Background of the Reforms (1)

11th March, 2011

TEPCO Fukushima Daiichi NPS Accident

Problems

- Inadequate regulations to prevent severe accidents
- Lack of preparedness (ex. role-sharing, evacuation plans, materials and equipment)
- Confusion about the decision-making and command chains
- Supports for victims had to expand to cover a wide area, became long-term

etc.

19th September, 2012

Establishment of the Nuclear Regulation Authority (NRA)

&

Reforms in Japan's Nuclear Emergency Preparedness and Response

Background of the Reforms (2)

- It was not clear where the primary responsibility lies in ensuring citizen's safety in an emergency.

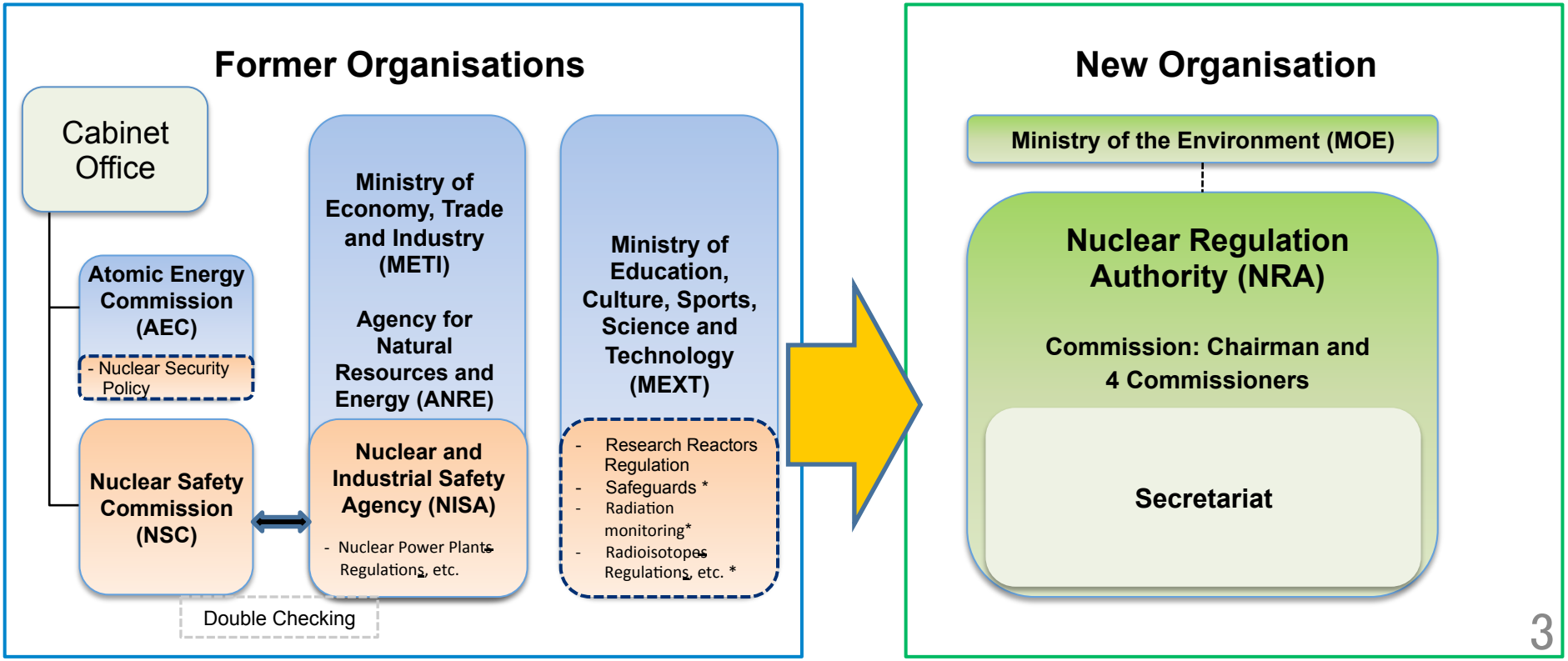
- Also, we cannot deny that the existing organizations and structures hindered the mobilization of capabilities in promptly responding to such a large-scale nuclear accident.

