Docket Nos. 50-445
and 50-446

SEP 18 1990

LICENSEE: Texas Utilities Electric Company (TU Electric)

FACILITY: Comanche Peak Steam Electric Station (CPSES), Units 1 & 2

SUBJECT: SUMMARY OF MEETING ON CLASS 1E CABLE AND RACEWAY SEPARATION

A meeting was held on September 6, 1990, to discuss TU Electric's proposed changes to the Class 1E cable and raceway separation criteria. A list of attendees and a copy of the handout used by TU Electric in their presentation are provided as Enclosures 1 and 2, respectively.

The details of the proposed separation criteria changes are contained in TU Electric's letter dated June 28, 1990, and reiterated in the enclosed handout. The revised separation criteria are intended to significantly reduce the related amount of inspection and rework time on Unit 2 and are based on tests performed by Wyle Laboratories. Most of the discussion at the meeting focused on the expected impact on the completion of Unit 2, and on past acceptance by the NRC of this approach to the separation criteria.

The meeting ended with the staff concluding that its review would factor in the appropriateness of the Wyle Laboratories test data, with emphasis on the applicability of the staff's acceptance of this approach at other commercial nuclear power plants as compared to the CPSES proposal.

Original Signed By:

Mel B. Fields, Project Manager
Project Directorate IV-2
Division of Reactor Projects III,
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Enclosures:
1. List of Attendees
2. Presentation Slides

cc w/enclosures:
See next page

DISTRIBUTION

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DATE	:09/17/90	:09/17/90	:09/17/90	:	:	:

OFFICIAL RECORD COPY
Document Name: TU ELECTRIC MEETING SUMMARY

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ENCLOSURE 1

NRC/TU ELECTRIC MEETING

CLASS 1E CABLE AND RACEWAY SEPARATION

FOR COMANCHE PEAK, UNITS 1 & 2

September 6, 1990

NAME	ORGANIZATION
M. Fields	NRR/NRC
F. Ashe	NRR/NRC
R. Walker	TU Electric
T. Hicks	STS Inc.
E. LaVigne	Stone & Webster Engineering Corp.
D. Leach	Stone & Webster Engineering Corp.
I. Ahmad	TU Electric
J. LaMarca	TU Electric

ENCLOSURE 2

CPSES
CABLE AND RACEWAY
SEPARATION CRITERIA

INDEPENDENCE OF ELECTRICAL SYSTEMS IS ACHIEVED THROUGH:

- PHYSICAL SEPARATION
- ELECTRICAL SEPARATION

THE COMANCHE PEAK PHYSICAL SEPARATION DESIGN IS BASED ON IEEE-384-1974 AND THE GUIDANCE PROVIDED IN R.G. 1.75 REV. 1 COMPLIMENTED BY:

- SEPARATE SAFETY CLASS STRUCTURES
- FIRE HAZARDS ANALYSIS (DBD-ME-001)
- FIRE SAFE SHUTDOWN ANALYSIS (DBD-ME-020)
- SEISMIC/NON SEISMIC SYSTEM INTERACTIONS PROGRAM (DBD-ME-005)
- PIPE BREAK POSTULATIONS & EFFECTS (DBD-ME-007)
- MISSLE POSTULATION & EFFECTS (DBD-ME-105)
- CONTROL OF HEAVY LOADS (DBD-ME-006)
- COMMODITY CLEARANCE (CPES-S-1021)

THE COMBINED EFFECT OF THESE PROGRAMS ASSURE THAT:

- CLASS 1E CIRCUITS AND EQUIPMENT ARE REVIEWED FOR EXPOSURE TO POTENTIAL HAZARDS
- PROTECTION COMMENSURATE WITH THE POTENTIAL HAZARD IS PROVIDED
- DAMAGE POTENTIAL IS LIMITED TO FAILURES OR FAULTS INTERNAL TO ELECTRICAL EQUIPMENT OR CIRCUITS

WHEN DAMAGE POTENTIAL IS LIMITED TO FAILURES OR FAULTS INTERNAL TO THE ELECTRICAL EQUIPMENT OR CIRCUITS, IEEE 384-1974 PROVIDES FOR PHYSICAL SEPARATION BY:

