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FOIA/PA REQUEST
Case No.: 2016-0003
Date Rec'd: 10/1/2015
Specialist:
Assistant Director:

September 30, 2015

U.S. Nuclear Regulatory Commission
FOIA/Privacy Officer
Mail Stop T-5 F09
Washington, DC 20555-0001

[SENT BY EMAIL TO: FOIA.resource@nrc.gov]

To Whom It May Concern:

In 2012 and again in 2014, Public Citizen’s Health Research Group (HRG) submitted Freedom of Information Act (FOIA) requests for data relating to lifetime radiation exposure, by both length of employment and by calendar year, in nuclear power plant workers from 1977-2009 and 1977-2010, respectively (see **FOIA/PA-2012-00307** and **FOIA/PA-2014-00173**). You fulfilled those requests and we appreciated your efforts to get us the data in a prompt fashion.

We are writing today to request the same data for the years for which data have been made available since the 2014 FOIA request was fulfilled. Pursuant to 5 U.S.C. § 552 as amended, we specifically request:

1. Additional tables analogous to that in **Appendix, Figure 1** (“Annual Tables of Career Dose Distrib 1977– 2009”) for each calendar year since 2010 for which data are now available.¹ We request that, if possible, these data be sent as Excel files in order to minimize the potential for human error when manually transcribing the data from a PDF to an Excel file for analysis.
2. A revised version of the table in **Appendix, Figure 2** (“2014Table5.7 FOIA Response”), as an Excel file, that includes lifetime radiation exposures by career length, which factors in all years since 2010 for which data are now available.

If possible, please send digital copies of these documents by email to salmashat@citizen.org.

Please send us documents as they become available rather than waiting to assemble all of the requested documents. If it is your position that records exist that are responsive to this request, but that those records (or portions of those records) are exempt from disclosure, please identify the records that are being withheld and state the basis for the denial for each record being withheld. In addition, please provide the nonexempt portions of the records.

¹ Note that, in 2014, we received a PDF file containing the 2010 data, but these have not been included in the Appendix due to formatting issues.

Fee Waiver Request

Public Citizen, which has 400,000 members and supporters, is a nonprofit research, litigation, and advocacy organization that represents the public interest before Congress, the executive branch, and the courts. It fights for openness and democratic accountability in government; for social and economic justice in globalization and trade policies; for strong health, safety, human subjects and environmental protections; and for safe, effective and affordable medicines and health care. It is composed, in part, by its Health Research Group.

Public Citizen requests that all fees in connection with this FOIA request be waived in accordance with 5 U.S.C. § 552(a)(4)(A)(iii) and the eight-factor test under 10 C.F.R. § 9.41(b). Our responses to each of 10 C.F.R. § 9.41(b)'s eight criteria are as follows:

- 1. Describe the purpose for which you intend to use the requested information.**
 - a. Public Citizen intends to use the information to inform the public debate on nuclear power. The documents being sought will allow the public to evaluate these exposures within the context of the broader debate over the benefits and risks of nuclear power. Public Citizen intends to make the information obtained as a result of this request publicly available on its freely accessible website, and through dissemination to the news media.

- 2. Explain the extent to which you will extract & analyze the substantive content of the records.**
 - a. Public Citizen will extract and analyze the substantive content of the records sought through the current FOIA to the fullest extent possible. The requested records are composed of data on lifetime radiation exposure in nuclear power plant workers, which we will extract in their entirety for use in a subsequent report made available to the public.

- 3. Describe the nature of the specific activity or research in which the records will be used & the specific qualifications you possess to utilize information for the intended use in such a way that it will contribute to public understanding.**
 - a. The requested information will be used for research and advocacy purposes, in the form of a published report. A group of medical researchers at Public Citizen will use the data to estimate the health risks incurred by nuclear power plant workers over the course of their working lifetime.² This will contribute to public understanding and debate on the risks and benefits of nuclear power.