Report of Japanese Government to the IAEA Ministerial Conference on Nuclear Safety (June 2011)

- Thorough separation of regulatory and facilitation functions
- Integration of regulatory functions
- Strengthening of crisis management

Reform of Nuclear Regulatory Organizations

- **Independence**: Separation of regulatory and facilitation functions and establishment of the Nuclear Regulation Authority (NRA), as an independent commission affiliated with the MOE. The Chairman and Commissioners are appointed by the Prime Minister after the approval of the National Diet.
- **Integration**: Integration of regulatory functions, namely, nuclear safety, security, safeguards, radiation monitoring and radioisotopes regulation, into the NRA.



Structure and Functions of the NRA (1)
- Independence of the NRA -

- Establishment of the NRA as an independent commission.

- Separation of regulatory and facilitation functions.
  - Separation of the Nuclear and Industrial Safety Agency (NISA) from the Ministry of Economy, Trade and Industry (METI).

- Prohibition against the transfer of NRA personnel to administrative organisations that facilitate the use of nuclear power (the “no-return-rule”).
  - This will be completely prohibited within five years of the NRA’s formation.

- Independently established regulations for nuclear safety regulation standards.

- Entitlement of the NRA to make recommendations to the relevant Ministers for ensuring nuclear safety.

Structure and Functions of the NRA (2)
~ Integration of Regulatory Functions ~

(1) Nuclear Safety Regulations (from METI, MEXT and MLIT)

(2) Nuclear Security (from METI, MEXT and AEC)

(3) Nuclear Safeguards (from MEXT)

(4) Radiation Monitoring (from MEXT)

(5) Radioisotope Regulations (from MEXT)

- Integration of the functions of the Nuclear Safety Commission (NSC)

- Disbandment of the NSC
- Discontinuation of the “double-checking system”-
- Integration of the NSC’s necessary functions into the NRA (with the NRA deciding the necessary guidelines and standards for nuclear safety regulation)

Structure and Functions of the NRA (3) - Ensuring Transparency -

- Formulation of a framework for public disclosure in absence of a formal request
  - To the extent that this does not fall under the purview of non-disclosure information (private or confidential information) as defined in the Access to Information Act, the NRA uses its website to voluntarily make public as many administrative documents as it can in connection with nuclear regulations, without waiting for formal requests for information disclosure.

- Thorough publication of discussions
  - However informal a meeting may be, as a general principle, the NRA makes the contents of its meetings available to the public, as well as recording discussions between itself and the regulated parties that take place leading up to policy decisions, and make these records available to the public.

- Concrete guidelines for transparency were established by the Commission of the NRA after its creation.

- Streamlining of payment systems and provision of satisfying treatment, in consideration of qualifications or licenses

- Proactive employment of experts with specialized knowledge or experience, from domestic universities, research institutes and private entities

- Employment of experts with specialized knowledge or experience, from foreign universities, research institutes and private entities, in positions where they can express their opinions about Japan's nuclear power administration as third parties (NRA international advisers)

- Human resource exchange among domestic and foreign universities and research institutes; dispatch of Japan's human resources to international organizations and foreign governmental organizations; ensuring of opportunities for human resources to serve in diplomatic establishments or government offices overseas

- Establishment of training facilities and streamlining of training systems to enhance job performance skills (Project for establishing an international nuclear safety training organization)

Enhancement of Nuclear Emergency Preparedness

- As a precaution against emergencies, a new Nuclear Emergency Preparedness Commission (NEPC) has been permanently established under the Cabinet to promote nuclear emergency preparedness measures throughout the government during normal times.
- The NRA instructs and supervises the relevant nuclear operator in resolving the accidents in the event of an emergency at a nuclear facility.

Normal times

Nuclear Emergency Preparedness Commission
(Permanent establishment under the Cabinet)

Chairman : Prime Minister
Vice-Chairman : Chief Cabinet Secretary, Minister of the Environment, NRA Chairman, etc.
Secretary General : Minister of the Environment

- Promotion of policy enforcement, etc. based on the Nuclear Emergency Response Guideline
- Promotion of long-term comprehensive policy enforcement in the event of a nuclear accident.

