Know all men by these presents:

The City of Piqua, in Miami County, in the State of Ohio, having obtained title to the within described premises by certain instruments recorded in volume 339, page 428, and volume 362, page 490, of the deed records of Miami County, Ohio, in consideration of the commitments of the parties under Contract No. AT(11-1)-1798, and of the sum of $1.00 and other good and valuable considerations, the receipt and sufficiency of which are hereby acknowledged, does hereby give, grant, bargain, sell and convey unto the United States of America and its assigns all that tract of land situate in the west central part of Section 29, Town 1, Range 11, M.R.S. Springcreek Township, Miami County, State of Ohio, and being more particularly described as follows:

> Beginning at a railroad spike at the northeast corner of tract number one, said spike being South ten degrees and thirty-nine minutes East (S 10° - 39' E) eighteen hundred and fifty-nine feet (1,859) of the corner of Sections 29, 30, 35, and 36 M.R.S.; thence South, eighty-one degrees eleven minutes West (S 81° - 11' W) two hundred thirteen and eighty-five hundredths (213.85') feet to a railroad spike; thence South, twelve degrees fifty-four minutes East (S 12° - 54' E) one hundred thirty-three (133.0) feet to an iron spike; thence North, sixty-three degrees thirty-six minutes East (N 63° - 36' E) thirty-seven (37.0) feet to place of beginning of the herein described parcel; thence continuing last said course, one hundred sixty-six (166.0) feet to a point; thence South, twenty-six degrees twenty-four minutes East (S 26° - 24' E) one hundred twenty (120.0) feet to a point; thence South, sixty-three degrees thirty-six minutes West (S 63° - 36' W) one hundred sixty-six (166.0) feet to a point, thence North, twenty-six degrees twenty-four minutes West (N 26° - 24' W) one hundred twenty (120.0) feet to the place of beginning.
>
> Said parcel containing .457 Acres, more or less.

To have and to hold the granted premises, with all the rights, easements and appurtenances thereto belonging, to the United States of America and its assigns, to its and their own use, subject only to the following:

1. It is expressly understood and agreed by and between the parties hereto and their assigns and successors that no use of the premises nor action thereon will be permitted which will disturb or tend to disturb certain irradiated materials, including the vessel of a government-owned nuclear reactor and its internals and the biological shield surrounding such vessel, all of which will remain entombed in

the land, sealed and isolated from all access, and which are more fully described in the appendix attached hereto. Duplicate copies of engineering documents and descriptive data concerning the reactor complex have been deposited at the reactor site in two sealed containers. The locations of the containers are also identified in the attached appendix.

2. It is further understood and agreed by and between the parties hereto and their assigns and successors that upon a finding by the United States Atomic Energy Commission or its successor in function that the radioactivity level of the above material has decayed to a condition permitting unrestricted use of the premises, the above described premises shall revert to, vest in, and become absolutely the property of the grantor, its successors and assigns.

The City warrants that it has title, in fee simple, to the above land and that the same is free of liens and encumbrances and that it will warrant and defend the same to the United States Government and its assigns against the lawful claims and demands of all persons.

IN WITNESS WHEREOF, the City has hereunto subscribed its name and seal this 24th day of March, 1969.

CITY OF PIQUA, OHIO

BY: Robert M. Hance

IN PRESENCE OF

R K Wilson

Robert May

STATE OF OHIO, MIAMI COUNTY, ss:

Before me, a Notary Public, in and for said State, personally appeared Robert M. Hance, Jr., City Manager and Purchasing Agent of the City of Piqua Ohio, the municipal corporation which executed the foregoing deed who acknowledged that the seal affixed to said instrument is the seal of said City of Piqua; that he did sign and seal such instrument as such City Manager and Purchasing Agent in behalf of said City and by authority of its City Commission; and that said instrument is his free act and deed individually and as such City Manager and City Purchasing Agent, and the free and corporate act and deed of the City of Piqua, a municipal corporation.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed my official seal this 24th day of March, 1969.

