

The Finnish iodine prophylaxis approach during the TEPCO Fukushima Dai-ichi accident

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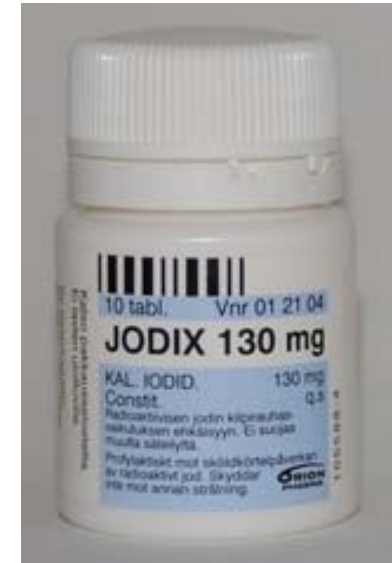
Radiation and Nuclear Safety Authority (STUK)

Helsinki, Finland

Iodine prophylaxis policy in Finland (1)

Iodine tablets are widely available

- iodine tablets are pre-distributed in the precautionary action zone (radius 5 km) of the nuclear power plants; within urgent protective action zone (up to distance of approx 20km) they are available e.g. in schools and nurseries
- iodine tablets sold in pharmacies in the whole country



Iodine prophylaxis policy in Finland (2)

Thyroid blocking with stable iodine (ITB) is a complementary measure to sheltering indoors in situations where there is radioactive iodine in the air.

Dose criteria

- Adults: thyroid dose estimated to be over 100 mGy
- Children under 18 and pregnant women: thyroid dose estimated to be over 10 mGy

Operational intervention levels of ITB

- Adults: external dose rate is or is anticipated to be higher than 100 $\mu\text{Sv/h}$
- Children under 18 and pregnant women: external dose rate is or is anticipated to be higher than 10 $\mu\text{Sv/h}$

