



## Duquesne Light

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April 30, 1982

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Mr. R. C. Haynes, Regional Administrator  
United States Nuclear Regulatory Commission  
Region 1  
631 Park Avenue  
King of Prussia, Pennsylvania 19406

Reference: Beaver Valley Power Station, Unit No. 1  
Docket No. 50-334, License No. DPR-66  
Health Physics Appraisal Inspection 81-05

Gentlemen:

This letter forwards our supplemental response to Health Physics Appraisal Inspection 81-05 for your information. In addition to providing completion dates for those items discussed in our original reply, this supplemental response also addresses those items presented in the attachment to NRC (T. T. Martin) letter dated March 29, 1982.

If you have any questions regarding this response, do not hesitate to contact me.

Very truly yours,

J. J. Carey  
Vice President, Nuclear

Attachment

cc: Mr. D. A. Beckman, Resident Inspector  
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c/o Document Management Branch  
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DUQUESNE LIGHT COMPANY  
Beaver Valley Power Station  
Unit No. 1

Supplemental Reply to Health Physics Appraisal  
Inspection 81-05

C. Air Control Program

Finding

- C. 1. (Item 2) The Respiratory Protection Program was found to be inadequate in that: The air sampling program is unacceptable. (Sections 3.2.5.2 and 3.3.3)

Response

The Radcon manual is being revised to incorporate the changes to the air sampling program as recommended under Section 3.2.5.2 and 3.3.3.

Specific actions which have been taken include:

1. A test of a representative population of HP-210 detector probe assemblies has been conducted for defining the methods of determining and analyzing the mean and range of response to calibration sources. This information will be directly applicable to calibration and QC testing of new and in-service MS-3 scaler/HP-210 probe combinations.

Anticipated Completion Date

December 31, 1982 for procedure and training completion.

2. Tests have been conducted on the stabilized assay meters using NBS traceable mixed radioiodine equivalent iodine collection cartridges which were purchased specifically to assist in calibrating the SAM-2/RD-22 units. Additional methods of electronic alignment have been defined. A draft revision to RP 5.13 has been written to incorporate specific guidance for calibration of this instrument.

Anticipated Completion Date

Completion of testing and issuance of revision to RP 5.13 is expected prior to startup after second refueling 1982.

C. Exposure Control Program (Continued)

Specific actions which will be taken include:

1. The revision of air sampling procedures to specify the use of the appropriate filter media, proper method of marking the filter for direction, indicating the corresponding collection efficiencies at various flow rates (as deemed necessary), and ensuring limitations on flow rates for various filter media are clearly specified in the procedure will be performed.

Anticipated Completion Date

December 31, 1982 to complete above noted items.

2. The revision of the MS-3 procedure RIP 5.6 and SAM-2/RD-22 procedure RP 5.13 will be performed.

Anticipated Completion Date

March 31, 1983 for completion of RIP 5.6 procedure and prior to start-up after second refueling for RP 5.13.

3. The air sampling procedure referring to waiting four hours between collection and counting of particulate samples will be revised to accommodate the comparison of short-lived radionuclide activity to the 10 CFR 20, Appendix B, Table I, Column I listing.

Anticipated Completion Date

December 31, 1982 for procedure revisions.

4. The analytical methods for tritium analyses which require a 24-hour waiting period will be re-evaluated and, if feasible or necessary, a procedure will be developed to allow a more rapid analysis.

Anticipated Completion Date

December 31, 1982 for re-evaluation of analytical methods.

Finding

- C.1. (Item 3) The Respiratory Protection Program was found to be inadequate in that: Fitting and training for filter equipped respiratory protection is not consistent with the overall program.  
(Section 3.2.5.2)

C. Exposure Control Program (Continued)

Response

Since the appointment of a Respiratory Protection Program Supervisor in April, 1981, part of the long range goal for respiratory protection is to revise, upgrade and clearly define respiratory protection equipment, its applications and associated support (maintenance, training, QC) in a separate respiratory protection procedure manual. Within this framework, plans are set forth to revise the training of personnel for wearing of the respiratory equipment.