R K Wilson
Notary Public

This instrument was prepared
By R. K. Wilson

APPENDIX

I. LOCATION OF RADIOACTIVE MATERIALS AND OF DESCRIPTIVE DATA

Radioactive materials are located in a region called the "reactor complex" which is located below the main floor level within the reactor building. The materials became radioactive during the period of reactor plant operation ending in 1966. The region containing said materials extends outward in all directions a distance of 8 feet, more or less, from a point; said point being located 9.0 feet, south 65 degrees west from the geometric center of the reactor building, and 24.6 feet below the surface of the main floor. The intensity of radioactivity diminishes with time and at increasing distances from said point.

The locations of the radioactive materials, and of one of two sealed containers, or "time capsules," containing detailed information describing these materials and the related structures, are shown by Exhibit 1. The diagram identified as Exhibit 1. is a cross sectional view of the reactor looking easterly, made by a vertical plane oriented north 25 degrees west, and located 9.0 feet, south 65 degrees west from the geometric center of the reactor building. The intercept of the said line from the building center with the vertical plane is a point on the vertical centerline of the reactor and, that point on the floor surface has the reference elevation of 100.3 feet. One of the sealed containers previously mentioned is located at reference elevation 98.5 feet, and the center of the radioactive region has a reference elevation of 75.8 feet. The second sealed container is mounted on a wall 6 feet above the floor surface and 32.5 feet from the reactor center. It is located behind a metal plaque bearing the following inscription:

PIQUA NUCLEAR POWER FACILITY

-NOTICE-

Behind this plaque is a metal box containing detailed information concerning the reactor complex structure and contents. This box is not to be opened without the permission of the United States Government.

-United States Atomic Energy Commission-

-1969-

The above locations are more specifically described as follows:

Beginning at a railroad spike at the northeast corner of Tract No. 1, (the beginning point of the description of the land covered by this deed) said spike being south, ten degrees and thirty-nine minutes east (S 10°-39' E) eighteen hundred and fifty-nine feet (1859') of the corner of Sections 29, 30, 35 and 36 M.R.S.; thence south, eighty-one degrees eleven minutes west (S 81°-11' W) two hundred thirteen and eighty-five hundredths feet (213.85') to a railroad spike; thence south, twelve degrees fifty-four minutes east (S 12° -54' E) one hundred eighty-eight and seventeen hundredths feet (188.17') to a point, said point being in the intersection of the property line and center line of the reactor building; thence north, sixty-three degrees eight minutes twenty seconds east (N 63° -08' -20" E) ninety-two and thirty-seven hundredths feet (92.37') to the center of the sealed reactor vessel; thence, continuing said course thirty-two and fifty hundredths feet (32.50') to a point; thence above this point a sealed container, the second "time capsule" mentioned above, will be found mounted in the wall.

II. RADIOACTIVE SOURCE MATERIALS

The materials having the highest levels of radioactivity are located within the reactor vessel, hereinafter referred to as Region I. After a period of 80 years (2046 AD) more or less, the materials in Region I will have a radioactivity level of approximately 1000 times the level considered to be safe (by 1969 standards); however, it is predicted that the materials associated with the reactor vessel and biological shielding, Regions II and III, respectively, will have reached safe levels by that time.

The summaries of radioactive materials given on Exhibit 2 allow for decay periods of 25 to 100 years from the last date of reactor operation (January 1966). At the time of completion of the dismantlement program (January 1969) the levels of radioactivity from the radionuclides listed on Exhibit 2 are somewhat greater as given on Exhibit 2.1.

There are other radionuclides which are not significant after 25 or more years but which are significant sources at the present. These are the radionuclides having half lives of about one month to one year, which are listed on Exhibit 2.2. Exhibit 3 shows the ratio of radioactivity levels to safe levels (per 1969 standards) over a period of 140 years from 1966.

The radionuclide content left in the retired PNPF was compiled from the retirement safety analysis reports, AI-AEC-MEMO-12708* and the AI-AEC-MEMO-12708 Supplement A.* Safe levels of radioactivity are those levels which would allow unconditional release. The unconditional release criteria have been interpreted to mean the following:

1. External radiation hazards shall be deemed not to exist if the surface dose rate from every component is less than 0.2 mrem/hr.

