The Radiation Management Reported by Licensees and the Relevant Regulations Amendment in Japan

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Overview

- Report on Radiation Management by Licensees

- Amendment on NRA Ordinance and NRA Regulatory Notice

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Report on Radiation Management by Licensees

Radiation Management Report

- Licensees are required to submit the reports periodically twice a year.
- Reporting format is provided by the type of facilities ,respectively based on the NRA Ordinance.
- NRA compile data from the report received from licensees and publish the annual report “ the Status of Radioactive Waste Management and Occupational Radiation Exposure Management ”.

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Report on Radiation Management by Licensees

(Examples)

- Release of radioactive gaseous and liquid wastes
- Management of radioactive solid waste
- Distribution of annual effective external dose
- Collective dose (person.Sv)
- Individual exposure (mSv)
- Number of individuals engaged in radiation work

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Report on Radiation Management by Licensees

- Commercial nuclear power plant
- Disaster-experienced nuclear power plant
- Nuclear power plant at R&D stage
- Nuclear fuel fabrication facility
- Spent fuel reprocessing facility
- Waste disposal facility, Waste management facility
- Research reactor
- Nuclear fuel material usage facility for R&D

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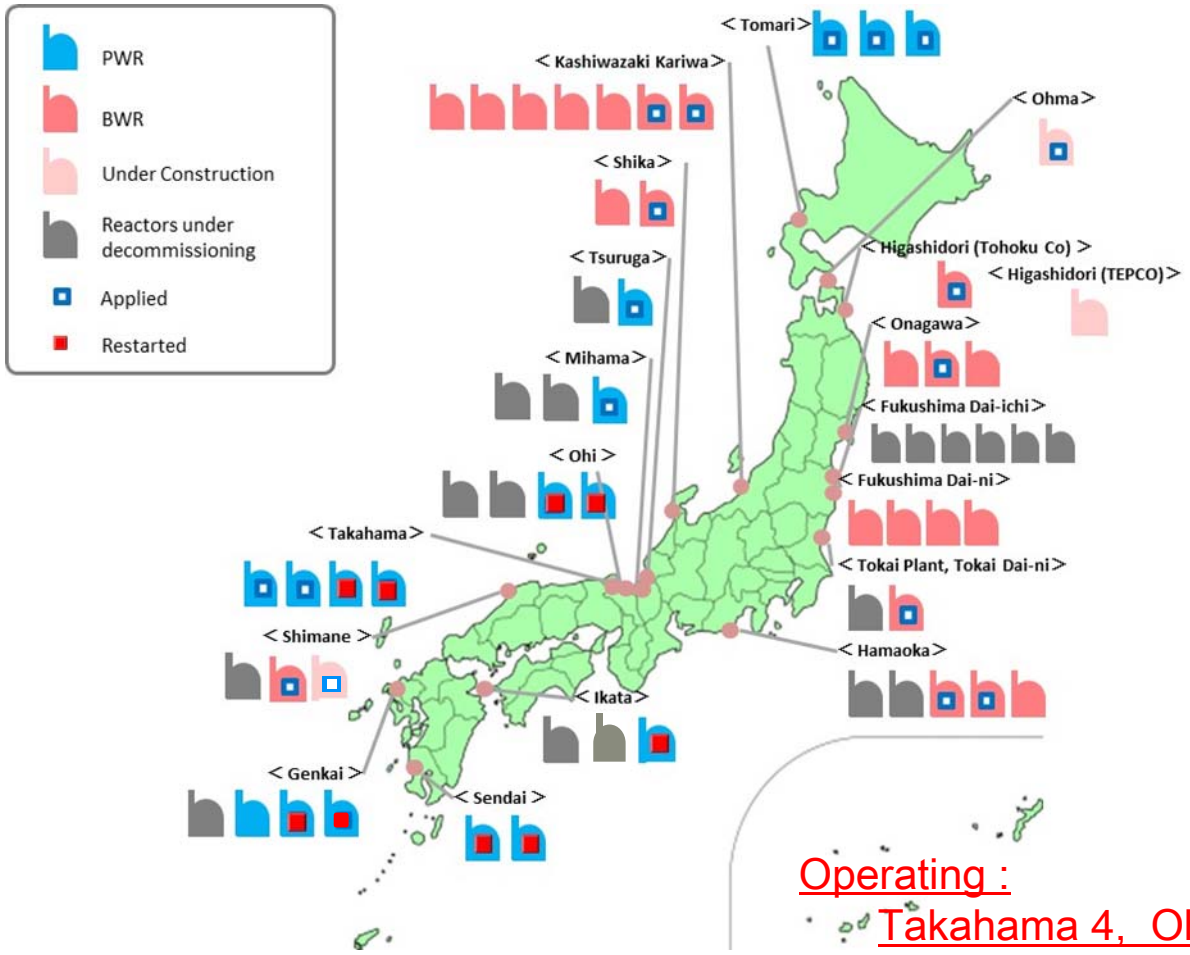
Current Status of NPPs in Japan



