

# Implementation Status of New Oversight Program

November, 2020

Nuclear Regulation Authority, Japan

## Time line of Oversight Program Reform

- Apr. 2016 IRRS Recommendation
- May 2016 Communication with Licensees starts.
- Apr. 2017 The Reactor Regulation Act amended  
Several Inspections into one “Nuclear Regulatory Inspection”, which enables inspectors to observe and inspect all licensees’ activities.
- Sep 2018 Inspector Qualification Program start
  - 175 of Inspectors qualified by the end of March 2020
- Oct 2018 Trial of New Oversight Program
  - 1<sup>st</sup> phase -Mar. 2019
    - Only inspection procedures for Resident Inspectors with limited # of samples.
  - 2<sup>nd</sup> phase - Sep. 2019
    - Inspection procedures for Resident Inspectors with increased # of samples.
    - Team Inspections by HQ Specialists at 2 model sites
    - Inspection trial for fuel cycle facilities also conducted
  - 3<sup>rd</sup> phase -Mar. 2020
    - Almost full scope of the program attempted, including SERP and Annual Assessment.
- Apr 2020 Operation start.

## Important Elements of New Oversight Program

- Focus on Licensee's Primary Responsibility
- Performance-based and Risk-informed Principles
- Non-prescriptive Inspection
- Free Access to Licensee's All Safety Activities [Access to Facilities, Personnel, Information, and Actions]

## Outcomes of the New Oversight Program

- Free access: inspectors' understanding of as-is situation
  - NRA inspectors can comprehend as-is situations of plants by freely accessing sites any time without escort and observe licensees' operational safety activities.
  
- Performance-based inspection
  - NRA inspectors can conduct inspections in a flexible manner taking into consideration the status of plants and licensees' operational safety activities, thus focus on matters of safety significance.
  
- Considerable change in CAP
  - Licensees considerably improved the CAP (Corrective Action Program) and started operating it to manage findings from a variety of on-site workers in an integrated way and make improvements by themselves.
  - NRA inspectors oversee the licensees' CAP activities on a daily basis and therefore can identify viewpoints for inspections.

## Result of New Oversight Program

- 1<sup>st</sup>Q (Apr. 2020~Jun. 2020)
  - 32% of annual samples (by Resident Inspectors)
  - 9 team inspections out of 40 planned
  - 3 findings (all green)

Subject	Overview	SDP	SL
<b>ONAGAWA Unit2</b> Internal exposure of workers due to inappropriate contamination control	Internal exposure occurred because appropriate contamination measurement and exposure protection measures were not implemented.	Green	IV
<b>MIHAMA Unit 3</b> Seawater pump trip due to inappropriate maintenance program	The seawater pump used to remove heat from the SFP has automatically stopped because licensees did not appropriately take the environment of the pump into account for the maintenance program.	Green	IV
<b>FUKUSHIMA Dai-ni</b> Inappropriate control of Protection Area		Green	IV

- Performance Indicators: all green
- Impact of COVID-19
  - The National Emergency in Japan: April 7th~May 25th
  - All team inspections by HQ Specialists were cancelled in April and May.

