RELATED CORRESPONDENCE

U.S.N. Nuclear Regulatory Commission

Re: Phila Elec. Co.
Limerick Generating Sta.

Docket Nos. 50-352 & 353

FOE and R.L.Anthony's Answer to Applicant's First Set of Interrogatories

Interrog. 1. We intend to present expert witnesses under Contentions V-3a and V-3b. We intend to call pipe line operators and supervisors who will testify on the frequency of ruptures, the record of valve operation and the extent of syphoning under conditions of rivercrossings and geography equivalent to that at Limerick. We will call experts on diesel and petroleum tank fires with figures on heat generation, metal stress, explosions, conduction, and radiation.

Int. 2. The gathering of documents is in process and these will be made available to the Applicant when the process is completed.

Int. 3. Our answers are and will be based on all the published or unpublished material that is available and we will specify the items from each document. It appears that we will have to do research which evidently was skipped over by PEco when the selection of the Limerick site was made and the risks involved from pipelines in the vicinity were overlooked. Our research will have to be continued. One of the items we have covered at this point is the extent of remote control valves on the pipelines and the use of manually operated valves at the river crossings. Some operating experience has been offered to us by a retired supervisor whom we expect to use as an expert witness.

Int. 4. Our research is still in progress. The titles, studies, details, and persons involved will be provided. This research is all directed to cover the subjects specified in Int. # 1.

Int. 5. These personal consultations are still being carried out and will be specified as soon as they have been completed.

Int. 6. We were informed during informal discovery that the applicant had nothing on file connected with syphoning, which left us to conclude that PEco had no basis for concluding that syphoning would not occur. We are not aware of any NRC regulations or criteria that cover pipeline rupture and siphoning.

Int. 7. The Limerick FSAR has no consideration of siphoning in case of a pipeline rupture because the Applicant made the unsupported assumption that siphoning could not occur. The Applicant, therefore, failed to provide protection for the plant and its safe operation in the event of a pipeline rupture, explosion, and fire fed by siphoning, and failed to comply with NRC safety regulations thereby.

Int. 8. Siphoning is simply the vacuum effect of a difference of height in a pipe filled with liquid. In this instance the valley where the Limerick plant is located is the low point in the pipeline north and south. A rupture at the low point next the plant would cause a flow from both directions pulling liquid over high points from lower, as long as the rupture is at a lower elevation.

Int. 9. The Applicant will be notified when the details of the "worst case pipeline accident" have been completed. It appears to us that the assumptions and estimates in FSAR seriously underplay the hazards. Our studies up to this point indicate overpressure and heat generation of at least twice the proportions assumed in FSAR.

We assume the detonation would occur at the corner of the 500 KV switchyard.

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Int. 10. Our study indicates no significant aspect of the terrain involved that would inhibit the major impacts of heat and explosion on the plant site and the structures exposed.

Int. 11. We do not think that it is the function of a citizen intervenor to site all the regulations and design criteria. We simply state that the FSAR consideration of the hazards to the plant from deflagration and radiant heat from a pipeline rupture is inadequate and seriously underestimates the risk. We shall present figures to substantiate this.

Int. 12. As we have stated above, the FSAR does not include an adequate evaluation or estimate of the hazards and, therefore, does not satisfy the regulatory requirements. We expect that our evaluation when it is completed will demonstrate in detail these deficiencies.

Int. 13. Our present estimate is that the heat load on the diesel generator area of the plant from the worst case accident to the ARCO pipeline would be at least several times the intensity estimated in FSAR. When we have completed our research with experts in this field (see Int. 1.), we will make available the figures which show the inadequacies of the FSAR.

INT. 14. Similarly, when we have completed our contacts with experts in diesel fuel storage and diesel operation we will be in a position to share with the Applicant more adequate detail on heat loading on structures and diesel operation than the superficial findings recorded in FSAR.

Int. 15. This is covered in Int. 14. Analyses and computations will be supplied where indicated. As stated in Int. 10 (above), we see no significant diminishing impact from terrain on the hazard to exposed plant structures, equipment and processes.

Robert L. Anthony

June, 20, 1983

Copies to: Judges L.Brenner, Dr.R.F Cole, Dr.P.A.Morris, Ann P.Hodgdon. T.B. Conar. E.G.Bauer, A.S.&L Board Panel, NRC Docketting, T.Y.AU, M.W.Bush, M·Lewis, J.I.Ruttenberg, F.Romano, J.H.White, R.Sugarman.