The findings of the National System of Safeguards of Japan from its safeguards activities in 2019 are as follows;

It was confirmed by the safeguards activities conducted by the Nuclear Regulation Authority in 2019 that all nuclear material in Japan were properly accounted for and controlled by its licensees.

Attachment 1: Safeguards Activities in Japan in 2019
Attachment 2: Inventory and Inventory Changes of Nuclear Material in Japan

Safeguards Activities in Japan in 2019

Attachment 1

①Summary of Safeguards Activities under the National System of Safeguards of Japan

Categories under legal system for nuclear regulation[1]	Number of facilities and LOFs[2]		Person-days of national inspection[4]			Number of actions taken based on the regulation for functioning SSAC							
						Licence granted for minor users of nuclear material[6]	Approval of accounting provisions[7]		Number of accounting reports submitted[8]				
	Total	Recipients of national inspections[3]	Total	Conducted by JSGO inspectors	Conducted by NMCC[5] inspectors		Initial approval	Amendment approval	Total	ICR	MBR	PIL	Biannual reports from minor users
Nuclear Fuel Fabrication	6 (6)	6 (6)	226 (325)	8 (13)	218 (312)	N/A	0 (3)	36 (36)	73 (80)	56 (60)	10 (10)	7 (10)	N/A
Research Reactor	22 (22)	16 (16)	131 (96)	0 (0)	131 (96)				58 (49)	13 (5)	23 (22)	22 (22)	
Power Reactor	57 (57)	54 (54)	134 (170)	4 (3)	130 (167)				160 (162)	34 (38)	63 (62)	63 (62)	
Power reactor under R&D stage	2 (2)	2 (2)	29 (39)	1 (1)	28 (38)				6 (4)	2 (0)	2 (2)	2 (2)	
Reprocessing	3 (3)	3 (3)	761 (743)	0 (1)	761 (742)				42 (46)	36 (36)	3 (5)	3 (5)	
Various users (R&D etc.)	205 (207)	29 (30)	357 (356)	5 (0)	352 (356)				759 (772)	323 (341)	217 (215)	219 (216)	
Minor Users (Nuclear Use)	10 (10)	0 (0)	– (–)	– (–)	– (–)	0 (0)	0 (0)	4 (1)	34 (34)	14 (14)	10 (10)	10 (10)	
Minor Users (Non-Nuclear Use)[6]	1,786 (1,779)	N/A[9]	N/A[9]			43 (27)	43 (27)	106 (117)	3,504 (3,490)	N/A			3,504 (3,490)
Total	2,091 (2,086)	110 (111)	1,638 (1,729)	18 (18)	1,620 (1,711)	43 (27)	43 (30)	146 (154)	4,636 (4,637)	478 (494)	328 (326)	326 (327)	3,504 (3,490)

＊ Records in 2018 are shown in parentheses for comparison.

＊ Under some categories, there is no facility subject to safeguards inspections. In such cases, "–" are inserted in respective cells.

1 Categorized in accordance with the Law for the Regulations of Nuclear Source Material, Nuclear Fuel Material and Reactors (Nuclear Reactor Regulation Law).

2 When counting the number of facilities and LOFs, the categorization of IAEA safeguards implementation is followed. The categorization does not always correspond with the categorization of domestic regulation. Minor users are licenced to use natural and/or depleted uranium up to 300g and/or thorium up to 900g.

3 Number of facilities and LOFs where national inspections were conducted in 2019.

4 Domestic inspections are normally conducted simultenously with the IAEA inspections.

5 Nuclear Material Control Center (NMCC) is designated to carry out domestic inspections under the Nuclear Reactor Regulation Law (Art.61-23-2).

6 Only those who use Nuclear Fuel Material

7 All licencees except the category of uranium concentration shall have approved accounting provisions to account for and control internationally controled material (incl. nuclear material) properly.

8 All licencees except the category of uranium concentration shall submit accounting reports based on the requirement of the domestic regulation and accounting provisions.

