

Indian Point Dry Cask Loadings and NRC's ISFSI Oversight

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The NRC's Office of the Inspector General (OIG) audited the U.S. Nuclear Regulatory Commission Region II's oversight of Independent Spent Fuel Storage Installations (ISFSIs) and issued its audit report ([OIG Case No. 20-012](#)) in February 2023. OIG's chief findings were that Region II used unqualified inspectors between 2012 and 2020 for dry cask oversight and the inspectors used less than 20 percent of the hours specified to adequately perform the dry cask inspections.

Indian Point is in NRC Region I. This report documents research into how NRC conducted ISFSI oversight of dry cask loadings at Indian Point.

Attached is a four page summary of the cask loadings at Indian Point and the associated NRC oversight activities.

Three NRC inspection procedures covered dry cask activities:

- Inspection Procedure (IP) 60845 covering the transfer of spent fuel assemblies from one reactor to an adjacent reactor at a multiple-unit nuclear plant site. Indian Point performs these inter-plant transfers because the Unit 3 crane did not have sufficient capacity to lift casks holding 32 spent fuel assemblies. Instead, 12 spent fuel assemblies were loaded into a cask in the Unit 3 spent fuel pool, the cask was transported next door into the Unit 2 spent fuel pool and unloaded, and then 32 spent fuel assemblies were loaded into a "big boy" cask and transported to the ISFSI pad.
- IP 60855 covering ISFSIs and cask operations.
- IP 60855.1 covering ISFSIs and cask operations at operating reactors. [While ISFSIs and casks could not state whether they are at operating reactor or permanently shut down reactors, even if they had vocal cords, two procedures covering basically the same subject are used by NRC because two separate NRC offices are involved. The NRC's Office of Nuclear Reactor Regulation "owned" IP 60855.1 while the NRC's Office of Nuclear Materials Safety and Safeguards "owned" IP 60855. Bureaucracy 1, Logic and Efficiency 0.

To satisfy regulation 10 CFR 72.212(b), owners must notify the NRC in writing when each and every cask is loaded. Those reports provided the shaded information in the first five columns of the attachment (e.g., unit, date, cask number, number of spent fuel assemblies loaded in the cask, and type of cask).

Information in the rightmost column of the attachment came from searches of the NRC's online digital library, ADAMS, with the Indian Point reactor docket numbers and "60845," "60855," "cask," and "ISFSI" as individual search terms.

While the NRC inspection reports using IP 60845, IP 60855, and/or IP 60855.1 listed the names of the inspectors conducting the inspections, there's no means to publicly determine who is qualified. Likewise, the publicly available inspection reports and other materials do not specify how many hours were spent inspecting ISFSIs. Thus, it cannot be determined if, like in Region II, unqualified inspectors conducted inadequate ISFSI inspections at Indian Point.

The research raises some questions:

1. The first NRC inspection report for ISFSIs/dry casks was dated February 9, 2010. By that time, dry casks had been loaded at Indian Point since January 11, 2008, with a total of 5 Unit 1 dry casks and 7 Unit 2 dry casks loaded. Why didn't NRC inspect dry cask loading operations at Indian Point during the first two years?
2. At least 14 NRC inspection reports have been issued between 2010 and 2023 for ISFSI activities at Indian Point. How many inspection hours were spent on each of these ISFSI inspections?
3. At least 14 NRC inspection reports have been issued between 2010 and 2023 for ISFSI activities at Indian Point. Where all of the individuals conducting these ISFSI inspection procedures fully qualified for the ISFSI inspection procedures?
4. Has the NRC conducted more than the 14 ISFSI inspections identified in the attachment? If so, are these additional ISFSI inspection reports publicly available?

