



“Importance of world’s sharing the lessons of the accident and utilising them to enhance safety

WANO actions after Fukushima”

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# Summary of the Presentation

1. Nuclear Industry Evolution / WANO
2. WANO after Fukushima : Safety assessments
3. WANO after Fukushima : Renewed WANO
4. International cooperation
5. Conclusion


# Nuclear Industry Evolution / WANO

T.M.I. → INPO (1979)

+ modifications mainly in western Europe

Chernobyl → WANO (1989)

+ modifications mainly in Russia & Europe



To maximise the safety and reliability of nuclear power plants worldwide by working together to assess, benchmark and improve performance through mutual support, exchange of information, and emulation of best practices.



**WANO** mission

# Nuclear Industry Evolution / WANO

T.M.I. → INPO + modifications in western Europe

Chernobyl → WANO + modifications in Russia & Europe

Fukushima → IAEA action Plan

→ WANO BGM Decisions

→ Reaction in Japan

& nuclear international community

# Nuclear Industry Evolution / WANO

## 26 months after Fukushima

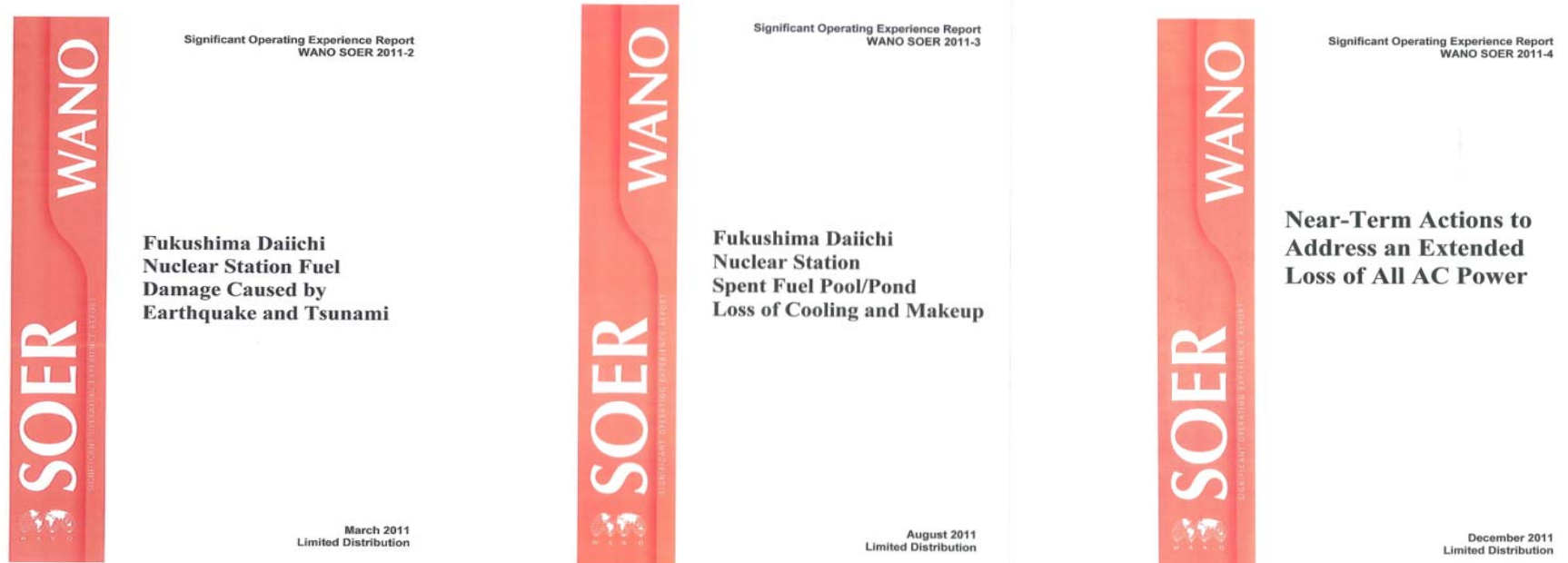
- Public trust strongly shaken
- Reviews of global nuclear fleet performed in most of the countries (stress tests)
- Many decisions enhancing global nuclear safety, including:
  - Upgrading safety procedures & equipment
  - Setting up rapid response forces (mitigation)
  - Reviewing nuclear safety organisations
- Aggressive programmes to build new units (Asia) but also phasing out of nuclear power (Germany)
- Situation in Japan:
  - 48 units are still shutdown
  - NRA (New regulation expected for July 2013)
  - JANSI

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# WANO after Fukushima: Safety assessments

