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Three Empire State Plaza, Albany, NY 12223-1350
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April 27, 2023

VIA EMAIL

Hon. Michelle L. Phillips
Secretary to the Commission
3 Empire State Plaza
Albany, NY 12223-1350

Re: Matter No. 21-01188 – In the Matter of the Indian Point Closure Task Force and Indian Point Decommissioning Oversight Board.

Dear Secretary Phillips:

Please accept for filing in the above-captioned matter, the April 27, 2023 presentation from the U.S. Nuclear Regulatory Commission (NRC) to the Indian Point Decommissioning Oversight Board regarding the decommissioning of Indian Point. Should you have any questions regarding this filing, please contact me. Thank you.

Respectfully submitted,

Tom Kaczmarek
Executive Director
Indian Point Closure Task Force
Indian Point Decommissioning Oversight Board



NRC Oversight of Nuclear Plant Effluent Releases

Katherine Warner, CHP

April 27, 2023

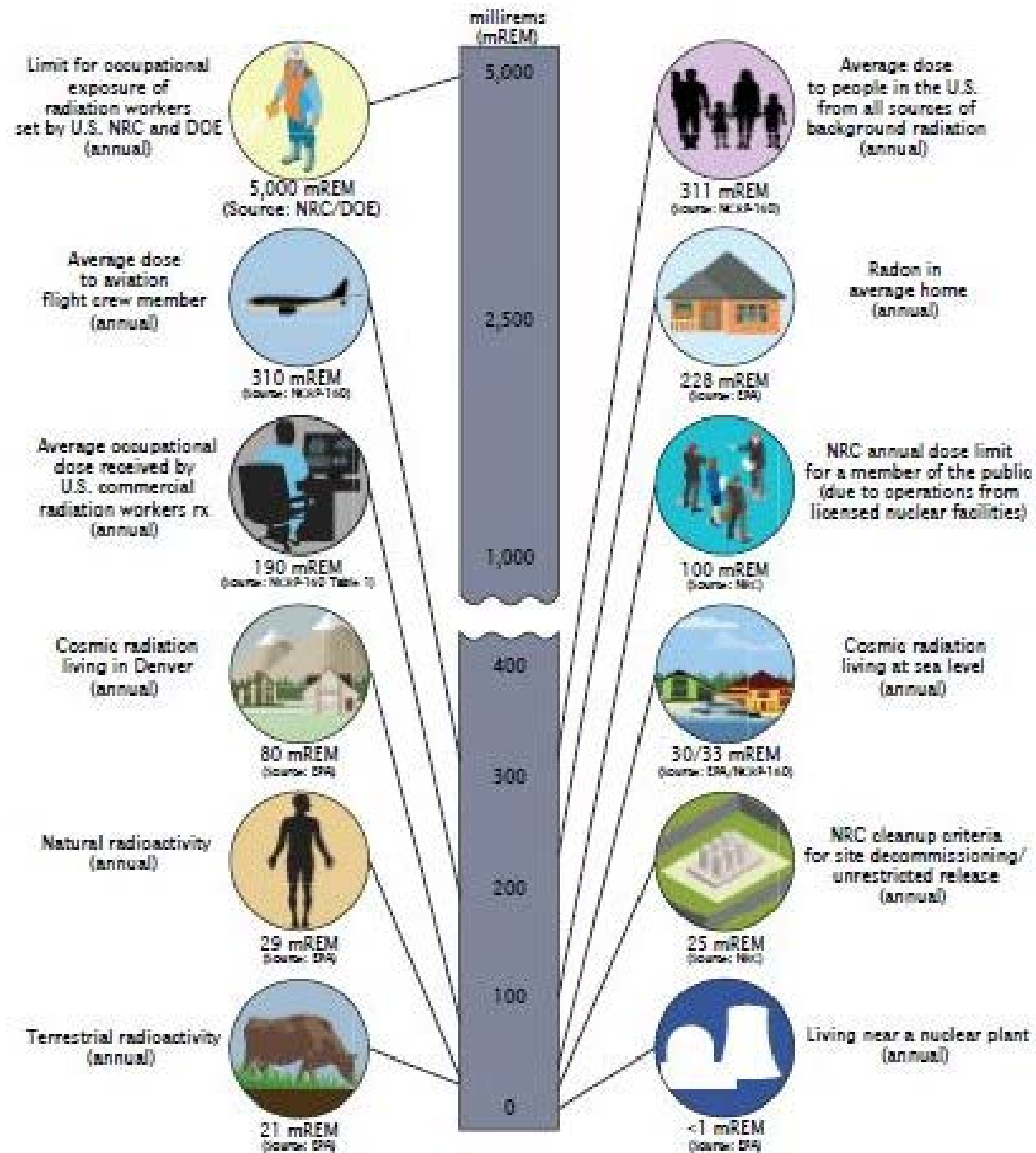
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UNITED STATES
NUCLEAR REGULATORY
COMMISSION