2. Internal radiation hazards shall be deemed nonexistent if:

   a. Specific activity and solubility are such that the applicable nonoccupational MPC_W cannot be exceeded,

   b. The total activity, times the fraction deposited upon ingestion or inhalation, is less than a nonoccupational maximum permissible body burden, and

   c. The total amount of the element in the standard man were replaced by the element taken from the PNPF and would not result in a nonoccupational body burden. This is not applicable for elements such as europium for which the intestine or lung is the critical organ.

III. ACCESS TO REACTOR COMPLEX

The reactor complex region has been enclosed so as to preclude accidental entry or the transfer of radioactive materials to the outside. Unauthorized entry is forbidden by the United States Government. When entry to the reactor complex is authorized, access to one of the time capsules previously mentioned can be obtained by removing the concrete floor surface (about 4 inches thick) within a radius of 6 feet from the reactor centerline previously described, to expose the shield plug which weighs 11,000 pounds. After breaking the welds at the perimeter of the shield plug at a diameter of 11.8 feet, the shield plug can be lifted away exposing the region containing the "time capsule." The engineering drawings and other data contained therein describe the configuration of the installations in detail and include the basic data from which exhibits included in this appendix were compiled.

---

* Copies of these documents are in the two sealed containers described in Part I of this appendix.

A second sealed container containing duplicates of all documents in the "time capsule" is located on an inside wall of the reactor building, 23.3 feet, north 65 degrees east of the building center, at an elevation of 6 feet above the floor level.

