred and an exam postponement for two weeks was required in order for PSE&G to develop an exam that was consistent with the NRC Examiner Standards.

The controls, criteria, and data for significant control manipulations were insufficient to provide evidence, in part, that the manipulations were done acceptably in accordance with 10 CFR 55.31(a)(5). As a result, some of the applicants needed to re-perform the significant control manipulations on the plant to achieve the required five. Program inadequacies were evident along with weak or inadequate corrective action from past events at Salem and related industry operating experience. This area is unresolved item pending further review by NRC staff (50-354/93-03-01). [This issue is being addressed in NRC Inspection Report No. 50-354/98-10.]

PSE&G submitted an incomplete re-application for an applicant who failed the September 29, 1997 written exam. A subsequent submittal provided the information required in 10 CFR 55.41(a).

The adequacy of program requirements for time spent on shift is unresolved pending further review by NRC staff with respect to meeting 10 CFR 55.31(a)(4). (URI 50-354/98-03-02) [This issue is being addressed in NRC Inspection Report No. 50-354/98-10.]



## Report Details

### **O5 Operator Training and Qualifications**

O5.1 Operator Initial Exams - See previous report of April 28, 1998

O5.2 Significant Control Manipulations - See previous report of April 28, 1998

O5.3 Incomplete Application - Inadvertently left out of previous report of April 28, 1998

On January 22, 1998, PSE&G submitted a reapplication for an applicant who failed the September 29, 1997 written exam. The reapplication was incomplete in that PSE&G did not provide the specific details of the extent of the applicant's additional training since the denial as required by 10 CFR 55.41(a). PSE&G submitted the required details in a letter dated March 13, 1998.

O5.4 Examination Results - Supplemental

The results of the initial exams among new applicants after NRC staff review of appeal information are summarized below (attachment 1 is a revised answer key for the examination):

	SRO Pass/Fail	RO Pass/Fail	Total Pass/Fail
Written	5/0	5/0	10/0
Operating	4/1	5/0	9/1
Overall	4/1	5/0	9/1

Also, another SRO applicant passed the retake of the written portion of the examination.

Written examination grading results reflected a range of scores among SRO applicants from 80.4 to 93.8 with 4 of 6 having scores between 80 and 85% and among ROs from 81.1 to 87.4 with 3 of the 5 having scores between 80 and 85%. These results reflect poor preparations on the part of certain applicants and a potential program problem in screening or readying applicants to take the NRC examination.

O5.5 Time on Shift - See previous report of June 16, 1998

E.8 Review of UFSAR Commitments - See previous report of April 28, 1998.



### V. Management Meetings

**X1 Exit Meeting Summary** - See previous reports issued April 28 and June 16, 1998

**X2 Management Meeting** - Supplemental

During the meeting of June 29, 1998, licensee representatives adequately addressed the following problems: adequacy of the development of the initial examination; adequacy on the performance of significant control manipulations, attention to detail in completing the retake application by a senior reactor operator candidate, adequacy of the readiness of applicants for the examination, and adequacy of guidance for applicant time on shift and for what constitutes "direct supervision." Licensee handout material is provided in Attachment 2. Overall the meeting was of mutual benefit.

#### MEETING ATTENDEES

##### Licensee

G. Salamon, Manager - Licensing  
 J. Zerbo, Manager - Ops Training  
 L. Wagner, Manager - Operations  
 M. Bezilla, General Manager, Hope Creek  
 C. Bakkan, General Manager, Salem  
 J. McMahon, Director, QA/NTC/EP  
 D. Powell, Director - Lic/Reg & Fuels  
 B. Thomas, Licensing Engineer  
 G. Blinde, License Training Supervisor - Salem  
 B. Havens, License Training Supervisor - Hope Creek  
 J. Keenan, PSEG Legal  
 R. Watkins, WD Associates (Licensee Contractor)

##### NRC

C. Sisco, Operations Engineer  
 R. Pelton, Training Specialist, NRR  
 J. Linville, Chief, Projects Branch 3, DRP  
 L. Nicholson, Deputy Director, DRS  
 R. Conte, Chief, OLHP, DRS  
 S. Pindale, SRI - Hope Creek  
 R. Vogt-Lowell, Operator Licensing Branch, NRR