Promotion of policy enforcement by the relevant institutions

NRA

- Safety regulation of nuclear facilities
- Formulation of the Nuclear Emergency Response Guideline

Relevant ministries and agencies, including the Ministry of the Environment.
Implementation of policies promoted by the NEPC, from each administrative perspective

Emergency

Nuclear Emergency Response Headquarters
(Provisional establishment under the Cabinet Office upon the Declaration of a Nuclear Emergency)

Director-General : Prime Minister
Deputy Director-Generals : Chief Cabinet Secretary, Minister of the Environment, NRA Chairman, etc.

- General Coordination of Nuclear Emergency Response Measures for the Nuclear State of Emergency
- General Coordination of Measures for Restoration from Nuclear Emergency

Coordination of the relevant institutions

NRA

Direction of and jurisdiction over the nuclear operators in the resolution of the accident at its nuclear facility

Relevant ministries and agencies, including the Ministry of the Environment.
Cooperation in the general coordination of the NERH from each administrative perspective

Lessons from Fukushima Daiichi NPS accident (1)

1. Confusion about information sharing and decision making

- The information provided to the Prime Minister's Office was insufficient, causing problems with immediate decision making.

2. Confusion due to the release of information

- Information was release separately by the Prime Minister's Office and NISA, and this caused confusion.

3. Confusion about command and coordination of local emergency response

- The off-site center failed to function as a facility to contain the accident.
- Information from TEPCO was slow to come.

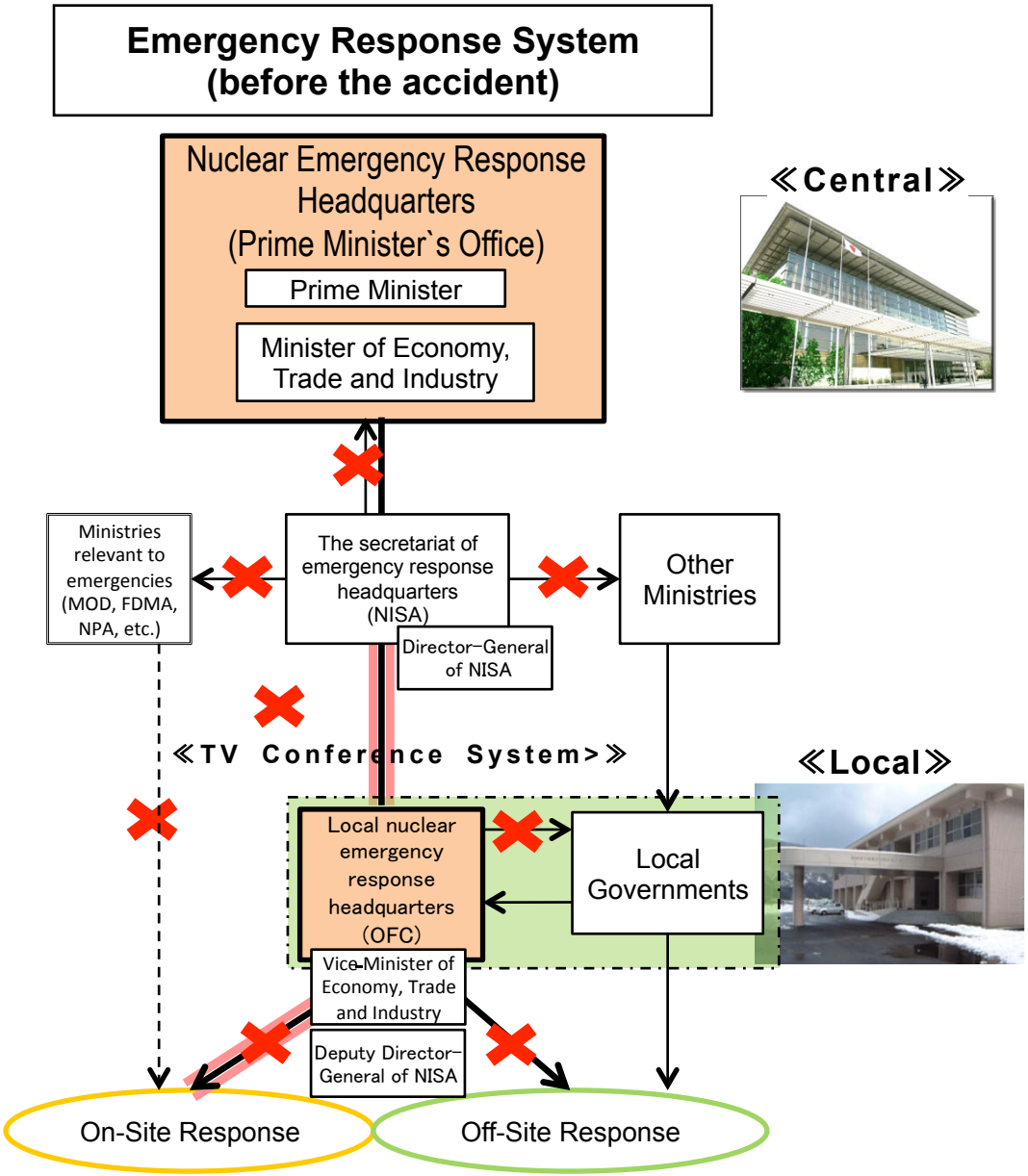
4. Lack of preparedness for severe accidents

