



IRPA 13

**Public reactions to Fukushima
Accident and its implication in
Nuclear Safety and Risk
Communication**

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Contents

- ❑ Reactions observed in Korea
- ❑ Implication



KOREA

- Country of the next door to Japan
- Last country the radioactive plume expected to reach due to prevailing wind-direction

Passage of contaminated air



Public Concern in Korea

- Government explanation: Safe by virtue of the **wind direction**
 - Public: **What if wind direction changes?**
-

My Argument



- Potential dose to Korean even under East wind: **<0.1 mSv**
 - analogy of Chernobyl (Sweden, W, Germ)
 - Cf: airline route dose (Seoul-NY roundtrip: ~0.1 mSv)
- Real danger: **Over-reaction**
 - Increased abortion in European countries in 1986: many thousands

Watch out **Media Tsunami** !

Curiosity kills

Situations Developed

- Tone of media reports: milder than expected
 - Still **intensive coverage** → Itself grows fear
- All sort of stories in **network space**
 - Internet sites, blogs
 - SNS(twitter, Facebook,...)
 - Simple relay of ungrounded content



Activity Detected in Korea

□ Air

- I-131: ~1 mBq/m³,
less Cs-137

Cf: Mean outdoor Rn concentration: 20~30
Bq/m³

□ Rain

- I-131: 1Bq/L

Cf: normal ⁷Be level ~3 Bq/L

Over-reactions

❑ **Radioactive rain!** on title lines

❑ Tsunami of public inquiry

- What if get wet?
- Can eat fish?
- What about babies?
- Accumulation in body?
- How to protect?



❑ Elementary schools in Gyunggi province were closed on a rainy day

Over-reactions



❑ Sold out of

- bottled drinkingwater, brown seaweed, sun-dried salt
- masks

❑ Looking for KI tablets

❑ Stop import of foodstuff from **Japan** (consumer driven)

* Anti-nuke activities tickling
the deep-seating fears



Car stickers distributed
by activists

Avoid Radioactive Rain !

**Children, Teens, Pregnant women need
particular cautions**

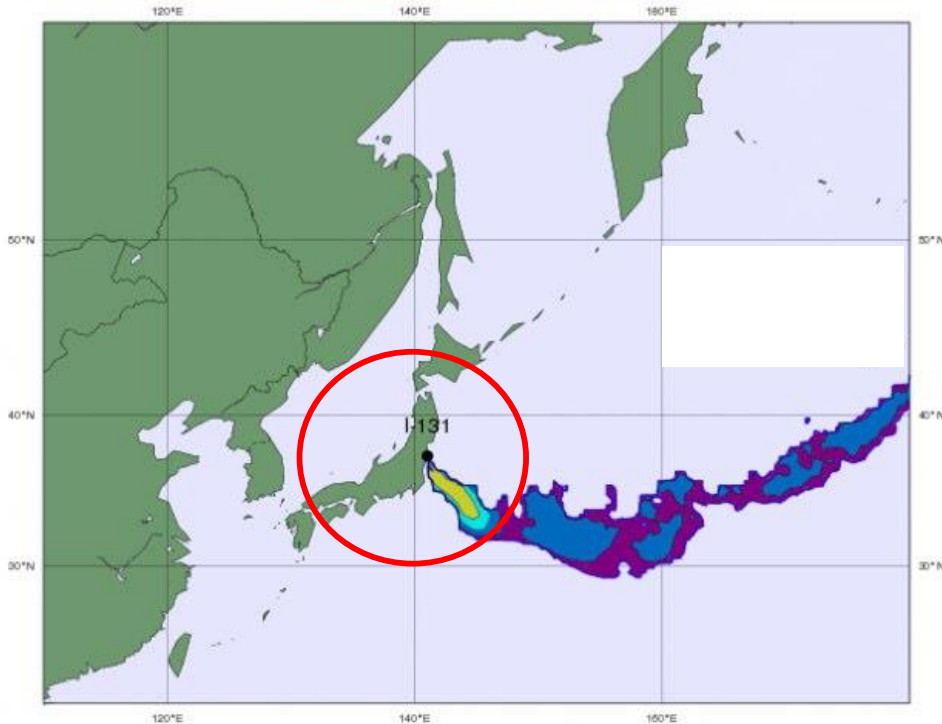
Implication

What if East wind in Japan?

