

Actions NUMO is Taking to Promote Deep Geological Disposal of Radioactive Waste

April 12, 2018

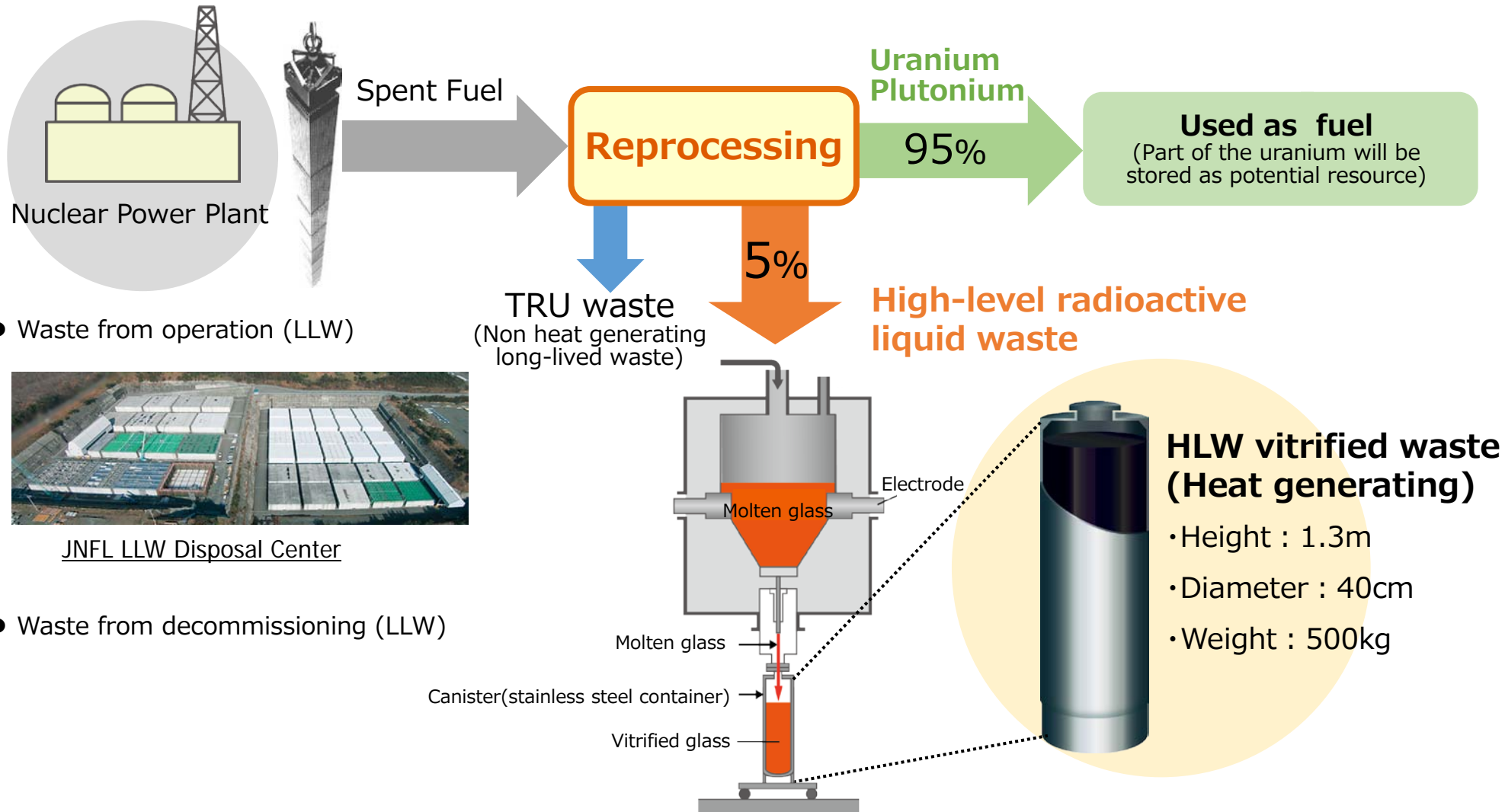
Shunsuke Kondo

President

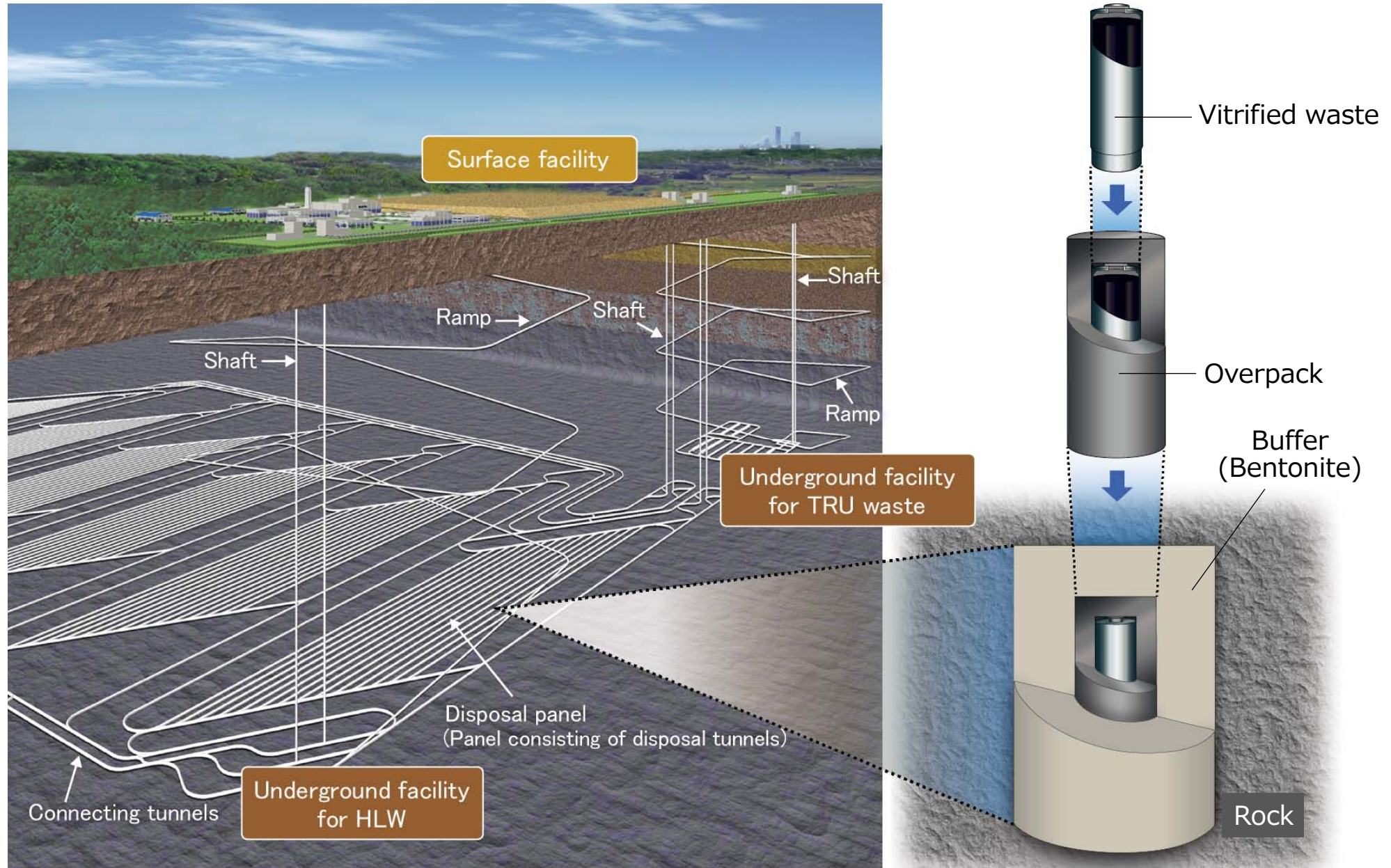
Nuclear Waste Management Organization of Japan (NUMO)

Radioactive Wastes

- Medicine, research, agriculture and industry which use radioisotopes → Low-level radioactive waste
- Nuclear power plant which uses nuclear reactor → Low and high-level radioactive waste