Indian Point Cask Loadings and NRC ISFSI Oversight

Unit	Date	Cask No.	No. Fuel Assemblies	Cask Type	Cumulative Casks	Cumulative Fuel Assemblies	Source	NRC Action
NRC	2/1/1996						ML003729022	SFPO issues IP 60855 specifying 16 hours document review, 40 hours inspection, and 16 hours documentation
NRC	3/28/2002						ML021060665	SFPO revises IP 60855 specifying 16 hours document review, 40 hours inspection, and 16 hours documentation
2	12/29/2003						ML040020316	Entergy notifies NRC of plans to begin moving casks to its ISFSI in July 2005
NRC	2/2/2004						ML040690505	IIPB issues IP 60855.1 "to provide NRR funding for those portions of IP 60855 ... applicable to an operating nuclear power plant." 134 hours were specified for a new ISFSI, 100 hours for repeat loadings
NRC	9/5/2006						ML062440146	IIPB revises IP 60855.1 "to provide NRR funding for those portions of IP 60855 ... applicable to an operating nuclear power plant." 134 hours were specified for a new ISFSI, 100 hours for repeat loadings
NRC	8/31/2007						ML072430942	Region I notifies owner of its plans to conduct IP 60845, IP 60855, and IP 60855.1 with 2 persons on Unit 2 by year end 2007
2	1/11/2008	1	32	HI-STORM 100	1	32	ML080440312	
NRC	1/16/2008						ML073100489	NMSS/SFST revises IP 60855 specifying 16 hours document review, 40 hours inspection, and 16 hours documentation
2	1/22/2008	2	32	HI-STORM 100	2	64	ML080440312	
2	2/2/2008	3	32	HI-STORM 100	3	96	ML080440312	
NRC	3/3/2008						ML080610015	
1	7/21/2008	1	32	HI-STORM 100	4	128	ML082410420	Region I notifies owner of its plans to conduct IP 60855.1 with 1 person on Unit 2 by 10/31/2008
1	8/13/2008	2	32	HI-STORM 100	5	160	ML082410420	
NRC	9/2/2008						ML082470316	Region I notifies owner of its plans to conduct IP 60855.1 with 1 person on Unit 2 by 10/31/2008 and IP 60855 with 1 person on Unit 2 by 12/31/2009
1	9/7/2008	3	32	HI-STORM 100	6	192	ML082840582	
1	9/19/2008	4	32	HI-STORM 100	7	224	ML082840582	
1	9/19/2008	5	32	HI-STORM 100	8	256	ML082840582	
NRC	3/4/2009						ML090620503	Region I notifies owner of its plans to conduct IP 60855 with 2 persons on Unit 2 by 12/31/2009
NRC	9/1/2009						ML092440193	Region I notifies owner of its plans to conduct IP 60855 with 2 persons on Unit 2 by 12/31/2009 and IP 60855 with 1 person on Unit 2 by 12/31/2010
2	9/11/2009	4	32	HI-STORM 100	9	288	ML092870622	
2	9/29/2009	5	32	HI-STORM 100	10	320	ML092870622	
2	11/9/2009	6	32	HI-STORM 100	11	352	ML093440150	
2	12/14/2009	7	32	HI-STORM 100	12	384	ML100260395	
NRC	2/9/2010						ML100400177	Region I issues report on its IP 60855 and IP 60855.1 inspections of the Unit 2 cask loading completed on December 14, 2009
NRC	3/3/2010						ML100620863	Region I notifies owner of its plans to conduct IP 60855 with 1 person on Unit 2 by 7/2/2010 and IP 60855 with 1 person on Unit 2 by 6/17/2011
2	7/22/2010	8	32	HI-STORM 100	13	416	ML102371183	
2	8/20/2010	9	32	HI-STORM 100	14	448	ML102670190	
NRC	9/1/2010						ML102440236	Region I notifies owner of its plans to conduct IP 60855 with 1 person on Unit 2 by 6/17/2011
2	12/16/2010	10	32	HI-STORM 100	15	480	ML110260099	
2	7/6/2011	11	32	HI-STORM 100	16	512	ML11224A019	
2	7/28/2011	12	32	HI-STORM 100	17	544	ML11224A019	
2	9/7/2011	13	32	HI-STORM 100	18	576	ML11265A233	
2	9/28/2011	14	32	HI-STORM 100	19	608	ML11306A091	
NRC	2/8/2012						ML12039A294	Region I issues report on its IP 60855.1 inspections of the dry cask loading

