

# **Development of Nuclear Disaster Guidelines for Preparedness, Response and Recovery**

**Red Cross Nuclear Disaster Resource Center  
Japanese Red Cross Society  
National Headquarters**



日本赤十字社  
Japanese Red Cross Society

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# 1. Legal basis

# 1-1. Legal basis for JRCS's nuclear disaster preparedness

## (1) Basic Act on Disaster Control Measures

(Provisional translations)

### ➤ (Responsibility of designated public institutions and designated local public institutions)

Article 6 Designated public institutions and designated local public institutions shall have the responsibility to formulate a disaster prevention plan pertaining to their respective business and to implement it as prescribed by law, and at the same time, to render cooperation in their respective activities to the prefecture, city, town or village in order that the State, prefecture, city, town or village may effectively formulate and implement their disaster prevention plans as provided by this Act.

2. Designated public institutions and designated local public institutions are obligated to contribute through their respective businesses toward the cause of disaster prevention, in view of the fact that their business is for the public good.

## (2) Act on Special Measures concerning Nuclear Emergency Preparedness

### ➤ (Coordination and cooperation among relevant organizations)

Article 6 The State, local governments, nuclear power operators, designated public institutions and designated local public institutions shall cooperate with each other for the purpose of smooth implementation of nuclear disaster prevention measures, nuclear emergency response measures and nuclear emergency recovery measures.

## (3) Disaster Relief Act

### ➤ (Cooperation and obligation by JRCS\*)

Article 15 The JRCS shall cooperate in rescue efforts, given its mission.

2 The State may have the JRCS liaison or coordinate cooperation (excluding cooperation stipulated in Article 8) in rescue efforts by groups other than local governments or individuals under the supervision of the State.