STUK's emergency organisation during Fukushima accident


Management




Secretariat



Accident assessment



Radiation consequences



Advise to Stakeholders



Public information



About 70 persons of STUK's staff participated , 24/7 operations for three weeks

Information collection

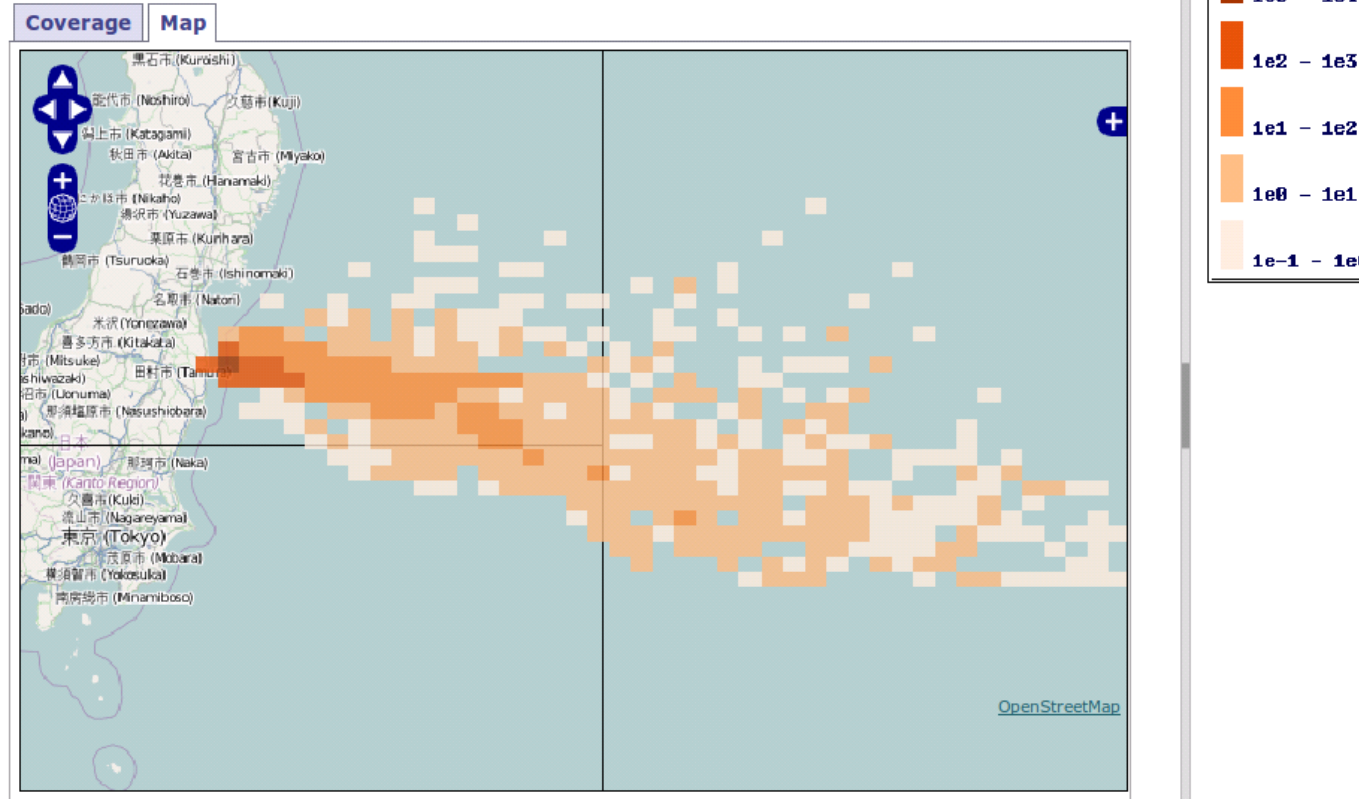
- **Directly from Japan**
 - Nuclear expert was available in the Tokyo Embassy; in addition, two radiation and nuclear safety experts were sent from Finland to assist in collection and transmission of information
 - Contacts with Japanese nuclear safety organisation (NISA)
- **Information published by media**
- **Background information concerning Fukushima facilities**
 - STUK had an interpreter for two weeks to assist in translation of information available in Japanese only
- **Information from reports issued by the IAEA**



Dispersion calculations with four different scenarios four times per day

Elinannos aikuisten kilpirauhasessa hengityksestä

2011-03-20 12:00:00 UTC (35.0 hours since start time)



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Finnish Emergency Response Information
Säteilyturvakeskuksen tilannetiedot poikkeavista tapahtumista



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- Press releases
- Radiation situation in abroad
- Radiation situation in Finland

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Background information

(general, maps...)

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Archive

Event	Title	Subtitle/Attached files	Published UTC time
Fukushima	Radiation situation in Finland	Activity concentrations of airborne radioactive substances in Finland (until 18.4.2011)	2011-04-20 18:25
Fukushima	Event descriptions, countermeasures	Summary of decisions and recommendations concerning Finns	2011-04-15 13:55
Fukushima	Radiation situation in Finland	Activity concentrations of airborne radioactive substances in Finland (until 14.4.2011)	2011-04-15 12:18
Fukushima	Meteorology and dispersion	Dispersion calculations for a scenario concerning venting of the containment through dry-well 1.4.2011	2011-04-01 14:22
Fukushima	Meteorology and dispersion	Dispersion calculation for different scenarios 25.3.2011	2011-03-25 16:14
Fukushima	Radiation situation in abroad	STUK's measurement data at Narita airport (Tokyo) 24.3.2011	2011-03-25 12:00
Fukushima	Meteorology and dispersion	Dispersion calculations for different scenarios 24.3.2011	2011-03-24 15:38
Fukushima	Radiation situation in abroad	STUK's measurement data at Narita airport (Tokyo)	2011-03-24 12:25
Fukushima	Radiation situation in abroad	STUK's measurement data at Narita airport (Tokyo)	2011-03-23 18:19
Fukushima	Meteorology and dispersion	Dispersion calculation for different scenarios 23.3.2011	2011-03-23 17:05