##### Attachments:

1. Answer Key for Written Examination
2. Licensee Handout for Management Meeting of June 29, 1998

**ATTACHMENT 1**

**REVISED ANSWER KEY FOR THE WRITTEN EXAMINATION**

## Senior Reactor Operator Answer Key

- |  |  |
|--|--|
| <p>1. b     294001G101</p> <p>2. a     294001G102</p> <p>3. d     294001G104</p> <p>4. c     294001G108</p> <p><del>5. a     294001G118</del><br/> <i>deleted see exam analysis KEX 3-5-98</i></p> <p>6. c     294001G128</p> <p>7. b     294001G131</p> <p>8. b     294001G202</p> <p>9. c     294001G213</p> <p>10. d    294001G217</p> <p>11. d    294001G222</p> <p>12. a    294001G304</p> <p>13. c    294001G310</p> <p>14. b    294001G412</p> <p>15. d    294001G440</p> <p>16. b    294001G441</p> <p>17. d    294001G448</p> <p>18. a    201001K405</p> <p>19. c    201002A405</p> <p>20. a    201003A207</p> <p>21. a    201006K514</p> <p>22. d    201006K602</p> <p>23. c    202001A210</p> <p>24. a ord 202001A302<br/> <i>see attached exam analysis KEX 3-5-98</i></p> <p>25. b    202002A101     <i>OK PA 3/11/98</i></p> | <p>26. d    203000K406</p> <p>27. c    204000K115</p> <p>28. d    205000A104</p> <p>29. <del>ba</del> 205000A203<br/> <i>SEE ATTACHED EXAM ANALYSIS KEX 3-5-98</i></p> <p>30. d    205000G421</p> <p>31. a    206000K102</p> <p>32. a    209001A403</p> <p>33. a    211000A208</p> <p>34. a    211000K506</p> <p>35. d    212000A414</p> <p>36. d    212000K411</p> <p>37. d    215002K604</p> <p>38. d    215004A104</p> <p>39. b    215005K104</p> <p>40. d    216000A301</p> <p>41. c    217000A210</p> <p>42. b    217000K201</p> <p>43. c    218000K201</p> <p>44. c    218000K302</p> <p>45. b    223001K103</p> <p>46. c    223002A403</p> <p>47. a    226001K403</p> <p>48. b    233000K302</p> <p><del>49. b    239001G128</del></p> <p>50. b    239002A109</p> |
|--|--|

*OK-  
PA 3/11/98*

*deleted per appeal  
results see  
9/98*



# Senior Reactor Operator Answer Key

- |  |  |
|--|--|
| <p>51. c 241000K302</p> <p>52. a 262001A304</p> <p>53. b 264000K603</p> <p>54. a 271000A408</p> <p>55. d 272000A201</p> <p>56. d 290001K601</p> <p>57. b 290002K401</p> <p>58. a 295001A203</p> <p>59. a 295002A105</p> <p>60. d 295003A101</p> <p>61. c 295003K204</p> <p>62. a 295004K203</p> <p>63. d 295005K201</p> <p>64. c 295006G449</p> <p>65. b 295006K103</p> <p>66. a 295007K304</p> <p>67. c 295008G123</p> <p>68. d 295009K202</p> <p>69. <del>cor b</del> 295010A202<br/> <i>See attached exam analysis REC 3-5-98 OK-PB 3/11/98</i></p> <p>70. d 295010K302</p> <p><del>71. <del>cor a</del> 295012K101</del><br/> <i>Deleted from exam per 9/18/98</i></p> <p><del>72. d 295013A102</del><br/> <i>See attached exam analysis REC 3-5-98<br/>         QUES NOT DELETED Comment DZ 3/11/98</i></p> <p><del>73. d 295013G401</del><br/> <i>Deleted see attached exam analysis REC<br/>         QUES NOT DELETED 3-5-98</i></p> <p>74. b 295014G110</p> <p><del>75. c 295014K106</del><br/> <i>Deleted see attached exam analysis<br/>         QUES NOT DELETED REC 3-5-98<br/>         DELETED PB 3/11/98</i></p> | <p>76. c 295015A202</p> <p>77. c 295016A108</p> <p>78. b 295017K302</p> <p>79. <del>cor a</del> 295018K202<br/> <i>See attached exam analysis REC 3-5-98<br/>         Deleted not deleted comment DZ 3/11/98</i></p> <p>80. a 295019A101</p> <p>81. d 295019K201</p> <p>82. a 295021A104</p> <p>83. d 295022K207</p> <p>84. a 295023G232</p> <p>85. b 295024A116</p> <p>86. b 295024K101</p> <p>87. d 295025K102</p> <p>88. c 295025K201</p> <p>89. b 295026K304</p> <p>90. b 295028K302</p> <p>91. d 295029A104</p> <p>92. d 295029A201</p> <p>93. a 295030K103</p> <p>94. b 295031A202</p> <p>95. c 295032G448</p> <p>96. <del>cor b</del> 295034K102<br/> <i>See attached exam analysis REC 3-5-98<br/>         OK-PB 3/11/98</i></p> <p>97. d 295035A201</p> <p>98. c 295037K205</p> <p>99. b 500000G404</p> <p>00. c 500000K303</p> |
|--|--|

