

DOCKET NO. 50-171

Journal File 6

PHILADELPHIA ELECTRIC COMPANY

LEGAL DEPARTMENT

VINCENT P. McDEVITT
VICE-PRESIDENT
AND GENERAL COUNSEL

EDWIN M. RHEA
SAMUEL G. MILLER
JOHN P. CAREY

ASSISTANT GENERAL COUNSEL

EUGENE J. BRADLEY
HENRY P. SULLIVAN

C. GROVE MCCOWN

ROBERT P. GARBARINO
ASSISTANT COUNSEL

1000 CHESTNUT STREET

PHILADELPHIA 5, PA.



September 27, 1960



Mr. Harold L. Price, Director
Division of Licensing and Regulation
U. S. Atomic Energy Commission
Washington 25, D.C.

Re: Application of Philadelphia Electric Company
for Construction Permit and Class 104 License -
Docket No. 50-171

Dear Mr. Price:

I am transmitting herewith for filing with the Commission fifty copies of Amendment No. 1 to Philadelphia Electric Company's Application in the above proceeding.

General Atomic, Division of General Dynamics Corporation, advises that the material on control rods and control rod drives contained in pages II-6a, II-6b, II-7, II-7a, II-7b, II-7c, II-7d, II-7e, and pages II-98 through II-103, and accompanying Figures 6, 6A, 6B, 6C, and 58 of Amendment No. 1 contains patentable information in which the Commission has an interest, since such information was developed under Commission Contract No. AT(04-3)-314, and that such information should not be made public pending the filing of a patent application.

In order to protect the Commission's rights in such information, it is requested that pursuant to section 2.790 of the Commission's Rules of Practice, the above designated parts of Amendment No. 1 and accompanying Figures be withheld from public inspection pending the filing of a patent application. It is anticipated that a patent application will be

*with A-94
See L-112
11-1-60*

A-94

filed by October 31, 1960. We will notify the Commission promptly of the filing of such application, following which it will no longer be necessary to withhold the designated material from public inspection.

Yours very truly,

A handwritten signature in cursive script, appearing to read "Vincent P. McDevitt", enclosed in a large, sweeping right-facing bracket.

VINCENT P. McDEVITT

B:mb

Enc.-

ORIGINAL

BEFORE THE
UNITED STATES ATOMIC ENERGY COMMISSION

In the Matter of :
PHILADELPHIA ELECTRIC COMPANY :

Docket No. 50-171 - *Amended*
File 9

AMENDMENT NO. 1

TO

APPLICATION OF

PHILADELPHIA ELECTRIC COMPANY

FOR

CONSTRUCTION PERMIT AND CLASS 104 LICENSE



Vincent P. McDevitt
Eugene J. Bradley
Robert P. Garbarino

1000 Chestnut Street
Philadelphia 5, Pa.

Attorneys for
Philadelphia Electric Company

BEFORE THE
UNITED STATES ATOMIC ENERGY COMMISSION

In the Matter of :
PHILADELPHIA ELECTRIC COMPANY :

Docket No. 50-171

AMENDMENT NO. 1

TO

APPLICATION OF

PHILADELPHIA ELECTRIC COMPANY

FOR

CONSTRUCTION PERMIT AND CLASS 104 LICENSE

None - 9/28/60

Philadelphia Electric Company hereby amends its Application in the above entitled proceeding by making the following changes to Volume I, Plant Description and Safeguards Analysis, of Part B, Preliminary Hazards Summary Report:

1. Delete the first page of the "Table of Contents" and insert in lieu thereof a page entitled "Table of Contents" dated September, 1960.
2. Delete the page entitled "List of Tables" and insert in lieu thereof a page entitled "List of Tables" dated September, 1960.

3. Delete "Appendix A Figures" consisting of two pages, and insert in lieu thereof "Appendix A Figures" consisting of three pages dated September, 1960.
4. Delete page II-1 and insert in lieu thereof page II-1 dated September, 1960.
5. Delete page II-6 and insert in lieu thereof page II-6 dated September, 1960.
6. Insert additional pages II-6a and II-6b dated September, 1960.
7. Delete page II-7 and insert in lieu thereof page II-7 dated September, 1960.
8. Insert additional pages II-7a, II-7b, II-7c, II-7d and II-7e dated September, 1960.
9. Delete page II-8 and insert in lieu thereof page II-8 dated September, 1960.
10. Insert additional pages II-37 through II-103 dated September, 1960.
11. Delete Figure 6 entitled "Pneumatic Control Rod Drive" and insert in lieu thereof Figure 6 entitled "HTGR Control Rod Assembly (Articulated)" dated September, 1960.
12. Insert the following additional Figures dated September, 1960:

<u>Figure</u>	<u>Title</u>
Figure 6A	HTGR Control Rod Assembly (Flexible)
Figure 6B	Control Rod Coolant Flow
Figure 6C	HTGR Hydraulic Motor Control Rod Drive

Figure 29	Graphite Thermal Conductivity as a Function of Temperature
Figure 30	Counterflow Fuel Element Design
Figure 31	Schematic Diagram of Fuel Element
Figure 32	Counterflow Vented Element - Activity Level vs. Time
Figure 33	Counterflow Vented Element - Activity Level vs. Time
Figure 34	Schematic Diagram of Fuel Element - Cross Section
Figure 35	Expanded View of Annulus Between Purge Grooves
Figure 36	Counterflow Fuel Element - Permeation Coefficient vs. Number of Grooves
Figure 37	Pressure Drop in Purge Annuli
Figure 38	Pressure Drop in Purge Grooves
Figure 39	Tensile Thermal Stress in Graphite Outer Sleeve
Figure 40	F_t , Ratio of Xe Activity Released to Xe Activity Produced at Steady State vs. Half Life
Figure 41	Adsorption of Krypton on Charcoal
Figure 42	Adsorption of Xenon on Charcoal
Figure 43	Adsorption of Xenon on Charcoal
Figure 44	Adsorption of Krypton on Charcoal
Figure 45	Flow Diagram for Helium Purification System
Figure 46	Iodine-Activated Charcoal Adsorption Isotherms
Figure 47	Heat of Adsorption vs. Loading for I ₂ -Charcoal System
Figure 48	Clausius-Clapeyron Plot for I ₂ Absorption on Charcoal
Figure 49	Cesium-Generation Apparatus
Figure 50	Cesium-Isotherm Apparatus

- Figure 51 Cesium Absorption on Charcoal as a Function of Cesium Vapor Pressure
- Figure 52 Clausius-Clapeyron Plot for Cesium-Charcoal System
- Figure 53 Heat of Adsorption vs. Loading for Cesium-Charcoal System
- Figure 54 Facility Tube and Fuel Diagram
- Figure 55 Section Thru Test Element
- Figure 56 Out-Of-Pool Equipment
- Figure 57 HTGR In-Pile Loop Piping and Instrumentation Diagram
- Figure 58 HTGR Reactor Equipment Test Facility

Respectfully submitted,

PHILADELPHIA ELECTRIC COMPANY

By *Robert L. W. ...*
President