EXHIBIT I

REACTOR CROSS SECTIONLOOKING EAST

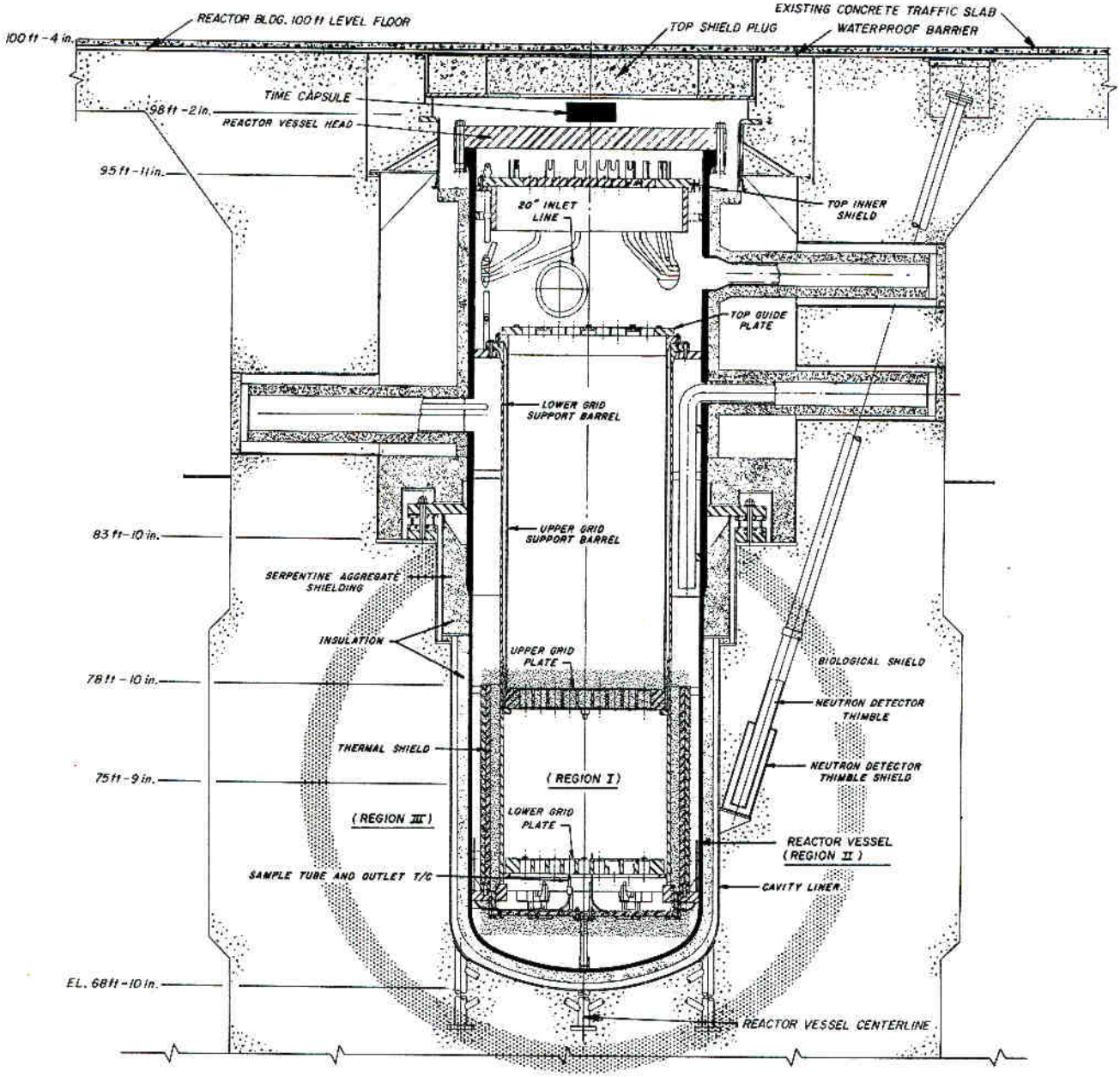

EXHIBIT 2

TOTAL RADIOACTIVITY (Curies) OF SIGNIFICANT LONG-LIVED RADIONUCLIDES IN THE RETIRED PIQUA NUCLEAR POWER FACILITY

	YEAR 1991				YEAR 2016			
Radio-nuclide	Region I* (inside vessel)	Region II† (vessel and insulation)	Region III§ (liner and shield)	Total	Region I* (inside vessel)	Region II† (vessel and insulation)	Region III§ (liner and shield)	Total
^{3}H	-	-	5.6×10^{-1}	5.6×10^{-1}	-	-	1.4×10^{-1}	1.4×10^{-1}
^{14}C	5.7×10^{-5}	1.0×10^{-4}	2.4×10^{-5}	1.8×10^{-4}	5.7×10^{-5}	1.0×10^{-4}	2.4×10^{-5}	1.8×10^{-4}
^{22}Na	-	5.9×10^{-8}	-	5.9×10^{-8}	-	-	-	-
^{36}Cl	-	1.6×10^{-4}	2.2×10^{-4}	3.8×10^{-4}	-	1.6×10^{-4}	2.2×10^{-4}	3.8×10^{-4}
^{39}Ar	-	4.1×10^{-6}	2.8×10^{-4}	2.8×10^{-4}	-	3.9×10^{-6}	2.8×10^{-4}	2.8×10^{-4}
^{41}Ca	-	4.7×10^{-4}	3.4×10^{-3}	3.9×10^{-3}	-	4.7×10^{-4}	3.4×10^{-3}	3.9×10^{-3}
^{55}Fe	1.4×10^{2}	6.1×10^{-1}	3.2×10^{-1}	1.4×10^{2}	1.9×10^{-1}	8.0×10^{-4}	4.2×10^{-4}	1.9×10^{-1}
^{59}Ni	4.9×10^{-2}	2.6×10^{-4}	-	4.9×10^{-2}	4.9×10^{-2}	2.6×10^{-4}	-	4.9×10^{-2}
^{60}Co	5.4×10^{1}	2.3×10^{-1}	1.3×10^{-1}	5.4×10^{1}	2.1×10^{0}	8.8×10^{-3}	4.9×10^{-3}	2.1×10^{0}
^{63}Ni	6.5×10^{0}	3.5×10^{-2}	1.5×10^{-3}	6.5×10^{0}	5.4×10^{0}	2.9×10^{-2}	1.2×10^{-3}	5.4×10^{0}
^{93}Mo	-	1.0×10^{-6}	-	1.0×10^{-6}	-	1.0×10^{-6}	-	1.0×10^{-6}
^{108m}Ag	8.5×10^{-3}	-	-	8.5×10^{-3}	6.0×10^{-3}	-	-	6.0×10^{-3}
^{151}Sm	-	-	8.2×10^{-4}	8.2×10^{-4}	-	-	7.0×10^{-4}	7.0×10^{-4}
^{152}Eu	-	-	3.4×10^{-2}	3.4×10^{-2}	-	-	7.7×10^{-3}	7.7×10^{-3}
^{154}Eu	-	-	1.5×10^{-3}	1.5×10^{-3}	-	-	5.3×10^{-4}	5.3×10^{-4}
Total	1.9×10^{2}	8.8×10^{-1}	1.0×10^{0}	1.9×10^{2}	7.7×10^{0}	3.8×10^{-2}	1.4×10^{-1}	7.8×10^{0}