## Challenges for Oversight Program

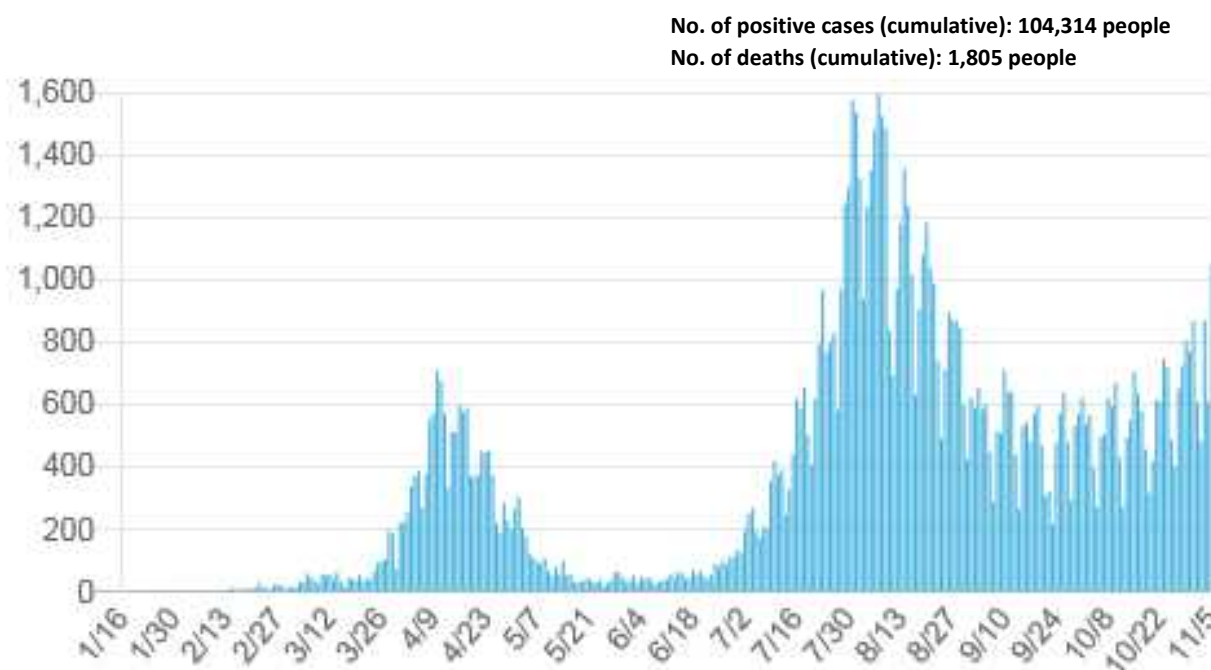
- Training and Qualification of Inspectors
- Mature SDP process (including fuel cycle facilities)
- Use of PRA models for each plant
- Program Improvement (PDCA cycle)
- Public communication, especially  
with local governments and communities.

NRA Management of the COVID-19 Situation

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1. COVID-19 Pandemic Situation in Japan

- The Prime Minister declared **a state of emergency** on April 7 specifying concerned 7 prefectures and the duration, followed by its expansion to all prefectures on April 16.
- On May 14, the declaration was **lifted** for 39 prefectures, and subsequently lifted for the remaining 8 prefectures in Japan.
- The progression of the COVID-19 pandemic in Japan has remained at a relatively low level both in terms of positives cases and deaths.



**Table 1: No. of positive cases in Japan (Cumulative as of Nov. 5: 104,314 people)**  
Source: Ministry of Health, Labour and Welfare, "Novel Coronavirus(COVID-19)",  
[https://www.mhlw.go.jp/stf/seisakunitsuite/bunva/0000164708\\_00079.html](https://www.mhlw.go.jp/stf/seisakunitsuite/bunva/0000164708_00079.html)

- In Japan, most of the nuclear power plants are located away from densely populated regions. Therefore, their operation or activities have not been much impacted by COVID-19 pandemic while operators have implemented necessary measures according to their action plans already in place.