- SPATIAL DISTANCE
- COMBINATION OF SPATIAL DISTANCE AND BARRIERS OR ENCLOSURES
- ANALYSIS OF CABLE INSTALLATION

SEPARATION CRITERIA

IEEE-384-1974

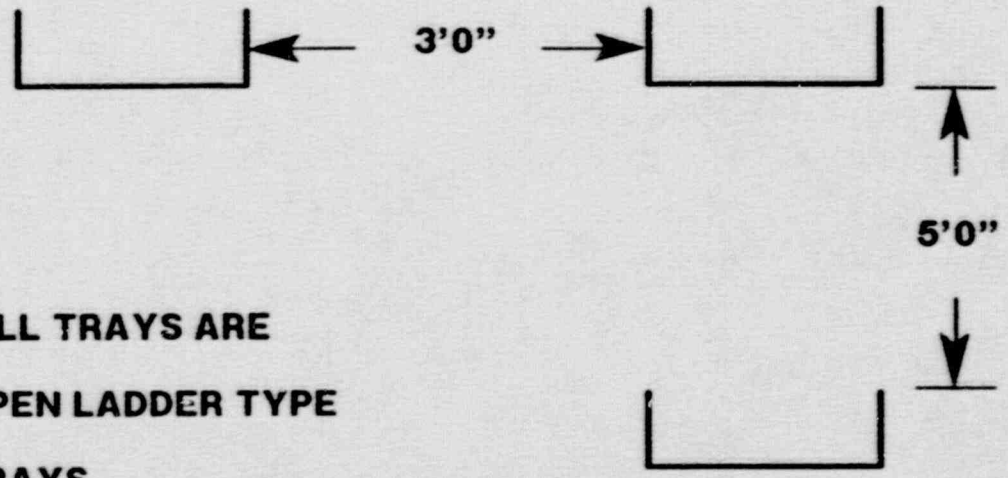
- 3 FEET HORIZONTAL, 5 FEET VERTICAL (PARA 5.1.4)
  GENERAL PLANT AREA FOR OPEN VENTILATED TRAYS

- 1 INCH VERTICAL BETWEEN TRAYS
  - WITH ONE BARRIER (FIGURE 2)
  - BOTTOM TRAY WITH COVER & TOP TRAY SOLID BOTTOM (FIGURE 2)
  - WITH ONE BARRIER AT TRAY CROSSING (FIGURE 4)
  - BOTTOM TRAY WITH COVER AT TRAY CROSSING (FIGURE 5)

- 1 INCH HORIZONTAL BETWEEN TRAYS (FIGURE 3)
  - WITH ONE BARRIER
  - BETWEEN ENCLOSED TRAYS

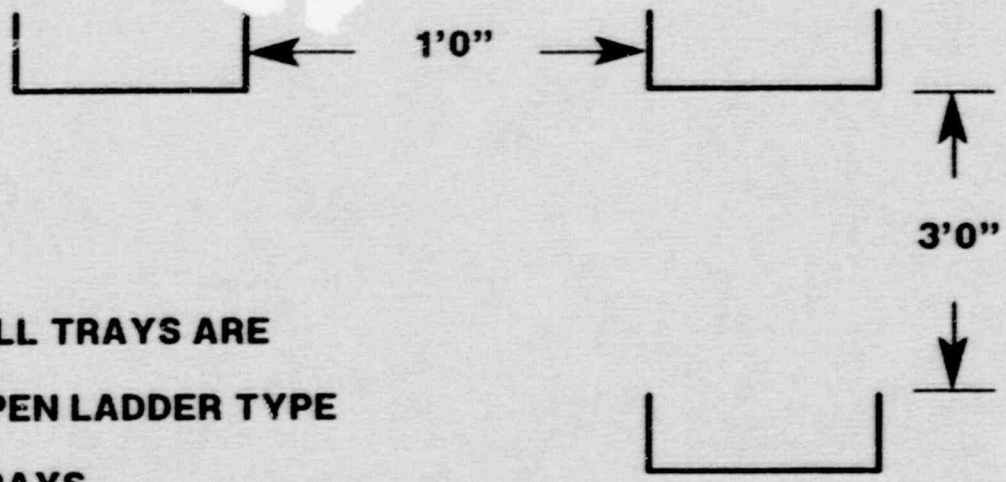
- LESSER SEPARATION DISTANCE CAN BE ESTABLISHED BY ANALYSIS OF INSTALLATION BASED ON TEST (PARA. 5.1.1.2)