NRC	4/26/2012						ML11272A053	IIPB issues IP 60845 specifies 240-400 hours for pre-operational and dry run activities and 100-350 hours of operational inspection
3	11/23/2012	1	32	HI-STORM 100	20	640	ML13002A075	
3	12/1/2012	2	32	HI-STORM 100	21	672	ML13002A075	
3	12/10/2012	3	32	HI-STORM 100	22	704	ML13002A075	
NRC	2/18/2013						ML13039A047	Region I issues report on its IP 60845 inspection of transfer of spent fuel assemblies from Unit 3 to Unit 2
3	7/31/2013	4	32	HI-STORM 100	23	736	ML13225A013	
3	8/14/2013	5	32	HI-STORM 100	24	768	ML13259A057	
3	8/29/2013	6	32	HI-STORM 100	25	800	ML13259A057	
NRC	9/3/2013						ML13242A244	Region I notifies owner of its plans to conduct IP 60855.1 with 2 persons on Unit 2 and IP 60845 with 2 persons by 7/18/2014
2	9/25/2013	15	32	HI-STORM 100	26	832	ML13298A023	
NRC	11/8/2013						ML13317A101	Region I issues report on its IP 60855 and IP 60855.1 inspections
NRC	3/4/2014						ML14063A053	Region I notifies owner of its plans to conduct IP 60845 with 2 persons on Unit 2 and IP 60845 with 2 persons by 7/18/2014
3	11/5/2014	7	32	HI-STORM 100	27	864	ML14337A092	
3	11/20/2014	8	32	HI-STORM 100	28	896	ML14365A094	
3	12/4/2014	9	32	HI-STORM 100	29	928	ML15008A030	
2	12/17/2014	16	32	HI-STORM 100	30	960	ML15008A030	
NRC	9/1/2015						ML15240A054	Region I notifies owner of its plans to conduct IP 60855 with 2 persons on Units 2 and 3 and IP 60855.1 with 2 persons on Unit 2 by 8/21/2015
3	9/2/2015	10	32	HI-STORM 100	31	992	ML15265A044	
2	10/29/2015	17	32	HI-STORM 100	32	1,024	ML15320A436	
NRC	11/5/2015						ML15316A083	Region I issues report on its IP 60855 and IP 60855.1 inspections of the first dry cask loading of a campaign
2	11/11/2015	18	32	HI-STORM 100	33	1,056	ML15331A006	
2	12/2/2015	19	32	HI-STORM 100	34	1,088	ML15349B004	
NRC	2/3/2017						ML17037C541	Region I issues report on its IP 60845 of the Unit 3 to Unit 2 transfer conducted between 10/27/2016 and 11/10/2016
3	2/8/2017	11	32	HI-STORM 100	35	1,120	ML17054C828	
3	2/22/2017	12	32	HI-STORM 100	36	1,152	ML17062B017	
NRC	3/1/2017						ML17059D265	Region I notifies owner of its plans to conduct IP 60855 and IP 60855.1 with 2 persons on Units 2 and 3 and IP 60845 with 2 persons on Unit 2 and 3 by 7/20/2018
NRC	5/10/2017						ML17131A128	Region I issues report on its IP 60855 and IP 60855.1 inspections of the dry cask MPC-374 loading between 01/23/2017 and 02/04/2017
2	5/31/2017	20	32	HI-STORM 100	37	1,184	ML17187A174	
2	6/14/2017	21	32	HI-STORM 100	38	1,216	ML17187A174	
NRC	8/28/2017						ML17240A020	Region I notifies owner of its plans to conduct IP 60845 with 1 person on Units 2 and 3 by 8/31/2018
3	10/25/2017	13	32	HI-STORM 100	39	1,248	ML17317A467	
2	11/8/2017	22	32	HI-STORM 100	40	1,280	ML17339A161	
2	11/29/2017	23	32	HI-STORM 100	41	1,312	ML17353A217	
2	1/8/2018	24	32	HI-STORM 100	42	1,344	ML18024A472	
NRC	2/14/2018						ML18045A497	Region I issues report on its followup inspection of a 01/24/2017 spent fuel assembly loading error into a cask. Inspectors observed the cask loading on 12/4/2017
NRC	2/28/2018						ML18058A058	Region I notifies owner of its plans to conduct IP 60845 with 1 person on Units 2 and 3 by 8/31/2018 and IP 60855 and IP 60855.1 with 2 persons on Units 2 and 3 by 10/11/2019

