



# **Voluntary Radiation Measurement Team**

NSFS Conference 2019

Jukka Sovijärvi, STUK

# Background, situation 1/2017

- In case of a large scale radiation emergency there is huge need for radiation measurements. It's obvious that STUK's own staff is not enough especially in long lasting situations.
  - Nuclear explosion in Finnish territory or within 1000 km distance
  - NPP accident in Finland or in neighboring countries (i.e. Kola, Leningrad, Forsmark)
  - Dirty bomb scenarios
- During the last decade the number of reservists without war-time position has increased (because the size of the war-time army has decreased from app. 500000 to 280000 within 20 years).
- According to the questionnaire reservists are however willing to support the authorities on voluntary basis.
- Several pilot-projects in different phases around the country dealing with e.g.
  - Metro station emergency shelters
  - Evacuation arrangements
  - Regional emergency command posts

# Beginning

- The idea was born on January 2017
- First project group meeting in STUK May 2017. Representatives from
  - The National Defense Training Association of Finland
  - National Emergency Supply Agency
  - The Finnish Reserve Officers' Federation
  - Helsinki City Rescue Department since the autumn 2018
- STUK's management group meeting May 2017
- Briefings of pilot project were arranged on October 2017 ja on January 2018



# Team organization

- The voluntary radiation measurement team consists of about 40 persons divided into three measurement groups and one supporting group.
  - Team leader (1)
  - 3 measurement groups (27)
  - 1 supporting group (9)
- In total about 100 persons will be recruited and trained to be able to quickly form the team when ever needed.

# Principles of usage

- Team is anticipated to start measurements within 24 hours after demand
- A group of nine persons is the smallest unit to be used independently
- Team member status is "emergency helper"
- Team carries out measurements from/during the intermediate phase of an emergency
- Focus on radiation measurement of people, especially external contamination measurement



# Training program

- A pilot course was held on spring 2018 (two weekends from Friday evening to Sunday evening). 20 participants.
- Based on the experience from the pilot course. Basic training courses were arranged on autumn 2018 and spring 2019. App. 30 participants per course.
- Repetition/advanced courses and practical exercises to be arranged on yearly basis



# Basic course topics (total duration 44 hours)

Radiation and radiation protection in general

Radiation and nuclear emergencies, protective actions

The organization and tasks of the radiation measurement team

Radiation measurement devices and other equipment

How to do radiation measurements

Safe working

Protective clothing

Biological effects of the ionizing radiation

How to cope with potentially exposed people

Drills and practical applications



# Equipment

The team will be equipped with diverse measurement tools. The National Emergency Supply Agency (NESA) supports financially the start-up procurements.

Examples of measurement equipment:

- Personal alarming dosimeters
- Dose rate / surface contamination meters
- Alpha/beta counters for smear samples
- Lightweight, transportable portal monitors
- Portable spectrometers for detection and identification
- Portable air samplers



Portable detectors donated by NESA  
LILLIPUT



# Equipment

Examples of other equipment:

- Clothing and footwear
- Protective clothing
- Rugged laptops
- Tetra phones
- Tents & generators
- First aid kits
- Sampling equipment & containers

& other accessories



***“Everything connected to my own branch interests me and I’m willing to use my expertise for the benefit of the society when needed.”***