Anticipated Completion Date

December 31, 1983 to complete above noted items. It is to be noted that the referenced training has been revised.

Steps which will be taken:

1. A goal of the Respiratory Protection Program is to use the results of the quantitative fit testing program for the controlled issue of respiratory protection equipment to qualified individuals. Steps taken toward this goal include the request for a computer program listing format which will itemize the devices, measured protection factor, test date and nuclear physical date for trained respirator wearers. The implementation philosophy will be detailed in a revision of Appendix 6 of the RCM and the Maintenance Manual, Section Y.

Anticipated Completion Date

December 31, 1983 to complete above noted items.

Finding

- C.1. (Item 4) The Respiratory Protection Program was found to be inadequate in that: Annual medical examinations are not performed as required by NUREG 0041. (Section 3.2.5.2)

Response

Our medical department has reviewed this requirement and is of the opinion that our current physical examination policy regarding employees assigned to nuclear power stations is adequate to meet the intent of NUREG 0041. Currently, this policy consists of:

- a) Physical examinations upon initial employment or work assignment and at least triennially thereafter
- b) medical statements required for employees returning to work following absence due to a Non-Occupational Illness or Injury (NOI&I)

C. Exposure Control Program (Continued)

- c) review of medical records to determine the physical status of employees who were absent due to NOI&I
- d) more frequent examinations for employees who appear to have recurring medical problems
- e) annual eye examinations for the qualification of inspection personnel

Supplemental Response

Our Medical Department has elected to adopt the guidance set forth in the March 14, 1978 NRC Notice to All Licensees entitled "Medical Surveillance for Respirator Users" which describes acceptable means for meeting the requirements of NUREG-0041. The Medical Department has developed a questionnaire which will permit the determination of the existence of possible significant health problems.

Our implementation of this program will commence during June, 1982. Monthly lists of employees authorized to use respiratory protection devices will be prepared, based on the month during which the last physical examination was conducted. Employees will be required to complete the questionnaire and the questionnaires will be evaluated by the Medical Department to determine the possible existence of a physical condition warranting restriction. Upon identification of such individuals, appropriate restrictions will be placed upon the individual until the individual's physical condition is evaluated and resolved.

Finding

C.1. (Item 5) The Respiratory Protection Program was found to be inadequate in that: The inspection, testing and repair of air supplied respiratory protection equipment is unacceptable based on documentation and training. (Section 3.2.5.2)

Response

Steps which will be taken:

1. In recognition that "mechanical" experience alone is not enough when health and safety is involved, maintenance training programs for all respiratory protection equipment will be developed through the cooperative efforts of the training department supervisor and the Respiratory Protection Program Supervisor.

C. Exposure Control Program (Continued)

Supplemental Response

It is anticipated that lesson plans and related respiratory protection procedures will be completed by December 31, 1982.

Response

Steps which have been taken:

3. All maintenance of the air purification equipment is currently being performed as detailed by the Respiratory Protection Program Supervisor. Specific Draft maintenance procedures for air purification equipment have been written.

Anticipated Completion Date

May 31, 1982 for completion of procedure revisions.

Finding

C.2. The Quality Assurance program for internal exposure control does not contain provisions for an independent evaluation of the onsite (licensee's) lung/thyroid counter and the offsite (vendor) lung/thyroid counter. (Section 3.2.6)

Response

Steps which have been taken:

1. A manufacturer of a state-of-the-art human phantom with separate compartments for upper torso, lungs GI tract and thyroid and solid NBS traceable sources has been located for the purposes of QC testing and calibration of the lung/thyroid counter activities.

Steps which will be taken:

1. The administration of the QC test program will be arranged such that the vendor evaluation will be a blind study.
2. A QC program will be developed to provide cross-correlation of data between Presbyterian-University Hospital (vendor lung/thyroid in-vivo gamma analysis services) and the BVPS lung/thyroid counter using the human phantom. As the sources are NBS traceable, the information will provide a method of developing a periodic QC evaluation of both counting facilities.