² A description of Public Citizen's experts and their work is available at <http://www.citizen.org/Page.aspx?pid=2499>. Public Citizen's Health Research Group has produced numerous reports similar to the one it intends to produce using the requested information. See Health Research Group Publications, available at www.citizen.org/hrpublications.

4. Describe the likely impact on the public's understanding of the subject as compared to the level of understanding of the subject existing prior to disclosure.

- a. The requested records are not currently available to the public. We expect that the responsive records will reveal data relating to the lifetime radiation exposure incurred by nuclear power plant workers who terminated their employment since 2010. The documents being sought will allow the public to evaluate these exposures within the context of the broader debate over the benefits and risks of nuclear power.

Because NRC does not make available to the public, on a regular basis, comprehensive, updated data on lifetime radiation exposures of nuclear power plant workers, the only information currently available on the issue is based on estimates in peer-reviewed literature. These estimates are, by definition, insufficient as a basis for a fully informed assessment, as they are uncertain approximations, based on partial data, of the true scale of lifetime exposure.³ The release of data in the requested records, once disseminated along with the data received from NRC as a result of prior Public Citizen FOIA requests, will provide new information unlike anything else available and therefore make a significant contribution to the public's understanding of the issue of lifetime radiation exposure of nuclear power plant workers and inform potential regulation of such exposure, which NRC does not currently regulate. It will also reveal to the public the potential dangers to worker safety of which NRC is aware, and thus indicate how NRC has reacted to the implications of these non-public data in the past. The public unquestionably has an interest in this critical issue of worker safety and whether the government acts to regulate workplace dangers. *See Citizens for Responsibility & Ethics in Washington v. U.S. Dep't of Health & Human Servs.*, 481 F. Supp. 2d 99, 116 (D.D.C. 2006) (stating that whether disclosure will significantly contribute to public understanding "involves comparing the public understanding with and without the potential disclosure"). No additional showing is required under FOIA. *See id.* at 118 (holding that release of information would significantly contribute to public understanding where the administrative record "contain[ed] no indication that the records of [agency] contracts with public affairs organizations were already publicly available").

The public's current level of understanding of the lifetime radiation burden experienced by nuclear power plant workers is limited, given that comprehensive, updated data on lifetime exposures are not publicly released on a regular basis by

³ See *e.g.* Howe GR, Zablotska LB, Fix JJ, Egel J, Buchanan J. Analysis of the mortality experience amongst U.S. nuclear power industry workers after chronic low-dose exposure to ionizing radiation. *Radiat Res.* 2004 Nov;162(5):517-26.

NRC. The release and subsequent dissemination of these most recent data, together with the data received from NRC as a result of prior Public Citizen FOIA requests, will therefore immediately enhance the public's understanding of this issue. The impact of this enhanced understanding, in turn, will be to inform future public discussion and debate concerning the occupational health risks experienced by nuclear power plant workers in the United States, and on whether current federal protections in place to mitigate these risks are sufficient.

5. Describe the size & nature of the public to whose understanding a contribution will be made.

- a. Public Citizen has more than 400,000 members and supporters, and it disseminates free information—in the form of reports and other products—to the general public.

6. Describe the intended means of dissemination to the general public.

- a. Public Citizen has several full-time staff who actively disseminate the results of our research on the Internet, including to our more than 400,000 members and supporters, hundreds of media outlets, and the general public through direct mail/email and posting to social media outlets, such as Twitter. Public Citizen also maintains several active blogs, including CitizenVox [<http://www.citizenvox.org/>], and two monthly newsletters, Worst Pills Best Pills News and Health Letter, for our members and the general public, respectively.

In addition, Public Citizen regularly releases information about its reports and other products to the media. Our work regularly garners national coverage in outlets such as *Reuters*,⁴ the *New York Times*,⁵ and *CBS News*.⁶ As these facts demonstrate, Public Citizen qualifies as a representative of the news media because it “gathers information of potential interest to a segment of the public, uses its editorial skills to turn the raw materials into a distinct work, and distributes that work to an audience.” 5 U.S.C. § 552(a)(4)(A)(ii).