As of 2 October, 2018

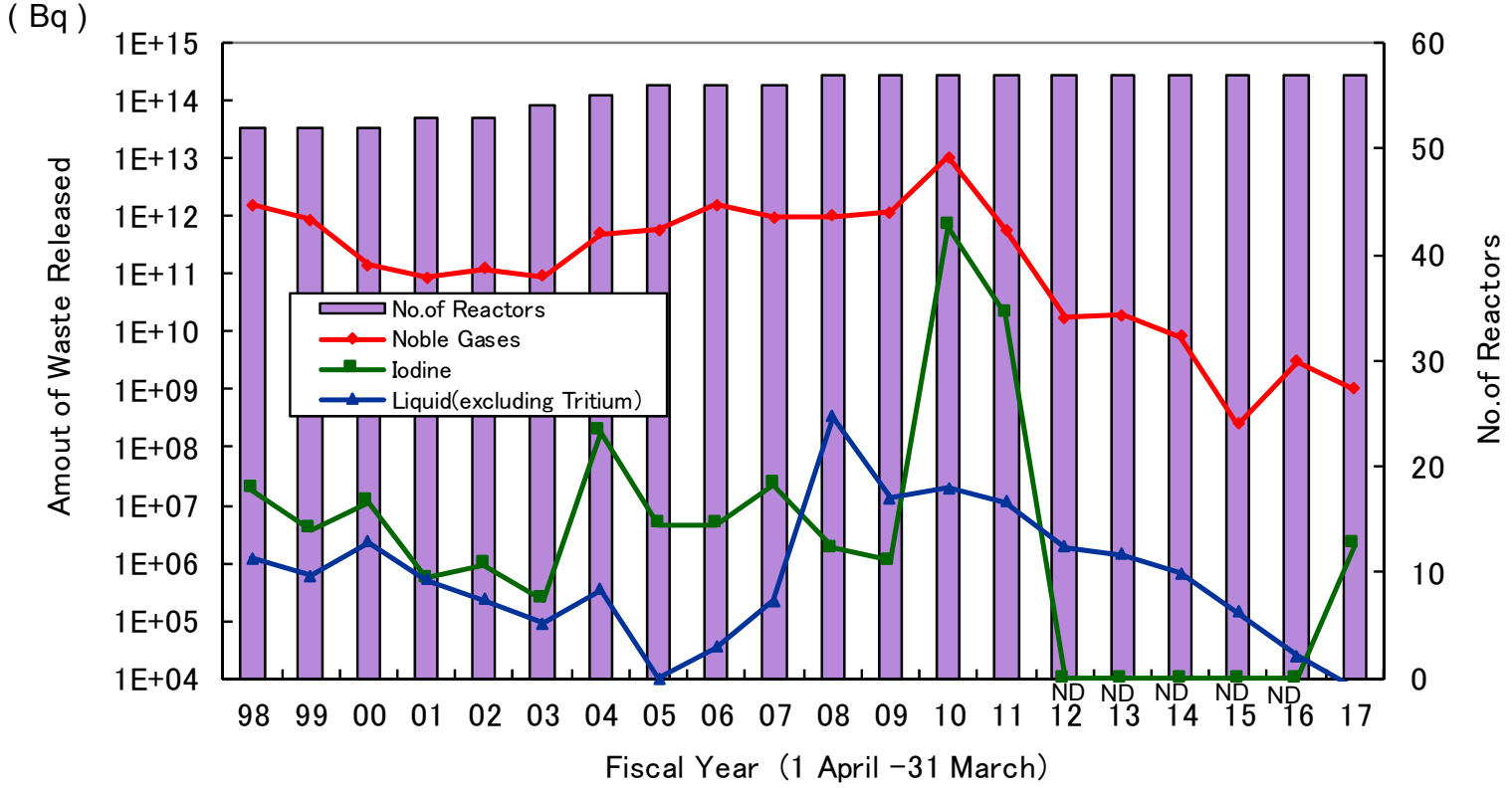
Total	60	
Applied	27	PWR 16 BWR 10
Approved	15	PWR 12 BWR 3
Restarted	*9*	*PWR 9* *BWR 0*
Under decommissioning*	18	PWR 7 BWR 10 GCR 1
Others	15	PWR 1 BWR 14

* Including Fukushima Daiichi NPP and other NPPs declared for decommissioning.

Operating :
Takahama 4, Ohi 3, 4, Genkai 3, 4, Sendai 1,2

Status of Radioactive Waste Management

Trends in Radioactive Gaseous and Liquid Waste Amounts Released from NPS and Number of Reactors in Japan



* Data for Fukushima Dai-ichi Nuclear Power Station are excluded from radioactive gaseous and liquid waste after the Fukushima Dai-ichi Accident (from March 2011(FY 2010) to FY2017) .

** Data for Units 5 and 6 in Fukushima Dai-ichi Nuclear Power Station from the stack of the incinerator released in the managed manner are included since FY 2013.