## Reactor Operator Answer Key

- |   |   |
|---|---|
| 1. b      294001G101  | 26. d      205000A104   |
| 2. a      294001G102  | 27. <del>a</del> 205000A203<br><i>SEE ATTACHED EXAM ANALYSIS EER 3-5-98</i> |
| 3. c      294001G108  | 28. a      208000K102   |
| <del>4. a      294001G110</del><br><i>DELETED SEE ATTACHED EXAM ANALYSIS EER 3-5-98</i> | 29. d      208000K301   |
| 5. c      294001G122  | 30. d      209001A302   |
| 6. c      294001G128  | 31. a      209001A403   |
| 7. b      294001G131  | 32. a      211000A206   |
| 8. b      294001G202  | 33. a      211000K506   |
| 9. c      294001G213  | 34. d      212000A108   |
| 10. b      294001G304   | 35. d      212000K411   |
| 11. c      294001G310   | 36. b      215001A403   |
| 12. b      294001G412   | 37. d      215002K804   |
| 13. d      294001G448   | 38. c      215003K805   |
| 14. c      201001A204   | 39. d      215004A104   |
| 15. a      201001K405   | 40. b      215005K104   |
| 16. c      201002A405   | 41. d      216000A201   |
| 17. a      201003A207   | 42. d      216000A301   |
| 18. a      201006K514   | 43. a      217000A401   |
| <del>19. <del>a</del>      202001A210</del> <i>QUESTIONS DELETED FROM EXAM</i>          | 44. b      217000K201   |
| <del><i>SEE ATTACHED EXAM ANALYSIS EER 3-5-98</i></del> <i>OK BFD 3/11/98</i>           | 45. c      218000K201   |
| 20. a or d      202001A302<br><i>SEE ATTACHED EXAM ANALYSIS EER 3-5-98</i>              | 46. b      223001K103   |
| 21. c      202001K106   | 47. c      223002A403   |
| 22. b      202002A101   | 48. a      226001K403   |
| 23. b      202002K804   | 49. b      233000K302   |
| 24. d      203000K406   | <del>50. b      239001G128</del>  |
| 25. c      204000K115   | <i>deleted per appeal</i>   |

*OK BFD 3/11/98*

*deleted per appeal  
BFD 9/98*

# Reactor Operator Answer Key

- 51. c 239002K506
- 52. a 239003A101
- 53. c 241000K302
- 54. b 245000G102
- 55. a 259002A206
- 56. a 262001A304
- 57. b 264000K603
- 58. a 271000A408
- 59. d 272000A201
- 60. b 272000K501
- 61. d 286000A401
- 62. d 290001K601
- 63. b 290002K401
- 64. b 290003K501
- 65. a 295001A203
- 66. a 295002A105
- 67. d 295003A101
- 68. a 295004K203
- 69. d 295005K201
- 70. c 295006G449
- 71. b 295006K103
- 72. a 295007K304
- 73. c 295008G123
- 74. d 295009K202
- 75. d 295010K302

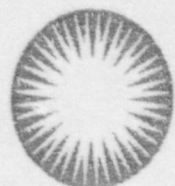
- Question deleted page 4/8/98*
- ~~76. c 295012K101~~  
*see attached exam analysis R6K 3-5-98*
  - 77. d 295013A102  
*ques comment not accepted*
  - ~~78. d 295013G401~~  
*78.d or "a" per appeal page 9/98*  
*ques NOT DELETED 2/3/11/98*  
*deleted see attached exam analysis R6K 3-5-98*
  - ~~79. d 295014A102~~  
*79.d or "a" per appeal page 9/98*  
*see attached exam analysis R6K 3-5-98*
  - 80. b 295014G110  
*ques comment not accepted 2/3/11/98*  
*deleted per appeal page 9/98*
  - 81. c 295015A202
  - 82. c 295016A108
  - 83. b 295017K302
  - 84. c 295018K202  
*a "a" per appeal page 9/98*  
*see attached exam analysis R6K 3-5-98*  
*ques comment not accepted*
  - 85. a 295019A101
  - 86. d 295019K201
  - 87. b 295020K105
  - 88. a 295021A104
  - 89. d 295022K207
  - 90. a 295023G232
  - 91. b 295024A116
  - 92. d 295025K102
  - 93. d 295029A104
  - 94. d 295029A201
  - 95. a 295030K103
  - 96. b 295031A202
  - 97. c 295032G448
  - 98. ~~a~~ b 295034K102  
*see attached exam analysis R6K 3-5-98*
  - 99. d 295035A201  
*OK*
  - 100. c 295037K205