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Daily safety reports were prepared by STUK

Contained information on

- Ongoing and anticipated events at the Fukushima site
- Possible consequences and evaluations of existing and anticipated radiation situation

Reports were utilized especially by

- The Finnish Ministry for Foreign Affairs
- The FINNAIR airline flying daily to Tokyo

Distribution of iodine tablets to Finnish citizens in Japan

Background

- In Japan, there were approx 600 Finnish citizens, closest persons at a distance about 100 kilometres from the Fukushima site

Finland's Embassy in Tokyo was a key player

- 700 iodine tablets were transported to Tokyo on a flight leaving Helsinki on Saturday March 12, 2011
- Embassy collected actively contact information of all Finnish citizens in Japan
- Those willing to have an iodine tablet could get it from the Tokyo Embassy, some tablets were sent by mail, too.

Note ! Only one tablet per person with advice to follow recommendations given by Japanese or Finnish authorities

Special arrangements for rapid decision making on ITB

In Finland, decisions concerning intake of stable iodine are made by the Ministry of Social Affairs and Health; STUK gives recommendation on need for ITB.

During Fukushima accident special arrangements were agreed in case of an urgent need for ITB in Japan

- STUK would have given its recommendation for ITB directly to the Crisis Centre of the Ministry for Foreign Affairs => rapid transmission of message to the Finland's Embassy in Tokyo
- Instructions concerning ITB to Finns in Japan from the Tokyo Embassy by SMS, Facebook and www pages; STUK provided content of instructions
- the Ministry of Social Affairs and Health would have afterwards given its confirmation on ITB

Co-operation with Sweden on ITB

- SSM informed STUK well in advance on their considerations concerning ITB for Swedish citizens in Japan
- STUK informed relevant counterparts in Finland; special arrangements were made to answer possible questions from media or citizens
- STUK's press release on ITB was issued simultaneously with Sweden's press statements

The screenshot shows the STUK website interface. At the top left is the STUK logo with the text 'Suomeksi | In English' and 'StukLex-författningssamling'. To the right is a Google Site Search box with a 'Sök från STUK.fi' button and a 'Sök bara publikationer' button. Below the search box is a navigation menu with buttons for 'Startsidan', 'STUK', 'Strålning', 'Strålrisk', 'För användarna av strålning', 'Kärnsäkerhet', 'Forskning', 'Tjänster', 'Publikationer och bestämmelser', and 'Ta kontakt'. Below the menu is a breadcrumb trail: 'Du är här: Hem > STUK > Meddelanden > Meddelanden 2011 > Finländare i Japan behöver inte ta jodtabl'. The main content area features a green heading: 'Finländare i Japan behöver inte ta jodtabletter (meddelande kl. 19.50)'. Below the heading is the date '19.3.2011' and the text: 'Enligt Strålsäkerhetscentralen har finländare i Japan inte orsak att ta jodtabletter. Jodtabletter behövs enbart när det finns mycket stora mängder radioaktivt jod i luften. För tillfället släpps jod ut ur Fukushima kärnkraftverk när man sänker trycket i reaktorinneslutningarna genom att blåsa ut ånga. Om läget vid anläggningen inte förvärras, kommer mängden av jodutsläpp sannolikt inte att ändras väsentligt från nuläget.'

Very limited reaction from media or citizens in Finland!

Communication, cooperation and coordination of actions will be tested in March 2013

- Finland will host a joint Nordic - Baltic exercise on March 14, 2013; accident site Loviisa nuclear power plant**
- Full command post exercise: all relevant emergency response centres in Finland will be activated**
- Communication and cooperation arrangements established for emergencies among Nordic and Baltic countries will be used**
- Communication through “diplomatic routes” i.e. administration of foreign affairs**

Thank you for your attention !

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