9 Nuclear material is exempted from safeguards.

② Design Information Verification (DIV) and Complementary Access (CA)

Type of verifications	Number of verifications	Person-days of verifications
Design Information Verification[10]	87 (81)	93 (93)
Complementary Access[11]	24 (24)	47 (49)
Total	111 (105)	140 (142)

10 The IAEA, in co-operation with JSGO, conducts DIVs based on safeguards agreement to verify the correctness and completeness of the design information of facilities provided to the IAEA.

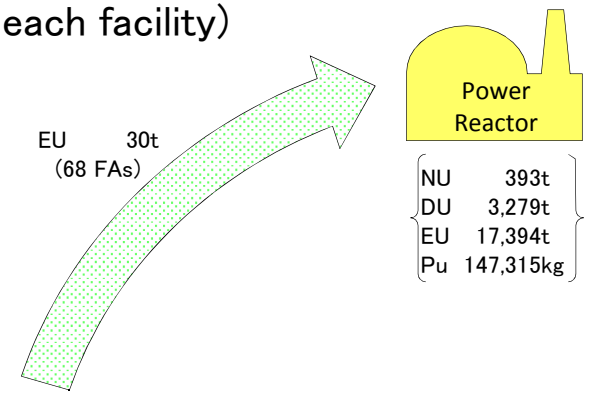
11 The IAEA conducts CAs based on additional protocol to the safeguards agreement to confirm the absense of undeclared nuclear material and activities. MOFA staff and JSGO inspectors accompany the IAEA inspectors at CAs.

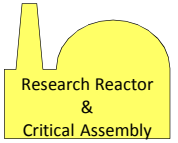
Inventory and Inventory changes of Nuclear Material in Japan

Attachment 2

①Major inventory and inventory changes in 2019

(Figure summarizing the results of accounting for and control of nuclear material at each facility)

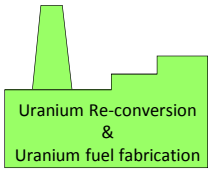




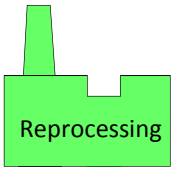
NU 31t
DU 53t
Th 0t
EU 29t
Pu 125kg

DU 105t
EU 8t
Pu 5,023kg

Note1: Monju (under decommissioning), Fugen (under decommissioning), and Joyo of Japan Atomic Energy Agency (JAEA)

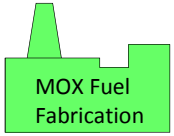


NU 91t
DU 39t
EU 1,209t



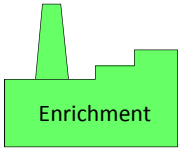
NU 2t
DU 597t
EU 3,472t
Pu 30,660kg

Note2: Rokkasho Reprocessing Plant is under construction;
Tokai Reprocessing Plant is under decommissioning.

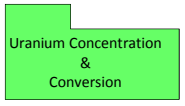


NU 20t
DU 32t
EU 26t
Pu 3,921kg

Note3: Plutonium Fuel Production Facility (PFPF), Plutonium fuel development center Plutonium Fuel Facility (PPFF) & Tokai Research and Development Facility of JAEA



NU 378t
DU 11,801t
EU 222t



NU 72t
DU 0t
EU 12t

NU: Natural Uranium
DU: Depleted Uranium
Th: Thorium
EU: Enriched Uranium
Pu: Plutonium
FAs: Number of Fuel Assemblies

- Facilities are categorized according to the stages of nuclear fuel cycle and the categorization does not correspond to regulatory categorization.
- Each category does not include associated facilities of main facilities.
- Inventory is based on the weight of elements as of 31 December 2019.
- More than 0.1kg of Pu and more than 0.1t of another elements are described.

