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2420 W. 26th Avenue, Suite 100D, Denver, Colorado 80211

February 17, 1987
Fort St. Vrain
Unit No. 1
P-87067

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Attention: Mr. H. N. Berkow, Director
Standardization and Special
Projects Directorate

Docket No. 50-267

SUBJECT: Commission Meeting on Restart of Fort St. Vrain

REFERENCE: 1) PSC Letter, Williams to Berkow, dated January 30, 1987 (P-87038)

2) PSC Letter, Brey to Berkow, dated February 12, 1987 (P-87064)

Dear Mr. Berkow:

On February 26, 1987, PSC is scheduled to meet with the Commission and staff to discuss the restart of Fort St. Vrain. The purpose of the meeting is to secure Commission approval for full power operation of Fort St. Vrain, subject to staff approval of specified power levels as described in the reference above. Attached is the proposed agenda and revised draft slides which PSC plans to use at the meeting. We do not anticipate significant changes in the content of these slides, however, additional information may follow at a later date. The format and type style of the slides may be different at the meeting compared to those attached. PSC will provide handouts of all slides presented and appropriate backup information at the Commission meeting.

Should you have any questions concerning this subject, please contact Mr. M. H. Holmes at (303) 480-6960 for further information.

Very truly yours,

Lawrence Brey

H. L. Brey, Manager
Nuclear Licensing and Fuels Division



HLB/DCG:jmt

Attachments

A001
1/1

cc: Regional Administrator, Region IV
Attn: Mr. J.E. Gagliardo, Chief
Reactor Projects Branch

Regional Administrator, Region IV
Attn: Mr. E. Johnson, Acting Director
Division of Reactor Safety and Projects

Mr. R.E. Farrell
Senior Resident Inspector
Fort St. Vrain

DRAFT AGENDA

NRC COMMISSIONERS MEETING

| | | |
|---|---|---|
| I. | PURPOSE | R.F. WALKER |
| | A. Restart Operational Readiness | |
| | B. Commitment to Fort St. Vrain | |
| | C. Executive Organization Changes | |
| II. | TECHNICAL ACCOMPLISHMENTS | R.O. WILLIAMS/ D. WAREMBOURG |
| | A. Impact of EQ Program on Plant Operations | |
| | B. Startup Accomplishments | |
| | C. Environmental Qualification of Electrical Equipment | |
| | D. Safe Shutdown Cooling | |
| | E. Fort St. Vrain Onsite AC Power System | |
| | F. Comparison of Chernobyl with Fort St. Vrain | |
| III. | MANAGEMENT ACCOMPLISHMENTS | R.O. WILLIAMS |
| | A. Senior Planning Team | |
| | B. Team Management | |
| | C. Improvements in SALP Related Areas | |
| | D. Improvements in Training | |
| IV. | POWER ASCENSION PLAN | R.O. WILLIAMS |
| V. | CONCLUSIONS | R.O. WILLIAMS |

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SLIDE 1

NRC LOGO

NUCLEAR REGULATORY COMMISSION

AND

THE PUBLIC SERVICE COMPANY OF COLORADO

MEETING TO

SECURE PERMISSION TO RESTART THE

FORT ST. VRAIN NUCLEAR GENERATING STATION

FEBRUARY 26, 1987

PSC LOGO

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SLIDE 2

R.F. WALKER

## PURPOSE

* SECURE COMMISSION APPROVAL TO RESTART FORT ST. VRAIN AND OPERATE AT POWER LEVELS UP TO 100 PERCENT SUBJECT TO NRC STAFF APPROVALS PRIOR TO EXCEEDING SPECIFIED INTERIM POWER LEVELS.

## RESTART OPERATIONAL READINESS

* THE FORT ST. VRAIN EQ PROGRAM NRC INSPECTION IS COMPLETE.
* PSC HAS MADE SIGNIFICANT ACCOMPLISHMENTS AND IMPROVEMENTS.
* THE NON-NUCLEAR DRYOUT IS PROCEEDING (AND THE CORE IS DRY).
* FORT ST. VRAIN IS READY TO OPERATE AND NEEDS NRC PERMISSION TO RESTART.

