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U.S. ATOMIC ENERGY COMMISSION  
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1963 DEC 12 AM 3 34

NO. 50-146

For Div of Compliance

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DIRECTOR DIVISION OF LICENSING AND REGULATION

U.S. ATOMIC ENERGY COMMISSION WASHDC

DOCKET NUMBER 50-146 DPR-4 CHANGE REQUEST NUMBER 11 SUPPLEMENT  
NUMBER 1 TO TECHNICAL SPECIFICATION NUMBER 1 DESCRIPTION OF  
CHANGE AS DISCUSSED IN PHONE CONVERSATION BETWEEN D. MOLLER  
OF ADC AND W. LAYMAN OF SNEC ON 12/11/63 SNEC REQUEST FOLLOWING  
CHANGE IN SUPPLEMENT NUMBER 1 TO TECHNICAL SPECIFICATIONS PAGE  
3 CHANGE ITEM 5(D) TEST FUEL ASSEMBLY NUMBER VII CHANGE NOMINAL  
THICKNESS OF 9.5 MILS TO READ NOMINAL THICKNESS 15 MILS NUMBER  
2 SAFETY CONSIDERATION APPROVAL ALREADY RECEIVED FOR NORMAL  
FUEL RODS OF THIS 15 MILS DESIGNED AS DESCRIBED IN SECTION  
203-1 OF THE SAXTON FINAL SAFE GUARDS REPORT NUMBER 3 HEALTH  
AND SAFETY OF THE PUBLIC IT IS OUR CONCLUSION THAT THE HEALTH  
AND SAFETY OF THE PUBLIC WILL NOT BE ENDANGERED BY THIS CHANGE

9107300178

RECEIVED TELETYPE

From CO - HQ

R-1 8096

NUMBER 4 SCHEDULE APPROVAL OF THIS CHANGE IS REQUESTED BY DEC  
16/63

W H LAYMAN GENERAL MANAGER SAXTON NUCLEAR EXPERIMENTAL CORP

50-146 DPR-4 11 1 1 12/11/63 SNEC 1 3 ITEM 5(B) ;36 9.5 15  
2 15 203-1 3 4 16/63.

ALL INFORMATION CONTAINED  
HEREIN IS UNCLASSIFIED

UNITED STATES ATOMIC ENERGY COMMISSION

DOCKET NO. 50-146

SAXTON NUCLEAR EXPERIMENTAL CORPORATION

NOTICE OF PROPOSED ISSUANCE OF OPERATING LICENSE

Notice is hereby given pursuant to Section 189 of the Atomic Energy Act of 1954, as amended, and Section 50.58 of 10 CFR 50, that unless within thirty days after publication of this notice in the Federal Register a request for a hearing is filed with the U. S. Atomic Energy Commission (the "Commission") by Saxton Nuclear Experimental Corporation ("Saxton"), or a petition for leave to intervene is filed by any person whose interest may be affected, as provided by and in accordance with the Commission's "Rules of Practice," 10 CFR 2, the Commission proposes to issue an operating license, substantially as set forth below, to Saxton authorizing operation of the 23.5-megawatt (thermal) light water moderated and cooled, pressurized water reactor located near the Borough of Saxton in Liberty Township, Bedford County, Pennsylvania.

Construction of the reactor was authorized by Construction Permit No. CPPR-6 issued February 11, 1960. The reactor has been operated under Provisional Operating License No. DPR-4 issued to Saxton November 15, 1961.

The Commission has found that:

- (1) The application complies with the requirements of the Atomic Energy Act of 1954, as amended, and the Commission's regulations set forth in Title 10, Chapter 1, CFR;

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- (2) There is reasonable assurance that (i) the activities authorized by this license can be conducted at the designated location without endangering the health and safety of the public, and (ii) such activities will be conducted in compliance with the rules and regulations of the Commission;
- (3) Saxton is technically and financially qualified to engage in the proposed activities in accordance with the Commission's regulations and to assume financial responsibility for payment of Commission charges for special nuclear material;
- (4) The issuance of this license will not be inimical to the common defense and security or to the health and safety of the public.