### (Entrustment to JRCS)

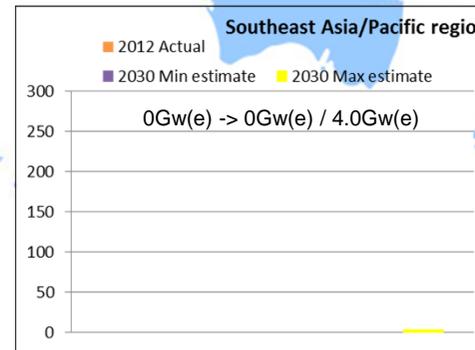
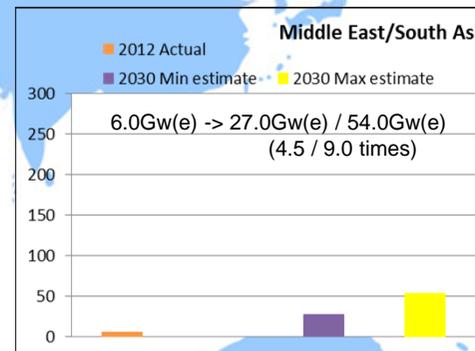
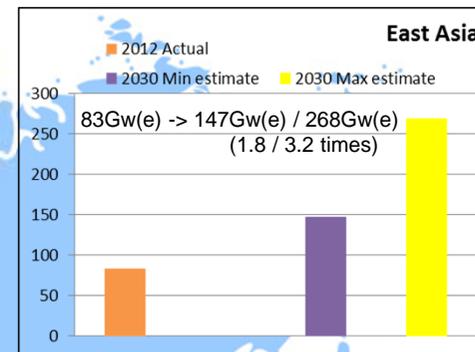
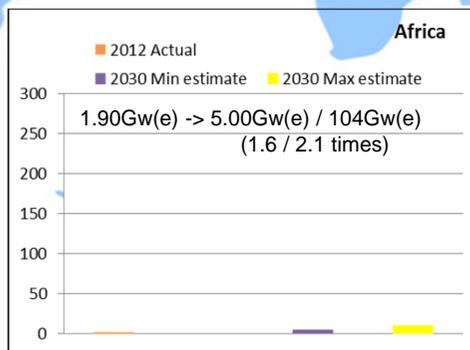
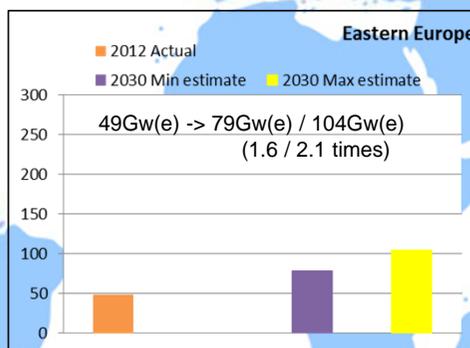
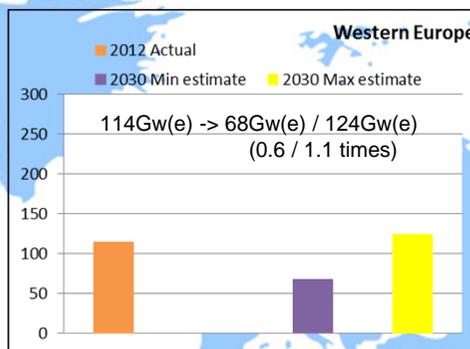
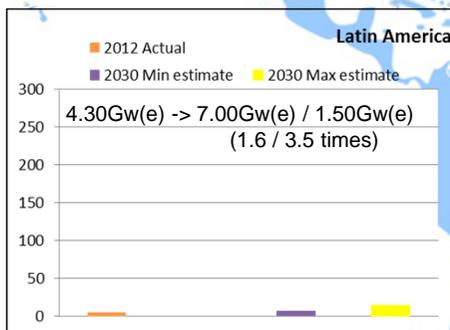
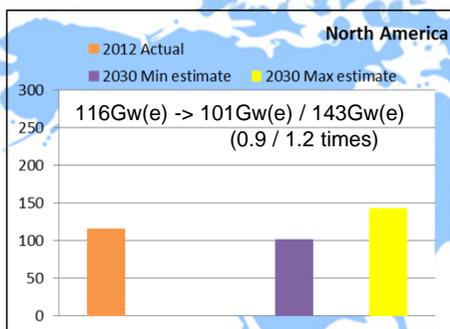
Article 16 Prefectural governors may entrust necessary matters concerning rescue efforts or assistance for the efforts to the JRCS.

## 2. Nuclear power facilities around the world

# 2-1. Nuclear power facilities around the world

- The IAEA estimates that nuclear power generation will increase by about 20% at the minimum and about 90% at the maximum by 2030.
- This is equivalent of 60-350 reactors of 1 million-kw level more than today. Particularly, the number is expected to sharply rise in East Asia, Eastern Europe, the Middle East and Southern Asia.