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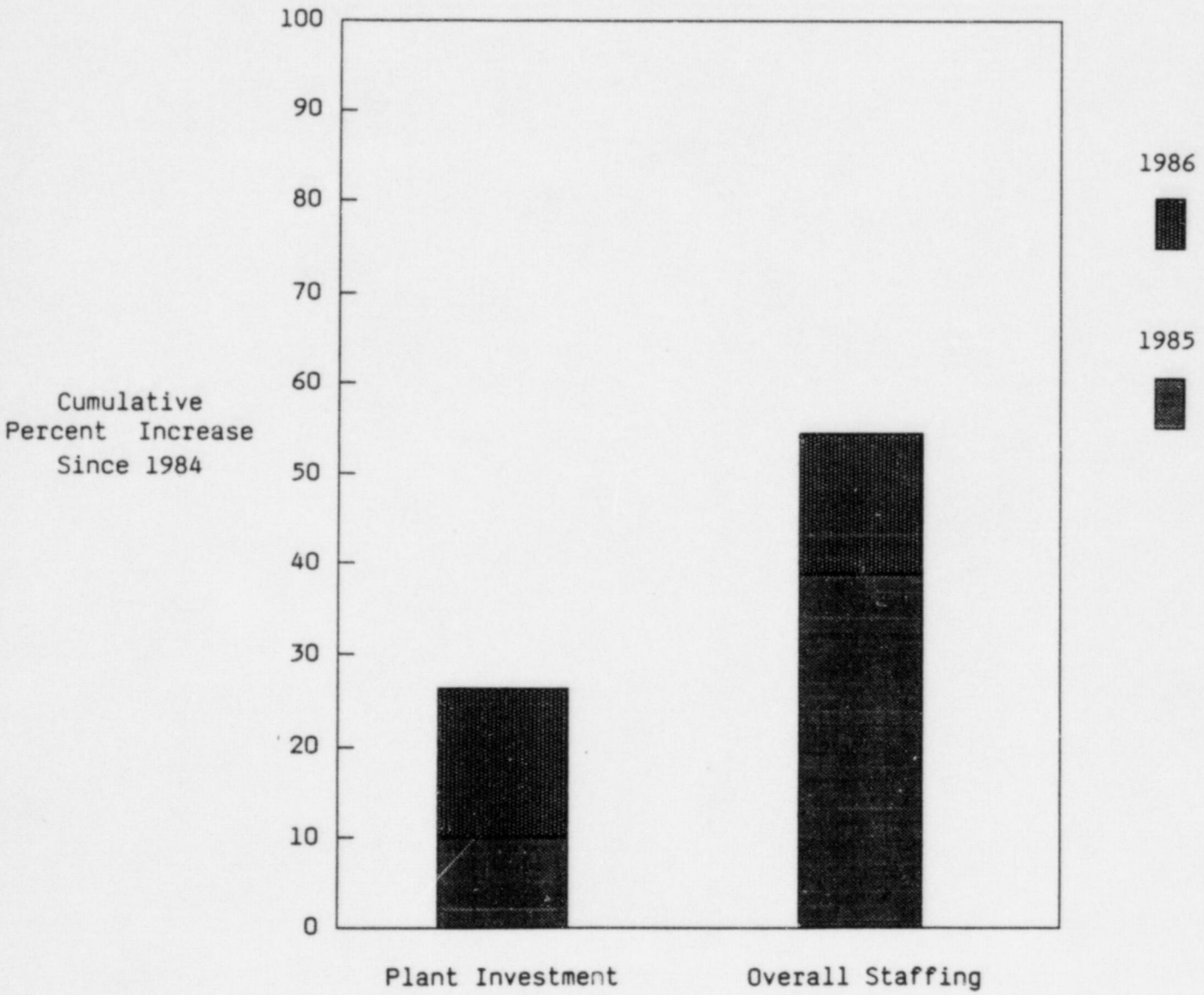
SLIDE 3