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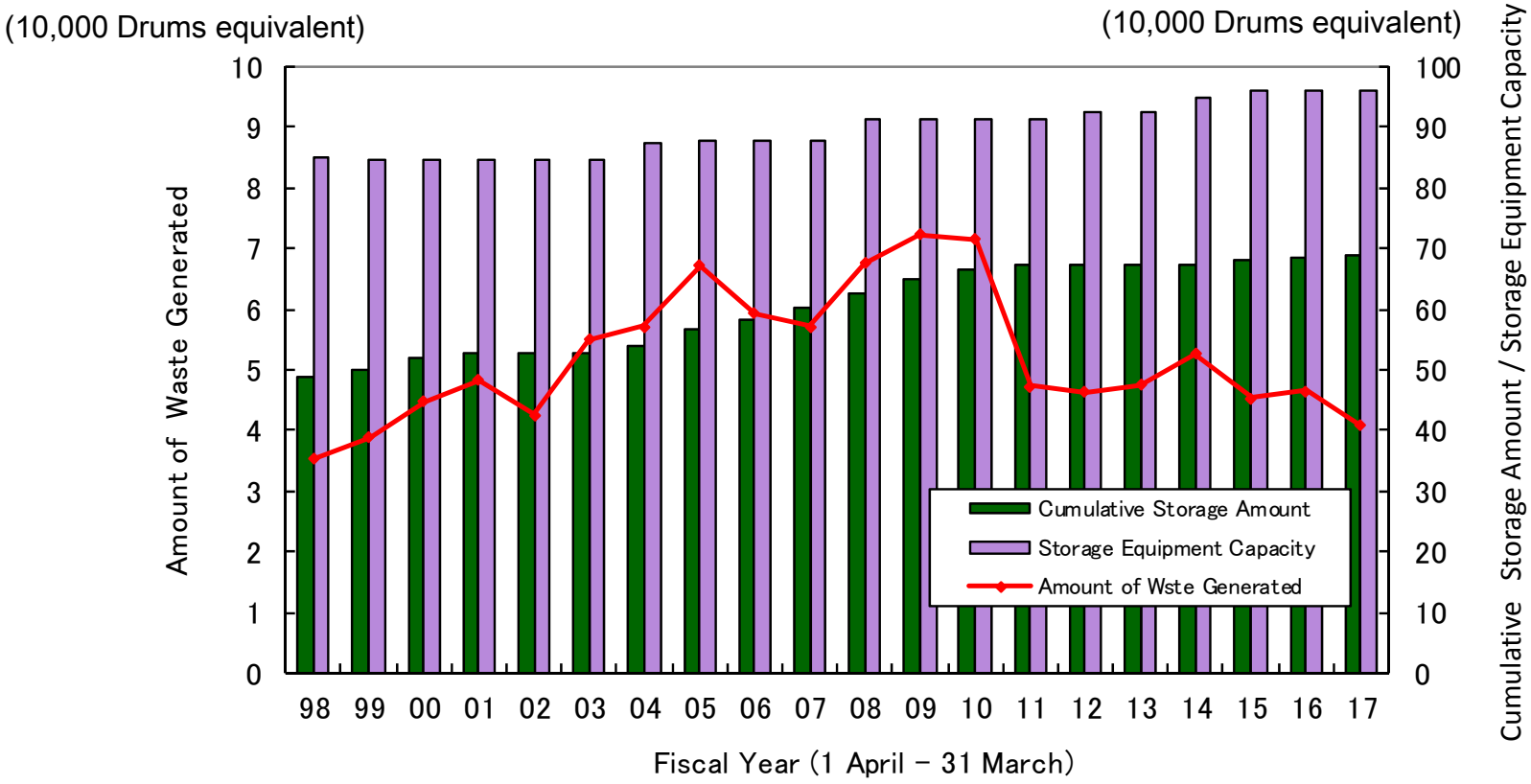
Status of Radioactive Waste Management

Trends in Generated Amount and Cumulative Storage Amount of Radioactive Solid Waste form NPS in Japan



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Status of Occupational Radiation Exposure Management

Occupational Exposure Dose Management at Nuclear Facilities in Japan in FY 2017

	No. of Radiation workers	Collective Dose (Person.Sv)	Average Individual Dose (mSv)
Commercial Power Reactor Facilities (Excluding Fukushima-daiichi NPP)	about 44,500	7.12	0.2
Fukushima-daiichi NPP	about 13,900	37.51	2.7
Nuclear Power Reactor Facilities at the R&D Stage	about 1,800	0.13	0.1
Nuclear Fuel Fabrication Facilities	about 2,300	0.09	0.0
Spent Fuel Reprocessing Facilities	about 7,800	0.08	0.0
Waste Disposal Facilities, and Waste Management Facilities	about 1,700	0.00	0.0
Reactor Reactors	about 2,700	0.04	0.0
Nuclear Fuel Material Usage Facilities for R&D	about 3,300	0.51	0.2