**ATTACHMENT 2**

**LICENSEE HANDOUTS FOR MANAGEMENT MEETING OF JUNE 29, 1998**

The Power of Commitment



**PSEG**

HOPE CREEK  
INITIAL LICENSED OPERATOR  
TRAINING MEETING

JUNE 29, 1998



The Power of Commitment



**PSEG**

## OPERATOR TRAINING

---

- INTRODUCTION
  
- REVIEW OF THE PROBLEMS





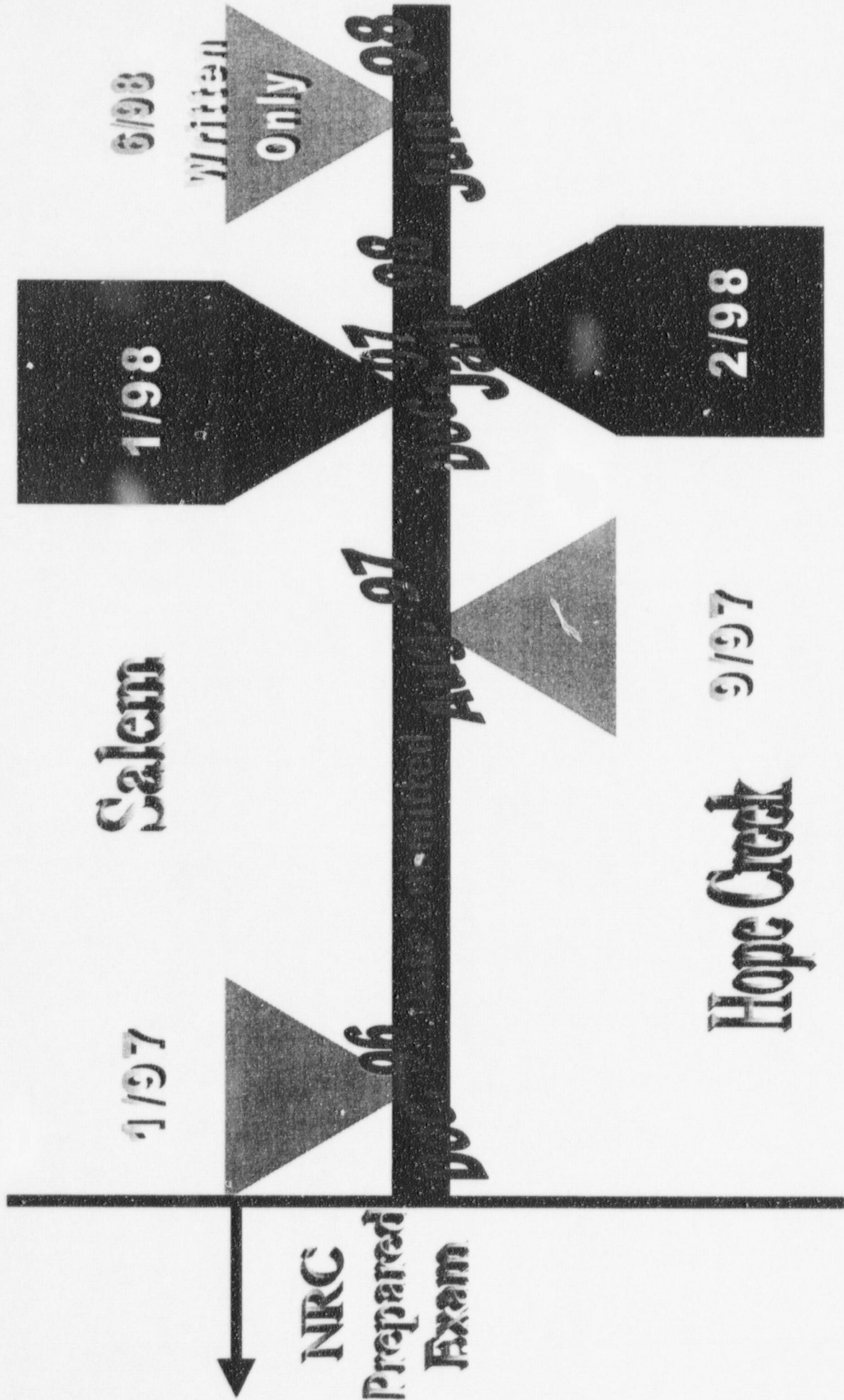
## OPERATOR TRAINING

---

### **PROBLEMS:**

- **QUALITY OF EXAM MATERIAL**
- **PERFORMANCE OF CERTAIN APPLICANTS**
- **LICENSED OPERATOR INITIAL TRAINING (LOIT) PROGRAM/PROCEDURE ADEQUACY ON CONDUCT OF SIGNIFICANT CONTROL MANIPULATIONS (SCM)**
- **CORRECTIVE ACTIONS FROM SALEM SCM RELATED ISSUES AND IN 97-67**
- **LOIT PROGRAM/PROCEDURE ADEQUACY ON HOW APPLICANTS SPEND TIME ON SHIFT (3-MONTHS, 520 HOURS) INCLUDING THE MEANING OF 'DIRECT SUPERVISION'**
- **ATTENTION TO DETAIL ON NRC 398 FORMS**

**PSE&G Prepared Exam**



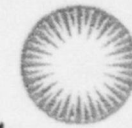


## OPERATOR TRAINING

---

- **QUALITY OF EXAM MATERIAL**
  - **MANAGEMENT WEAKNESS**
    - **EXAM PREPARATION**
    - **EXAM REVIEW**
    - **MAINTAINING A CLEAR UNDERSTANDING OF NRC STANDARDS AND EXPECTATIONS**





## OPERATOR TRAINING

---

- **QUALITY OF EXAM MATERIAL**
  - **CORRECTIVE ACTIONS**
    - **IMPROVE COMMUNICATION WITH THE NRC TO CLEARLY UNDERSTAND NRC STANDARDS AND EXPECTATIONS FOR EXAM DEVELOPMENT**