R.F. WALKER

FORT ST. VRAIN

* COMMITMENT TO OPERATIONAL EXCELLENCE

* DEDICATION TO SAFETY AND QUALITY




RESOURCE EXPENDITURES FOR 1985 AND 1986

# EXECUTIVE ORGANIZATION CHANGES
# NUCLEAR OPERATIONS
# PUBLIC SERVICE COMPANY OF COLORADO

SLIDE 4

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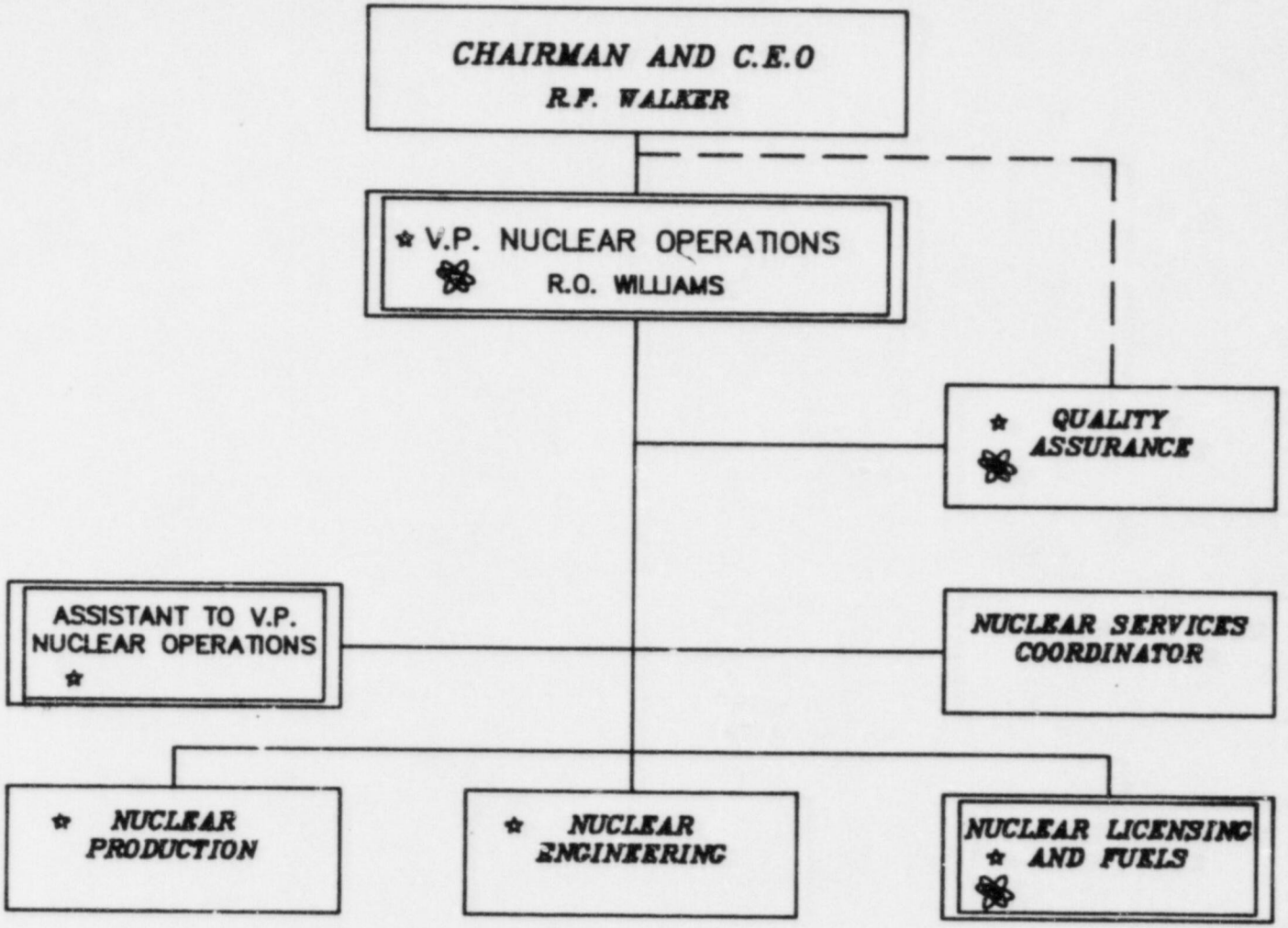
ORGANIZATION CHART




Indicates PEP related action

Indicates a member of the Senior Planning Team

Indicates a new organizational entity since 1984 NRC Management Assessment

*Italics indicate change in function or reporting responsibility*

# DRAFT

SLIDE 5

R.O. WILLIAMS

FORT ST. VRAIN HAS BEEN SHUTDOWN SINCE MAY, 1986 TO BRING THE PLANT INTO COMPLIANCE WITH 10CFR50.49

* COMMISSION APPROVAL OF EQ SCHEDULE EXEMPTION - NOVEMBER 1985

* STAFF APPROVAL FOR 35 PERCENT OPERATION - FEBRUARY 1986

* NRC EQ INSPECTION COMPLETE - JANUARY 1987

# DRAFT

SLIDE 6 R.O. WILLIAMS

## STARTUP ACCOMPLISHMENTS

| | | |
|---|---|---|
| * | NRC INSPECTION OF EQ PROGRAM | COMPLETE |
| * | PSC ACCIDENT REANALYSIS FOR SAFE SHUTDOWN COOLING | COMPLETE |
| * | PSC RESOLUTION OF ELECTRICAL INDEPENDENCE | COMPLETE |
| * | PSC EVALUATION OF CHERNOBYL IMPACT | COMPLETE |