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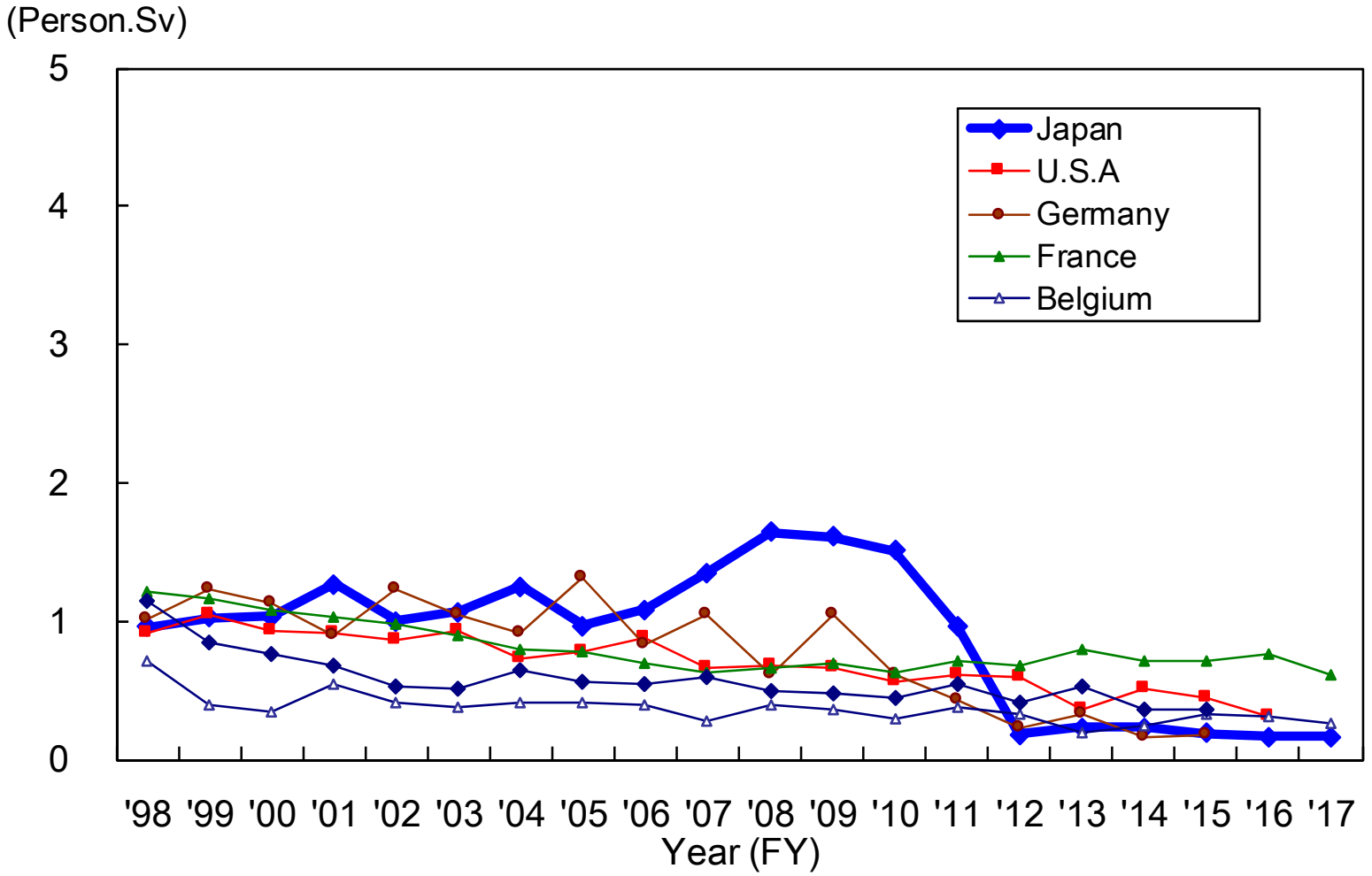
Status of Occupational Radiation Exposure Management

Average Annual Collective Dose (person.Sv/reactor) (1998-2017), PWR



(Data source : ISOE database)