## **2. NRA Regulatory Response to COVID-19 Pandemic Situation**

### **(Initial Response under the State of Emergency)**

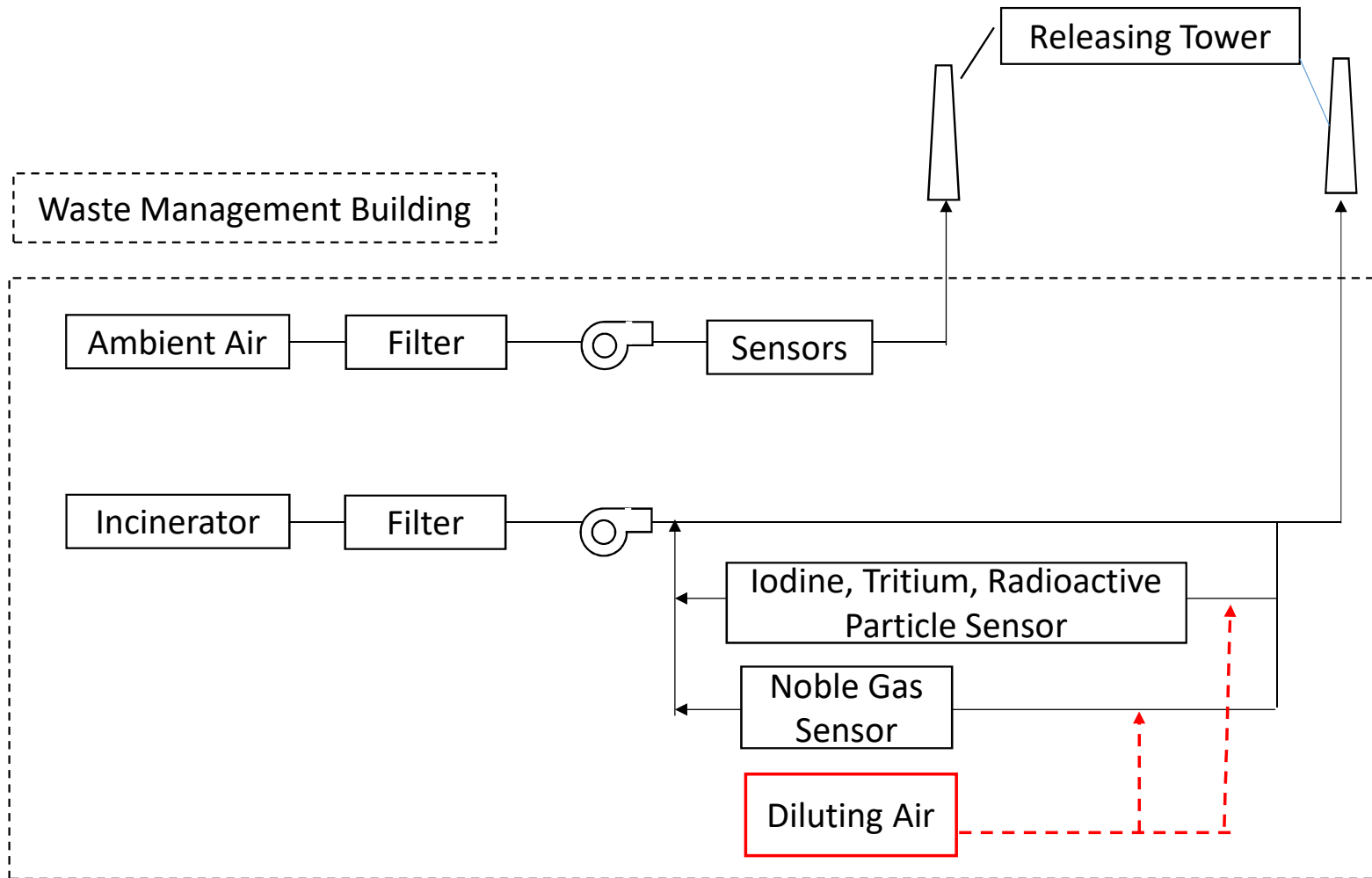
- **Routine inspections by regional inspectors:** regional inspectors at each regional office were divided into two groups not to have physical contacts, and as far as inspectors were available, daily inspections such as facility walk-down were continued.
- **Team inspections by NRA HQ Specialists:** Refrained from sending inspectors from the HQs; alternatively confirmed records at the HQs and/or placed regional inspectors instead. When inspectors from the HQs needed to enter into nuclear facilities, they had to stay at hotels around the facilities for two weeks before inspection to confirm their health condition.
- While almost no impact on NRA daily walk-down inspections, most of the team inspections under the new oversight program were rescheduled in accordance with licensees work postponement.