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SLIDE 7

D. WAREMBOURG

ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT

* 1654 ITEMS QUALIFIED

* STEAM LINE RUPTURE DETECTION/ISOLATION SYSTEM (SLRDIS) INSTALLED

* I&E EQ INSPECTION EXIT INDICATES PROGRAM ACCEPTABLE

* PSC CERTIFICATION OF COMPLETION

* ONGOING EQ COMPLIANCE ASSURED THROUGH EXECUTIVE POLICY AND IMPLEMENTING PROCEDURES

* $40 MILLION EQ INVESTMENT

# DRAFT

SLIDE 8

D.W. WAREMBOURG

## SAFE SHUTDOWN COOLING

* STEAM GENERATORS FOUND TO HAVE INADEQUACIES IN PROVIDING SAFE SHUTDOWN COOLING.

* ANALYSES OF HISTORICAL PLANT OPERATIONS HAVE CONFIRMED THAT SAFE SHUTDOWN COOLING COULD HAVE BEEN CONDUCTED WITHOUT UNDUE RISK TO THE HEALTH AND SAFETY OF THE PUBLIC.

* RESOLUTION:

  - TECHNICAL SPECIFICATION CHANGES FOR ADDITION OF SLRDIS AND REMOVAL OF REHEATERS.

  - VENT LINE INSTALLATION TO PROVIDE IMPROVED FLOW PATH FOR SAFE SHUTDOWN COOLING.