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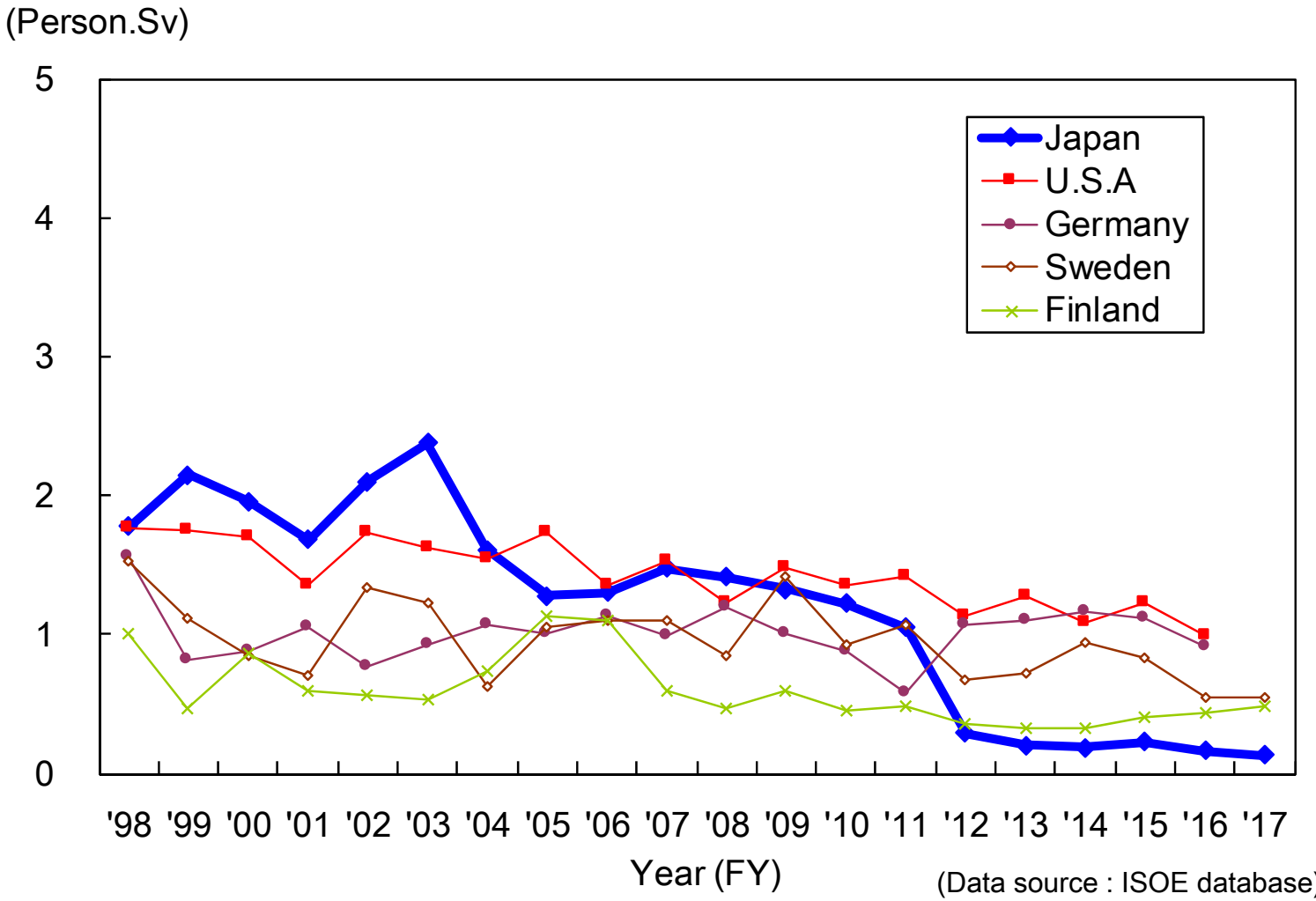
Status of Occupational Radiation Exposure Management

Average Annual Collective Dose (person.Sv/reactor) (1998-2017), BWR



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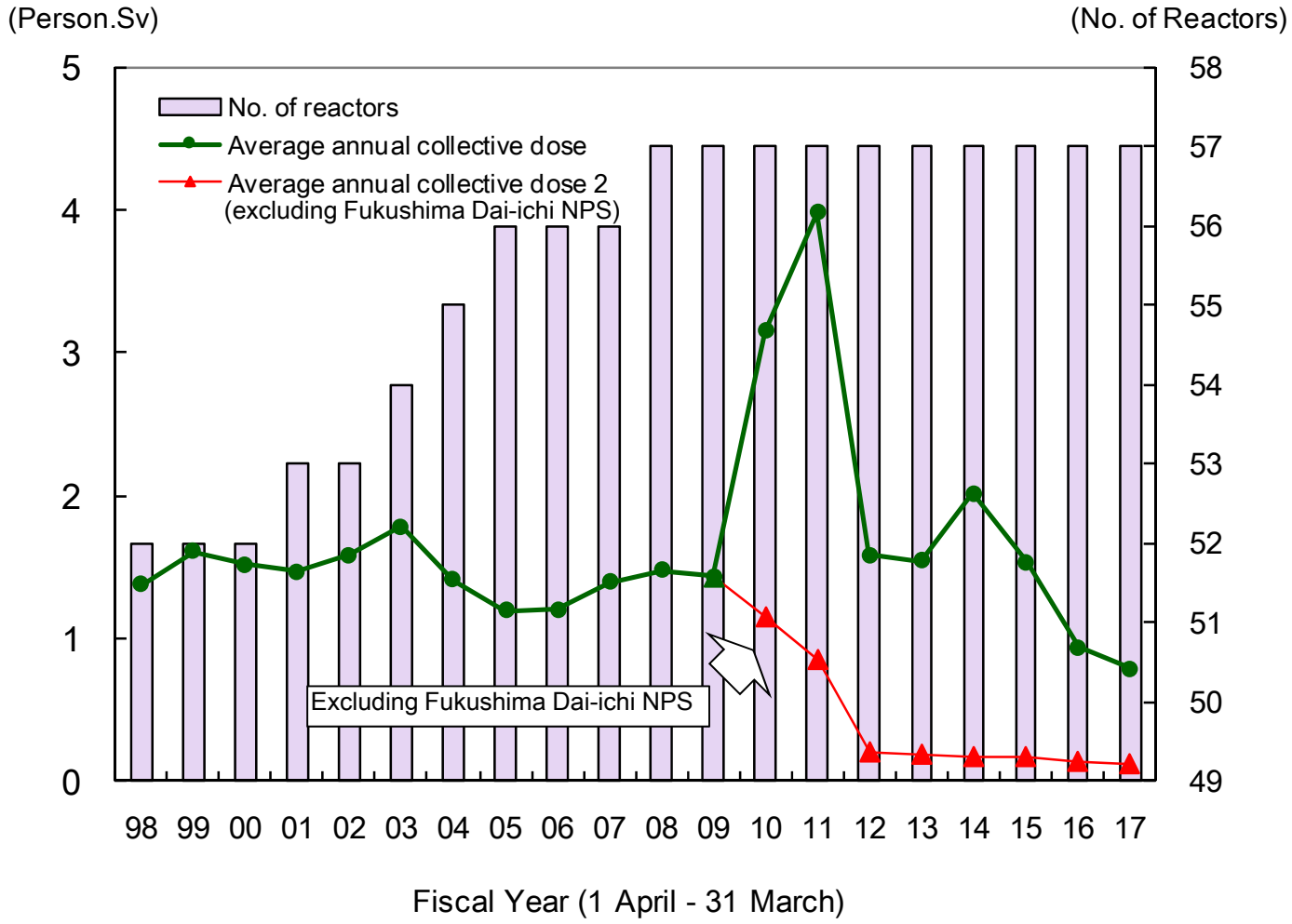
Status of Occupational Radiation Exposure Management