AN EXAMPLE OF PHYSICAL SEPARATION UTILIZING SPATIAL DISTANCE IN THE GENERAL PLANT AREA IS:



ALL TRAYS ARE OPEN LADDER TYPE TRAYS

AN EXAMPLE OF PHYSICAL SEPARATION UTILIZING SPATIAL DISTANCE IN THE CABLE SPREADING AREA IS:

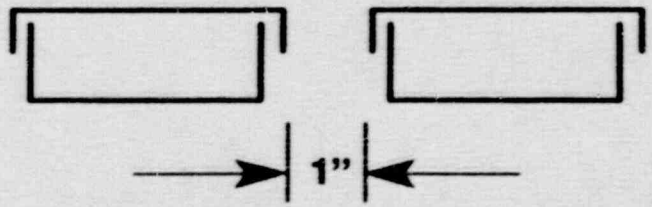


ALL TRAYS ARE

OPEN LADDER TYPE

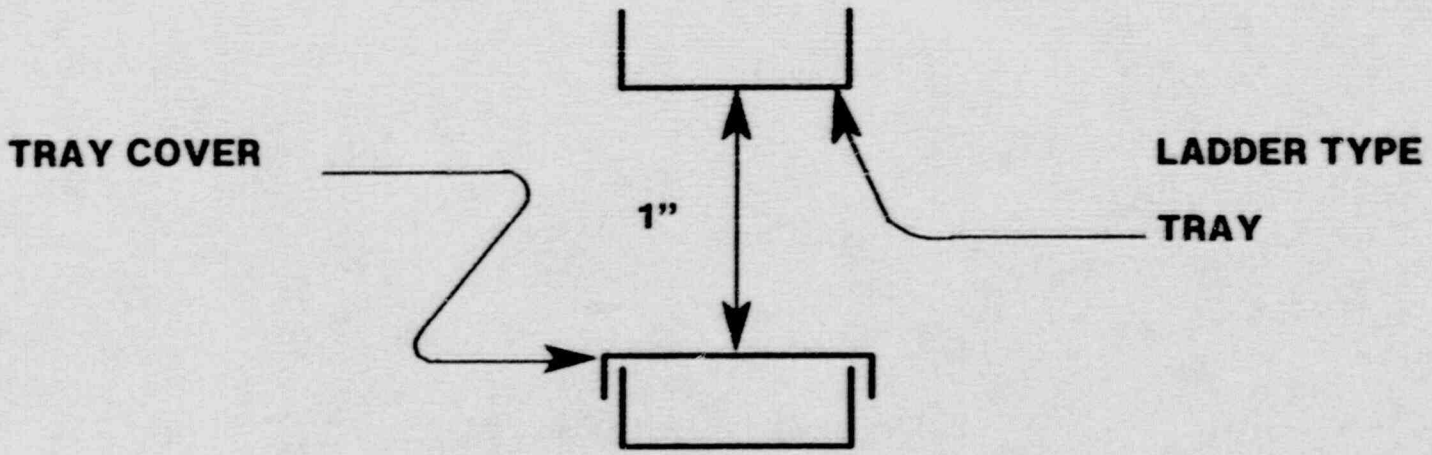
TRAYS

AN EXAMPLE OF PHYSICAL SEPARATION UTILIZING A COMBINATION OF SPATIAL DISTANCE AND BARRIERS OR ENCLOSURES FOR HORIZONTAL SEPARATION:



ENCLOSED RACEWAY

AN EXAMPLE OF PHYSICAL SEPARATION UTILIZING A COMBINATION OF SPATIAL DISTANCE AND BARRIERS OR ENCLOSURES BASED ON TESTS AND ANALYSIS IS:



VERTICAL SEPARATION

CPSES SEPARATION CRITERIA MEETS THE REQUIREMENTS OF:

- IEEE 384-1974
- REG. GUIDE 1.75 REV. 1

JUSTIFICATION FOR CRITERIA CHANGE

- UNIT 1 LESSONS LEARNED
- SIMPLER AND MORE CONSISTANT CRITERIA
  - EASIER TO TRAIN WALKDOWN PERSONNEL
  - EASIER TO TRAIN INSTALLERS
  - EASIER TO TRAIN QC
  - EASIER TO INSURE COMPLIANCE
  - MEETS ALL ASPECTS OF RG 1.75 AND IEEE 384-74