  - 35 PERCENT POWER OPERATION

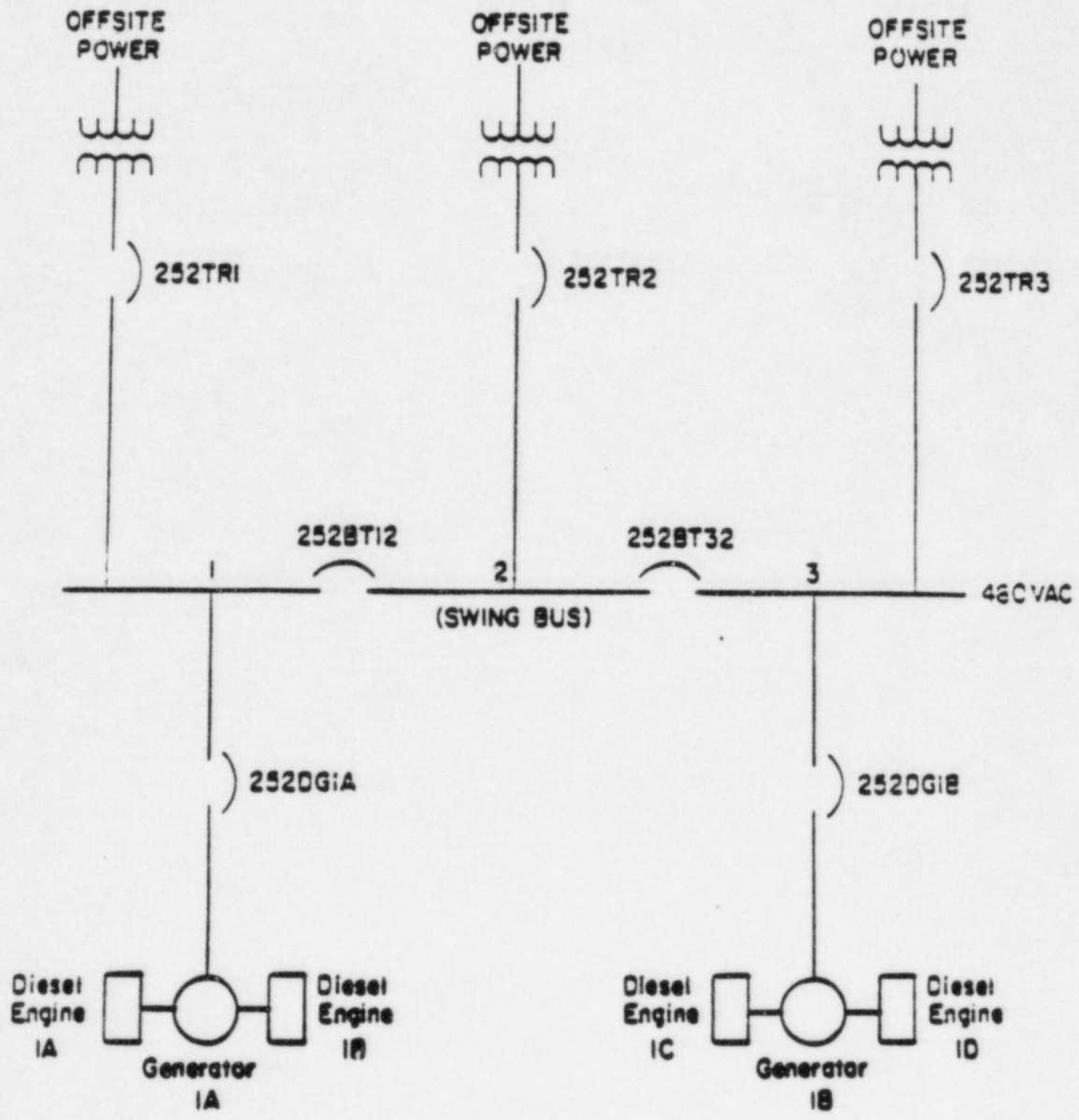
  - 82 PERCENT POWER OPERATION

  - POWER ASCENSION PLAN

SLIDE 9

# DRAFT

FORT ST. VRAIN ONSITE AC POWER SYSTEM



# DRAFT

SLIDE 10

## COMPARISON OF CHERNOBYL WITH FORT ST. VRAIN

| | CHERNOBYL | FORT ST. VRAIN |
|---|---|---|
| - FUEL DESIGN | - ZIRCONIUM CLAD FUEL ELEMENTS IN PRESSURE TUBES COOLED BY LIGHT WATER (I.E., FAST THERMAL RESPONSE TIME) | - CERAMIC COATED FUEL PARTICLES THERMALLY COUPLED TO GRAPHITE MODERATOR (I.E., SLOW THERMAL RESPONSE TIME) |
| - PRIMARY COOLANT | - TWO-PHASE LIGHT WATER | - SINGLE PHASE HELIUM |
| - REACTOR KINETICS | - POSITIVE VOID COEFFICIENT OF REACTIVITY | - STRONG NEGATIVE POWER COEFFICIENT OF REACTIVITY |
| - FISSION PRODUCE CONTAINMENT | - ZIRCONIUM CLAD FUEL | - MULTIPLE COATED FUEL PARTICLES |
| | - LOW PRESSURE REACTOR ENCLOSURE IN CONCRETE WELL | - PRIMARY PCRV CLOSURES<br>- SECONDARY PCRV CLOSURES<br>- FILTERED VENTILATION CONFINEMENT BUILDING |
| - CORE COOLING CAPABILITY | - COMPLEX ECCS SYSTEM WITH MULTIPLE SUB-SYSTEMS NEEDED FOR COOLING | - TWO MAIN COOLING LOOPS EACH INCLUDING:<br>- TWO HELIUM CIRCULATORS<br>- FEEDWATER, CONDENSATE FIREWATER COOLING<br>- REDUNDANT LINER COOLING SYSTEMS |