C. Exposure Control Program (Continued)

Anticipated Completion Date

March 31, 1982 for purchase of state-of-the-art phantom, procedure revisions, training and QC test program implementation. It is to be noted that the referenced sources have been purchased and received.

D. Surveillance Program

Finding

D.4. The frequency for performing radiological surveys requires re-evaluation. (Section 3.3.2).

Response

The specific comments made in the audit report in this section give reference to Appendix 4 and Chapter 1 of the Radiation Control Manual. Currently, the general approach to these required surveys and their specified types and frequency of survey measurements is a separate effort from the job support function surveys. There is usually no credit given to the required surveillance program for a survey taken in the same location for a work task. It is, therefore, possible that although current survey information is available for a given location, a review by the auditor of 'required' survey data may appear to indicate surveys are only obtained at the specified frequency in Appendix 4 or Chapter 1. It may also appear to indicate that other areas, such as exit points from Controlled Areas, are not surveyed because such a location may not be listed on the 'required' survey schedule, when in fact, survey data is obtained for other reasons.

Steps which have been taken:

1. A continuous effort has been given over several months to upgrade the quality and accurately represent plant equipment locations on all Radcon survey maps. The use of the improved maps has been implemented.
2. Recently, in-plant and on-site gridded maps have been developed and will be used to re-evaluate and define important 'required' surveillance areas.

Steps which will be taken:

1. The minimum surveillance frequency and types of measurements specified in Appendix 4 and Chapter 1 of the Radiation Control Manual will be re-evaluated.
2. If feasible at this time, a method will be devised and implemented to take credit for job support surveys to meet the minimum required surveillance program specifications.

D. Surveillance Program (Continued)

Supplemental Response

It is anticipated that the requirements of Appendix 4 and Chapter 1 of the BVPS-RCM will be re-evaluated and revised, as necessary, by March 31, 1983.

Finding

D.5. Management emphasis on the need for all personnel to adhere to procedures is required. (Section 3.3.2).

Response

Steps which have been taken:

The emphasis of Radcon and Training group efforts in establishing procedural training indicates that management expects personnel to adhere to practices within written procedures.

Supplemental Response

All station Radiation Workers receive Radiation Worker training and retraining. In addition, individual groups receive additional training as necessary depending on job requirements. If procedure deviations are detected, individuals are retrained in specifics to ensure they understand procedure requirements. If necessary, critiques are conducted to determine specific cause(s) of procedure deviations.

Finding

D.7. The airborne radioactive material sampling program is inadequate. (Section 3.3.3)

Response

Steps which have been taken:

1. Maintenance group air sampling instrument calibration procedures have been written to upgrade the method of calibration. New calibration test equipment, traceable to NBS, has been purchased and received and will be used on Radcon air sampling equipment in future calibrations.

Anticipated Completion Date

December 31, 1982 for completion, approval and implementation of air sampling instrument calibration procedures necessary to support revisions to Radcon air sampling procedures.

D. Surveillance Program (Continued)

2. Draft revisions of all Radcon air sampling instrument procedures now specify a calibration frequency. The procedures specify the need for air flow calibration specific to the type of collection media, filter holder and other equipment used to connect the sample collection head to the air mover.

Anticipated Completion Date

December 31, 1982 for completion of procedure revisions.

Finding

- D.8 The counting equipment calibration and use programs were not in accordance with the recommendations contained in ANSI-N323 and ANSI-N42.14. (Section 3.3.3)

Response

Steps which have been taken:

1. Refer to the response provided to finding C.1. (Item 2) in which specific counting equipment calibration tests have been addressed.

Steps which will be taken:

1. As indicated in response to finding C.1. (Item 2) counting equipment procedures will be revised to include more specific calibration guidance and a frequency of re-calibration will be specified.

