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CASE NO: 2017-0123  
DATE REC'D: 11/08/2016  
SPECIALIST:  
RELATED CASE:

November 8, 2016

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](mailto:FOIA.resource@nrc.gov)]

To Whom It May Concern:

In 2012, 2014, and 2015, 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, 1977-2010, and 1977-2011, respectively (see **FOIA/PA-2012-00307**, **FOIA/PA-2014-00173**, and **FOIA/PA-2016-00003**). 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 2015 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** ("Career External Dose Distribution By Dose and Career Length At Reactor Facilities 1977– 2011") for each calendar year since 2011 for which data are now available. We request that, if possible, these data again 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** ("2015 Table5.7 FOIA Response"), as an Excel file, that includes lifetime radiation exposures by career length, which factors in all years since 2011 for which data are now available.

If possible, please send digital copies of these documents by email to [salmashat@citizen.org](mailto: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.

**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.<sup>1</sup> This will contribute to public understanding and debate on the risks and benefits of nuclear power.

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<sup>1</sup> 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](http://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 2011. 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.<sup>2</sup> 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

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<sup>2</sup> 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*,<sup>3</sup> the *New York Times*,<sup>4</sup> and *CBS News*.<sup>5</sup> 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.**

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<sup>3</sup> 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 November 8, 2016.

<sup>4</sup> 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 November 8, 2016.

<sup>5</sup> 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 November 8, 2016.

- 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. Career External Dose (DDE) Distribution By Dose and Career Length At Reactor Facilities, 1977-2011.**

Career Length	Number of Persons in Dose Range (rem)																Grand Total
	No Meas.	.001 - .1	.1 - .5	.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	160,203	28,557	9,692	2,767	3,190	1,103	63	7	3	-	-	-	-	1	-	205,586	
31 days - 6 mos	74,748	42,568	26,341	8,863	7,028	2,488	1,183	304	48	3	2	-	-	-	-	163,576	
6 mos - 1 yr	32,996	18,226	10,462	3,282	2,551	1,235	675	301	246	3	-	-	-	-	-	69,977	
1 - 2 yrs	29,965	19,341	12,938	4,948	4,036	1,824	1,022	618	757	34	2	1	-	-	-	75,486	
2 - 3 yrs	14,607	11,260	8,496	3,566	3,179	1,562	857	565	947	103	9	1	-	-	-	45,152	
3 - 4 yrs	9,202	8,073	6,479	3,118	2,772	1,375	753	472	892	168	32	3	1	-	-	33,340	
4 - 5 yrs	6,728	6,229	5,229	2,642	2,483	1,300	776	469	939	206	39	15	3	-	-	27,058	
5 - 10 yrs	16,874	18,688	16,061	8,357	8,814	4,925	3,060	2,075	4,450	1,207	401	131	49	23	2	85,117	
10 - 15 yrs	6,851	9,688	8,925	4,763	5,430	3,313	2,226	1,643	3,949	1,328	545	246	108	91	6	49,112	
15 - 20 yrs	3,256	5,640	5,547	3,039	3,446	2,241	1,598	1,186	3,334	1,318	540	310	175	166	7	31,803	
20 - 25 yrs	1,565	3,417	3,564	1,965	2,281	1,559	1,090	865	2,518	1,208	560	328	193	235	35	21,383	
25 - 30 yrs	558	1,693	2,036	1,144	1,357	938	764	582	1,736	888	510	273	149	208	34	12,870	
30 - 35 yrs	169	504	736	453	600	381	272	260	752	431	264	154	107	147	21	5,251	
≥35 yrs	33	80	143	90	129	87	62	53	167	103	50	51	23	59	13	1,143	
Grand Total	357,755	173,964	116,649	48,997	47,296	24,331	14,401	9,400	20,736	7,000	2,954	1,513	808	930	118	626,854	

Average Career Length for Individuals with Measurable Career Exposure: 6.09 yrs  
Average Career Dose for Individuals with Measurable Dose (667,376 rem / 469,099 persons): 1.42 rem

Average Career Length for Individuals with Measurable Career Exposure and Careers Lengths of at Least One Year: 9.42 yrs  
Average Career Dose for Individuals with Measurable Dose with career length of at least one year (601,656 rem / 297,507 persons): 2.02 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).

**Figure 2. 2015 Table 5.7 FOIA Response.**

Career Length	Number of Persons in Dose Range (rems)																Grand Total
	No Meas.	.001 - .1	.1 - .5	.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	2,920	473	113	10	1	-	-	-	-	-	-	-	-	-	-	3,517	
31 days - 6 mos	1,912	776	256	23	-	-	-	-	-	-	-	-	-	-	-	2,967	
6 mos - 1 yr	1,530	878	294	33	4	-	-	-	-	-	-	-	-	-	-	2,739	
1 - 2 yrs	938	571	391	65	19	5	-	-	-	-	-	-	-	-	-	1,989	
2 - 3 yrs	479	380	327	69	30	5	-	-	-	-	-	-	-	-	-	1,290	
3 - 4 yrs	239	234	179	57	35	9	3	-	3	-	-	-	-	-	-	759	
4 - 5 yrs	215	194	197	78	36	10	2	-	1	-	-	-	-	-	-	733	
5 - 10 yrs	502	493	538	219	150	62	19	16	13	1	-	-	-	-	-	2,013	
10 - 15 yrs	152	227	247	129	133	59	29	26	16	3	1	1	-	-	-	1,023	
15 - 20 yrs	119	180	200	138	103	62	39	26	48	10	2	-	-	-	-	927	
20 - 25 yrs	121	221	182	105	131	94	51	42	95	29	14	3	2	4	-	1,094	
25 - 30 yrs	91	292	254	145	164	97	72	67	152	75	22	15	5	8	-	1,459	
30 - 35 yrs	21	107	156	78	126	73	48	40	137	79	39	21	11	18	-	954	
≥35 yrs	11	26	52	25	47	35	20	20	50	31	11	12	8	11	5	384	
Grand Total	9,250	5,052	3,386	1,174	979	511	283	237	515	228	89	52	26	41	5	21,828	

11.72 yrs Average Career Length for Individuals with Measurable Career Exposure  
1.45 rem Average Career Dose for Individuals with Measurable Dose

15.04 yrs Average Career Length for Individuals with Measurable Career Exposure and Careers Lengths of at Least One Year  
1.85 rem Average Career Dose for Individuals with Measurable Dose with Career Length of at Least One Year

Only individuals that ended monitoring in 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).

Scroll to the right for  
source data