SLIDE 11 - SENIOR PLANNING TEAM

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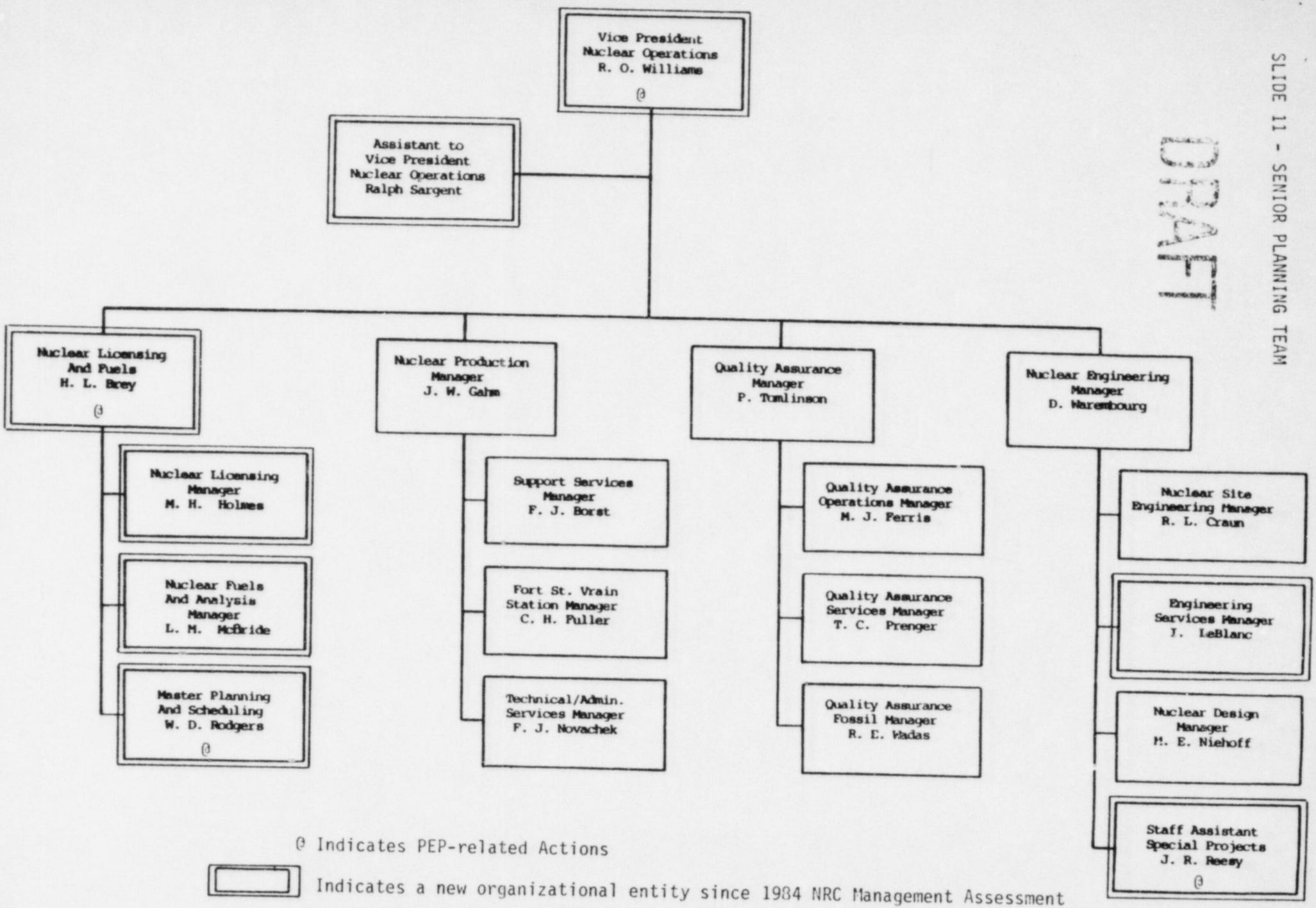


@ Indicates PEP-related Actions

Indicates a new organizational entity since 1984 NRC Management Assessment

# DRAFT

SLIDE 12

## TEAM MANAGEMENT

* COMMUNICATION AND COORDINATION OF KEY ISSUES, ACTION PLANS, AND RESULTS.

* DIRECTION AND DELEGATION OF ACTION ITEMS NEEDED TO BE TAKEN BY:

  - INDIVIDUALS

  - DEPARTMENTS

  - TASK TEAMS

* KEY PERFORMANCE ISSUES TRACKED AND CONTROLLED AGAINST GOALS ON A WEEKLY BASIS.

* DIRECTION, DELEGATION, ACCOUNTABILITY, AND PLANNING FOR:

  - GOALS COMPLETION

  - PEP

  - SALP

  - STARTUP ACTIVITIES

# DRAFT

SLIDE 13 R.O. WILLIAMS

## IMPROVEMENTS IN SALP RELATED AREAS

* OPERATIONS

  - STAFF AND ADMINISTRATIVE CHANGES IMPLEMENTED.

  @ HUMAN FACTORS EMPHASIZED IN REVISED OPERATING PROCEDURES.

  - INPO "GOOD PRACTICE" FOR PLACING PIPING AND INSTRUMENTATION DRAWINGS IN STRATEGIC PLANT LOCATIONS AND TAILORING DRAWING CONTENT TO PERTINENT EQUIPMENT.

  - INPO "GOOD PRACTICE" FOR COMPUTERIZED DISPLAY OF ANNUNCIATOR RESPONSE PROCEDURE.

* MAINTENANCE

  - SIGNIFICANT IMPROVEMENTS IN HOUSEKEEPING.

  @ MAINTENANCE AND RESULTS PROCEDURE REWRITE PROGRAMS COMPLETED.

* OUTAGE CONTROL

  - OUTAGE MANAGER CONCEPT IMPLEMENTED.

  @ STANDARDIZED SCHEDULING SYSTEM ADOPTED.

@ INDICATES PEP RELATED ACTION

# DRAFT

SLIDE 14

R.O. WILLIAMS

## IMPROVEMENTS IN SALP RELATED AREAS

* SECURITY
  - SIGNIFICANT UPGRADES IN PHYSICAL SECURITY SYSTEMS.
  - STAFF INCREASED TO SUPPORT SURVEILLANCE AND MAINTENANCE OF SYSTEMS.