- The specialized unit for severe accidents was inadequate.
- Preparedness exercises and training were insufficient.

5. Insufficient support system for victims of a nuclear disaster

- The affected area expanded.
- The term for restoration was prolonged.

Lessons- from the Fukushima Daiichi NPS accident (2)



Reform of Emergency Response (1)
- Information Sharing, Decision Making, and the Release of Information -

1. Handling confusion about information sharing and decision making

- The NRA Chairman and other expert staff assemble at Prime Minister's Office (PMO) to support the Prime Minister (who is the Chief of Nuclear Emergency Response Headquarters) following the occurrence of a nuclear accident.

- The NRA's Emergency Response Center (ERC) is responsible for analyzing the development of the accident, as well as communicating and coordinating with local governments, and it facilitates the decision-making of the PMO.

- The TV conference system connects the information networks of the relevant offices (PMO, ERC, NPP, OFC, head offices of nuclear operators, etc.).

2. Handling confusion due to the release of information

- NRA Commissioners and executives attend press conferences given by the ministries and help with technical explanations.

Reform of Emergency Response (2)
- Information Sharing, Decision Making, and Release of Information-

Emergency Response System (before the accident)

Nuclear Emergency Response Headquarters (Prime Minister`s Office)
- Prime Minister
- Minister of Economy, Trade and Industry

Ministries relevant to emergencies (MOD, FDMA, NPA, etc.)

The secretariat of NERH (ERC of NISA)
- Director-General of NISA

Other Ministries

≪TV Conference System≫

Local nuclear emergency response headquarters (OFC)
- Vice Minister of Economy, Trade and Industry
- Deputy Director-General of NISA

Local Governments

On-Site Response

Off-Site Response

Emergency Response System (After the accident)

≪Central≫

Nuclear Emergency Response Headquarters (Prime Minister`s Office)
- Prime Minister
- Minister of the Environment
- **Chairman of the NRA**
- **Secretary-General of the NRA**

Assemble at the Prime Minister's Office and Support the Prime Minister

Supports the PMO through interoffice communication/ coordination and situational analysis

The secretariat of emergency response headquarters (ERC of NRA)

Ministries relevant to emergencies (MOD, FDMA, NPA, etc.)

≪ TV Conference System ≫

Other Ministries

≪Local≫

Police Self-Defense Force Firefighters Coast Guard

Nuclear facility rapid response center for emergencies

Commissioner of the NRA

Deputy Director-General of the NRA

Local nuclear emergency response headquarters (OFC)
- Senior Vice-Minister/ Parliamentary Secretary of the Environment
- Deputy Director-General of the NRA