7. Indicate if public access to information will be provided free of charge or provided for an access fee or publication fee.

⁴ Grover N. Watchdog urges FDA to revoke approval of Genzyme surgical implant. Reuters. July 7, 2015. <http://www.reuters.com/article/2015/07/07/us-sanofi-sa-implant-fda-idUSKCN0PH1DN20150707>. Accessed August 25, 2015.

⁵ Tavernise S. Makers of Generic Drugs Challenge F.D.A. Plan for Updated Warnings. New York Times. March 27, 2015. <http://www.nytimes.com/2015/03/28/science/makers-of-generic-drugs-challenge-fda-plan-for-updated-warnings.html>. Accessed August 25, 2015.

⁶ Castillo M. Group asks FDA for black box warning on testosterone products due to heart risks. CBS. Feb. 25, 2014. <http://www.cbsnews.com/news/group-asks-fda-for-black-box-warning-on-testosterone-products-due-to-heart-risks/>. Accessed September 30, 2015.

- a. Public Citizen is a non-profit, public interest organization. We intend to distribute information obtained from this request free of charge to the public.

8. Describe any commercial or private interest you or any other party has in the agency records sought.

- a. Public Citizen does not have any commercial or private interest in the records sought.

If, however, a public interest fee waiver is not granted, please advise us of the estimated cost of fulfilling the request before conducting any work that would result in an assessment of any fees to Public Citizen.

Thank you for your prompt attention to this request.

Sincerely,



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Appendix.

Figure 1. Annual Tables of Career Dose Distrib 1977-2009

Table 5.1
Career External Dose (DDE) Distribution By Dose and Career Length At Reactor Facilities
Career Ending 2009
Number of Persons in Dose Range (rem)

Career Length	No Meas.	Dose Range (rem)														Grand Total	
		0.01 - 0.1	0.1 - 0.5	0.5 - 1	1 - 2	2 - 3	3 - 4	4 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 50	>=50		
<=30 days	157,283	28,084	9,579	2,757	3,199	1,100	63	7	3	-	-	-	-	-	1	-	202,069
31 days - 6 mos	72,836	41,792	26,085	8,840	7,028	2,488	1,183	304	48	3	2	-	-	-	-	-	160,609
6 mos - 1 yr	31,466	17,348	10,168	3,249	2,547	1,238	675	301	246	3	-	-	-	-	-	-	67,238
1 - 2 yrs	29,027	18,770	12,547	4,883	4,017	1,819	1,022	618	797	34	2	1	-	-	-	-	73,497
2 - 3 yrs	14,128	10,880	8,169	3,497	3,149	1,557	857	565	947	103	9	1	-	-	-	-	43,962
3 - 4 yrs	8,953	7,839	6,300	3,061	2,737	1,366	750	472	669	168	32	3	1	-	-	-	32,581
4 - 5 yrs	6,513	6,035	6,032	2,564	2,447	1,290	774	469	938	206	39	15	3	-	-	-	26,325
5 - 10 yrs	16,372	18,195	15,523	8,138	8,664	4,863	3,041	2,059	4,437	1,206	401	181	49	23	2	6	83,104
10 - 15 yrs	6,699	9,461	8,678	4,534	5,297	3,254	2,197	1,617	3,953	1,325	544	245	100	91	6	6	48,989
15 - 20 yrs	3,137	5,460	5,347	2,901	3,343	2,179	1,599	1,160	3,286	1,308	538	310	175	166	7	30	30,876
20 - 25 yrs	1,444	3,196	3,382	1,860	2,150	1,465	1,039	828	2,423	1,179	546	325	191	231	35	20	20,289
25 - 30 yrs	467	1,421	1,782	996	1,193	841	692	515	1,564	813	488	258	144	200	34	11	11,411
30 - 35 yrs	148	397	580	376	474	308	224	226	615	352	225	133	96	129	21	4	4,297
>=35 yrs	22	54	91	63	82	62	42	33	117	72	39	39	15	48	8	1	779
Grand Total	348,505	168,912	113,263	47,823	46,317	23,820	14,118	9,163	20,223	6,772	2,865	1,461	782	889	113	113	805,026

Figure 2. 2014Table5.7 FOIA Response.

