Mixed Oxide (MOX) Fuel Imports/Use/Storage in Japan*

(measured in fuel assemblies [a] and total plutonium content in kg)

	Imports** (Month arrived at reactor)	**MOX use** (Start of irradiation)	**Stored at reactors** (Kept in spent fuel pool due to the higher level of heat and radiation) (year end)
1999	September Fukushima 1 #3: 32a (210 kg) Takahama #4: 8a (255 kg) (returned to UK in 2002) **Total**: 465kg		**465 kg** Fukushima 1 #3: 32a (210 kg) Takahama #4: 8a (255 kg)
2000			**465 kg** Same as above
2001	March Kashiwazaki Kariwa (KK)#3: 28a (205kg)		**670 kg** Fukushima1 #3: 32a (210 kg) Takahama #4 8a (255 kg) KK#3 28a (205 kg)
2002	Back to UK from Takahama #4: 8a (-255kg)		**415 kg** Fukushima1 #3: 32a (210 kg) KK#3: 28a (205 kg)
2003-2008			**415 kg** Same as above
2009	May Hamaoka: 28a (213 kg) Genkai #3:16a (677 kg) Ikata #3: 21a (831 kg) **Total:** 1,721kg	Genkai#3, Nov. 5 16 a (677kg)	**1458 kg** Hamaoka #4: 28a (213 kg) Ikata #3: 21a (831 kg) KK #3: 28a (205 kg) Fukushima1 #3: 32a (210 kg)
2010	June Genkai#3: 20a (801 kg) Takahama: 12a (552 kg) **Total:** 1,353kg	Fukushima 1 #3, Sep. 18 32a (210 kg) Ikata #3, Mar 2 16a (633 kg) Takahama #3 Dec. 25 8a (368 kg)	**1600 kg** KK: 28a (205 kg) Hamaoka#4: 28a (213 kg) Takahama #4: 4a (184 kg) Ikata#3: 5a (198 kg) Genkai #3: 20a (801 kg)
2011		Genkai#3, loading Mar. 8-12 16a (640 kg) ***	~~**959**~~ **[1600] kg** ~~****~~ KK#3: 28a (205 kg) Hamaoka#4: 28a (213 kg) Takahama #4: 4a (184kg) Ikata#3: 5a (198 kg) Genkai #3: ~~4a (160 kg)~~ 20a (801kg)
2012			~~**959**~~ **[1600] kg** ~~****~~ Same as above
2013	June Takahama #3: 20a (901 kg)	Genkai#3, unloading without irradiation Mar 6-11 16a (640 kg)	~~**1861**~~ **[2501] kg** ~~****~~ KK#3: 28a (205 kg) Hamaoka#4: 28a (213 kg) Takahama #4: 4a (184 kg) Takahama #3: 20a (901kg) Ikata#3: 5a (198 kg) Genkai #3: ~~4a (160kg)~~ 20a (801 kg)
2014			**Same as above**
2015			**Same as above**

2016		Takahama#3, Jan. 29 16a (721kg) Takahama#4, Feb. 26 4a (184kg), (The reactor suffered shutdown after three days of operation. The shutdown continued by court order.)	**1597kg** KK#3: 28a (205 kg) Hamaoka#4: 28a (213 kg) Takahama #3: 4a (181kg) Ikata#3: 5a (198 kg) Genkai #3: 20a (801 kg)
2017	Takahama#4 Sep. 16a (703kg)		**2300kg** KK#3: 28a (205 kg) Hamaoka#4: 28a (213 kg) Takahama #3: 4a (181kg) Takahama #4: 16a (703kg) Ikata#3: 5a (198 kg) Genkai #3: 20a (801 kg)
2018		Genkai#3, Mar. 23 16a (640kg) ***** Takahama#4, Sep. 3 16a (703kg) Takahama#3, Nov. 7 4a (181kg)	**776kg** KK#3: 28a (205 kg) Hamaoka#4: 28a (213 kg) Ikata#3: 5a (198 kg) Genkai #3: 4a (160 kg)
2019		Genkai#3, July 20 4a (160kg)	**616kg** KK#3: 28a (205 kg) Hamaoka#4: 28a (213 kg) Ikata#3: 5a (198 kg)
2020			**Same as above**
2021	Takahama#4 Nov. 16a (629kg)	Ikata#3, Dec. 2 5a (198kg)	**1047kg** KK#3: 28a (205 kg) Hamaoka#4: 28a (213 kg) Takahama#4:16a (629kg)
2022	Takahama#3 Nov. 16a (629kg?) ******		**1676kg** KK#3: 28a (205 kg) Hamaoka#4: 28a (213 kg) Takahama#4:16a (629kg) Takahama#3:16a (629kg?)
Total	**6,351kg**	**4,675 kg**	

Notes

* Year-end amounts at commercial reactor sites from AEC's annual reports (with the breakdown for each site starting from 2010). For links, see the following page of JAEC: "The Status of Plutonium Management in Japan" (titled "The Current Situation of Plutonium Management in Japan" till 2013), http://www.aec.go.jp/jicst/NC/iinkai/teirei/plutonium_management.htm. The total value may differ due to rounding off. Amount transported in 2022 will be in report to be published in the summer of 2023. Year-end amounts at each commercial reactor site before 2010 back calculated from the above data using news accounts.

** All imports from France except for September 1999 shipment to Takahama #4, which was returned to UK because of falsified production quality control data.

*** This MOX fuel was unloaded and put back into the spent fuel pool in 2013 without being irradiated in the reactor and thus has remained un-irradiated. Therefore 640kg in it should be added to the number for the un-irradiated spent fuel stored at reactors. However, the government subtracted this amount from un-irradiated plutonium and reported the un-irradiated plutonium amount in its voluntary INFCIRC549 reports to IAEA accordingly in 2012 and 2013. The reports to the IAEA are included in Current Situation of Plutonium Management in Japan" as reference.

**** For the above reason, 640kg should be added to this number as in [ ]. This will mean the amount of Japan's separated plutonium reported by the Japanese government should also be corrected accordingly.

(The above foot note was put in in the June 2014 version of the table. Subsequently, this problem was fixed in "The Status of Plutonium Management in Japan" released in September 2014 by the JAEC's secretariat as a result of news reporting of the error pointed out by the author.)

*****Total of 32a were reloaded: 16a(677kg) started to be irradiated in 2009 and 16a (640g) put back into the pool in 2013 without irradiation. The latter 16a are the ones that were newly started to be irradiated**.**

******The weight is to be disclosed when the Status Report of Plutonium Management in Japan for 2022 is released in the summer of 2023 by the Japan AEC secretariat.