WWW.NRC.GOV

NRC Oversight Highlights

- There are no releases directly from the spent fuel pool. Liquid batch releases, including water from the spent fuel pool, are treated by the radioactive waste system, recirculated, analyzed, and monitored prior to release.
- All effluent releases – whether liquid or gaseous – must meet conservatively established federal limits.
- Plant owners must comply with requirements in the NRC approved Offsite Dose Calculation Manual and must document effluent releases in annual reports submitted to the NRC.



Radiation Doses

Regulations - NRC

- Atomic Energy Act of 1954, as amended
- Radiation Safety Regulations Apply to ALL Licensees
- Dose limits basis and changes

§ 20.2007 Compliance with environmental and health protection regulations.

Nothing in this subpart relieves the licensee from complying with other applicable Federal, State, and local regulations governing any other toxic or hazardous properties of materials that may be disposed of under this subpart.

§ 20.1301 Dose limits for individual members of the public.

(a) Each licensee shall conduct operations so that—

(1) The total effective dose equivalent to individual members of the public from the licensed operation does not exceed 0.1 rem (1 mSv) in a year, exclusive of the dose contributions from background radiation, from any administration the individual has received, from exposure to individuals administered radioactive material and released under § 35.75, from voluntary participation in medical research programs, and from the licensee's disposal of radioactive material into sanitary sewerage in accordance with § 20.2003, and

(2) The dose in any unrestricted area from external sources, exclusive of the dose contributions from patients administered radioactive material and released in accordance with § 35.75, does not exceed 0.002 rem (0.02 millisievert) in any one hour.

(b) If the licensee permits members of the public to have access to controlled areas, the limits for members of the public continue to apply to those individuals.

(c) Notwithstanding paragraph (a)(1) of this section, a licensee may permit visitors to an individual who cannot be released, under § 35.75, to receive a radiation dose greater than 0.1 rem (1 mSv) if—

(1) The radiation dose received does not exceed 0.5 rem (5 mSv); and

(2) The authorized user, as defined in 10 CFR Part 35, has determined before the visit that it is appropriate.

(d) A licensee or license applicant may apply for prior NRC authorization to operate up to an annual dose limit for an individual member of the public of 0.5 rem (5 mSv). The licensee or license applicant shall include the following information in this application:

(1) Demonstration of the need for and the expected duration of operations in excess of the limit in paragraph (a) of this section;

(2) The licensee's program to assess and control dose within the 0.5 rem (5 mSv) annual limit; and

(3) The procedures to be followed to maintain the dose as low as is reasonably achievable.

(e) In addition to the requirements of this part, a licensee subject to the provisions of EPA's generally applicable environmental radiation standards in 40 CFR part 190 shall comply with those standards.

(f) The Commission may impose additional restrictions on radiation levels in unrestricted areas and on the total quantity of radionuclides that a licensee may release in effluents in order to restrict the collective dose.



PART 190 - ENVIRONMENTAL RADIATION PROTECTION STANDARDS FOR NUCLEAR POWER OPERATIONS

Authority: Atomic Energy Act of 1954, as amended; Reorganization Plan No. 3, of 1970.

Source: 42 FR 2860, Jan. 13, 1977, unless otherwise noted.

Subpart A - General Provisions

§ 190.01 Applicability.

The provisions of this part apply to radiation doses received by members of the public in the general environment and to radioactive materials introduced into the general environment as the result of operations which are part of a nuclear fuel cycle.