For further details with respect to this proposed license, see (1) the license application amendment dated May 28, 1963, and supplement thereto dated January 8, 1964; (2) the report of the Advisory Committee on Reactor Safeguards dated September 12, 1963; (3) a related hazards analysis prepared by the Research and Power Reactor Safety Branch of the Division of Licensing and Regulation; and (4) the Technical Specifications which are incorporated in the license and designated as Appendix A thereto; all of which <sup>will be</sup> ~~are~~ available for public inspection at the

Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C. Copies of items (2) and (3) above may be obtained at the Commission's Public Document Room, or upon request addressed to the Atomic Energy Commission, Washington, D. C. 20545, Attention: Director, Division of Licensing and Regulation.

FOR THE ATOMIC ENERGY COMMISSION

Original signed by  
Eber R. Price

Assistant  
Director  
Division of Licensing & Regulation

Dated at Bethesda, Maryland  
this        day of January, 1964

JAN 28 1964

SAXTON NUCLEAR EXPERIMENTAL CORPORATION

DOCKET NO. 50-146

PROPOSED OPERATING LICENSE

License No. DPR-4

1. This license applies to the pressurized water reactor (hereinafter referred to as the "reactor") owned by Saxton Nuclear Experimental Corporation (hereinafter referred to as "Saxton"), located north of the Borough of Saxton in Liberty Township, Bedford County, Pennsylvania, and described in Amendment No. 5 dated April 19, 1961, and Amendment No. 7 dated June 30, 1961, to Saxton's license application.
2. Subject to the conditions and requirements incorporated herein, the Atomic Energy Commission (hereinafter referred to as the "Commission") hereby licenses Saxton:
  - A. Pursuant to Section 104(b) of the Atomic Energy Act of 1954, as amended, (hereinafter referred to as the "Act") and Title 10 CFR, Chapter 1, Part 50, "Licensing of Production and Utilization Facilities," to possess, use and operate the reactor as a utilization facility;
  - B. Pursuant to the Act and Title 10 CFR, Chapter 1, Part 70, "Special Nuclear Material," to receive, possess and use at any one time 130 kilograms of contained Uranium 235 as fuel for the operation of the reactor; and
  - C. Pursuant to the Act and Title 10 CFR, Chapter 1, Part 30, "Licensing of Byproduct Material," to possess, but not to separate, such by-product material as may be produced by operation of the reactor, and to receive, possess, and use at any one time not to exceed 120 curies of polonium-beryllium as core neutron sources.

3. This license shall be deemed to contain and be subject to the conditions specified in Section 50.54 of Part 50, Section 70.32 of Part 70, and Section 30.32 of Part 30 of the Commission's regulations, and is subject to all applicable provisions of the Act and rules, regulations and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified below:

A. Maximum Power Level

Saxton shall not operate the reactor at power levels in excess of 23.5 megawatts (thermal).

B. Technical Specifications

The Technical Specifications contained in Appendix A to this license (hereinafter referred to as the "Technical Specifications") are hereby incorporated in this license. Saxton shall operate the facility only in accordance with the Technical Specifications. No changes shall be made in the Technical Specifications unless authorized by the Commission as provided in 10 CFR 50.59.

C. Authorization of Changes, Tests and Experiments

Saxton may (1) make changes in the conditions described in the hazards summary report, (2) make changes in the procedures as described in the hazards summary report, and (3) conduct tests or experiments not described in the hazards summary report only in accordance with the provisions of Section 50.59 of the Commission's regulations.

D. Records

In addition to those otherwise required under this license and applicable regulations, Saxton shall keep the following records:



- (1) Reactor operating records, including power levels and period of operations at each power level.
- (2) Records showing the radioactivity released or discharged into the air or water beyond the effective control of Saxton as measured at or prior to the point of such release or discharge.
- (3) Records of scrams, including reasons therefor.
- (4) Records of principal maintenance operations involving substitution or replacement of facility equipment or components and the reasons therefor.
- (5) Records of radioactivity measurements at on-site and off-site monitoring stations.
- (6) Records of facility tests and measurements performed pursuant to the requirements of the Technical Specifications.