WANO issued a first SOER 6 days after Fukushima

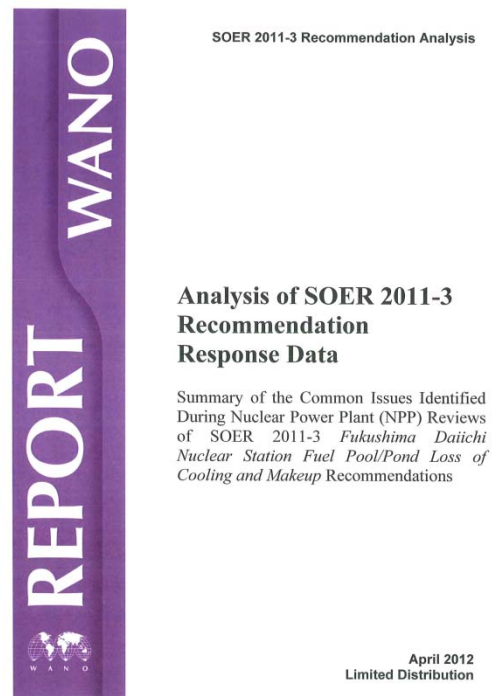
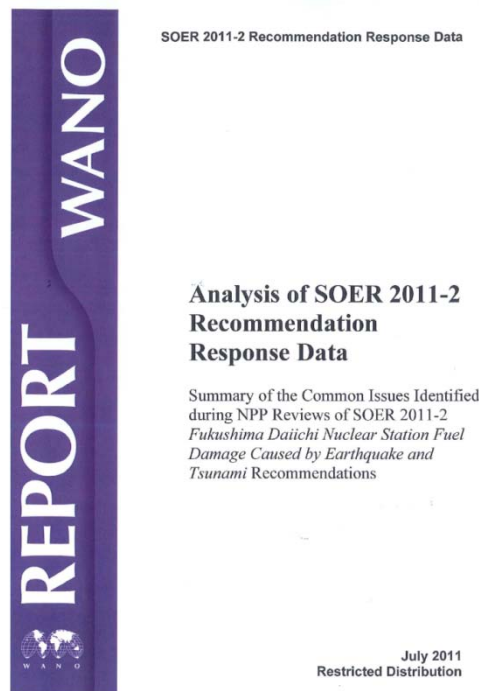


WANO will soon issue a fourth SOER on organisational and human performance issues



# WANO after Fukushima: Safety assessments

All WANO members responded to SOERs. WANO analysed the answers, issued reports, made recommendations. Some are mandatory and are checked during Peer-Reviews.



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## WANO after Fukushima : Renewed WANO

WANO set up a “Post Fukushima Commission” with 15 CEO members.

5 recommendations have been approved by the Board and unanimously adopted by the General Assembly during the Shenzhen Biennial General Meeting

These recommendations drive WANO to the following evolutions

## WANO after Fukushima : Renewed WANO

### Expand the scope of WANO

- ❑ Mitigation & Emergency Preparedness
- ❑ Design : Periodic safety re-assessment & permanent improvement process
- ❑ Spent Fuel Pools & dry storage on sites

# WANO after Fukushima : Renewed WANO

## Improve the Event Response Strategy

- Severe accident management
- Emergency organisation in cooperation with the IAEA & INPO
- Real time event communication

# WANO after Fukushima : Renewed WANO

## Increase the Credibility

- Quality & scope of Peer Reviews
- Corporate PR within 6 years
- Frequency of PR from 6 to 4 years
- Assessment of the plants (grade)

# WANO after Fukushima : Renewed WANO

## Increase the Visibility & Transparency

- Overall communication strategy
- WANO Year-End Reports
- WANO Centres Year-End Reports
- Transparency within WANO
- Transparency with the Public

# WANO after Fukushima : Renewed WANO

## Increase the Consistency

- Assessment of 4 Regional centres & WANO London Office
- Equivalency of reviews (with IAEA, INPO & JANSI, ... evaluations)



## WANO after Fukushima : Renewed WANO

### Increase WANO Resources

In 1989 : 120 staff (<0,3 / unit)

In 2010, after Delhi : 150 staff (0,35 / unit)

In 2014 / 2015 : >400 staff (0,85 / unit)