Anticipated Completion Date

March 31, 1983 for revisions to above noted procedures.

2. We will review our Chemistry Manual with regards to the recommendations contained in ANSI-N42.14 and make changes where we identify deficiencies as compared to the intent of the Standard.

Supplemental Response

Review of the Chemistry Manual has been completed. Changes to the Chemistry Manual to meet the intent of ANSI N42.14 will be completed by October 31, 1982.

Finding

- D.10. The calibration program for portable survey instruments is not in accordance with the recommendations contained in ANSI-N323. (Section 3.3.3)

D. Surveillance Program (Continued)

Response

Steps which will be taken:

1. An evaluation of the calibrator radiation beam uniformity is to be performed.

Anticipated Completion Date

September 30, 1982 for evaluation of the calibrator radiation beam uniformity.

2. All portable survey instruments procedures will be revised to indicate the additional calibration requirements listed above.

Anticipated Completion Date

September 30, 1982 for procedure revisions and preparation for portable gamma survey instruments. This includes procedures for recently purchased equipment.

Supplemental Response

To alleviate the problem of electronic calibrations being performed without appropriate procedures and data sheets, a program has been initiated to review, revise and prepare, as required, necessary procedures and data sheets. This program should be completed by April 15, 1983.

Finding

- D.11. Additional justification is needed to support the calibration factor used with portable neutron survey equipment. (Section 3.3.3)

Response

The manufacturer of the PNR-4 neutron rem counter who obtained neutron spectra measures in the Containment Building has been contacted to provide verification of an appropriate calibration factor.

Upon receipt of required documentation from the manufacturer, the service agreement requirement for calibration will be changed if necessary.

Anticipated Completion Date

Prior to start-up after second refueling 1982. The manufacturer indicated the required documentation would be forwarded prior to start-up.

E. Radioactive Waste Management Program

Finding

E.1. Formal documented job/position descriptions should be developed for the managerial and oversight responsibilities in the areas of solid, liquid and gaseous radwaste systems. (Section 4.2)

Response

The Environmental Technical Specifications (ETS) are currently being reviewed and changes being negotiated between the station, Franklin Research Institute and the NRC. It is expected that the programs implemented to comply with the ETS will provide the necessary managerial oversight in the areas of solid, liquid and gaseous waste system.

As detailed in the report, a full time daylight supervisor monitors the operation of the solid waste system and radioactive gas/liquid inventories are tracked on a daily basis to insure that system input is within the design of the station processing capability. We do not believe that there is sufficient need to assign additional personnel in the areas of liquid/gas radwaste and that these responsibilities are being effectively managed by shift personnel. The ultimate goal of the programs, "to limit releases to as low as reasonable achievable" values has been effectively carried out and demonstrated over the years.

Incorporation of the ETS into all operating plants is anticipated by the NRC to be completed during the current fiscal year. Therefore, any additional job description or managerial oversight required to meet these regulations will be implemented at that time.

Supplemental Response

Our review of the currently proposed amendment of the ETS indicates that no additional managerial oversight beyond that which is being provided by the re-organization will be necessary. Our proposed ETS amendment will be submitted to Franklin Research by April 30, 1982. Upon incorporation of the ETS, any additional job descriptions or managerial oversight required to meet these regulations will be implemented at that time.

E. Radioactive Waste Management Program (Continued)

Finding

E.2. A permanent, liquid radwaste processing capability (such as the temporary demineralizer) should be installed to provide continuously available backup processing capability to the present liquid radwaste system (evaporator and polishing demineralizer). The system should be designed taking into consideration the ALARA practices of Regulatory Guide 8.8 and the design guidance of Regulatory Guide 1.143. (Section 4.3.1)

Response

A Design Change Package (reference DCP 471) has been initiated to modify the existing backup processing capability. It is not possible at this time to give a credible schedule to complete this modification, nor do we find it necessary since the installed system will continue to provide the necessary backup processing capability until such time that the modifications are completed.

Anticipated Completion Date

Third refueling outage.