	YEAR 2041				YEAR 2066			
Radio-nuclide	Region I* (inside vessel)	Region II† (vessel and insulation)	Region III§ (liner and shield)	Total	Region I* (inside vessel)	Region II† (vessel and insulation)	Region III§ (liner and shield)	Total
^{3}H	-	-	3.3×10^{-2}	3.3×10^{-2}	-	-	8.1×10^{-3}	8.1×10^{-3}
^{14}C	5.7×10^{-5}	1.0×10^{-4}	2.4×10^{-5}	1.8×10^{-4}	5.7×10^{-5}	1.0×10^{-4}	2.4×10^{-5}	1.8×10^{-4}
^{22}Na	-	-	-	-	-	-	-	-
^{36}Cl	-	1.6×10^{-4}	2.2×10^{-4}	3.8×10^{-4}	-	1.6×10^{-4}	2.2×10^{-4}	3.8×10^{-4}
^{39}Ar	-	3.6×10^{-6}	2.6×10^{-4}	2.6×10^{-4}	-	3.4×10^{-6}	2.4×10^{-4}	2.4×10^{-4}
^{41}Ca	-	4.7×10^{-4}	3.4×10^{-3}	3.9×10^{-3}	-	4.7×10^{-4}	3.4×10^{-3}	3.9×10^{-3}
^{55}Fe	2.3×10^{-4}	9.9×10^{-7}	5.2×10^{-7}	2.3×10^{-4}	-	-	-	-
^{59}Ni	4.9×10^{-2}	2.6×10^{-4}	-	4.9×10^{-2}	4.9×10^{-2}	2.6×10^{-4}	-	4.9×10^{-2}
^{60}Co	7.5×10^{-2}	3.2×10^{-4}	1.8×10^{-4}	7.5×10^{-2}	2.7×10^{-3}	1.1×10^{-5}	6.3×10^{-6}	2.7×10^{-3}
^{63}Ni	4.4×10^{0}	2.4×10^{-2}	1.0×10^{-3}	4.4×10^{0}	3.7×10^{0}	2.0×10^{-2}	8.5×10^{-4}	3.7×10^{0}
^{93}Mo	-	1.0×10^{-6}	-	1.0×10^{-6}	-	1.0×10^{-6}	-	1.0×10^{-6}
^{108m}Ag	4.2×10^{-3}	-	-	4.2×10^{-3}	3.0×10^{-3}	-	-	3.0×10^{-3}
^{151}Sm	-	-	5.9×10^{-4}	5.9×10^{-4}	-	-	4.8×10^{-4}	4.8×10^{-4}
^{152}Eu	-	-	1.9×10^{-3}	1.9×10^{-3}	-	-	4.3×10^{-4}	4.3×10^{-4}
^{154}Eu	-	-	1.9×10^{-4}	1.9×10^{-4}	-	-	6.7×10^{-5}	6.7×10^{-5}
Total	4.5×10^{0}	2.4×10^{-2}	3.9×10^{-2}	4.5×10^{0}	3.7×10^{0}	2.0×10^{-2}	1.4×10^{-2}	3.7×10^{0}

*Region I: Inside Reactor Vessel; includes - Upper Core Grid, Lower Core Grid, Lower Support Barrel, Thermal Shield, Sampling Tube Support Plate, Fuel Channel TC's (85), Moderator Flow TC's (3), Thermal Shield and Barrel TC's (6), and Mixed Mean TC's

†Region II: Reactor Vessel and Insulation; includes - Reactor Vessel, Insulation, Insulation Bonding, and Serpentine

§Region III: Cavity Liner and Shield; includes - Cavity Liner, Concrete Biological Shield, Reinforcing Steel, and Embedded TC's