Subpart B - Environmental Standards for the Uranium Fuel Cycle

§ 190.10 Standards for normal operations.

Operations covered by this subpart shall be conducted in such a manner as to provide reasonable assurance that:

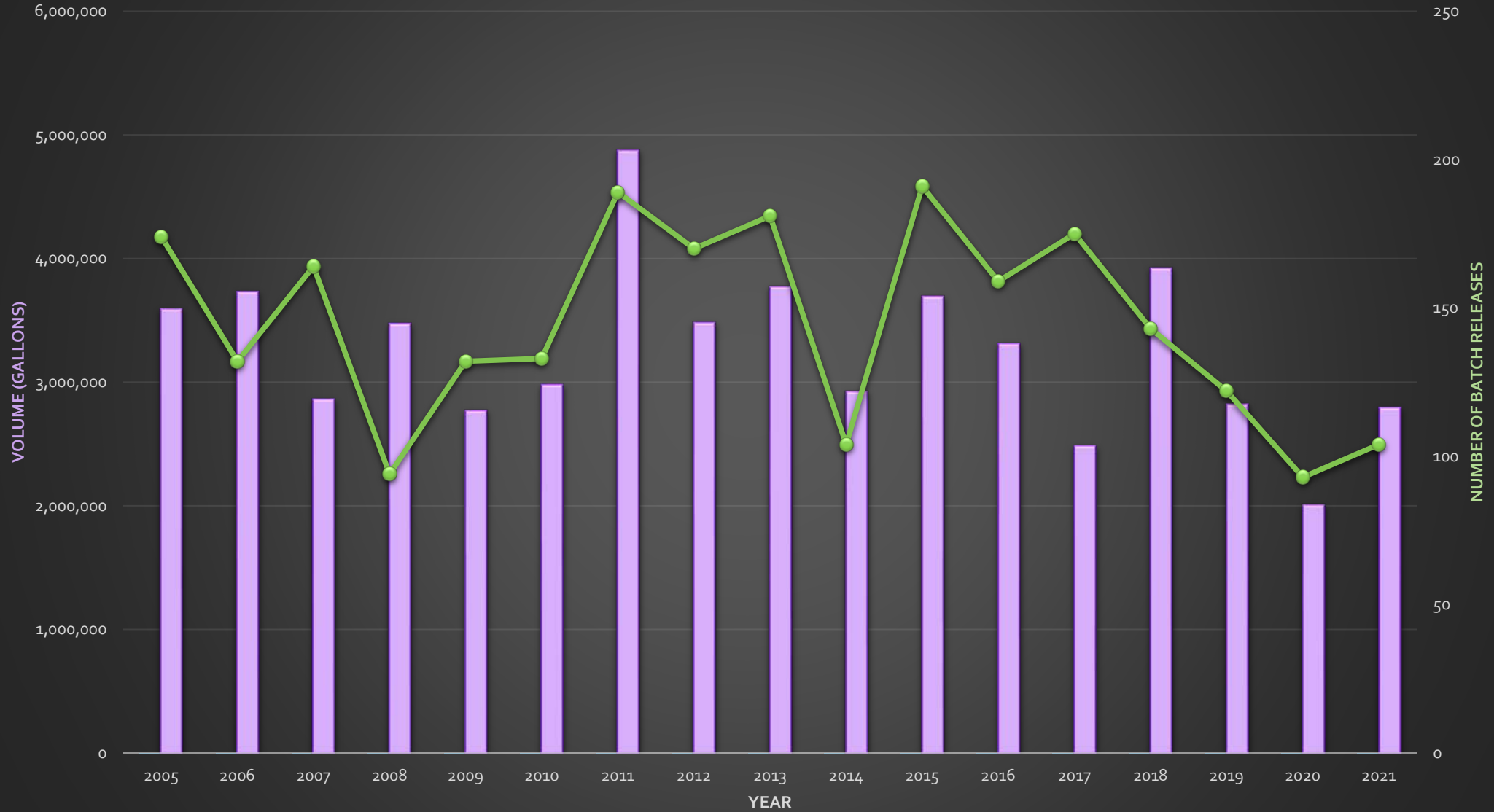
- (a) The annual dose equivalent does not exceed 25 millirems to the whole body, 75 millirems to the thyroid, and 25 millirems to any other organ of any member of the public as the result of exposures to planned discharges of radioactive materials, radon and its daughters excepted, to the general environment from uranium fuel cycle operations and to radiation from these operations.

