

ANNEX 2 – STATUS OF JAPANESE NUCLEAR FLEET

Table 22 – Status of Japanese Nuclear Reactor Fleet (as of 1 July 2021)

Operator	Reactor	MW	Startup Year	Age Years	Shutdown		NRA Compliance ^(b)		Status
					Date ^(a) dd/mm/yy	Duration	Application dd/mm/yy	Approval dd/mm/yy	
CHUBU	Hamaoka-3 (BWR)	1 056	1987	34.4	29/11/10	10.6	16/06/15		LTO
	Hamaoka-4 (BWR)	1 092	1993	28.4	13/05/11	10.1	14/02/14 ^(c)		LTO
	Hamaoka-5 (BWR)	1 325	2004	17.2	14/05/11	10.1			LTO
CHUGOKU	Shimane-2 (BWR)	789	1988	33.0	27/01/12	9.4	25/12/13		LTO
HEPCO	Tomari-1 (PWR)	550	1988	32.6	22/04/11	10.2	08/07/13		LTO
	Tomari-2 (PWR)	550	1990	30.8	26/08/11	9.8	08/07/13		LTO
	Tomari-3 (PWR)	866	2009	11.6	05/05/12	9.2	08/07/13		LTO
HOKURIKU	Shika-1 (BWR)	505	1993	28.5	01/03/11	10.3			LTO
	Shika-2 (BWR)	1 108	2005	16.0	11/03/11	10.3	12/08/14		LTO
JAPCO	Tokai-2 (BWR)	1 060	1978	43.3	11/03/11	10.3	20/05/14	Second Stage: 18/10/18 ^(d)	LTO
	Tsuruga-2 (PWR)	1 108	1986	34.0	07/05/11	10.2	05/11/15		LTO
KEPCO	Mihama-3 (PWR)	780	1976	45.4	14/05/11	(10.1)	17/03/15	27/02/2020 ^(e)	Restarted 29/06/2021
	Ohi-3 (PWR)	1 127	1991	30.1	02/09/13	(4.5)	08/07/13	01/09/17	Restarted 16/03/18
	Ohi-4 (PWR)	1 127	1992	29.0	15/09/13	(4.6)	08/07/13	01/09/17	Restarted 11/05/18
	Takahama-1 (PWR)	780	1974	47.3	10/01/11	10.5	17/03/15	Second Stage: 10/06/16 ^(f)	LTO
	Takahama-2 (PWR)	780	1975	46.4	25/11/11	9.6	17/03/15	Second Stage: 10/06/16 ^(f)	LTO
	Takahama-3 (PWR)	830	1984	37.1	20/02/12	(3.9)	08/07/13	09/10/15	Restarted 9/06/17 ^(g)
	Takahama-4 (PWR)	830	1984	36.7	21/07/11	(5.8)	08/07/13	09/10/15	Restarted 22/05/17
KYUSHU	Genkai-3 (PWR)	1 127	1993	28.0	11/12/10	(7.3)	12/07/13	14/09/17	Restarted 23/03/18
	Genkai-4 (PWR)	1 127	1996	24.6	25/12/11	(6.5)	12/07/13	14/09/17	Restarted 20/06/18
	Sendai-1 (PWR)	846	1983	37.8	10/05/11	(4.3)	08/07/13	27/05/15	Restarted ^(h) 14/08/15
	Sendai-2 (PWR)	846	1985	36.2	01/09/11	(4.1)	08/07/13	27/05/15	Restarted ^(h) 15/10/15
SHIKOKU	Ikaka-3 (PWR)	846	1994	27.3	29/04/11	(5.3)	08/07/13	19/04/16	Restarted 15/08/16 LTO since December 2019 ⁽ⁱ⁾
TEPCO	Kashiwazaki Kariwa-1 (BWR)	1 067	1985	36.4	06/08/11	9.9			LTO
	Kashiwazaki Kariwa-2 (BWR)	1 067	1990	31.4	05/07/07	14			LTO
	Kashiwazaki Kariwa-3 (BWR)	1 067	1992	28.6	16/07/07	14			LTO
	Kashiwazaki Kariwa-4 (BWR)	1 067	1993	27.5	16/07/07	14			LTO
	Kashiwazaki Kariwa-5 (BWR)	1 067	1989	31.8	25/01/12	9.4			LTO
	Kashiwazaki Kariwa-6 (BWR)	1 315	1996	25.4	26/03/12	9.3	27/09/13 ^(j)	First Stage: 27/12/17	LTO
	Kashiwazaki Kariwa-7 (BWR)	1 315	1996	24.5	23/08/11	9.9	27/09/13	First Stage: 27/12/17	LTO

Operator	Reactor	MW	Startup Year	Age Years	Shutdown		NRA Compliance ^(b)		Status
					Date ^(a) dd/mm/yy	Duration	Application dd/mm/yy	Approval dd/mm/yy	
TOHOKU	Higashi Dori-1 (BWR)	1067	2005	15.8	06/02/11	10.4	10/06/14		LTO
	Onagawa-2 (BWR)	796	1994	26.5	06/11/10	10.7	27/12/13	First Stage: 26/02/20 ^(k)	LTO
	Onagawa-3 (BWR)	796	2001	20.1	11/03/11	10.3			LTO
Total: 33 Reactors / 31.7 GWe									

Sources: JAIF, NRA, compiled by WNISR, 2021

Notes

BWR = Boiling Water Reactor; **PWR** = Pressurized Water Reactor; **LTO** = Long-Term Outage.

