

## Facilities

### Post-irradiation examination facility (Hot laboratory)

This facility is used to examine characteristics of irradiated fuels and structural materials to provide data used to confirm reliability and performance, to verify safety and to improve quality. The hot laboratory facility is designed to handle highly radioactive materials safely. The facility is being used for research on decommissioning of nuclear power plants and research on upgrading nuclear safety.



Hot laboratory

### Non-irradiated uranium research facility (Uranium laboratory)

This facility can handle non-irradiated uranium and uranium compounds. The facility has a set of test apparatuses to produce sintered pellets from uranium oxide powder, as well as test and analytical equipment to examine thermal, mechanical and chemical characteristics of uranium compounds.



Uranium laboratory



### Nippon Nuclear Fuel Development Co., Ltd. (NFD)

2163 Narita-cho, Oarai-machi, Higashi-ibaraki-gun, Ibaraki-ken,  
311-1313, Japan

phone +81-29-266-2131 fax +81-29-266-3273

URL <http://www.nfd.jp/>

## CORPORATE PROFILE

*Power the Future*



**NIPPON NUCLEAR FUEL DEVELOPMENT CO., LTD.**



## Profile

### Company name

Nippon Nuclear Fuel Development Co., Ltd.

### Address

2163 Narita-cho, Oarai-machi,  
Higashi-Ibaraki-gun, Ibaraki-ken, Japan

### Paid-in capital

1.8 billion yen

### Stockholders

Toshiba Energy Systems & Solutions Corporation 50 %  
Hitachi, Ltd. 50%

### Principal activities

1. Research and development for nuclear fuels
2. Development of inspection and test technologies for spent nuclear fuels
3. Research for post-irradiation material characteristics
4. Analysis of radioactive nuclides
5. Transportation business using radioactive material transportation casks

## Philosophies

### Company philosophy

NFD contributes to development of an affluent society through fulfilling dreams, promoting creativity, cultivating technical skills, and continuously advancing nuclear materials research.

### Safety statement

Giving the highest priority to all aspects of safety assurance is:

The most important principle for operating NFD.

The major premise to obtain the public's acceptance for NFD's being.

The base for ensuring society's healthy and happy lives.

## Highlights of NFD's history

- |          |      |  |
|----------|------|--|
| February | 1972 | : Establishment of the Company           |
| February | 1977 | : Completion of the Hot Laboratory       |
| October  | 1979 | : Completion of the Materials Laboratory |
| December | 1983 | : Completion of the Main Office Building |
| March    | 1988 | : Completion of the Uranium Laboratory   |
| February | 2012 | : 40th Anniversary of the Company        |

## Human resources

- Material research groups, recognized world-wide as top level
- Know-how accumulated in over 40 years

## Facilities

- Research facility which can handle spent nuclear fuels and irradiated materials
- State-of-the-art analytical equipment

## Cooperation

- Plant manufacturers
- Fuel manufacturers
- Universities
- Domestic and foreign research institutes

## High level test technologies and research potential

1. Evaluation technology of characteristics of nuclear fuels and radioactive materials
2. Fabrication, preparation and testing technology for radioactive materials using remote control
3. Radioactive nuclide analysis technology
4. Transportation technology for nuclear fuels and radioactive materials

## NFD provides material test, evaluation and analysis technologies related to radioactive materials, including nuclear fuels and plant structural and component materials.

- Research and evaluation of spent nuclear fuels
- Development and evaluation of improved fuels and materials
- Evaluation of radiation effects on metallic materials and electrical cable materials
- Evaluation of severe accident effects on nuclear fuels and reactor internal materials
- Evaluation of debris fuel characteristics
- Material tests under simulated conditions inside the reactor
- Severe accident simulation tests using nuclear fuels and materials used for reactor internals
- Tests simulating the containment vessel environment in loss of coolant accidents
- Transportation of spent nuclear fuels, nuclear materials and debris fuels; transportation support
- Investigation of plant problems
- Consultation on testing and research
- Education and training using hot laboratory facilities



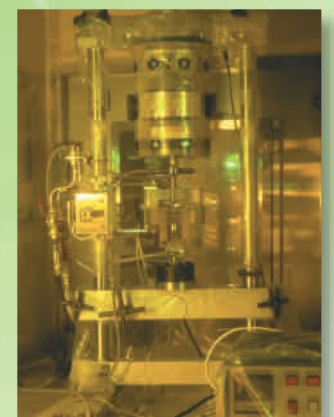
Work at control room of hot laboratory



Remote handling of specimen in hot cell



Analysis by scanning electron microscope(SEM)



Very low load fatigue test machine (500N)