E. Reports

In addition to reports otherwise required under this license and applicable regulations:

- (1) Saxton shall make an immediate report in writing to the Commission of any indication or occurrence of a possible unsafe condition relating to the operation of the facility, including, without implied limitation, any possible unsafe condition arising out of:
  - (a) Any substantial variance disclosed by operation of the facility from the performance specifications set forth in the hazards summary report, and



- (b) Any accidental release of radioactivity, whether or not resulting in property damage or personal injury or exposure above permissible limits.
- (2) Saxton shall report to the Commission in writing significant changes in plant organization, and transient or accident analyses, as described in the hazards summary report.
- (3) Saxton shall submit to the Commission, on at least a semi-annual basis, a written report of operating experience including:
  - (a) A brief explanation of the cause of each unplanned shutdown of the reactor.
  - (b) The amount of radioactive material removed from the reactor by releases, discharges, and shipments of radioactive waste material.
  - (c) The levels of radioactivity in the principal fluid systems.
  - (d) A description of changes, tests, and experiments performed pursuant to Paragraph 50.59(a) of the Commission's Rules and Regulations.
  - (e) A description of the principal maintenance performed.
  - (f) A summary of reactor operation performed during the period including: Operations performed pursuant to the Research and Development program; an explanation of malfunctions of any equipment important to safety; periodic testing performed as required in section N.8. of the Technical Specifications.

Such reports shall be due within 60 days after the end of each reporting period.

F. Definitions

- (1) As used in Section 3 in this license, the term "facility" means the following systems and components as described in the hazards summary report:
  - (a) The containment vessel which houses the reactor, steam generator, main coolant system, other miscellaneous auxiliary systems, and the fuel storage well.
  - (b) The reactor core including the control rods, control rod drives, support structure, and normal operation instrumentation and controls.
  - (c) The main coolant loop including the piping, steam generator, main coolant pump, reactor vessel, and normal operation instrumentation and controls.
  - (d) The pressure control and relief system which consists of a pressurizer, discharge tank, relief valve, safety valves, electric heaters, and instrumentation and controls.
  - (e) The charging system consisting of high pressure pumps and instruments and controls.
  - (f) The purification system consisting of heat exchangers, flow control valve, demineralizers, and instrumentation and controls.

- (g) The chemical addition system consisting of a steam heated boric acid tank, boric acid pump, and a chemical addition tank.
- (h) The sampling and leak detection system consisting of high pressure and low pressure sampling and leak detection lines, sample coolers, sample bombs, and instruments and controls.
- (i) The shutdown cooling system consisting of a low pressure heat exchanger, pumps and instrumentation and controls.
- (j) The safety injection system consisting of two high pressure pumps arranged in series, a high pressure and low pressure piping system, and instrumentation and controls.
- (k) The station service electrical system consisting of a normal and emergency power supply, 440-volt feeder busses, pressurizer heater control center, motor control centers, battery and battery charger, safety injection pumps supply, inverter bus and vital bus supply, and main coolant pump supplies.
- (l) The radioactive waste disposal facility consisting of a solid waste disposal system, a liquid waste disposal system, and a gaseous waste disposal system.
- (m) The radiation monitoring system consisting of plant process monitoring, plant effluents monitoring, site monitoring and plant area monitoring.

- (n) Shielding inside and immediately outside the containment vessel, in the walls of and inside the containment vessel, in the walls of and inside of the control and auxiliary building, and in the waste treatment building.
- (o) The fuel handling system consisting of special tools, hoists, and fuel storage rack.
- (p) The secondary coolant system inside the containment vessel and the piping outside the containment vessel up to the feedwater regulating valve and the steam pressure regulating valve.
- (q) The component cooling system consisting of circulating pumps, heat exchangers, a surge tank, piping, valving, and instrumentation.
- (r) The storage well system consisting of circulating pumps, heat exchanger, demineralizer, filters, storage tank, and the necessary piping, valving, fittings, instrumentation and controls.
- (s) The cooling, heating, and ventilation systems consisting of the three systems provided to ventilate potentially radioactive areas of the plant (containment vessel, waste treatment plant, and control and auxiliary building) and their common exhaust system.
- (t) The Unit No. 2 turbine and main condenser in the existing Pennsylvania Electric Company plant which will be used to utilize the steam produced by the Saxton reactor plant.



(u) The spent fuel storage rack consisting of a rectangular stainless steel crate type structure which is located in the storage well.

(2) As used in this license, the term "hazards summary report" means the report designated by Saxton as the Final Safeguards Report and submitted by Amendment No. 5 to Saxton's license application, including the supplemental information submitted by Saxton in Amendment No. 7, the report designated by Saxton as the Phase I Safeguards Report submitted by Amendment No. 10, including the supplemental information submitted by Saxton in Supplement No. 1 to Amendment No. 10.

4. The license is effective as of the date of issuance and shall expire April 13, 1967, unless extended for good cause shown.

FOR THE ATOMIC ENERGY COMMISSION

Director  
Division of Licensing and Regulation

Attachment:  
Appendix A

Date of Issuance: