

# Events and Ratings at Nuclear Facilities and Radioisotope Licensees in Japan in FY1996-2016

## Events at Nuclear Facilities and Radioisotope Licensees in FY 1996-2016

Table 1-1 Events at Commercial Nuclear Power Reactors(except those under decommissioning procedures and Specified Nuclear Facilities) <sup>(\*)</sup>

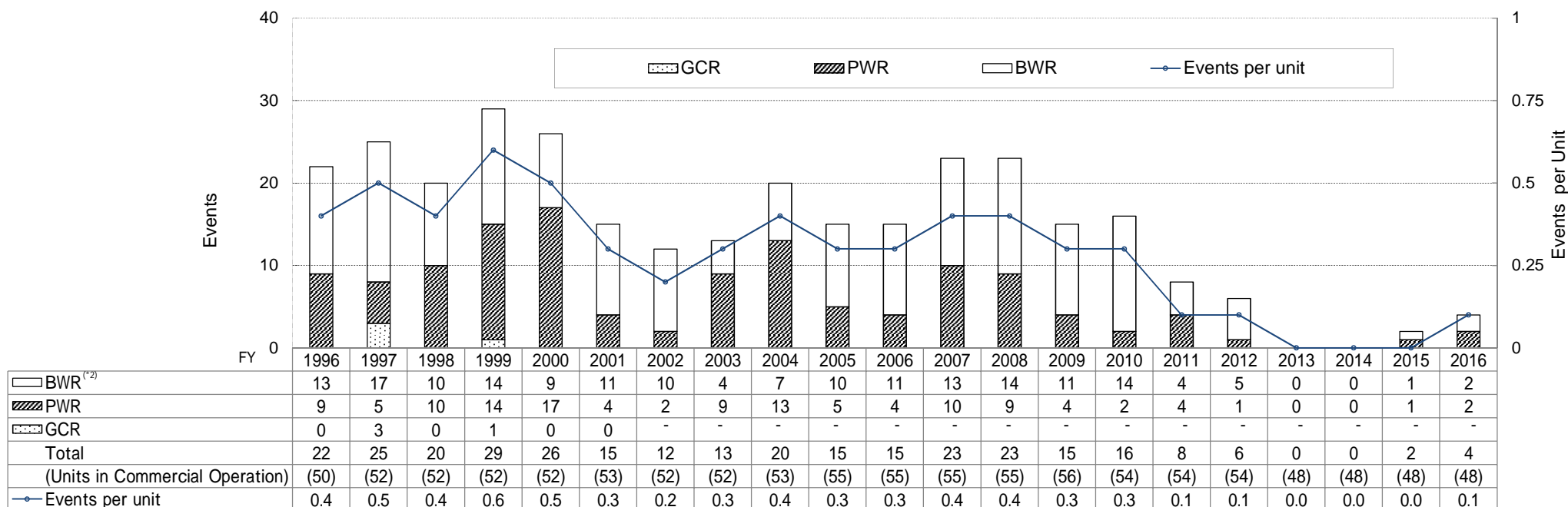


Table 1-2 Events at Commercial Nuclear Power Reactors Under Decommissioning Procedures and Specified Nuclear Facilities

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
NPS under decommissioning procedures <sup>(*)</sup>	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(Units under decommissioning procedures)	-	-	-	-	-	-	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(3)	(3)	(3)	(3)	(3)	(3)	(3)
Specified Nuclear Facilities <sup>(*)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	5	2	1

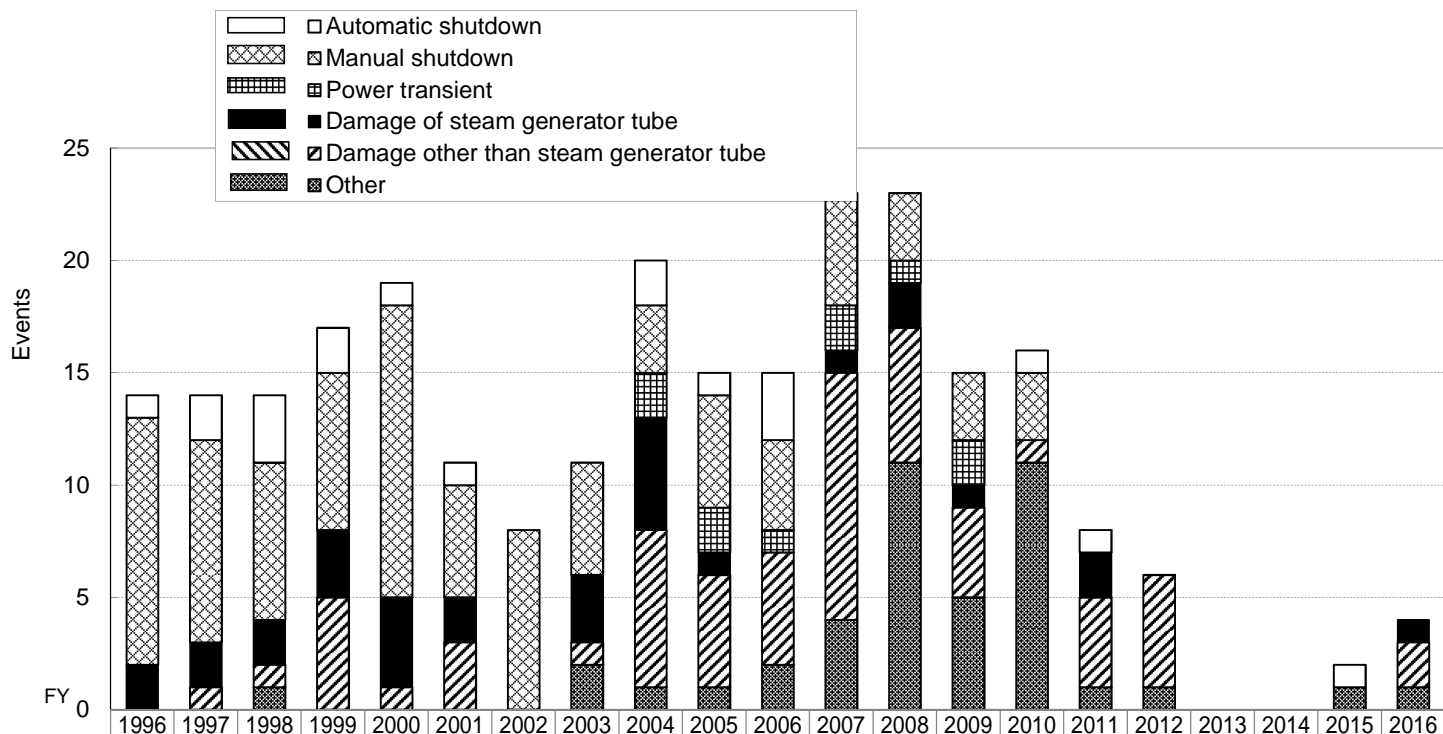
The Japanese Fiscal Year begins in April and ends in March next year.

(\*) These numbers include the events reported in accordance with the directive before Oct. 1, 2003 and the events at Fukushima Daiichi NPS as the Specified Nuclear Facilities.

(\*) The Great East Japan Earthquake and its subsequent tsunamis struck Japan on March 11, 2011. The accidents at the Fukushima Daiichi NPS in 2011 were counted as one in this figure. The outflow of radioactive contaminated water into the ocean in FY 2011 was considered as part of the same accident. The events at the Fukushima Daiichi NPS were counted as the Specified Nuclear Facilities after the NRA gave an approval on August 14, 2013, to the "Implementation Plans for the Fukushima Daiichi NPS designated as the Specified Nuclear Facilities". The events at Fukushima Daini NPS were counted separately, as one event per each unit.

(\*) Japan Atomic Power Company submitted a notification of the "Dismantling of the Nuclear Power Reactor at Tokai NPS" to the METI on October 4, 2001. (Due to amendment of Nuclear Regulation Act, the METI gave an approval on June 30, 2006, to the "Decommissioning Plan" for the NPS.) The METI authorized the "Decommissioning Plan for Hamaoka NPS (Unit 1 and 2), Chubu Electric Power Co., Inc." on November 18, 2009.