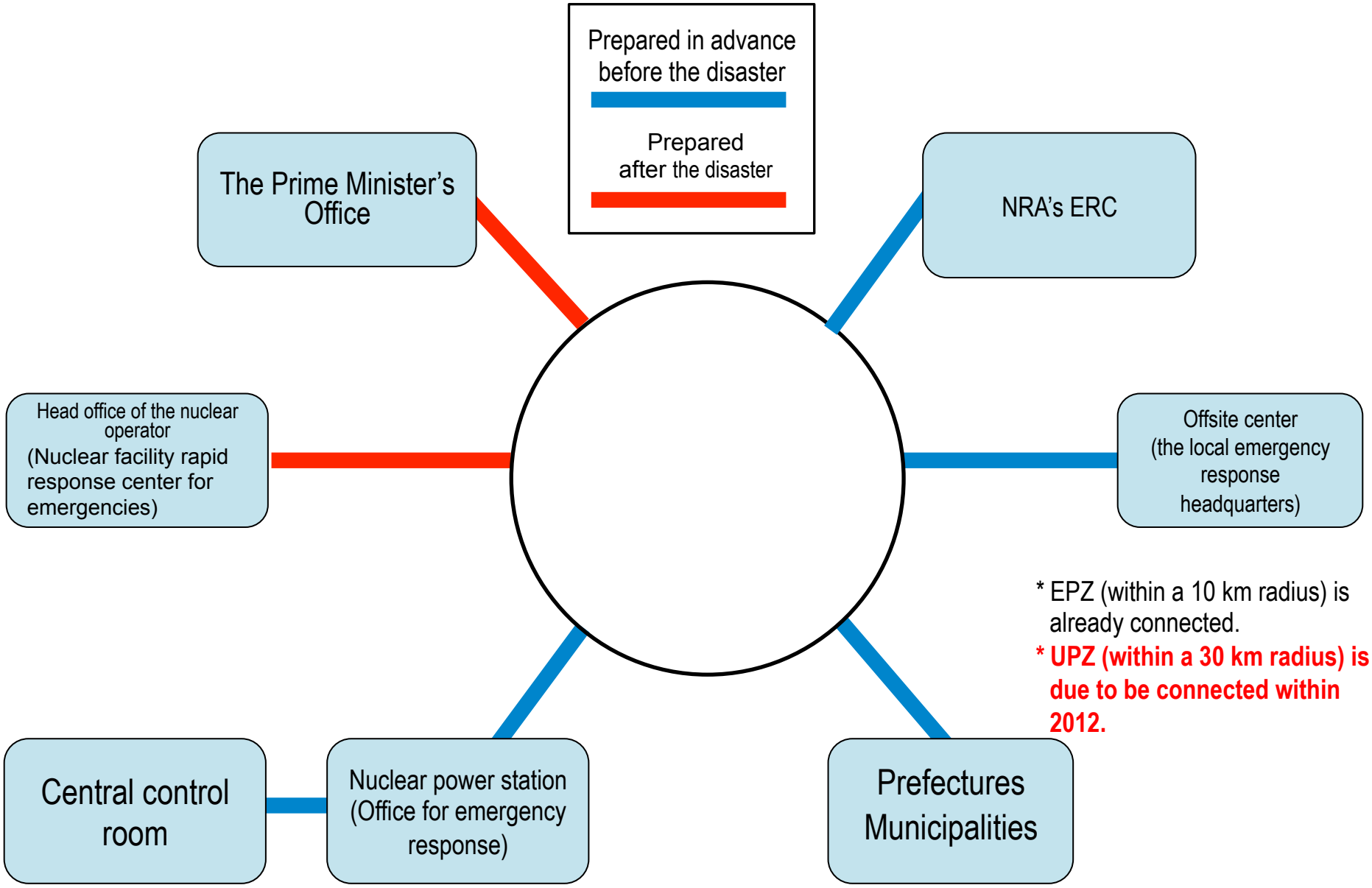
Local Governments

On-Site Response

Off-Site Response

Nuclear Rescue Unit

TV conference system network: Sharing information between onsite and offsite.



* EPZ (within a 10 km radius) is already connected.
* **UPZ (within a 30 km radius) is due to be connected within 2012.**

Reform of Emergency Response (3)
- Local Emergency Response -

3. Handling confusion about command and coordination of local emergency response”

- The bases for on-site response and off-site response were divided.
- In terms of on-site response, the Nuclear Facilities Rapid Response Center for Emergency was established as the base for communication and coordination between the government and the nuclear operator, NRA Commissioners and the Deputy Director-General are dispatched directly to this center to gather information and supervise in an emergency.
- In terms of off-site response, off-site centers’ protective measures against radiation were improved. The Senior Vice-Minister / Parliamentary Secretary of the Environment and the Deputy Director-General are dispatched to command the local emergency response in an emergency.