② Nuclear Material Inventory by facility types

Categories of Nuclear Material[1] / Categories under legal system for nuclear regulation[1]	Natural uranium (t)	Depleted uranium (t)	Thorium (t)	Enriched uranium		Plutonium (kg)
				U (t)	U-235 (t)	
Nuclear Fuel Fabrication	469 (469)	11,840 (11,839)	0 (0)	1,431 (1,461)	58 (59)	– (–)
Research Reactor	31 (31)	63 (63)	0 (0)	34 (34)	2 (2)	1,842 (1,842)
Power Reactor	393 (423)	3,279 (3,233)	– (–)	17,394 (17,398)	361 (370)	147,315 (143,777)
Power Reactor under R&D stage	– (–)	95 (95)	– (–)	3 (3)	0 (0)	3,306 (3,323)
Reprocessing	2 (2)	597 (597)	0 (0)	3,472 (3,472)	33 (33)	30,660 (30,661)
Various users (R&D etc.)	121 (121)	252 (252)	5 (5)	48 (48)	1 (1)	4,002 (4,002)
Minor Users (Nuclear Use)	0 (0)	0 (0)	0 (0)			
Minor Users (Non-Nuclear Use)	0 (0)	0 (0)	0 (0)			
Total[2]	1,016 (1,046)	16,126 (16,080)	5 (5)	22,383 (22,417)	454 (465)	187,125 (183,605)

＊ Figures are based on the data as of 31 December, 2019. For comparison, corresponding data as of 31 December, 2018 are provided in parantheses below.

＊ – In the table, "–" indicates that there is no inventory, and "0" indicates that there is an inventory of less than 0.5.

1 Categorized in accordance with the Law for the Regulations of Nuclear Source Material, Nuclear Fuel Material and Reactors (Nuclear Reactor Regulation Law) and the relevant cabinet order.

2 Due to rounding, total figure may not correspond to the sum of figures above.

③ Inventory of nuclear material subject to bilateral nuclear cooperation agreements

As of 31 December 2019

Supplying Party \ Categories of Nuclear Material*	Natural Uranium (t)	Depleted Uranium (t)	Thorium (t)	Enriched Uranium		Plutonium (kg)
				U (t)	U-235 (t)	
United States of America	85 (91)	3,719 (3,696)	1 (1)	16,166 (16,192)	321 (328)	133,880 (131,819)
United Kingdom of Great Britain and Northern Ireland	13 (13)	447 (447)	0 (0)	2,333 (2,336)	46 (47)	20,150 (19,627)
France	36 (36)	6,507 (6,505)	0 (0)	6,093 (6,099)	101 (103)	59,156 (58,411)
Canada	691 (704)	5,265 (5,250)	0 (0)	5,745 (5,751)	103 (106)	54,407 (53,437)
Australia	20 (20)	1,031 (1,029)	– (–)	4,030 (4,035)	83 (85)	30,968 (30,588)
China	27 (27)	253 (253)	– (–)	277 (278)	7 (7)	2,199 (2,108)
EURATOM	49 (49)	6,509 (6,506)	0 (0)	8,135 (8,145)	178 (183)	23,037 (21,455)
Kazakhstan	– (–)	– (–)	– (–)	37 (37)	1 (1)	– (–)
Republic of Korea	– (–)	– (–)	– (–)	– (–)	– (–)	– (–)
Viet Nam	– (–)	– (–)	– (–)	– (–)	– (–)	– (–)
Jordan	– (–)	– (–)	– (–)	– (–)	– (–)	– (–)
Russia	– (–)	– (–)	– (–)	67 (67)	3 (3)	– (–)
Turkey	– (–)	– (–)	– (–)	– (–)	– (–)	– (–)
United Arab Emirates	– (–)	– (–)	– (–)	– (–)	– (–)	– (–)
India	– (–)	– (–)	– (–)	– (–)	– (–)	– (–)
IAEA	1 (1)	2 (2)	– (–)	0 (0)	0 (0)	1 (1)
Other	180 (193)	2,063 (2,051)	4 (4)	360 (360)	8 (9)	4,094 (3,965)

– This table shows the weight of nuclear material subject to each bilateral nuclear cooperation agreement or agreement on the supply of uranium from the IAEA. Multiple agreements sometimes apply to the same nuclear material. In such cases, the material is counted in multiple times.

– Records in 2018 are shown in parentheses below for comparison.