Table 2 Classification of Events at Commercial Nuclear Power Reactors(except those under decommissioning procedures and Specified Nuclear Facilities) <sup>(\*1)</sup>



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Total	14	14	14	17	19	11	8	11	20	15	15	23	23	15	16	8	6	0	0	2	4
Automatic shutdown	1	2	3	2	1	1	0	0	2	1	3	0	0	0	1	1	0	0	0	1	0
Manual shutdown	11	9	7	7	13	5	8	5	3	5	4	5	3	3	3	0	0	0	0	0	0
Power transient	-	-	-	-	-	-	-	0	2	2	1	2	1	2	0	0	0	0	0	0	0
Damage of steam generator tube	2	2	2	3	4	2	0	3	5	1	0	1	2	1	0	2	0	0	0	0	1
Damage other than steam generator tube	0	1	1	5	1	3	0	1	7	5	5	11	6	4	1	4	5	0	0	0	2
Other	0	0	1	0	0	0	0	2	1	1	2	4	11	5	11	1	1	0	0	1	1

(\*1) These figures do not include events reported in accordance with the directive before October 1, 2003.

Table 3 Events at Nuclear Power Reactors in the Research and Development Phase

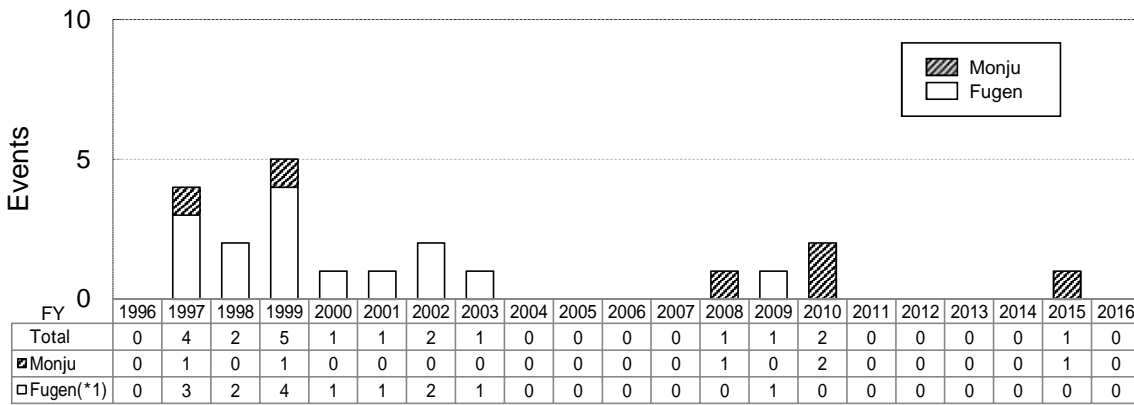
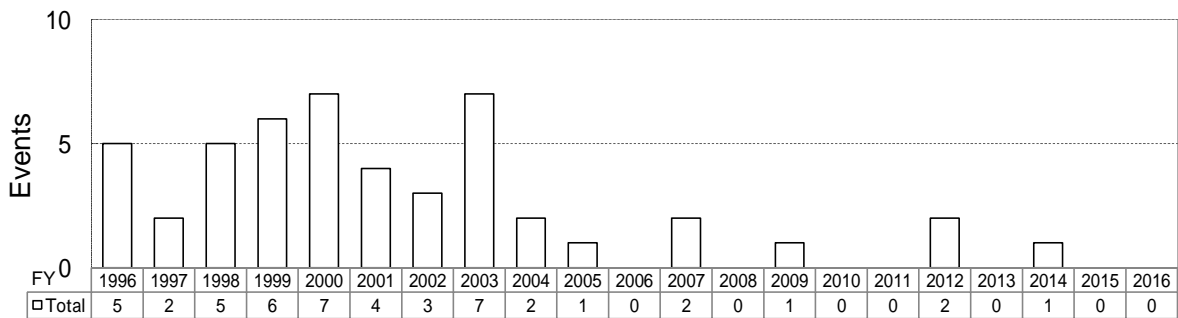
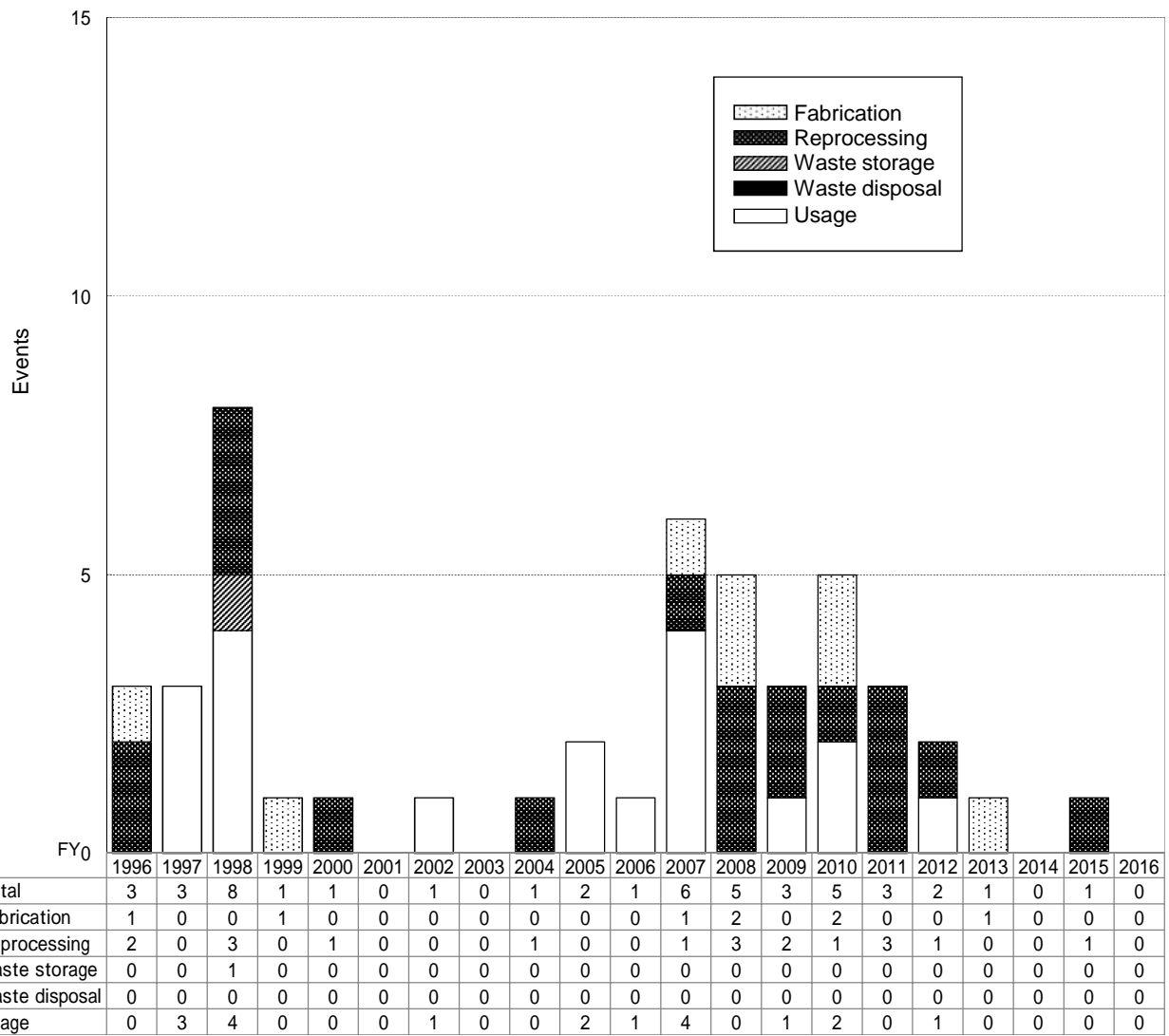


Table 4 Events at Research and Test Reactors



(\*1) Decommissioning of Fugen began on February 12, 2008.