Average Annual Collective Dose (person.Sv/reactor) (1998-2017)



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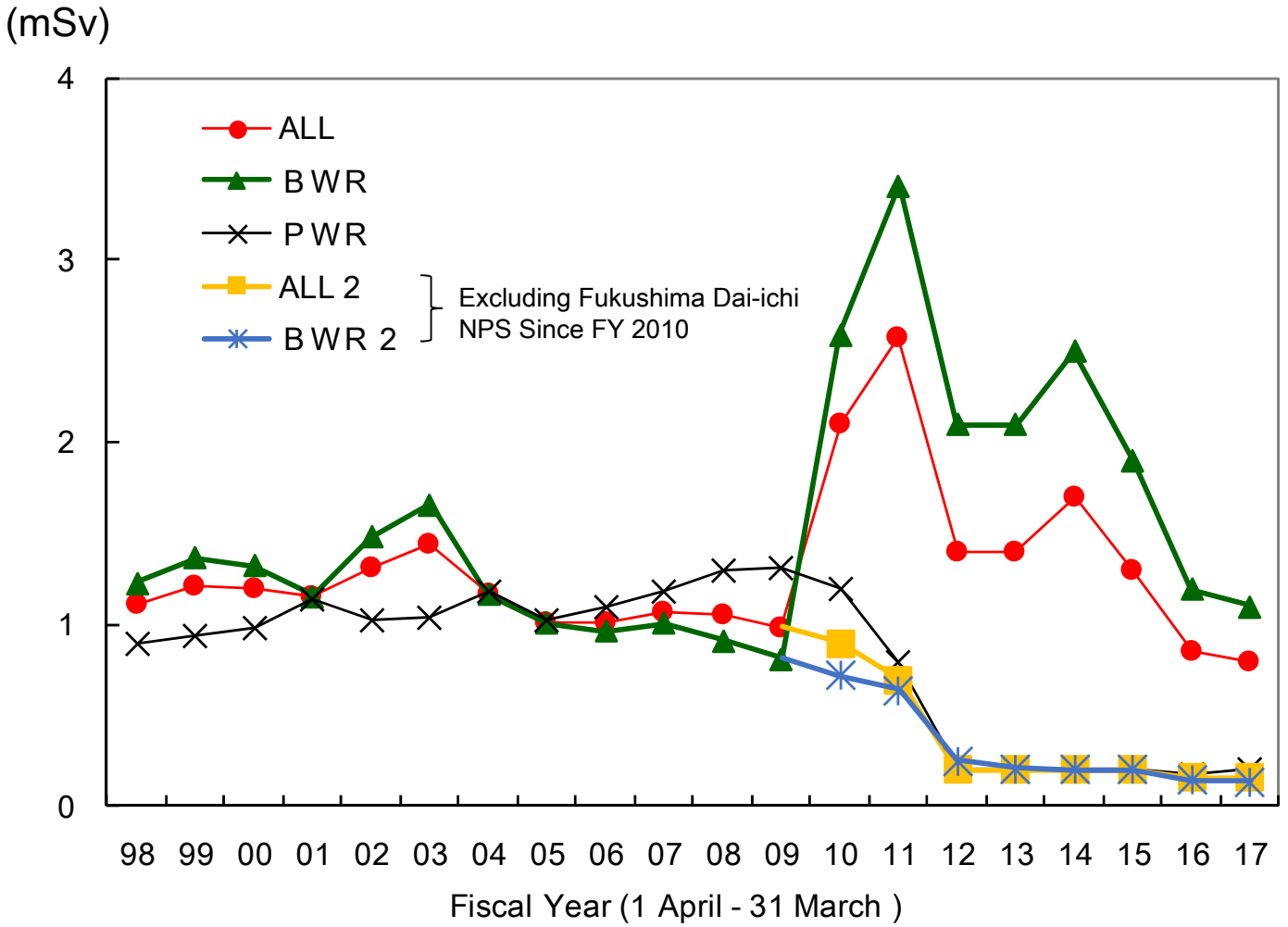
Status of Occupational Radiation Exposure Management