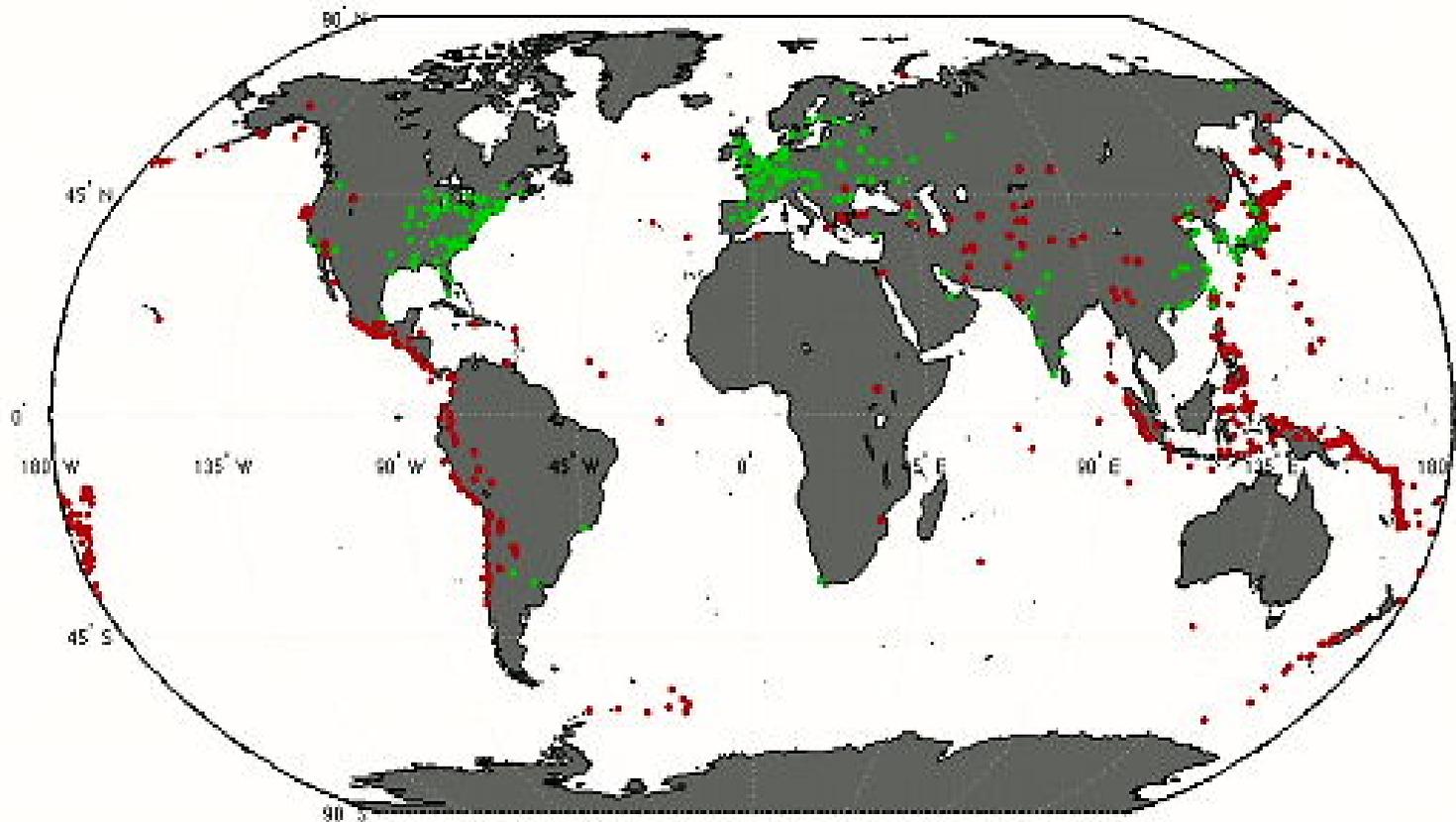
Unit: Gw(e)  
(1 million kw)