### **(Continued Response)**

- The NRA is ready to flexibly consider nuclear licensees' proposal for changes of their operational safety activities, e.g. the frequency of the required maintenance, patrol and periodic inspections, in the framework of the new inspection program.
- The NRA reasonably and flexibly manages the frequency or period of regular inspections and reports that the RI Act requires licensees to implement, when it is unavoidable to prevent infectious diseases.



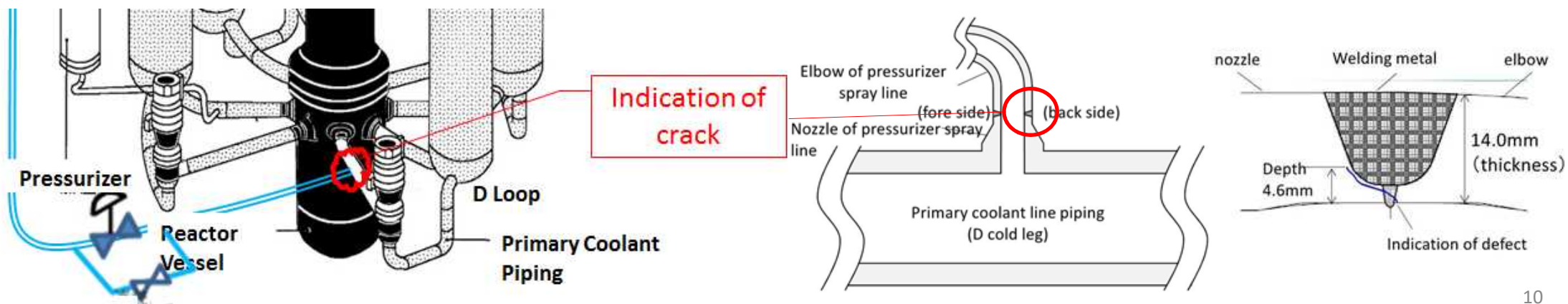
# Miscalculation of the Concentration of Radioactive Isotopes in Gaseous Waste Released from Tomari NPS