Average Annual Individual Exposure (1998 - 2017)



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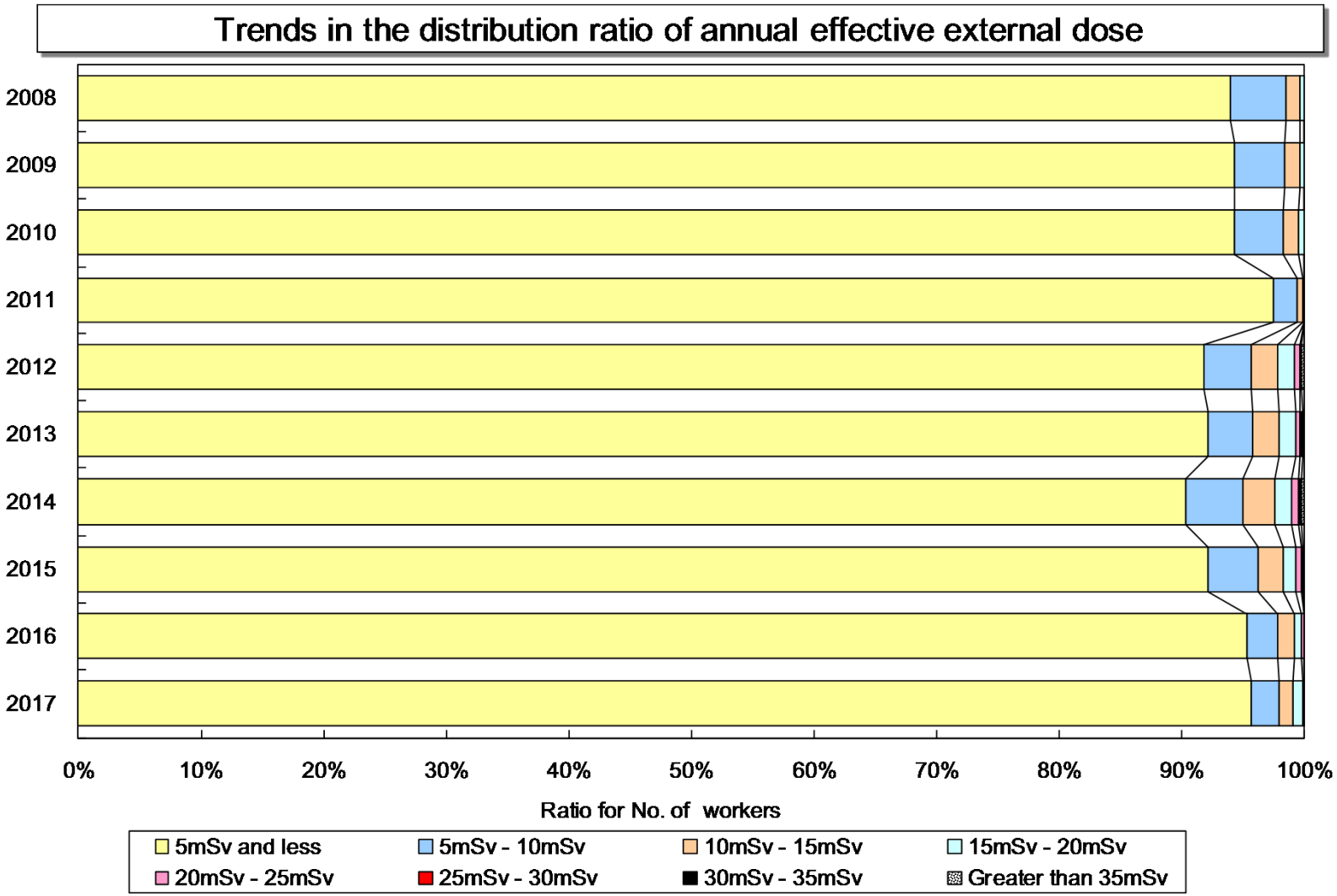
Status of Occupational Radiation Exposure Management