Source: IAEA  
Nuclear Power Reactors in the World  
2013 Edition

## 2-2. NPP locations and earthquake epicenters

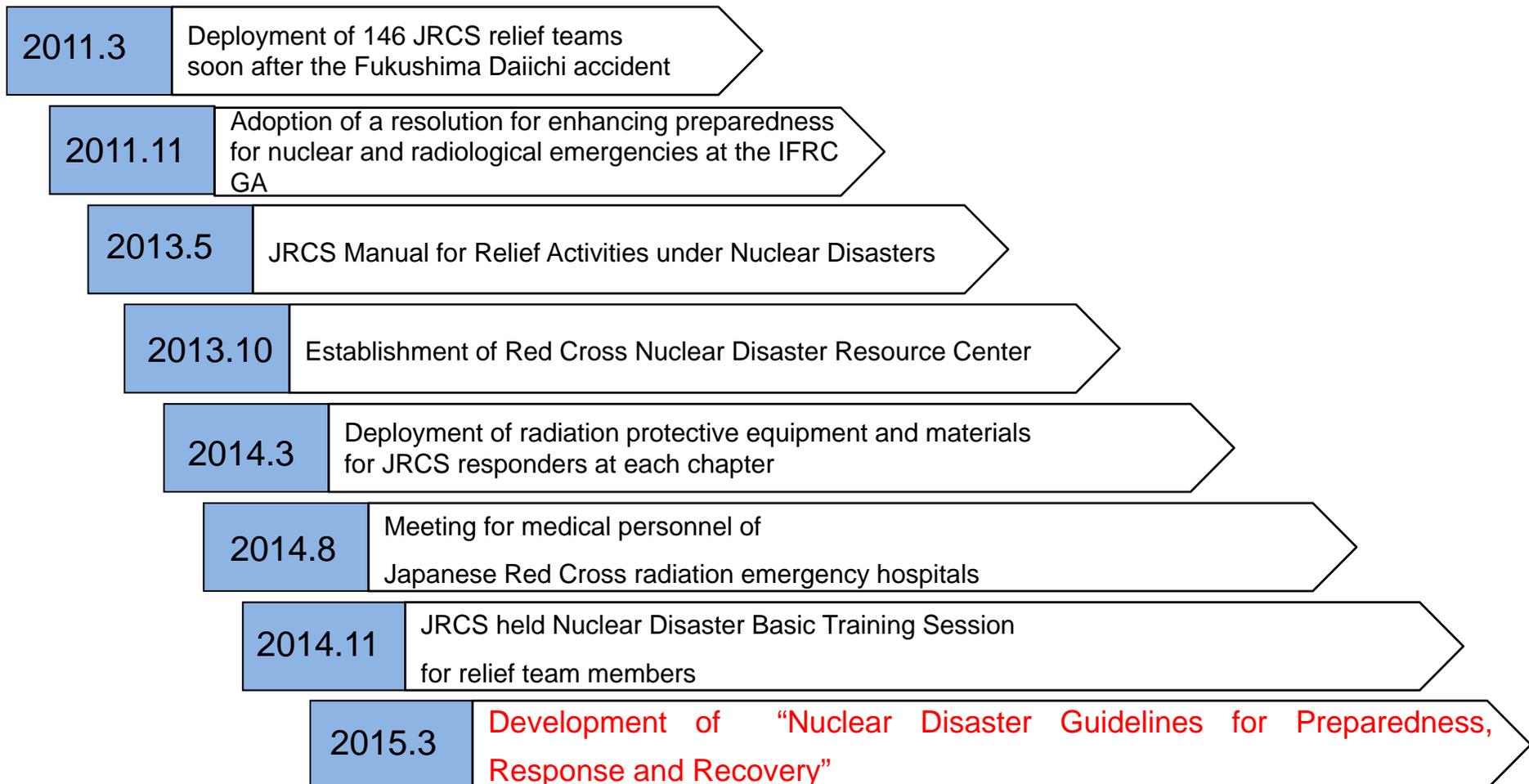
- After the Fukushima Daiichi Nuclear Power Plant accident, researchers at MIT in the U.S. prepared and released a map with NPP locations and epicenters of 1973 – 2010 earthquakes.
- **Green dots:** 222 commercial NPPs around the world.
- **Red dots:** 520 earthquakes of more than magnitude 7.0 which occurred from 1973 to 2010.



### 3. Nuclear Disaster Preparedness by the JRCS

## 3-1. Nuclear Disaster Preparedness by the JRCS

The JRCS has made efforts to prepare for nuclear disasters based on the lessons learned from the Fukushima Daiichi accident, and a resolution on “preparedness to respond to the humanitarian consequences of nuclear accidents” adopted at the General Assembly of the IFRC in November 2011.



# 4. Nuclear Disaster Guidelines for Preparedness, Response and Recovery

## 4-2. Development of Guidelines

The experiences and reflections of the activities conducted soon after the Fukushima Daiichi accident.

Lack of knowledge on radiation, equipment and materials; no safety guidelines for staff, etc.



**“Nuclear Disaster Guidelines for Preparedness, Response and Recovery” was developed.**

i.e. JRCS’s guidelines during activities in the event of a nuclear disaster (March 2015)

### <Purpose>

- To protect lives, health and safety of affected people;
- To protect safety of responders.

### <Target audience>

- JRCS staff;
- JRCS volunteers, etc.