NRC	8/28/2018							ML18240A161	Region I notifies owner of its plans to conduct IP 60845 with 1 person on Units 2 and 3 by 8/31/2018 and IP 60855 and IP 60855.1 with 2 persons on Units 2 and 3 by 10/11/2019
NRC	11/8/2018							ML18317A077	Region I issues report on its IP 60845 inspection and identifies a violation involving inadequate boron control in the spent fuel pool
3	2/14/2019	14	32	HI-STORM 100	43	1,376		ML19078A091	
3	3/1/2019	15	32	HI-STORM 100	44	1,408		ML19078A090	
2	4/24/2019	25	32	HI-STORM 100	45	1,440		ML19149A367	
2	5/8/2019	26	32	HI-STORM 100	46	1,472		ML19190A098	
NRC	5/16/2019							ML19086A276	IIPB revises IP 60845 specifies 240-400 hours for pre-operational and dry run activities and 100-350 hours of operational inspection
NRC	5/16/2019							ML19092A345	IIPB revises IP 60855.1 "to provide NRR funding for those portions of IP 60855 ... applicable to an operating nuclear power plant." 134 hours were specified for a new ISFSI, 100 hours for repeat loadings
2	5/22/2019	27	32	HI-STORM 100	47	1,504		ML19190A098	
2	6/11/2019	28	32	HI-STORM 100	48	1,536		ML19204A120	
2	7/24/2019	29	32	HI-STORM 100	49	1,568		ML19219A154	
NRC	8/13/2019							ML19225C606	Region I issues report on its IP 60855.1 inspections of the dry cask loading between 04/15/2019 and 04/24/2019
2	9/13/2019	30	32	HI-STORM 100	50	1,600		ML19290D811	
2	9/24/2019	31	32	HI-STORM 100	51	1,632		ML19302D564	
NRC	3/3/2020							ML20059M205	Region I notifies owner of its plans to conduct IP 60855.1 with 2 persons on Units 2 and 3 by 4/2/2021
3	4/15/2020	16	32	HI-STORM 100	52	1,664		ML20134H857	
NRC	5/22/2020							ML20143A095	Region I notifies owner of its plans to conduct IP 60845 with 2 persons during one transfer in 2020 or 2021
NRC	8/31/2020							ML20237F429	Region I notifies owner of its plans to conduct IP 60855.1 with 2 persons on Unit 3 by 4/2/2021
NRC	11/25/2020							ML20294A519	NMSS/SFST revises IP 60855 specifying 96 hours for loading in a triennial cycle and 24 hours for monitoring only in a triennial cycle
3	3/31/2021	17	32	HI-STORM 100	53	1,696		ML21132A115	
3	4/14/2021	18	32	HI-STORM 100	54	1,728		ML21140A274	
NRC	4/15/2021							ML21105A751	Region Issues report on its IP 60845 inspection of transfer of spent fuel assemblies between 01/04/2021 and 01/07/2021
NRC	4/21/2021							ML21111A231	Region I issues report on its IP 60845 inspection of transfer of spent fuel assemblies
NRC	7/27/2021							ML21208A211	Region I notifies owner of its plans to conduct IP 60855 during 2021
2	10/7/2021	32	32	HI-STORM 100	55	1,760		ML21301A082	
2	10/18/2021	33	32	HI-STORM 100	56	1,792		ML21301A082	
2	10/29/2021	34	32	HI-STORM 100	57	1,824		ML21316A109	
2	11/8/2021	35	32	HI-STORM 100	58	1,856		ML21316A109	
NRC	3/4/2022							ML22045A953	Region I issues report on its IP 60855 inspection of the first two dry cask loadings during Unit 2 campaign
2	8/25/2022	36	32	HI-STORM 100	59	1,888		ML22265A175	
2	9/7/2022	37	32	HI-STORM 100	60	1,920		ML22265A175	
2	9/15/2022	38	32	HI-STORM 100	61	1,952		ML22265A175	
2	9/22/2022	39	32	HI-STORM 100	62	1,984		ML22287A059	
2	9/28/2022	40	32	HI-STORM 100	63	2,016		ML22287A059	
2	10/5/2022	41	32	HI-STORM 100	64	2,048		ML22287A059	
2	10/12/2022	42	32	HI-STORM 100	65	2,080		ML22287A059	
NRC	11/17/2022							ML22306A065	Region I issues report on its IP 60855 inspection of the fourth and fifth dry cask loadings during Unit 2 campaign

2	11/30/2022	43	32	HI-STORM 100	66	2,112	ML22355A102
2	12/4/2022	44	32	HI-STORM 100	67	2,144	ML22355A102
2	12/7/2022	45	32	HI-STORM 100	68	2,176	ML22355A102
2	12/10/2022	46	32	HI-STORM 100	69	2,208	ML22355A102
2	12/13/2022	47	32	HI-STORM 100	70	2,240	ML22355A102
2	12/16/2022	48	32	HI-STORM 100	71	2,272	ML22355A102
2	12/19/2022	49	32	HI-STORM 100	72	2,304	ML23018A224
2	1/6/2023	50	32	HI-STORM 100	73	2,336	ML23018A224
2	1/9/2023	51	32	HI-STORM 100	74	2,368	ML23018A224
2	1/12/2023	52	32	HI-STORM 100	75	2,400	ML23018A224
2	1/15/2023	53	32	HI-STORM 100	76	2,432	ML23018A224
2	1/18/2023	54	32	HI-STORM 100	77	2,464	ML23046A102
2	1/21/2023	55	32	HI-STORM 100	78	2,496	ML23046A102
2	1/25/2023	56	32	HI-STORM 100	79	2,528	ML23046A102
2	1/28/2023	57	32	HI-STORM 100	80	2,560	ML23046A102
2	2/1/2023	58	32	HI-STORM 100	81	2,592	ML23046A102

NRC 3/13/2023

ML23047A154

Region I issues report on its IP 60855 inspection of the thirteenth dry cask loadings during Unit 2 campaign