* EMERGENCY PREPAREDNESS
  - DEDICATED STAFF TO MANAGE EMERGENCY PLANNING.
  - ACCOUNTABILITY PROCESS REVISED, IMPLEMENTED, AND TESTED.
  - STAFF AUGMENTATION PROCESS BEING ENHANCED.

* LICENSING
  @ NEW LICENSING AND FUELS DIVISION CREATED.
  @ INPO "GOOD PRACTICE" FOR METHOD OF IDENTIFYING, CONTROLLING, AND COMMUNICATING PASSIVE COMMITMENTS.
  - ENHANCEMENTS TO LICENSEE EVENT REPORTING PROCESSES

* QUALITY ASSURANCE
  @ DRAMATIC INCREASE IN STAFFING AND EXPERIENCE LEVELS.
  - SIGNIFICANT MANAGEMENT ATTENTION TO CORRECTIVE ACTION SYSTEM.

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SLIDE 15 R.O. WILLIAMS

## IMPROVEMENTS IN TRAINING

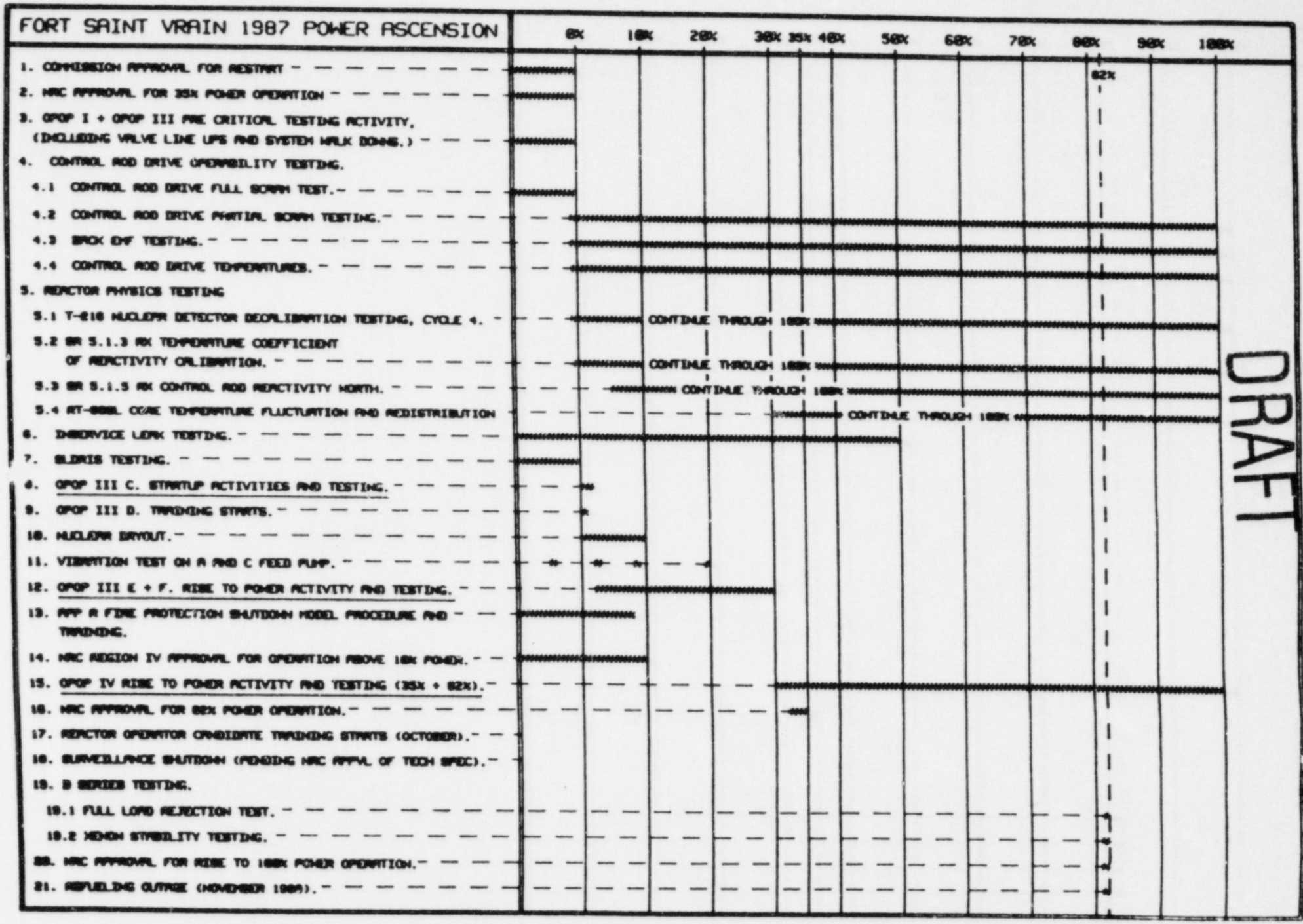
@ REQUALIFICATION PROGRAM SUBSTANTIALLY ENHANCED.