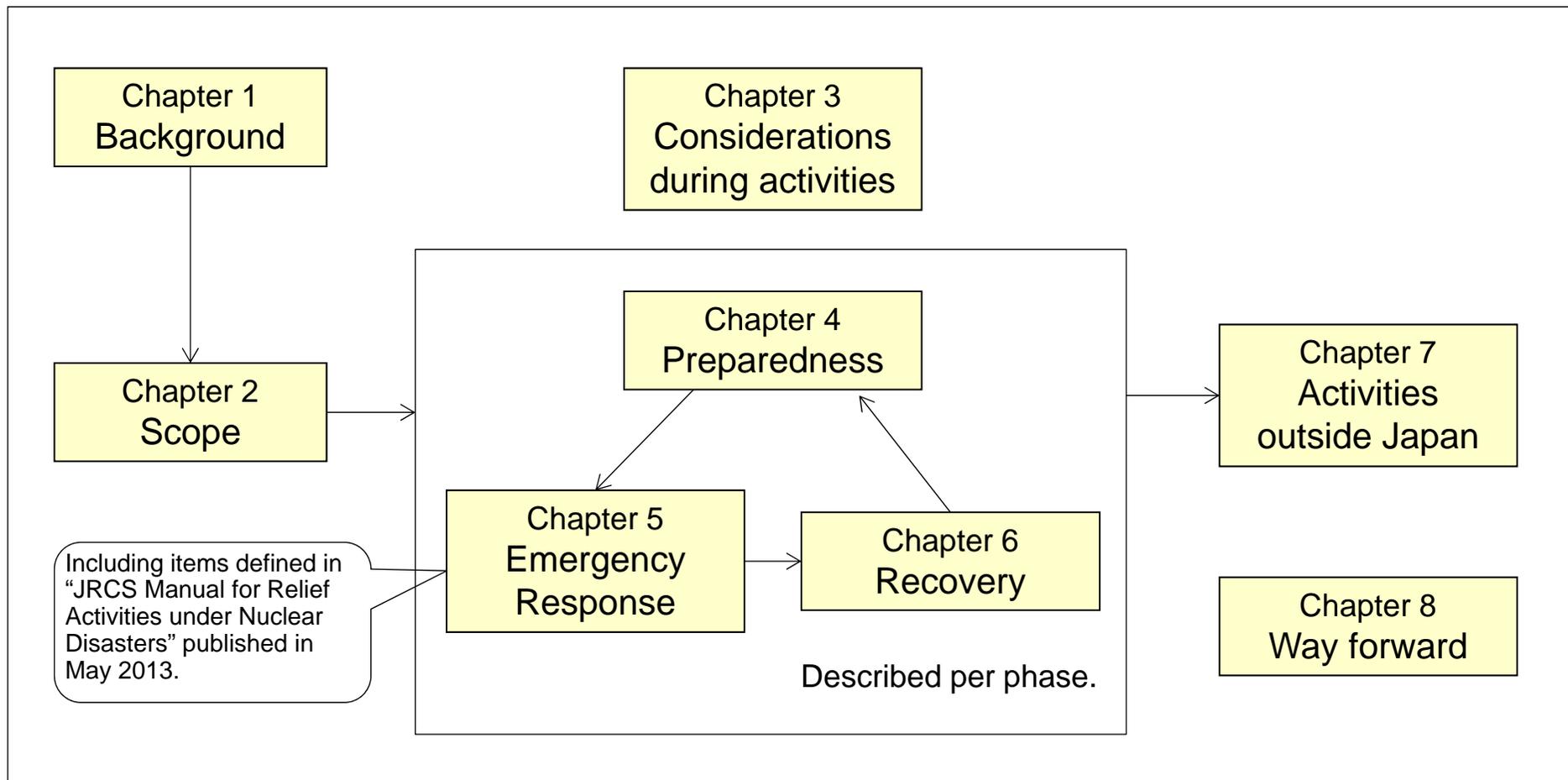
### Committee for the Guidelines

- Consists of experts outside of JRCS (physicians and radiological technologists, etc.) and JRCS staff who engaged in relief activities. 11 members in total;
- Had discussion from March to December 2014.