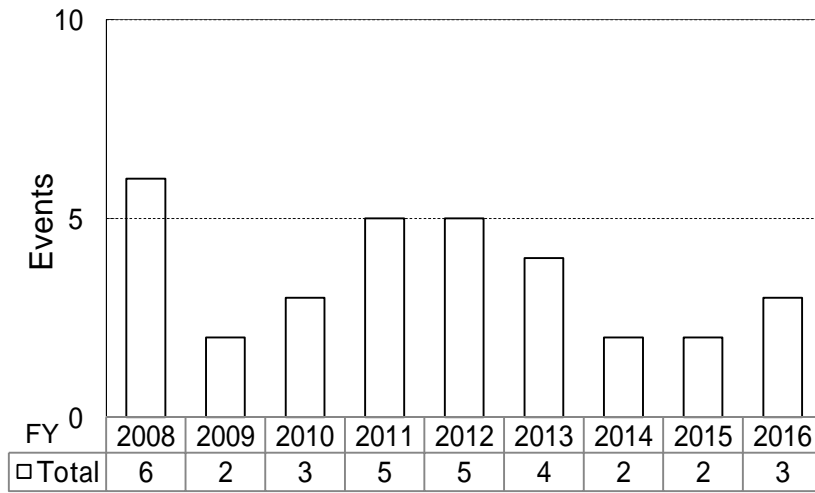
Table 5 Events at Other Nuclear Facilities <sup>(\*1)</sup> <sup>(\*2)</sup>



(\*1) Other Nuclear facilities exclude nuclear reactors (Tables 1 through 4).

(\*2) The facilities in which nuclear fuel material is to be used.

Table 6 Events in Radioisotope Licensees



## Rating by the International Nuclear and Radiological Event Scale(INES)

Table 1 INES Classified Events at Commercial Nuclear Power Reactors (\*1)(\*2)

FY	INES Level	Still collecting information for rating	Out of scope	Level	Level	Level	Level	Level	Total
				0	1	2	3	7	
* 1992	-	-	* 6	12	2	0	0	0	* 20
1993	-	-	4	20	0	0	0	0	24
1994	-	-	3	13	3	0	0	0	19
1995	-	-	11	15	3	0	0	0	29
1996	-	-	1	21	0	0	0	0	22
1997	-	-	7	15	3	0	0	0	25
1998	-	-	2	17	1	0	0	0	20
1999	-	-	5	23	1	0	0	0	29
2000	-	-	7	19	0	0	0	0	26
2001	-	-	0	14	1	0	0	0	15
2002	-	-	2	10	0	0	0	0	12
2003	-	-	1	12	0	0	0	0	13
2004	-	-	0	19	1	0	0	0	20
2005	-	-	1	12	2	0	0	0	15
2006	-	-	1	13	1	0	0	0	15
2007	-	-	3	19	1	0	0	0	23
2008	-	-	1	18	4	0	0	0	23
2009	-	-	1	12	2	0	0	0	15
# 2010	-	-	1	8	2	# 1	# 3	# 1	16
# 2011	-	-	0	# 7	1	0	0	0	8
2012	-	-	0	6	0	0	0	0	6
2013	-	-	5	0	0	0	0	0	5
2014	-	-	5	0	0	0	0	0	5
2015	-	-	2	2	0	0	0	0	4
2016	-	3	1	1	0	0	0	0	5
Total		3	70	308	28	1	3	1	414

(Note) (\*1) These INES ratings are sorted into fiscal years in which events occurred.

(\*2) Fukushima Daiichi nuclear power station has been severely damaged from a major accident. Due to its condition, INES Rating is not applicable to the incidents at Fukushima Daiichi in and after FY 2013 unless an incident equivalent to Level 6 or more occurs.

# The following ratings are provisional; 5 cases in FY 2010 (Level 1: 1 case, Level 3: 3 cases, Level 7: 1 case), and one of Level 0 in FY 2011.

\* The INES rating in Japan has 'Out of Scope'. 'Out of Scope' shows 'Events with no safety relevance'.

Table 2 INES Classified Events at Power Reactors in the Research and Development Phase (\*1)

FY	INES Level	Out of scope	Level	Level	Total
			0	1	
1992	-	0	1	0	1
1993	-	1	1	0	2
1994	-	0	1	0	1
1995	-	0	1	1	2
1996	-	0	0	0	0
1997	-	1	1	0	2
1998	-	0	1	0	1
1999	-	1	3	0	4
2000	-	0	1	0	1
2001	-	0	1	0	1
2002	-	1	1	0	2
2003	-	0	1	0	1
2004	-	0	0	0	0
2005	-	0	0	0	0
2006	-	0	0	0	0
2007	-	0	0	0	0
2008	-	0	0	1	1
2009	-	0	1	0	1
2010	-	0	2	0	2
2011	-	0	0	0	0
2012	-	0	0	0	0
2013	-	0	0	0	0
2014	-	0	0	0	0
2015	-	0	1	0	1
2016	-	0	0	0	0
Total		4	17	2	23

(Note) (\*1) These INES ratings are sorted into fiscal years in which events occurred.