Table 5.7
Career External Dose (DDE) Distribution By Dose and Career Length At Reactor Facilities
1977 - 2010
Number of Persons in Dose Range (rem)

Career Length	No Meas.	Dose Range (rem)														Grand Total	
		0.01 - 0.1	0.1 - 0.5	0.5 - 1	1 - 2	2 - 3	3 - 4	4 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 50	>=50		
<=30 days	157,283	28,084	9,579	2,757	3,199	1,100	63	7	3	-	-	-	-	-	1	-	202,069
31 days - 6 mos	72,836	41,792	26,085	8,840	7,028	2,488	1,183	304	48	3	2	-	-	-	-	-	160,609
6 mos - 1 yr	31,466	17,348	10,168	3,249	2,547	1,238	675	301	246	3	-	-	-	-	-	-	67,238
1 - 2 yrs	29,027	18,770	12,547	4,883	4,017	1,819	1,022	618	797	34	2	1	-	-	-	-	73,497
2 - 3 yrs	14,128	10,880	8,169	3,497	3,149	1,557	857	565	947	103	9	1	-	-	-	-	43,962
3 - 4 yrs	8,953	7,839	6,300	3,061	2,737	1,366	750	472	669	168	32	3	1	-	-	-	32,581
4 - 5 yrs	6,513	6,035	6,032	2,564	2,447	1,290	774	469	938	206	39	15	3	-	-	-	26,325
5 - 10 yrs	16,372	18,195	15,523	8,138	8,664	4,863	3,041	2,059	4,437	1,206	401	181	49	23	2	6	83,104
10 - 15 yrs	6,699	9,461	8,678	4,534	5,297	3,254	2,197	1,617	3,953	1,325	544	245	100	91	6	6	48,989
15 - 20 yrs	3,137	5,460	5,347	2,901	3,343	2,179	1,599	1,160	3,286	1,308	538	310	175	166	7	30	30,876
20 - 25 yrs	1,444	3,196	3,382	1,860	2,150	1,465	1,039	828	2,423	1,179	546	325	191	231	35	20	20,289
25 - 30 yrs	467	1,421	1,782	996	1,193	841	692	515	1,564	813	488	258	144	200	34	11	11,411
30 - 35 yrs	148	397	580	376	474	308	224	226	615	352	225	133	96	129	21	4	4,297
>=35 yrs	22	54	91	63	82	62	42	33	117	72	39	39	15	48	8	1	779
Grand Total	348,505	168,912	113,263	47,823	46,317	23,820	14,118	9,163	20,223	6,772	2,865	1,461	782	889	113	113	805,026

Average Career Length for Individuals with Measurable Career Exposure: 6.75 yrs
Average Career Dose for individuals with Measurable Dose (649,104 rem / 456,521 persons): 1.42 rem

Average Career Length for Individuals with Measurable Career Exposure and Careers Lengths of at Least One Year: 9.23 yrs
Average Career Dose for individuals with Measurable Dose with career length of at least one year (583,644 rem / 286,190 persons): 2.03 rem

Values where individuals averaged 5 rem/yr during their career - established by querying cumulative dose divided by cumulative number of work years
Values where individuals averaged 2 rem/yr during their career - established by querying cumulative dose divided by cumulative number of work years

Only individuals that ended monitoring after 1977 but before 2011 are included in this analysis

For career length and dose bins, values that are equal to the maximum end of the range are assigned to the next higher bin (i.e., a dose of 0.1 would be assigned to the 0.1-0.5 dose bin).