## 4-3. Outline of the Guidelines

- The guidelines consist of 8 chapters.
- Activities are categorized in 3 phases: Preparedness; Response; and Recovery.



## 4-4. Ensuring Responders' Safety

### 1) Activity area management

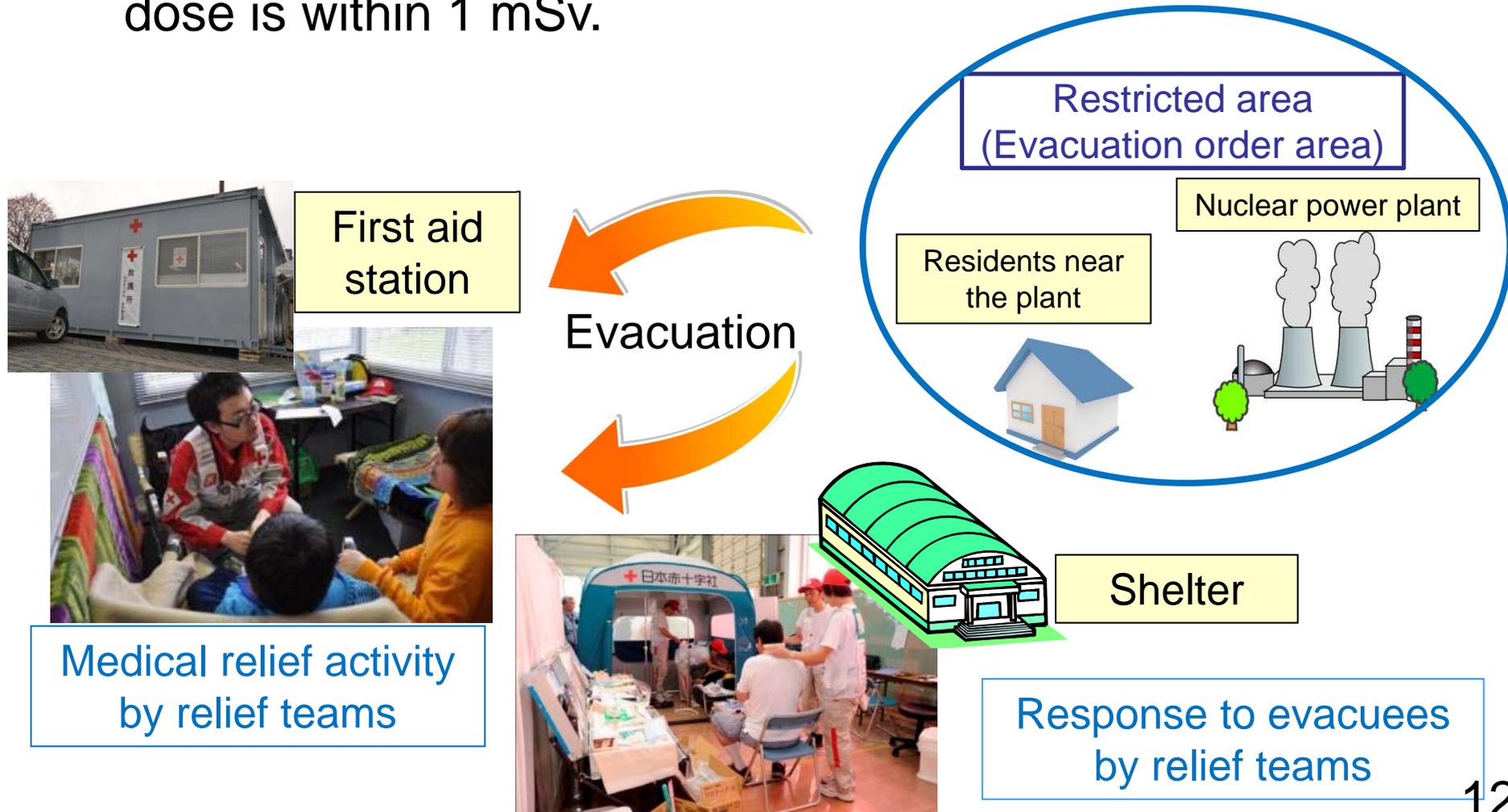
- General responders shall not conduct relief activities in any evacuation order area in accordance with the Japanese government's code of conduct.
- However, JRCS blood service and radiation emergency medical care need to be taken into consideration, in order to continue medical care for patients who temporarily stay in area where ambient radiation dose rate is high.