Table 3 INES Classified Events at Research and Test Reactors (\*1)

FY	INES Level	Still collecting information for rating	Out of scope	Level 0	Level 1	Level 2	Total (*2)
(*2) 1992	-	-	0	2	0	0	2
1993	-	-	0	2	0	0	2
1994	-	-	0	3	0	0	3
1995	-	-	0	1	0	0	1
1996	-	-	0	3	0	0	3
1997	-	-	0	2	0	0	2
1998	-	-	0	3	0	0	3
1999	-	-	0	6	0	0	6
2000	-	-	0	7	0	0	7
2001	-	-	0	2	0	0	2
2002	-	-	0	3	0	0	3
2003	-	-	0	3	0	0	3
2004	-	-	0	2	0	0	2
2005	-	-	0	1	0	0	1
2006	-	-	0	0	0	0	0
2007	-	-	0	2	0	0	2
2008	-	-	0	0	0	0	0
2009	-	-	0	1	0	0	1
2010	-	-	0	0	0	0	0
2011	-	-	0	0	0	0	0
2012	-	-	0	2	0	0	2
2013	-	-	0	0	0	0	0
2014	-	-	0	1	0	0	1
2015	-	-	0	0	0	0	0
2016	-	-	0	0	0	0	0
Total		0	0	46	0	0	46

(Notes) (\*1) These INES ratings are sorted into fiscal years in which events occurred.

(\*2) The INES ratings were made on the events on August 1, 1992 and thereafter, and two out of three events were rated for FY 1992

Table 4 INES Classified Events at Other Nuclear Facilities (\*1)

FY	INES Level	Out of scope	Level 0	Level 1	Level 2	Level 3	Level 4	Total
(*2) 1992	-	0	0	0	0	0	0	0
1993	-	3	2	0	1	0	0	6
1994	-	0	2	0	0	0	0	2
1995	-	0	1	0	0	0	0	1
1996	-	1	0	0	0	1	0	2
1997	-	0	0	1	0	0	0	1
1998	-	1	0	2	0	0	0	3
1999	-	0	0	0	0	0	1	1
2000	-	0	0	0	0	0	0	0
2001	-	0	0	0	0	0	0	0
2002	-	0	1	0	0	0	0	1
2003	-	0	0	0	0	0	0	0
2004	-	0	1	0	0	0	0	1
2005	-	0	1	1	0	0	0	2
2006	-	0	1	0	0	0	0	1
2007	-	0	5	1	0	0	0	6
2008	-	0	3	2	0	0	0	5
2009	-	0	3	0	0	0	0	3
2010	-	0	4	1	0	0	0	5
2011	-	0	1	2	0	0	0	3
2012	-	0	1	1	0	0	0	2
2013	-	0	1	0	0	0	0	1
2014	-	0	0	0	0	0	0	0
2015	-	0	1	0	0	0	0	1
2016	-	0	0	0	0	0	0	0
Total		5	28	11	1	1	1	47

(Notes) (\*1) These INES ratings are sorted into fiscal years in which events occurred. Other Nuclear facilities exclude nuclear reactors (Tables 1 thru 3).

(\*2) There were two events reported in FY 1992. None of them were rated by the INES since the INES rating started on August 1, 1992 and thereafter.

Table 5 INES Classified Events in Radioisotope Licensees (\*1) (\*2)

FY \ INES Level	Still collecting information for rating	Out of scope	Level 0	Level 1	Level 2	Total
2008	-	0	4	1	1	6
2009	-	0	2	0	0	2
2010	-	0	3	0	0	3
2011	-	0	5	0	0	5
2012	-	0	5	0	0	5
2013	-	0	3	1	0	4
2014	-	0	2	0	0	2
2015	-	0	2	0	0	2
2016	-	0	4	0	0	4
Total	0	0	30	2	1	33

(Notes) (\*1) These INES ratings are sorted into fiscal years in which events occurred.

(\*2) INES ratings of events were made on the events on April 18, 2008.