
**NKS-B FOOD Nordic workshop for authorities, organisations and institutions responsible for late phase countermeasures and safe food production in nuclear emergencies
14th-15th of April 2010, Losby Gods, Oslo**

A brief overview of the responsibilities of the Swedish National Food Administration (NFA), organisation, network, management plans etc in case of a nuclear emergency

K. Svensson



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Responsibilities of the NFA

- **NFA implements and enforce legislation concerning radioactive contaminants in food:**
 - (Could ban) or establish conditions for dealing with foods which contain contaminants (e g cesium-137) or when such contaminant exceeds a certain maximum permitted level
 - Responsible for control activities: control programmes (e g for reindeer), checking compliance with maximum permitted levels, market basket surveys etc

Responsibilities of the NFA

- Established in 1986 (Tjernobyli) in co-operation with SSM maximum permitted levels for radioactive contaminants in foods and issued food recommendations to hunters, fishermen or to people which had a high consumption of foods contaminated with radioactive contaminants (e g cesium-137)
- Participates now within the EU-work concerning radioactive contaminants



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NFA organisation

- Approximately 30 persons at the NFA are more or less directly involved in matters related to preparedness activities for various emergencies (CBRN) although full positions for nuclear emergencies account to not more than approximately 1 annually
- Presently the preparedness area are in a stage of incorporation into the ordinary work at the NFA.



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Network

Most important partners within co-operation:

- Swedish Board of Agriculture (SJV; responsible for implementation of new EU-legislation within the agriculture area; SLV is responsible for foods)
- Swedish Radiation Safety Authority (SSM)
- Swedish University of Agriculture Sciences (SLU)
- Swedish Defense Research Agency (FOI)
- Swedish Civil Contingencies Agency (MSB)