(a) – The shutdown dates are from JAIF, “Current Status of Nuclear Power Plants in Japan”, Japan Atomic Industrial Forum, as of 6 June 2019, see https://www.jaif.or.jp/cms_admin/wp-content/uploads/2019/06/jp-npps-operation190606_en.pdf, accessed 7 July 2019.

(b) – Unless otherwise indicated the application and approval dates are from NRA, “Current circumstances regarding examinations for NPP adherence to new regulations”, Nuclear Regulatory Authority, 15 May 2019; and NRA, “原子力発電所の新規制基準適合性審査の状況” [“Regarding the progress status of the new regulatory standard compliance examination, (Power reactor relation)”], 1 July 2020 (in Japanese), see <https://www.nsr.go.jp/data/000257174.pdf>, accessed 28 July 2020, and NRA, “Status of Application for Review of Commercial Power Reactor”, in “Annual Report FY 2019”, March 2021, see <https://www.nsr.go.jp/data/000347153.pdf>, accessed 11 June 2021.

(c) – Application withdrawn and resubmitted on 26 January 2015.

(d) – Nuclear Regulatory Authority’s (NRA) Approval for Basic Design (Step 2). In November 2018, NRA also approved lifetime extension to 60 years; see JAIF, “NRA Allows Tokai-2 to Be Operated for Sixty Years, a First for a BWR”, 16 November 2018, see <https://www.jaif.or.jp/en/nra-allows-tokai-2-to-be-operated-for-sixty-years-a-first-for-a-bwr/>, accessed 28 April 2019.

(e) – 2020 date from NRA, “Status of Application for Review of Commercial Power Reactor” in “Annual Report FY 2019”, March 2021, see <https://www.nsr.go.jp/data/000347153.pdf>. Application for extension of operating period was approved by NRA on 16 November 2016. However, the Mihama-3 reactor will be shut down on 23 October 2021, due to failing the deadline of installation of specialized safety facilities. JAIF, “Current Status of Nuclear Power Plants in Japan”, 10 August 2021, see https://www.jaif.or.jp/cms_admin/wp-content/uploads/2021/08/jp-npps-operation20210810_en.pdf, accessed 13 August 2021.

(f) – For both Takahama-1 and -2, the first two steps of the conformity review were achieved on 10 June 2016. The NRA also granted KEPCO approval of extension of operation for 20 years on 20 June 2016. For details, see NRA, “The NRA approved the extension of operation period of Takahama Power Station Units 1 and 2”, 21 June 2016, see <http://www.nsr.go.jp/data/000154256.pdf>, accessed 14 July 2017.

(g) – Takahama-3 had operated briefly between 29 January and 10 March 2016, before it was shut down by court order. The “Shutdown Duration” is calculated until the first restart.

(h) – Kyushu Electric Power Company was required to finish installing counter-terrorism facilities at the Sendai-1 and -2 reactors by 17 March and 21 May 2020, respectively, but missed the deadline. As a result, Sendai-1 has been shut down since 16 March 2020 was restarted in November 2020. While Sendai-2 was shut down on 20 May 2020 after only operating for four months following its maintenance and inspection outage completed in January. It was restarted in December 2020. See *Reuters*, “TABLE-Japan nuclear reactor operations: Kyushu Electric restarts Sendai No. 2 reactor”, 13 January 2021.

(i) – In December 2019, Ikata-3 was shut down for maintenance and refueling (with restart of operation expected on 27 April 2020). On 17 January 2020, the Hiroshima High Court ruled in favor of a lawsuit brought by local residents within a 50-kilometer radius of the Ikata plant, the effect of which was to extend the outage of the Ikata-3 reactor, see *Asahi Shimbun*, “Residents win appeal to halt Ikata reactor over safety fears”, 17 January 2020, see <http://www.asahi.com/ajw/articles/AJ202001170057.html>, accessed 15 May 2020. On 18 March 2021 the Hiroshima High Court overturned on appeal its earlier 2020 ruling, opening the way for restart following completion of periodic inspections. As of 1 July 2021, it is expected to restart in October 2021, hence meeting the LTO criteria.

(j) – On 16 June 2017, TEPCO re-filed its application with the Nuclear Regulatory Authority (NRA) to confirm compliance with safety requirements for Kashiwazaki Kariwa-6 and -7. The NRA had requested resubmission in February 2017.

(k) – JAIF, “NRA Approves Changes to Reactor Installation for Onagawa-2 under New Regulatory Standards”, 27 February 2020, see <https://www.jaif.or.jp/en/nra-approves-changes-to-reactor-installation-for-onagawa-2-under-new-regulatory-standards/>, accessed 20 May 2020.