AKW_FUKUSHIMA-I-131

20110317-220000

Plume (units m^{-3}), Release: $0.10E+19$ Units



- Situation might be far worse
- Significant contamination on large part of the populated territory
- Still direct radiation health effects may be tolerable

The **Real Threat** to a Small Country (Japan, Korea)

Contamination of virtually whole territory
(e.g. some 100s kBq/m²)

- Difficulty in food supply
- **Stigma** → severe blow to export and tourism
- Social disruption
- Shortage of electricity
- **Escape of foreign capital**

 **National Crisis**

Foodstuff issue

- ❑ Post Chernobyl Provisions to prevent unjustifiable trade barrier: CODEX criteria
- ❑ **Consumers** drive away **any** imported foodstuff of extra radioactivity



Noticing stop selling fresh walleye pollack imported from Japan

Activity criteria for foodstuff

□ Imported foodstuff

- International/Inter-governmental criteria simply do not work.

□ Domestic produce

- Reference levels should be set under the particular situation (level, area size, alternative): **No meaning of preset values**

Similar problems for other goods

Dynamics

Radiological event



Nation in jeopardy



Stigma

Ripple effect of
social amplification

Deep seating fear

Mis-perception of radiation risk



Key factor

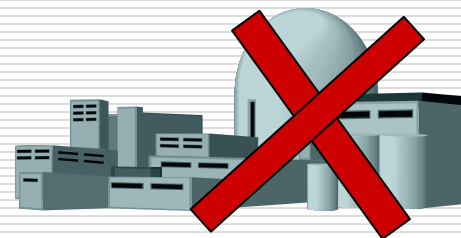
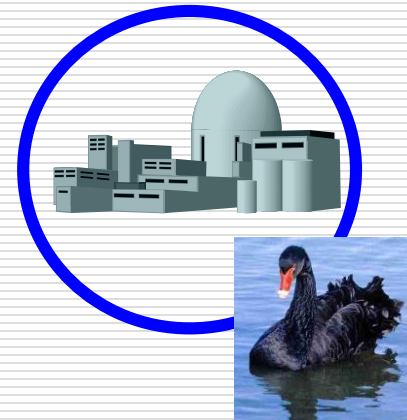
Future of Nuclear Power?

Nuclear power under
current perception

Put a nation on the
last extremity

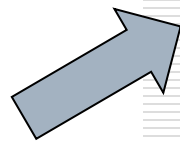


Absolutely
safe NPPs?

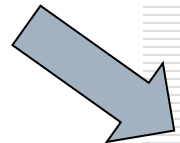


Live with
no nukes?

To live with nuclear power



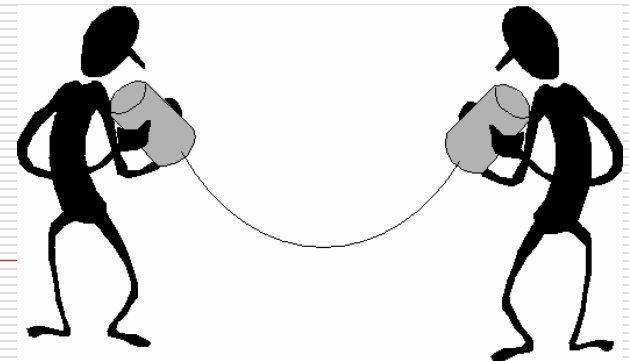
Safer NPPs



**Reform
public perception**



Filtered vent to hold Cs



Sole problem of NNPs?

No!

Radiological Attacks

- Dirty bomb (RDD)

- IND

Dilemma: How to reform?

In normal time

- No interested audience

Under emergency

- Would not listen (because of **rage**)
- Wrongful information runs fast

Not a simple task at all

What should be done?

- Needs Global actions for effective communication
 - Serious stigma: international trade
 - Calls for trusted leadership
 - Needs proportionate resource
 - Experts
 - Participate
 - Think **hard** how to give **effective message**
-



A small plant on a table at the access control facility in the J-village, Fukushima