Liquid Effluent Releases

Controlled releases must meet both NRC and EPA regulations



Number of Batch Liquid Releases and Volume



Comparison of Total Whole Body Dose from Liquid Releases to Limits

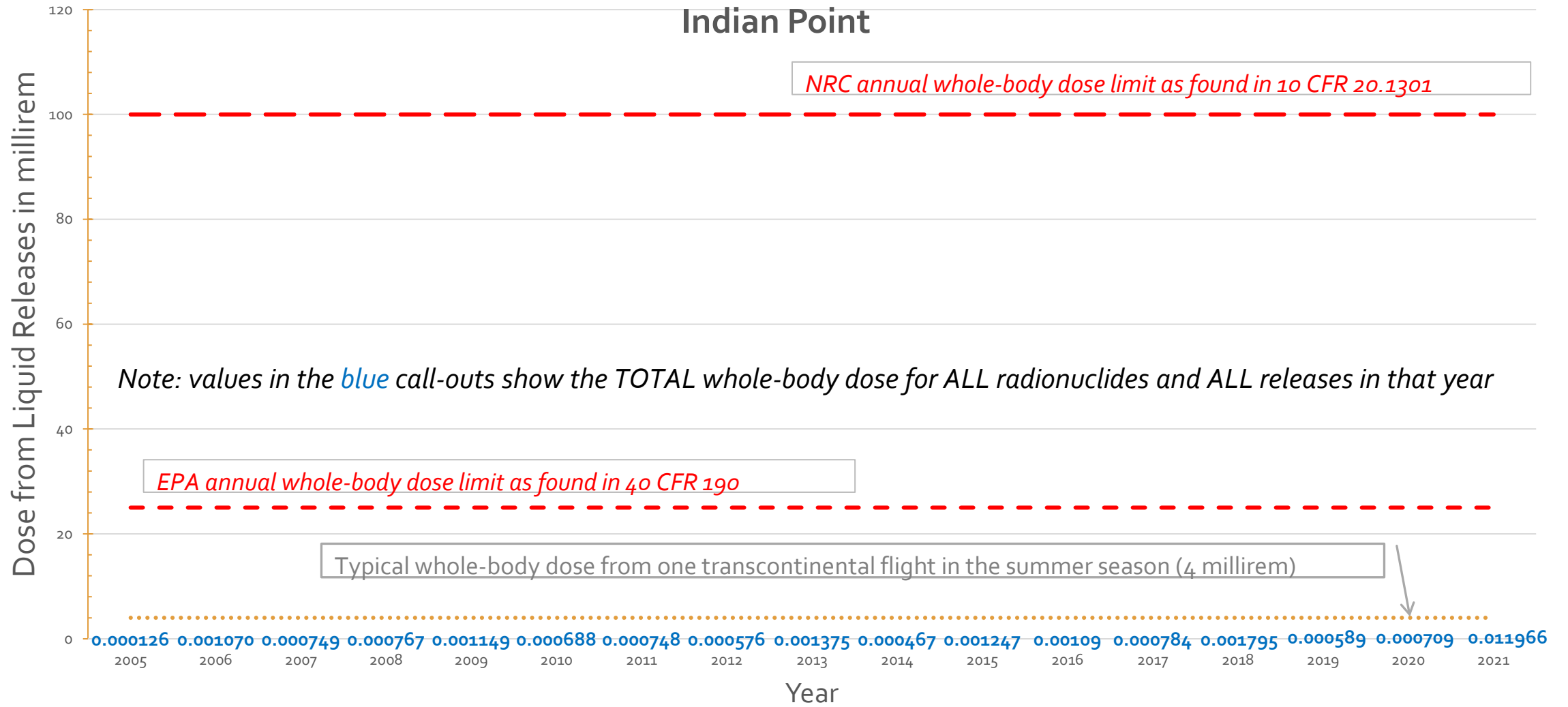
Indian Point

NRC annual whole-body dose limit as found in 10 CFR 20.1301

Note: values in the blue call-outs show the TOTAL whole-body dose for ALL radionuclides and ALL releases in that year