EXHIBIT 2.1

TOTAL RADIOACTIVITY (Curies) OF SIGNIFICANT LONG-LIVED RADIONUCLIDES IN THE RETIRED PIQUA NUCLEAR POWER FACILITY – YEAR 1969

Radionuclide	Region I* (inside vessel)	Region II† (vessel and insulation)	Region III§ (liner and shield)	Total
^{3}H	-	-	2.2×10^{0}	2.2×10^{0}
^{14}C	5.7×10^{-5}	1.0×10^{-4}	2.4×10^{-5}	1.8×10^{-4}
^{22}Na	-	2.7×10^{-5}	-	2.7×10^{-5}
^{36}Cl	-	1.6×10^{-4}	2.2×10^{-4}	3.8×10^{-4}
^{39}Ar	-	4.3×10^{-6}	3.0×10^{-4}	3.0×10^{-4}
^{41}Ca	-	4.7×10^{-4}	3.4×10^{-3}	3.9×10^{-3}
^{55}Fe	5.1×10^{4}	2.2×10^{2}	1.2×10^{2}	5.1×10^{4}
^{59}Ni	4.9×10^{-2}	2.6×10^{-4}	-	4.9×10^{-2}
^{60}Co	1.1×10^{3}	4.7×10^{0}	2.6×10^{0}	1.1×10^{3}
^{63}Ni	7.7×10^{0}	4.1×10^{-2}	1.8×10^{-3}	7.7×10^{0}
^{93}Mo	-	1.0×10^{-6}	-	1.0×10^{-6}
^{108m}Ag	1.2×10^{-2}	-	-	1.2×10^{-2}
^{151}Sm	-	-	9.8×10^{-4}	9.8×10^{-4}
^{152}Eu	-	-	1.3×10^{-1}	1.3×10^{-1}
^{154}Eu	-	-	4.1×10^{-3}	4.1×10^{-3}
Total Long-Lived	5.2×10^{4}	2.2×10^{2}	1.2×10^{2}	5.2×10^{4}
Total Short-Lived from Exhibit 2.2	480	2.03	2.1×10^{5}	2.1×10^{5}
Total	5.2×10^{4}	2.2×10^{2}	2.1×10^{5}	2.6×10^{5}

*Region I: Inside Reactor Vessel; includes – Upper Core Grid, Lower Core Grid, Lower Support Barrel, Thermal Shield, Sampling Tube Support Plate, Fuel Channel TC's (85), Moderator Flow TC's (3), Thermal Shield and Barrel TC's (6), and Mixed Mean TC's

†Region II: Reactor Vessel and Insulation; includes – Reactor Vessel, Insulation, Insulation Banding, and Serpentine

§Region III: Cavity Liner and Shield; includes – Cavity Liner, Concrete Biological Shield, Reinforcing Steel, and Embedded TC's

EXHIBIT 2.2

NUCLEAR REACTION DATA AND TOTAL RADIOACTIVITY OF SIGNIFICANT SHORT-LIVED RADIONUCLIDES IN THE RETIRED PIQUA NUCLEAR POWER FACILITY