### 2) Radiation dose management for responders

- The JRCS manages radiation dose of each responder in order not to exceed the exposure limit defined.
- If the radiation dose of a responder could exceed the limit, the JRCS arranges a replacement.
  - ➡ Cumulative radiation dose for each general responder during an activity period shall not exceed 1 mSv.
- However, this safety standard is not applied to JRCS radiation emergency medical care personnel or JRCS blood service personnel.
  - ➡ For radiation emergency medical care personnel: 50 mSv/year  
For JRCS blood service personnel: 20 mSv/year

## 4-5. Code of Conduct for Relief Team

- Conduct activities outside of “restricted area (evacuation order area)” where the public are not allowed to enter.
- Conduct activities as long as the cumulative radiation dose is within 1 mSv.



### Deployment of radiation emergency medical care advisors

- In order to conduct relief activities safely and properly under a radiological environment, radiation emergency medical care advisors will be deployed at the headquarters of disaster control at the affected chapter and JRCS headquarters.
- The headquarters will issue necessary orders to related chapters based on the request from the affected chapter and advice from the radiation emergency medical care advisors.
- The affected chapter will make a decision on policy for relief teams' deployment based on advice from the radiation emergency medical care advisors, and manage radiation exposure possibility of each responder.

### Assignment of radiation emergency medical care advisors

- Radiation emergency medical care advisors for JRCS headquarters
  - ✓ Specialists in radiation and radiological technologists working at JRC atomic-bomb survivors hospitals in Hiroshima and Nagasaki
- Radiation emergency medical care advisors for affected chapters
  - ✓ Specialists in radiation and radiological technologists working at JRC hospitals designated as radiation emergency hospitals (including Fukushima Red Cross hospital)

# 4-7. Way Forward

## (1) Sharing and dissemination of the guidelines

For staff of JRCS chapters, facilities (especially in prefectures with NPPs), volunteers, national and local governments, external organizations.

## (2) Education and training (Developing human resources)

Basic training mainly for relief team members; specialist training at radiation emergency medical care advisor meetings.

## (3) Take actions for items in “Challenges to be Considered” (published separately).

Work on the challenges, item by item according to the priority. The results will be reflected in the guidelines when revising.

### **Challenges to be Considered Based on the Discussions at the “Guidelines for Red Cross Activities during Nuclear Disasters Committee”**

- (Major items)
- Communication during a disaster (Risk communication)
  - Response to people requiring special consideration
  - Assistance to affected populations, etc. who temporarily have to stay in evacuation order areas
  - Efforts for securing the safety of JRCS responders (Staff in affected area)
  - Evacuation, etc. of JRC facilities
  - Assistance to Sister Red Cross and Red Crescent Societies

## 5. Reference

# 5-1. Draft for JRCS's Training System for Nuclear Disaster Response

	2014	2015	From 2016
Nuclear disaster response basic training	Organized by HQ Twice per year	Organized by HQ Twice per year (Sep. 2-3 & Nov. 5-6)	Planning to be transferred to each Block
Radiation emergency medical care advisor meeting	Trial meeting organized by HQ	Organized by HQ Twice per year (Jul. 22-23 & Dec. 3-4)	Organized by HQ Twice per year
(Tentative name) Committee for nuclear disaster preparedness		Trial meeting by HQ (To be held in January 2015)	Organized by HQ Once per year



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<http://ndrc.jrc.or.jp/?lang=en>