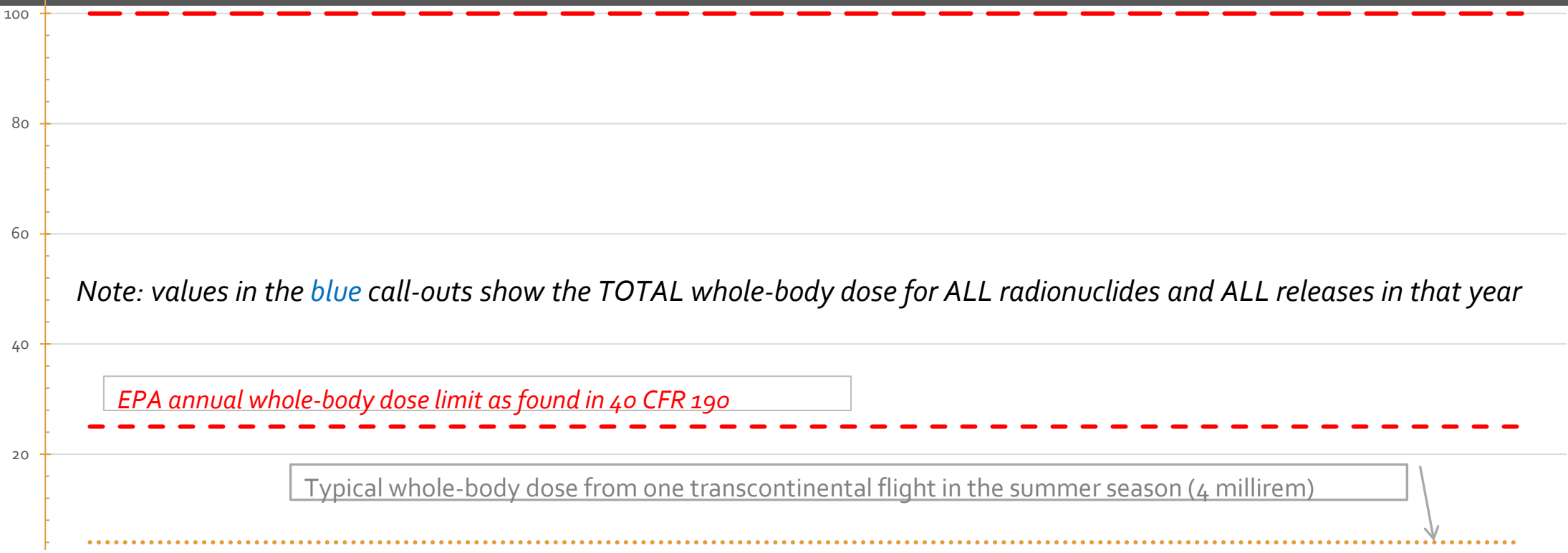
EPA annual whole-body dose limit as found in 40 CFR 190

Typical whole-body dose from one transcontinental flight in the summer season (4 millirem)



NRC annual whole-body dose limit as found in 10 CFR 20.1301

Dose from Liquid Releases in millirem



EPA annual whole-body dose limit as found in 40 CFR 190

Typical whole-body dose from one transcontinental flight in the summer season (4 millirem)

Year	Total Whole-body Dose (millirem)
2014	0.000467
2015	0.001247
2016	0.00109
2017	0.000784
2018	0.001795
2019	0.000589
2020	0.000709
2021	0.011966

Radiological Environmental Monitoring Program





NRC Inspection Activities

Summary

- 5000 mrem/yr Occupational worker limit (10 CFR 20)
- 620 mrem/yr Average public dose/yr (NCRP 160)
- 100 mrem/yr Annual NRC public total effective dose limit (10 CFR 20)
- 25 mrem/yr EPA release limit (40 CFR 190)
- 3 mrem/yr ODCM (10 CFR 50 Appendix I)
- 0.011966 mrem Calculated dose to the public from liquid releases in 2021