Product Isotope	Half Life	Parent Isotope	Reaction	σ Reaction Cross Section (barns)	I Isotopic Abundance of Parent (fraction)	N_o/A 10^{24} Atoms Per Gram (parent element)	$(1 - e^{-\lambda T})e^{-\lambda t}$ Saturation x Decay Fraction ($T = 1.2$ yr, $t = 3$ yr)	Total Activity (Curies) January 1969			
								Region I (inside vessel)	Region II (vessel and insulation)	Region III (lines and shield)	Total
^{33}P	25d	^{33}S	(n,p)	6.5×10^{-2}	0.0076	0.01826	6.27×10^{-14}	$<10^{-6}$	$<10^{-6}$	-	-
^{35}S	86.7d	^{34}S	(n,2n)	3.0×10^{-5}	0.0422	0.01772	1.52×10^{-4}	$<10^{-6}$	$<10^{-6}$	-	-
		^{35}Cl	(n,p)	6.5×10^{-2}	0.7553	0.01722	1.52×10^{-4}	-	1.3×10^{-5}	-	1.3×10^{-5}
^{37}Ar	35.1d	^{40}Ca	(n,α)	6.7×10^{-3}	0.9697	0.01506	4.16×10^{-10}	-	$<10^{-6}$	-	-
^{45}Ca	163d	^{44}Ca	(n,γ)	7.0×10^{-1}	0.0206	0.01370	7.98×10^{-3}	-	2.9×10^{-2}	2.1×10^{5}	2.1×10^{5}
		^{46}Ca	(n,2n)	2.8×10^{-4}	3.3×10^{-5}	0.01311	7.98×10^{-3}	-	$<10^{-6}$	-	-
		^{48}Ti	(n,α)	4.0×10^{-5}	0.7394	0.01256	7.98×10^{-3}	-	$<10^{-6}$	-	-
^{46}Sc	83.8d	^{46}Ti	(n,p)	9.0×10^{-3}	0.0793	0.01310	1.39×10^{-12}	-	$<10^{-6}$	-	-
^{51}Cr	27.8d	^{50}Cr	(n,γ)	1.7×10^{1}	0.043	0.01206	5.46×10^{-2}	$<10^{-6}$	$<10^{-6}$	-	-
		^{52}Cr	(n,2n)	3.0×10^{-5}	0.8376	0.01159	5.46×10^{-2}	$<10^{-6}$	$<10^{-6}$	-	-
		^{54}Fe	(n,α)	7.4×10^{-4}	0.0582	0.01116	5.46×10^{-2}	$<10^{-6}$	$<10^{-6}$	$<10^{-6}$	-
^{54}Mn	312d	^{54}Fe	(n,p)	5.1×10^{-2}	0.0582	0.01116	1.13×10^{-4}	4.8×10^{2}	2.0	1.05	480
		^{55}Mn	(n,2n)	2.0×10^{-4}	1.000	0.01096	1.13×10^{-4}	2.9×10^{-1}	1.2×10^{-3}	2.3×10^{-4}	0.29
^{58}Co	71d	^{58}Ni	(n,p)	7.3×10^{-2}	0.6788	0.01039	2.22×10^{-5}	2×10^{-3}	9×10^{-6}	-	2×10^{-3}
		^{59}Co	(n,2n)	2.0×10^{4}	1.000	0.01022	2.22×10^{-5}	1×10^{-6}	$<10^{-6}$	$<10^{-6}$	1×10^{-6}
^{59}Fe	45d	^{58}Fe	(n,γ)	1.2×10^{0}	0.0033	0.01039	4.54×10^{-8}	5×10^{-4}	2×10^{-6}	1×10^{-6}	5×10^{-4}
		^{59}Co	(n,p)	1.7×10^{-3}	1.000	0.01022	4.54×10^{-8}	$<10^{-6}$	$<10^{-6}$	$<10^{-6}$	-
		^{62}Ni	(n,α)	1.8×10^{-5}	0.0366	0.00972	4.54×10^{-8}	$<10^{-6}$	$<10^{-6}$	-	-
^{89}Sr	50.6d	^{92}Zr	(n,α)	7.4×10^{-5}	0.1711	0.00655	3.05×10^{-7}	$<10^{-6}$	-	-	-
^{91}Y	59d	^{91}Zr	(n,p)	2.8×10^{-4}	0.1123	0.00662	2.74×10^{-6}	$<10^{-6}$	-	-	-
^{95}Zr	65d	^{94}Zr	(n,γ)	8.0×10^{-2}	0.1740	0.00641	8.20×10^{-6}	$<10^{-6}$	-	-	-
		^{96}Zr	(n,2n)	4.0×10^{-3}	0.0280	0.00628	8.20×10^{-6}	$<10^{-6}$	-	-	-
		^{98}Mo	(n,α)	6.6×10^{-5}	0.2378	0.00615	8.20×10^{-6}	$<10^{-6}$	-	-	-
^{110m}Ag	260d	^{109}Ag	(n,γ)	3.5×10^{0}	0.4818	0.00553	3.68×10^{-2}	6×10^{-2}	-	-	-
Total								480	2.03	2.1×10^{5}	2.1×10^{5}

EXHIBIT 3

RATIO OF ACTUAL TO SAFE RADIOACTIVITY LEVELS