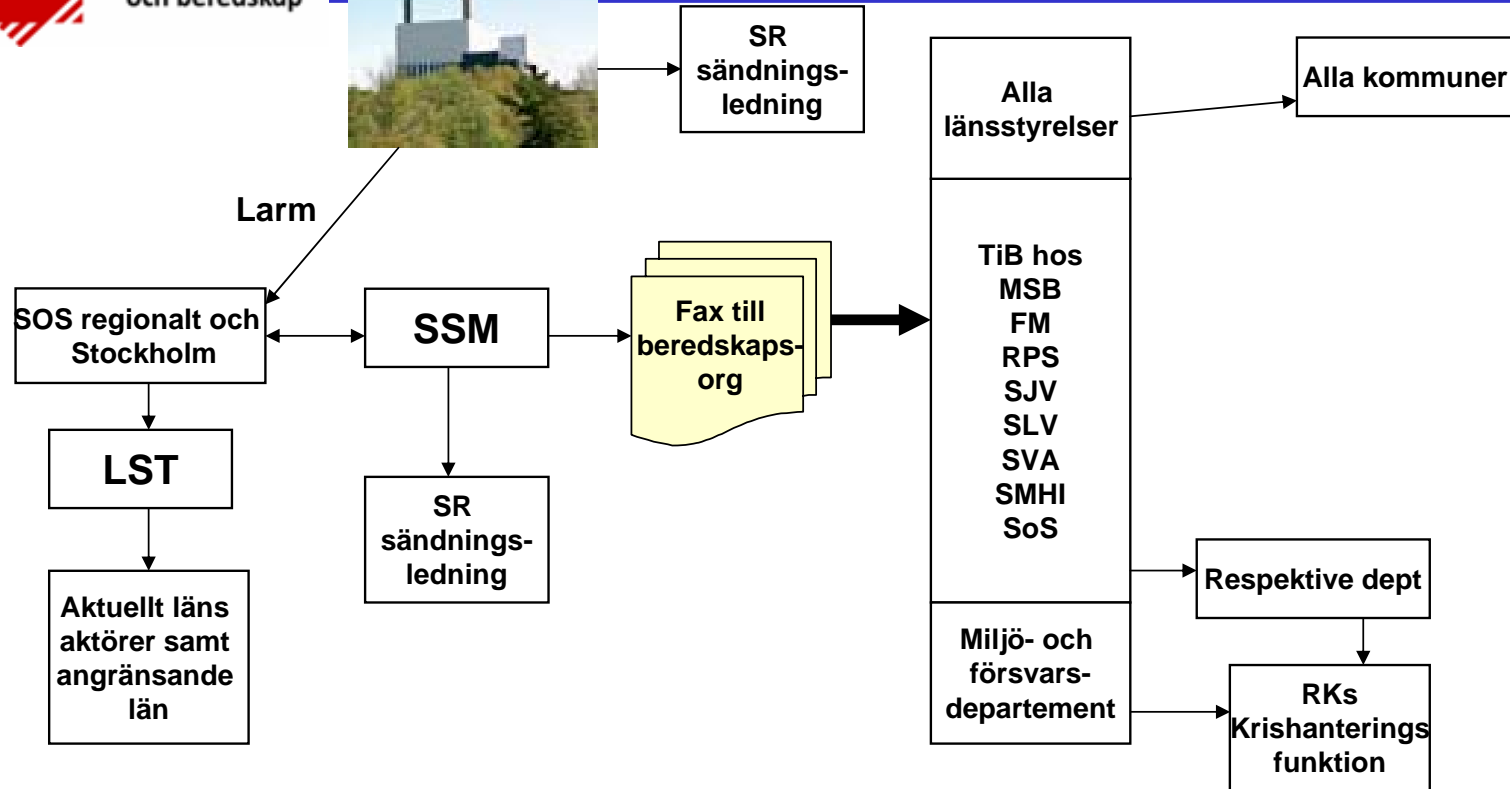


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Nuläge larm- och informationsflöde



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Background

- **After Tjernobył a goal was set for the individual radiation dose received from foods:**
 - It should not exceed 5 mSv during the first year after Tjernobył
 - Following years less than 1 mSv (approx. 75 000 Bq calculated based on cesium-137) annually (SSM)

A max permitted level of 300 Bq/kg (1986) was set for all foods

- In 1987 the max permitted level was raised to 1500 Bq/kg for meat and meat products from reindeer and game, freshwater fish, mushrooms, wild berries and nuts
- Food recommendations was given to certain groups of the population



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Tabell 12.2 Gränsvärden i Sverige för cesium-137 i saluförda livsmedel efter Tjernobylolyckan. Källa: Livsmedelsverkets föreskrift SLVFS 1987:4.

300 Bq/kg för baslivsmedel	1 500 Bq/kg för övriga livsmedel
kött och andra ätliga delar av tamboskap samt beredningar därav spannmålsprodukter frukt, utom nötter köksväxter, utom svamp mejeriprodukter barnmat havsfisk	kött m.m. från ren och vilt som älg, rådjur m.fl. vilda bär svamp insjöfisk nötter

Radioaktiva ämnen	Exempel	Barnmat	Mejeri-produkter	Flytande livsmedel	Övriga livsmedel	Mindre viktiga livsmedel
Alfastrålande isotoper av plutonium och transplutonium	plutonium-239 och americium-241	1	20	20	80	800
Strontiumisotoper	strontium-90	75	125	125	750	7500
Jodisotoper	jod-131	150	500	500	2000	20000
Alla andra med mer än 10 dagars halveringstid(ej kol-14, tritium och kalium-40)	cesium-134 och cesium-137	400	1000	1000	1250	12500

Barnmat = Livsmedel avsedda för spädbarn under de första fyra till sex levnadsmånaderna vilka saluhålls i detaljhandeln i förpackningar som är tydligt märkta "barnmat".

Mindre viktiga livsmedel = Enligt lista i kommissionens förordning 944/89, bl.a. kryddor och vitaminer.

Background – EU requirements

- **Maximum permitted levels:**

For import from third country for cesium-134 and -137

- Food to infants 370 Bq/kg
- Milk and milk products
- Other foods 600 Bq/kg



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Exposure/Risk

- According to the market basket survey in 1994 (SLV and SSM) the general population received in average 274 Bq (a few μSv) annually from foods purchased in retailer shops. Within the County of Västerbotten the average intake of cesium was 815 Bq (approx. 10 μSv). A similar intake was confirmed in 2006.
- Nowadays Lapps, hunters and fishermen rarely receive a radiation dose exceeding 1 mSv annually from food



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Present activities

NFA participates in several projects governed by MSB (management plan 2010 - 2015) in order to increase preparedness against nuclear emergencies such as dealing with:

- - alarm phase, - education,- Q&A,- communication
- - checking lab resources and analytical competence in Sweden in case of a nuclear emergency -> new max permitted levels and for several radioactive contaminants (EU Regulation; project together with SJV) in case of a nuclear emergency

Some (on-going) projects carried out by FOI (such as Swedish max permitted levels – change?)

Participates in seminars arranged for regional and local authorities arranged by SJV (in collaboration with SSM; every second year)



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Livsmedelsproduktionen vid nedfall av radioaktiva ämnen



Statens strålskyddsinstitutet



Present activities

- NFA regularly practise within exercises carried out by the Countys with nuclear power plants (every second year)
- Next years exercise SAMÖ; also testing preparedness in combination when there is a power failure



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Strategy - countermeasures

- Reduce contamination as early as possible in the food chain
- Decontamination within food industry - probably not? - resource demanding and no consumer acceptance (and trade acceptance)

Obligations of food producers:

- *producer responsibility* to comply with rules such as max permitted levels (for the raw product; no dilution accepted)



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