

J. Bawick

**Public Service
Company of Colorado**
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A. Clegg Crawford
Vice President
Nuclear Operations

[illegible]

IC-90-162

- Two of the four teams made errors in manually calculating offsite dose projections.
- One team made errors in calculating exhaust stack flow and in determining the correct atmosphere dilution factor.
- Two of the teams did not make the proper protective action recommendations (PARs) when notifying offsite authorities.
- One team failed to make a PAR when notifying offsite authorities.
- One team failed to communicate the affected downwind sectors when notifying offsite authorities of a general emergency.
- Three of the teams were generally unfamiliar with the site evacuation criteria.
- Three of the teams were generally unfamiliar with emergency radiation exposure criteria and limits.
- One team underclassified an event when an error was made in using a posted operator aid.

This is a Severity Level IV violation. (Supplement VIII)

(1) The Reason For The Violation If Admitted:

The violation is admitted. It is felt that Fort St. Vrain's method of intensive training prior to annual, observed exercises did not maintain the proficiency of Control Room personnel. It is also recognized that quarterly drills and ongoing training were primarily targeted at emergency response personnel outside the Control Room.

Operating crew performances have been strong during observed exercises, yet weaknesses have been demonstrated during unannounced inspections. Specific remedial actions taken in response to inspection findings identified during unannounced inspections 85-29 and 88-11 were effective, however, Public Service Company of Colorado failed to recognize the synergistic relationship of these findings. This failure to fully recognize the root cause of the previously identified inadequate training findings, along with strong performances demonstrated during annual NRC observed exercises, led to an overconfidence in ability and a failure to internally recognize training inadequacies.

(2) Corrective Steps Which Have Been Taken And The Results Achieved:

The Radiological Emergency Response Plan (RERP) implementing procedure governing the manual method of offsite dose calculation, RERP-DOSE, "Offsite Dose Calculation Methodology", has been revised to better enhance and address human factors considerations. A note has been added to the bottom of each dispersion factors table to more clearly identify the exponential factor being used with each dispersion factor value found in the table. This will eliminate the potential of inadvertently omitting the exponential factor.

Training classes on the revised dose calculation procedure, including a discussion of Protective Action Recommendations and successful performance of both a manual and computer supported dose calculation, were completed by April 16, 1990 for all licensed individuals reporting to the Control Room in the event of an emergency.

(3) Corrective Steps Which Will Be Taken To Avoid Further Violations:

Successful performance of dose calculations will be required of all licensed personnel during operator rotational training beginning in April, 1990. Also, successful performance of a dose calculation will be required on the licensed operator examination.

Extensive retraining on the RERP implementing procedures will be provided to operating crews beginning in May, 1990. More emphasis on Control Room participation in quarterly drills will be provided.

Unannounced, walk-through drills (of the operating crews) similar to those performed by the NRC will be incorporated into requalification training beginning July, 1990. This will enhance operator drillsmanship as well as provide an internal mechanism for evaluation of training effectiveness.

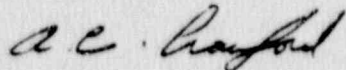
(4) Date When Full Compliance Will Be Achieved:

Retraining on both manual and computer supported methods of dose calculations was completed on April 16, 1990. Retraining on the RERP implementing procedures for all licensed personnel responding to the Control Room will be complete by July 31, 1990. Continued performance of dose calculations along with formal testing and walk-through drills of Control Room personnel will be performed on an ongoing basis.

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Should you have any further questions regarding this matter, please contact Mr. M.H. Holmes at (303) 480-6960.

Sincerely,



A.C. Crawford
Vice President,
Nuclear Operations

ACC/rm

cc: Regional Administrator, Region IV
ATTN: Mr. J.B. Baird
Technical Assistant
Division of Reactor Projects
(2 copies)

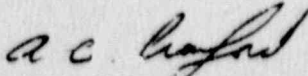
Mr. R.E. Farrell
Senior Resident Inspector
Fort St. Vrain

Mr. Rick Hatten, Director
Division of Disaster Emergency Services
State of Colorado

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