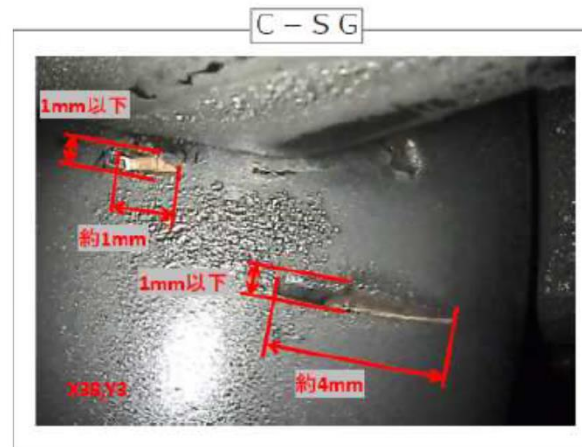
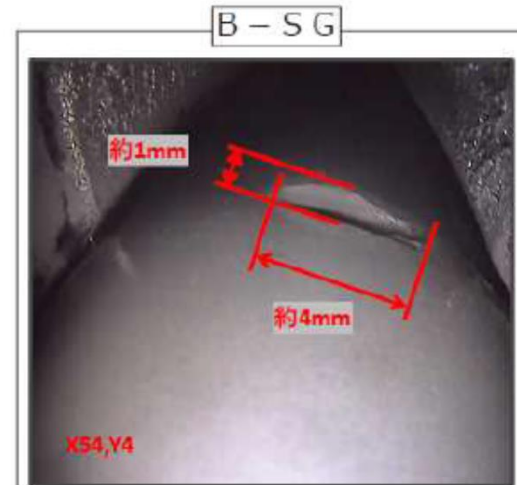
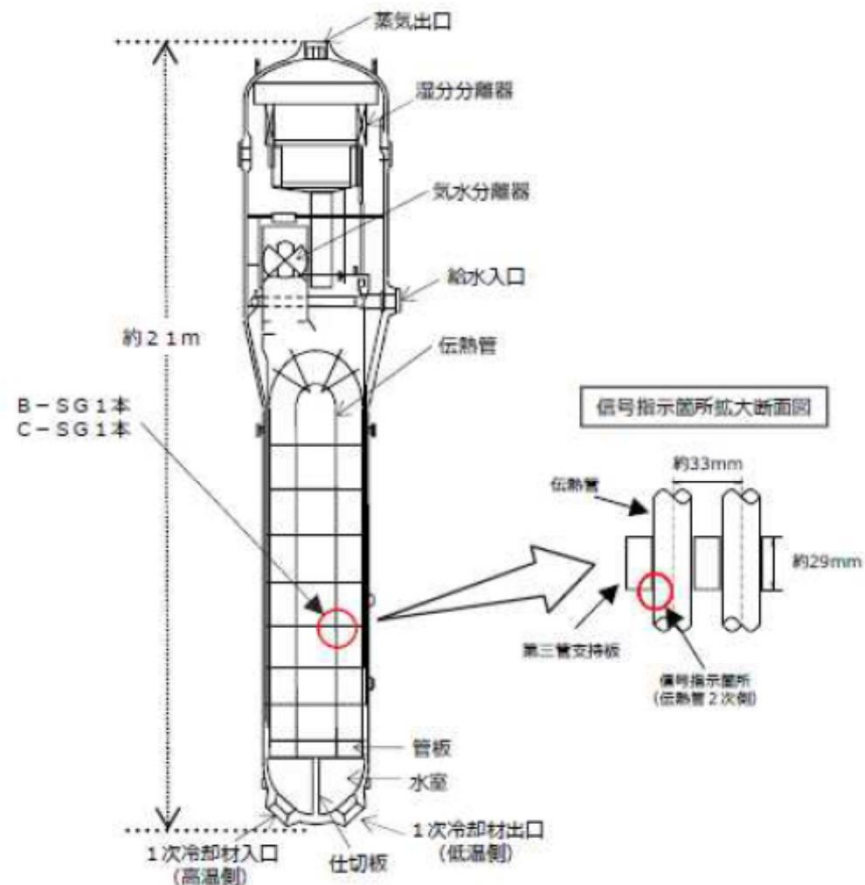
- The NRA inspectors conducted a team inspection at Tomari NPS during the trial phase of ROP.
- The inspectors found that the licensee had not been considering diluting air into the calculation of radioactive isotopes' concentration.

## Detected Crack at Ohi Unit 3 (PWR)

- In August 2020, the Licensee reported NRA inspectors that they identified a crack during in-service inspection while refueling outage.
- Event outline (based on the UT result by the licensee):
  - The crack found at welding points of the pressurizer spray line made of SUS316
  - Maximum Depth(radial); 4.6mm, Length(circumferential); 67mm
  - The Licensee explained that SCC (stress corrosion cracking) caused the crack, however the NRA concluded that there is not enough evidence to determine the cause.
  - After discussion between the NRA and the Licensee, the Licensee decided to replace the concerned part and to perform direct observation of the crack.



# The Scratches on SG Tubes (on Surfaces of Secondary System) Observed at Takahama NPS



- The NRA has received incident reports on the scratches on SG tubes at Takahama NPS several times: Unit 3, twice ; Unit 4, twice.
- The Licensee has assumed that scratches are generated by metal foreign objects stayed at support plate which meets SG tubes.
- The incidents have repeated only at Takahama NPS despite of the careful deployment of prevention measure against foreign objects.

Pictures of the scratches observed at Takahama Unit 3 in Mar, 2020.