@ INPO ACCREDITATION RECEIVED ON THREE OPERATOR TRAINING PROGRAMS.

@ SEVEN NON-OPERATOR TRAINING PROGRAMS DEVELOPED, SELF EVALUATION REPORTS SUBMITTED, AND NOW AWAITING INPO ACCREDITATION.

@ INPO ACCREDITATION RESOURCE EXPENDITURES HAVE EXCEEDED 30 MAN-YEARS AND $5 MILLION.

@ SPECIALIZED TRAINING PROGRAMS DEVELOPED FOR TECHNICAL SUPPORT PERSONNEL


FORT SAINT VRAIN 1987 POWER ASCENSION
0%
10%
20%
30%
35%
40%
50%
60%
70%
80%
82%
90%
100%
1. COMMISSION APPROVAL FOR RESTART
2. NRC APPROVAL FOR 35% POWER OPERATION
3. OPOP I + OPOP III PRE CRITICAL TESTING ACTIVITY, (INCLUDING VALVE LINE UPS AND SYSTEM WALK DOWNS.)
4. CONTROL ROD DRIVE OPERABILITY TESTING.
4.1 CONTROL ROD DRIVE FULL SCRAM TEST.
4.2 CONTROL ROD DRIVE PARTIAL SCRAM TESTING.
4.3 BACK EMF TESTING.
4.4 CONTROL ROD DRIVE TEMPERATURES.
5. REACTOR PHYSICS TESTING
5.1 T-216 NUCLEAR DETECTOR DECALIBRATION TESTING, CYCLE 4.
CONTINUE THROUGH 100%
5.2 SR 5.1.3 RX TEMPERATURE COEFFICIENT OF REACTIVITY CALIBRATION.
CONTINUE THROUGH 100%
5.3 SR 5.1.5 RX CONTROL ROD REACTIVITY WORTH.
CONTINUE THROUGH 100%
5.4 RT-600L CORE TEMPERATURE FLUCTUATION AND REDISTRIBUTION
CONTINUE THROUGH 100%
6. INSERVICE LEAK TESTING.
7. ELDRIS TESTING.
8. OPOP III C. STARTUP ACTIVITIES AND TESTING.
9. OPOP III D. TRAINING STARTS.
10. NUCLEAR BRYOUT.
11. VIBRATION TEST ON A AND C FEED PUMP.
12. OPOP III E + F. RISE TO POWER ACTIVITY AND TESTING.
13. APP R FIRE PROTECTION SHUTDOWN MODEL PROCEDURE AND TRAINING.
14. NRC REGION IV APPROVAL FOR OPERATION ABOVE 10% POWER.
15. OPOP IV RISE TO POWER ACTIVITY AND TESTING (35% + 82%).
16. NRC APPROVAL FOR 82% POWER OPERATION.
17. REACTOR OPERATOR CANDIDATE TRAINING STARTS (OCTOBER).
18. SURVEILLANCE SHUTDOWN (PENDING NRC APPVL OF TECH SPEC).
19. B SERIES TESTING.
19.1 FULL LOAD REJECTION TEST.
19.2 XENON STABILITY TESTING.
20. NRC APPROVAL FOR RISE TO 100% POWER OPERATION.
21. REFUELING OUTAGE (NOVEMBER 1988).
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-SLIDE 16

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SLIDE 17 R.O. WILLIAMS

## CONCLUSIONS

* PSC HAS SUCCESSFULLY BROUGHT FORT ST. VRAIN INTO COMPLIANCE WITH 10 CFR 50.49.

* RESTART ISSUES HAVE BEEN RESOLVED.

* SIGNIFICANT ACCOMPLISHMENTS HAVE BEEN MADE IN MANAGEMENT AND SALP RELATED AREAS.

* RESTART AND POWER ASCENSION PLANS HAVE BEEN DEVELOPED AND ARE AWAITING IMPLEMENTATION.

* PUBLIC SERVICE COMPANY REQUESTS A FAVORABLE VOTE TO RESTART AND OPERATE FORT ST. VRAIN.