Deep Geological Disposal Facility



Surface facility : 1-2km²

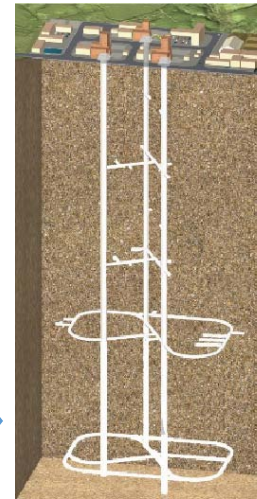
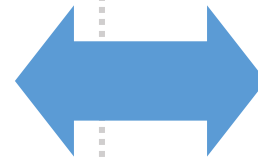
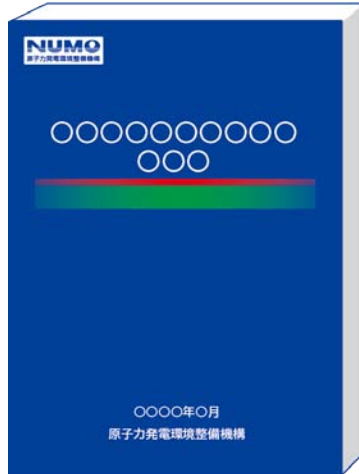
Underground facility (deeper than 300m) : 6-10km²

R&D aiming for implementation of geological disposal

NUMO

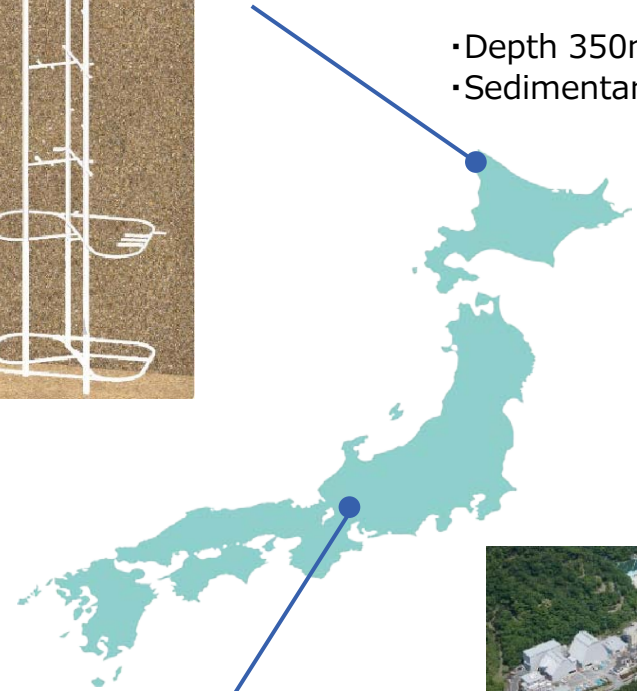
Research organizations: JAEA & others

Safety Case Report



Horonobe Underground Research Center

- Depth 350m
- Sedimentary rock



Mizunami Underground Research Laboratory

- Depth 500m
- Granite (crystalline rock)



Nationwide Map of Scientific Features for Geological Disposal

Local features were shown in four colors based on geoscientific and technical requirements for area classification

Requirements/Criteria

- ✗ Vicinity of volcanoes
- ✗ Vicinity of active faults
- ✗ Significant uplift/erosion
- ✗ High geothermal gradient
- ✗ etc.