    - **ENHANCE OUR STAFF'S KNOWLEDGE OF WHAT CONSTITUTES A GOOD EXAMINATION**
    - **INCREASE MANAGEMENT LEVEL FOR REVIEW AND APPROVAL OF NRC EXAM SUBMITTALS**



## OPERATOR TRAINING

---

- PERFORMANCE OF CERTAIN APPLICANTS
  - CAUSES
    - CANDIDATE SELECTION PROCESS
    - PERFORMANCE EVALUATION PROCESS
    - INSTRUCTOR PERFORMANCE



## OPERATOR TRAINING

---

- PERFORMANCE OF CERTAIN APPLICANTS
  - CORRECTIVE ACTIONS
    - ENHANCED MANAGEMENT OVERSIGHT IN SELECTION PROCESS
    - ENHANCED QUAL CARDS FOR TARGETED CANDIDATES
    - ENHANCED MONITORING OF CANDIDATE PERFORMANCE THROUGH THE PROCESS
    - ENHANCED OBSERVATION AND FEEDBACK OF INSTRUCTOR PERFORMANCE

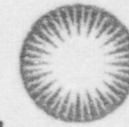




## OPERATOR TRAINING

---

- LOIT PROGRAM/PROCEDURE ADEQUACY ON CONDUCT OF SIGNIFICANT CONTROL MANIPULATIONS
- CORRECTIVE ACTIONS FROM SALEM SCM RELATED ISSUES AND IN97-67



## OPERATOR TRAINING

---

- LOIT PROGRAM/PROCEDURE ADEQUACY FOR ON-SHIFT TIME INCLUDING THE MEANING OF “DIRECT SUPERVISION”



## OPERATOR TRAINING

---

- COMPLETION OF NRC FORM 398
  - REMEDIATION MATERIAL FOR ONE SRO CANDIDATE
  - DOCUMENTATION OF SIGNIFICANT CONTROL MANIPULATIONS





## SUMMARY

---

- WE HAVE ASSESSED OUR PERFORMANCE
- WE HAVE ACKNOWLEDGED YOUR FEEDBACK
- WE HAVE ENHANCED OUR PROCEDURES AND PRACTICES
- WE REMAIN IN COMPLIANCE WITH REGULATIONS
- COMMITTED TO OPEN AND FREQUENT COMMUNICATION