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Overview

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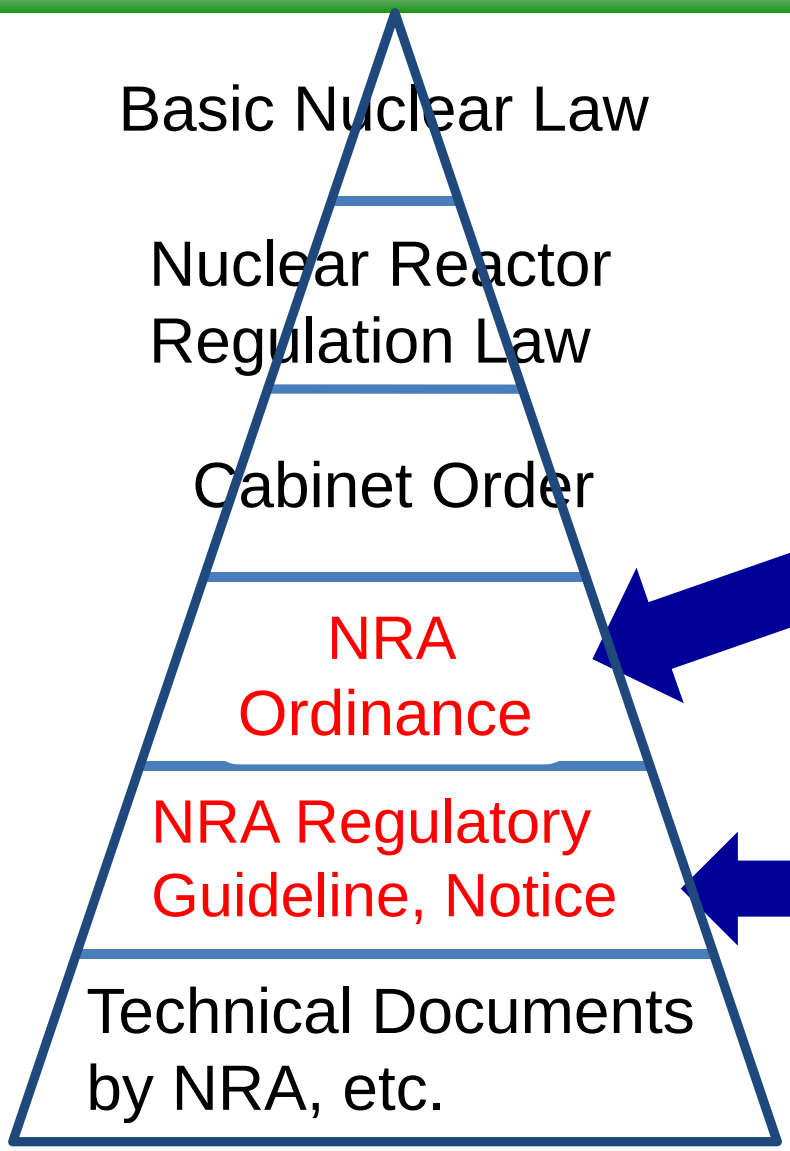
Structure of Nuclear facilities Regulation Legislation



Requirements
Define the rules for the Installation, Operation, etc. for each facility, etc.

Requirement details
Including the notice of radiation doses, Regulatory Guide for the Annual Dose Target

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NRA ordinance amendment on the reporting format

Key points of the amendment

- Rationalization of radiation management report by licensees.
- The division of dose category of 5 mSv or less is to enable comparison with the international standard.
- Addition of a report format for the disaster-experienced nuclear power plant.
- Additional report
  - on the amount of radioactive waste generated due to decommissioning measures
  - of burial amount in the waste disposal facility

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NRA ordinance amendment on the reporting format

2018 March	NRA approved the amendment policy
2018 June	NRA discussed the draft amended reporting format on the radiation management
2018 July	NRA approved the amended reporting format
2018 August	Promulgation of the revision of NRA ordinance regarding the reporting format
2019 April 1 2020 April 1	Enforced Apply from reporting of FY 2019 (Except the division of 5mSv and less Category) Apply from reporting of FY 2020 (the division of 5mSv and less Category)

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NRA regulatory notice revisions on dose limits

New dose limit of the lens of the eye

- NRA started the investigation regarding the limits on equivalent dose for the lens of the eye considering the ICRP statement on tissue reactions.
- IRRS mission to Japan from11 Jan 2016 to 22 Jan 2016 identified the need to reduce the annual dose limit to the lens of the eye to conform to GSR Part 3.
- Equivalent dose limit for the lens of the eye of 20 mSv in year, averaged over defined periods of 5years, with no single year exceeding 50 mSv.
- NRA will implement the revisions of regulations by 1st April 2021.

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NRA regulatory notice revisions on dose limits

2017 July	Radiation council established “The subcommittee on Radiation Protection of the Lens of the Eye”
2018 March	Radiation Council approved the final report of the subcommittee
2018 March 2	Radiation Council recommended the new dose limit to NRA, related ministries and aggeencies
2019 (date TBA)	NRA discussed draft revision of the new dose limit of the lens of the eye
2019 (date TBA)	NRA requested Radiation Council for advice
2019 (date TBA)	NRA approved the revision of the regulatory notice, after considering the answer from Radiation Council
2019 (date TBA)	Promulgation of the revision of regulation notice
2021 April 1	Enforced

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In closing

- Providing the compiled domestic data regarding the occupational exposure reported by licensees is very useful for sharing information worldwide.
- Radiation protection is the significant matter for nuclear facility's safety.
- It is important to utilize the ISOE network in order to facilitate communication and share techniques and experiences for radiation protection.

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Thank you for your attention