If any one is applicable

Assumed to be unfavorable

from the viewpoint of long-term stability of the deep geological environment

from the viewpoint of the risk of future inadvertent human intrusion

If applicable

- ✗ Existence of mineral resources

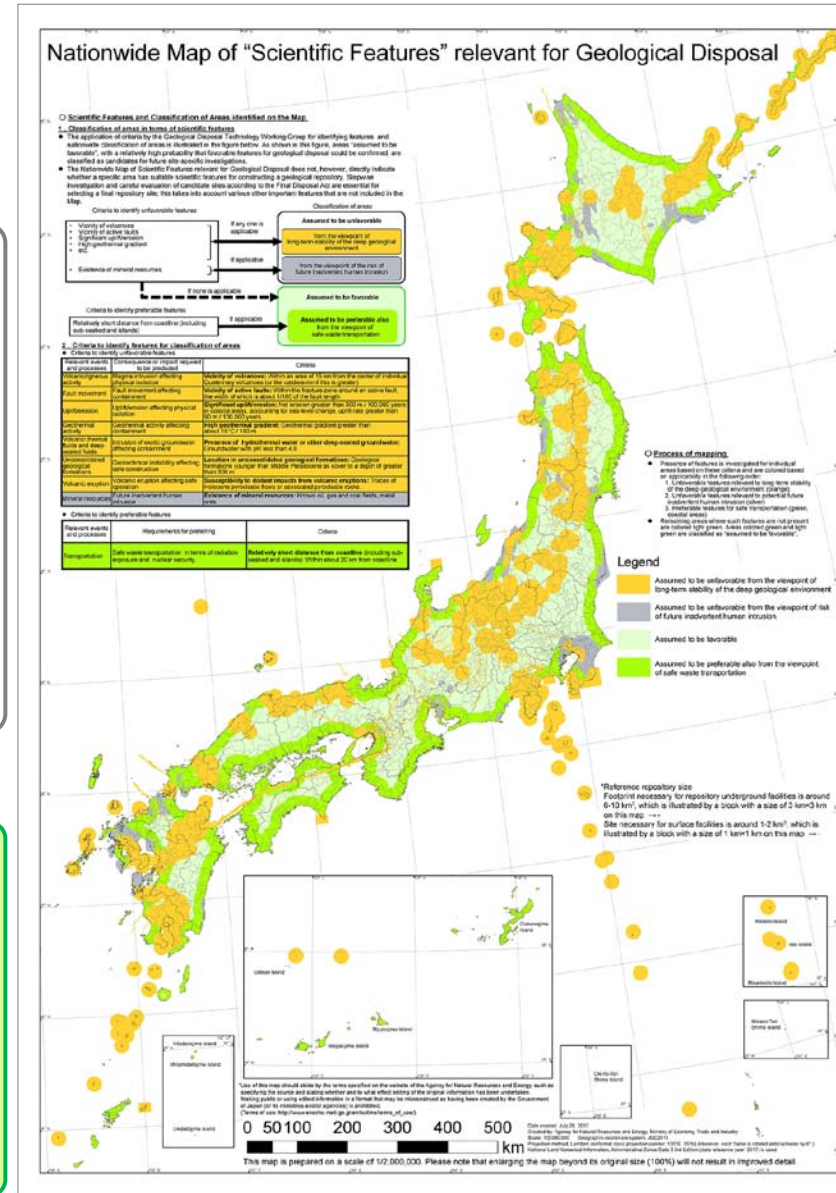
If none is applicable

Assumed to be favorable

Assumed to be preferable also
from the viewpoint of safe waste transportation

If applicable

- Relatively short distance from coastline (including under sub-seabed and island)



NUMO's Activities after Publication of “Nationwide Map of Scientific Features for Geological Disposal”

- Continue with nation-wide symposium
 - ✓ Publication of the “Map” is the first step of a long way to go
 - ✓ Obtain Public interest in the geological disposal project and understanding of its importance
 - ✓ Share the view that suitable geological environment for HLW disposal exists widely in Japan
- Proactively disseminate and clearly explain information of the project
 - ✓ NUMO's website is a source of information for wide range of visitors
 - ✓ Article in magazine etc., lecture on geological disposal in school, support study tours to URLs etc.
 - ✓ Nation-wide communication activities with PR vehicle “Geo-Mirai”
- Hold nation-wide opinion exchange meetings
 - ✓ Lecture by government, NUMO and experts followed by group discussion on safety and creation of win-win situation between siting community and the nation.



Public Opinion on Final Disposal of HLW

From public opinion survey on nuclear issue in 2017 (Japan Atomic Energy Relations Organization)

HLW must be disposed of by our generation.	53.1%
HLW disposal doesn't have to be considered by our generation.	3.3%
Work on the disposal of HLW irrespective of decision to use/stop nuclear power.	44.5%
Work on the disposal of HLW after the decision to stop nuclear power use.	8.6%
Agree to dispose of HLW deep underground.	20.7%
Disagree to dispose of HLW deep underground.	20.5%
Don't think big accident will occur at final disposal site.	3.3%
Worry that big accident will occur at final disposal site.	57.5%
Don't think severe accidents will occur after nuclear power plants are re-started.	1.9%
Nuclear plants should not be restarted as I have big concern about severe accidents.	34.1%

人々に寄り添い、対話を通じて学んだ人々の判断・思いを十分に考慮に入れてこの取り組みを進めていく、極めて謙虚な態度が大切です。

Very humble attitude is essential for advancing our mission, getting close to people and carefully considering the judgments and thoughts of people learned through dialogue with them at every occasion.