4. Handling lack of preparedness for severe accidents

- If a nuclear operator cannot deal with an accident by itself, it has the cooperation of organizations relevant to emergency response, such as the police, the Self-Defense Force, firefighters, and the Coast Guard.
- Training drills are implemented to maintain preparedness for complex disasters and severe accidents.
- Nuclear operators are required to maintain “Nuclear Rescue Units” and to carry out training drills to maintain preparedness for a severe accident.

Reform of Emergency Response (4)
- Local Emergency Response -

Emergency Response System (Before)

Nuclear Emergency Response Headquarters (Prime Minister`s Office)

Prime Minister

Minister of Economy, Trade and Industry

Ministries relevant to emergencies (MOD, FDMA, NPA, etc.)

The secretariat of emergency response headquarters (NISA)

Director-General of NISA

Other Ministries

≪TV Conference System≫

Local nuclear emergency response headquarters (OFC)

Local Governments

Vice Minister of Economy, Trade and Industry

Deputy Director-General of NISA

On-Site Response

Off-Site Response

Emergency Response System (After)

≪Central≫

Nuclear Emergency Response Headquarters (Prime Minister`s Office)

Prime Minister

Minister of the Environment

Chairman of the NRA

Secretary-General of the NRA

Ministries relevant to emergencies (MOD, FDMA, NPA etc.)

The secretariat of emergency response headquarters (ERC of NRA)

≪TV Conference System

Cooperate in Emergency Response

Police
Self-defense Force
Firefighters
Coast Guard

≪Local≫

Nuclear facility rapid response center for emergencies

Commissioner of the NRA

Deputy Director-General of the NRA

Local nuclear emergency respon headquarters (OF

Senior Vice-Minister / Parliamentary Secretary of the Environment

Deputy Director-General of the NRA

Executives directly command local emergency responses

Local Governments

Provide the materials and equipment necessary for areas of high-level radioactivity

Nuclear Rescue Units

On-Site Response

Off-Site Response

5. Handling of the insufficient support system for victims of a nuclear disaster

•Establishment of a specialized team to support victims of nuclear disasters.

•Enlargement of emergency planning zones and development of expansive evacuation plans for wide areas of strategic preparedness.

For example:

- Development of prompt evacuation plans in the PAZ (approx. 5 km from a nuclear power station)
- Development of expansive evacuation plans including the surrounding prefectures in the UPZ (approx. 30 km from a nuclear power station)

•Establishment of a system for health consultation-/ surveys and preparation of the necessary measures for decontamination and radioactive waste disposal as long-term measures for after an accident.

Framework to Support Victims of the Accident at TEPCO's Fukushima Daiichi Nuclear Power Station

Nuclear Emergency Response Headquarters (Response to the accident)

Director-General: Prime Minister
Vice-Director-General: Minister of the Environment, the Chief Cabinet Secretary
Minister of Economy, Trade and Industry
Chairman of the Nuclear Regulation Authority

Local Nuclear Emergency Response Headquarter

Director-General: Minister of Economy, Trade and Industry
Vice-Director-General: Vice-Minister of Economy, Trade and Industry

Specialized team to support victims of nuclear disasters (exclusively for supporting victims)

Head: Minister of the Environment, Minister of Economy, Trade and Industry
Deputy Head:
Deputy Chief Cabinet Secretary
Chief of the Secretariat:
State Minister of Economy, Trade and Industry

Ministry of the Environment

Minister of the Environment
Senior Vice-Minister of the Environment
Parliamentary Secretary of the Environment

Fukushima Environmental Restoration Office

NRA

Reconstruction Agency

Prime Minister (Chief of the Reconstruction Agency)
Minister for Reconstruction
Senior Vice-Minister for Reconstruction
Parliamentary Secretary for Reconstruction

Regional Bureaus of Reconstruction (local)

Iwate Regional Bureau of Reconstruction (Morioka)
Miyagi Regional Bureau of Reconstruction (Sendai)
Fukushima Regional Bureau of Reconstruction (Fukushima City)

Rezoning of the controlled areas, etc.