In parallel : increase of quality of reviewers & team leaders

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# International Cooperation

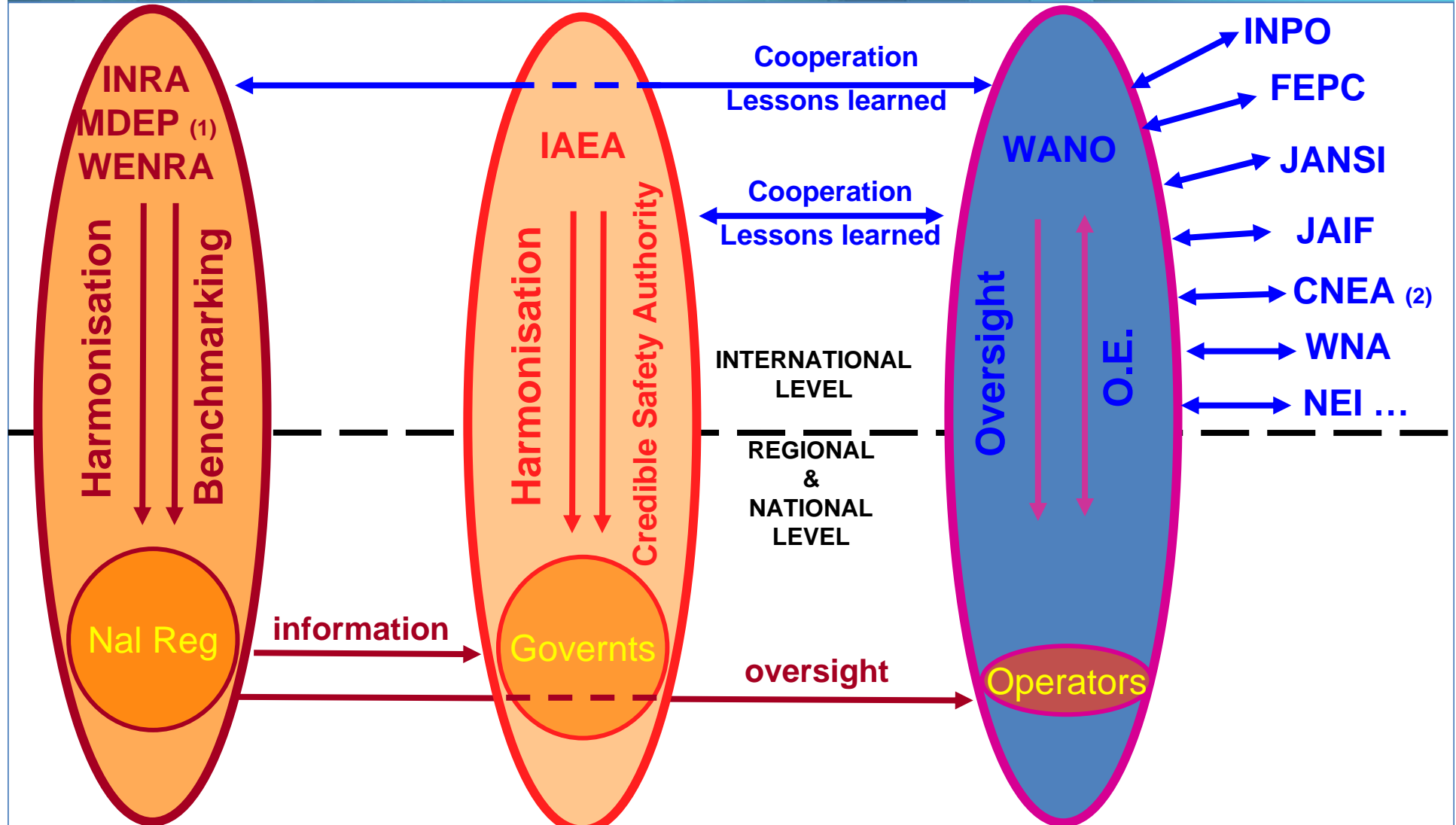
## 17/09/12 MoU between the IAEA and WANO



# International Cooperation

- Revised IAEA – WANO MoU signed September 17
- MoU** calls for cooperation in several important areas:
  - Exchange of peer reviewers
  - Performance indicators
  - Coordination in the scheduling of OSART missions and peer reviews
  - Exchange of some information
    - WANO access to IAEA events database
    - IAEA access to SOER recommendations
  - Coordination meetings twice each year
  - Coordination during future serious events
- Cooperation with **INSAG**
  - WANO is a participant at all INSAG meeting
  - WANO plans to work closely with INSAG on an IAEA Fukushima report
- Participation of WANO in the **ITAG** (International Technical Advisory Group)

# International Cooperation



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## Conclusion

### Risks remain!

- Risk of loss of public trust
- Risk of loss of trust of nuclear workers
- Risk of isolationism of some operators
- Risk of complacency & over-confidence of some operators

## Conclusion

Safety is necessary to recover trust

Operators have individual & collective responsibility

Safety is only as strong as the weakest operator

WANO has a vital role to play in addition with other organisations



# Conclusion

World landscape has changed

Worldwide energy mix has changed

Nuclear energy acceptance has changed

WANO must adapt

Moscow 1989 → Moscow 2013

# Conclusion

Internal cooperation is an absolute necessity in the future

CEOs' involvement is a key factor to enhance nuclear safety company-wide

## Conclusion

### **International Cooperation**

**IAEA, INPO, JANSI, ...**

**Open mind to learn from each other  
& avoid isolation**



**High level of Safety**

## Conclusion

**CEO Responsibility / involvement**



Send adequate & skilled Resources to both WANO &

JINSI



Efficient programmes (Peer Reviews, Technical Support Missions, Operating Experience...) performed by skilled Experts & Engineers



A better use of these programmes to  
**improve Safety**

## Conclusion

### Strengthened support from WANO to the JNOs

- ➔ Long term shut down & Restart reviews in Japan
- ➔ Reinforcement of WANO Tokyo Centre workforce including additional experts from other Regions
- ➔ WANO participation to the JANSI International Advisory Group and Technical Review Group

## Conclusion

### **Nuclear acceptance shaken by Fukushima**

**Credibility of Operators, responsible for safety**

➔ **Skills & Transparency, no over-confidence**

**Credibility of Regulators :**

➔ **Independence**

**International cooperation :**

➔ **No isolation, no complacency**

**High level of Safety :**

➔ **recover the public trust !**

## Conclusion

We all rely on each other to improve safety!



**W A N O**

<http://www.wano.info>