EXTENT OF CRITERIA CHANGES

- POWER TRAY TO TRAY/CABLE
  (FROM 2 BARRIERS AND 1 INCH TO 1 BARRIER AND 1 INCH)

- CLASS IE CONDUIT ABOVE TRAY/CABLE
  (FROM 2 BARRIERS AND 1 INCH TO 1 BARRIER AND 1 INCH)

WYLE TEST REPORT #17666-02

- TEST CONDUCTED FOR BEAVER VALLEY UNIT #2
- CONFIGURATIONS #1 & 2 ESTABLISH 0" AS ADEQUATE SEPARATION BETWEEN CABLES WHEN EITHER FAULT OR TARGET CABLE IS WRAPPED WITH SILTEMP WRAP.
- CONFIGURATIONS #3 & 4 ESTABLISH THAT SOLID/VENTILATED TRAY COVERS PROVIDE ADEQUATE PROTECTION WITHOUT ADDITIONAL SPACE FOR FAULTS INSIDE OR OUTSIDE THE TRAY
- CONFIGURATION #6 ESTABLISHES THAT 1" SPACE BETWEEN A CONDUIT AND TRAY IS ADEQUATE SEPARATION FOR ANY CONFIGURATION. SINCE THERE WAS NO TRAY COVER INSTALLED, IT IS CONCLUDED THAT 1" SEPARATION BETWEEN CONDUIT AND CABLE IS ALSO ADEQUATE.

CPSES CRITERIA

- 1" SEPARATION BETWEEN CONDUIT AND CABLE/TRAY
- 1" SEPARATION WITH ONE CABLE WRAPPED IN SILTEMP
- TRAY COVER AND 1" SPACE

EXTENT OF CRITERIA CHANGES

- POWER TRAY TO TRAY/CABLE
  (FROM 2 BARRIERS AND 1 INCH TO 1 BARRIER AND 1 INCH)

- CLASS IE CONDUIT ABOVE TRAY/CABLE
  (FROM 2 BARRIERS AND 1 INCH TO 1 BARRIER AND 1 INCH)

WYLE TEST REPORT #47906-02

- TEST CONDUCTED FOR NINE MILE POINT UNIT #2

- CONFIGURATION #5, ESTABLISH 1/4" AIR AS ADEQUATE SEPARATION:

  BETWEEN CONDUITS

  BETWEEN CABLE AND CONDUIT

CRITERIA CHANGE PRECEDENT

- BEAVER VALLEY
  - POWER TRAY TO TRAY/CABLE TRAY COVER AND 1" SPACE
  - CLASS 1E CONDUIT TO TRAY, 1" SPACE

UNIT 1 IMPACT

- EXISTING INSTALLATION IN UNIT 1 WILL NOT BE ALTERED DUE TO THE CRITERIA CHANGE
- DBD'S AND SPECIFICATIONS WILL BE REVISED
- DM'S WILL USE THIS REVISED CRITERIA FOR FUTURE INSTALLATIONS AND ACCEPTANCE

UNIT 2 IMPACT

- SYSTEMS INSTALLED UTILIZING EXISTING CRITERIA ARE:

  98% OF THE TRAY SYSTEM
  85% OF THE CONDUIT SYSTEM
  85% OF THE CABLE SYSTEMS

- DBD'S AND SPECIFICATIONS HAVE BEEN REVISED.

- UNIT 2 WILL USE THE REVISED CRITERIA FOR SEPARATION INSTALLATION AND ACCEPTANCE.

SUMMARY

- RG 1.75 AND IEEE 384-1974 REQUIREMENTS ARE MET
- CHANGES IMPACT ONLY LIMITED NUMBER OF CONFIGURATIONS
- NO IMPACT TO EXISTING UNIT 1 AND UNIT 2 INSTALLATIONS
- ENSURES COMPLIANCE AND TRAINING OF PERSONNEL WILL BE SIMPLER

SUMMARY

- RG 1.75 AND IEEE 384-1974 REQUIREMENTS ARE MET
- CHANGES IMPACT ONLY LIMITED NUMBER OF CONFIGURATIONS
- NO IMPACT TO EXISTING UNIT 1 AND UNIT 2 INSTALLATIONS
- ENSURES COMPLIANCE AND TRAINING OF PERSONNEL WILL BE SIMPLER