Decontamination (including interim storage facilities)

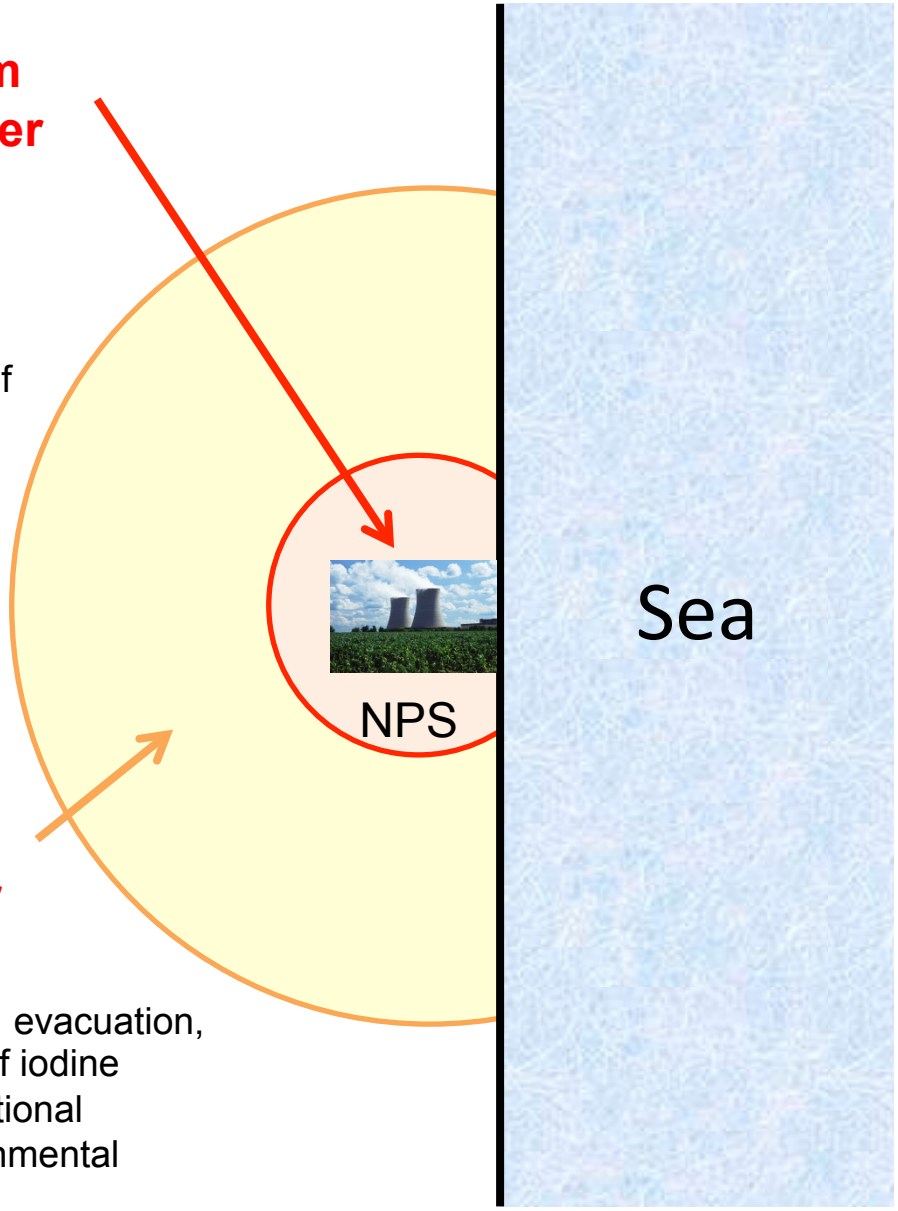
Ensuring safety at Fukushima Daiichi Nuclear Power Station

Recovery and reconstruction of the areas affected by the accident (recovery of area infrastructure)

Visual representation of a PAZ and a UPZ

PAZ (Precautionary Action Zone): an approximately 5 km radius around a nuclear power station

In this zone, residents take swift actions (e.g., evacuation, intake of iodine tablets) based on the emergency action level (EAL) before the potential release of radioactive material into the environment due to a nuclear accident.



UPZ (Urgent Protective Action Planning Zone): an approximately 5 km to 30 km radius around a nuclear power station

In this zone, residents take actions (e.g., evacuation, temporary relocation, sheltering, intake of iodine tablets) based on the EAL and the operational intervention level (OIL) based on environmental monitoring data.

Thank you for your attention