

Co-operation, Exchange of Information and Assistance between Nordic Authorities in Nuclear or Radiological Incidents and Emergencies

**“The Nordic Manual”
20 June 2006**

Revised 29 October 2008

Denmark:	Danish Emergency Management Agency (DEMA) National Institute of Radiation Hygiene (SIS)
Finland:	Radiation and Nuclear Safety Authority (STUK)
Iceland:	Icelandic Radiation Protection Institute (GR)
Norway:	Norwegian Radiation Protection Authority (NRPA)
Sweden:	Swedish Radiation Safety Authority (SSM)

Co-operation, Exchange of Information and Assistance between Nordic Authorities in Nuclear or Radiological Incidents and Emergencies

“The Nordic Manual”

Table of Content

1	Scope	2
2	Co-operation in emergency preparedness	2
2.1	Nordic Working Group of Emergency Preparedness (NEP)	2
2.2	Exercises and drills.....	4
2.3	Nordic contribution to international work.....	4
2.4	Exchange of background information regarding emergency arrangements.....	5
2.5	Public information.....	5
3	Response arrangements	6
3.1	Communication policy between the Nordic authorities during emergencies	6
3.2	Notification and exchange of information	7
3.2.1	Threshold of dissemination of information	7
3.2.2	Communication means	8
3.2.3	Public information issues	9
3.3	Co-operation and co-ordination during response phase	9
3.3.1	Co-operation regarding safety assessments and protective measures.....	9
3.3.2	Additional exchange of information of urgent nature between the Nordic authorities and Russian or Lithuanian nuclear installations.....	10
3.4	Assistance.....	10
4	Revision of this document.....	11

Appendices

1. Bilateral and multilateral agreements
2. Background information (EALs, GILs, OILs, emergency zones, duty system, response times etc)
3. Notifying and informing the public
4. Guidelines for exchange of information between Nordic authorities during unusual events

1 SCOPE AND BACKGROUND

This document describes practical arrangements and co-operation to fulfil obligations stated in bilateral agreements between the Nordic states. It also takes into consideration the current international definition of nuclear and radiological incidents and emergencies as well as other important international aspects for preparedness and response in the Nordic states. The arrangements described in this document also apply for response to events or threats of malicious use of radioactive material and threats or malevolent acts concerning nuclear facilities. Furthermore, small scale events, such as rumours and minor incidents, with consequences limited to a public concern and interest by the media, and/or a need for exchange of technical information between nuclear and radiation safety regulatory bodies, have been included. The arrangements in this document include all phases of events.

Bilateral agreements between the Nordic states contain obligations regarding early notification of abnormal events or detection of abnormal levels of radiation and exchange of information. The Nordic states have also ratified the IAEA Early Notification Convention. Denmark, Finland and Sweden, as members of the European Union, have to implement certain arrangements dedicated for communication during emergencies between the EU Member States and other European non-member states that have joined the EC communication system. In addition, there are also other agreements that define the obligations of communication and co-operation. Relevant conventions and agreements are listed in Appendix 1.

Since late 1980s, when the international conventions and bilateral agreements were signed, international guidelines¹ issued by the IAEA have extended the scope for notification and the nature of events concerned. Today regulatory bodies are expected to notify international counterparts not only of emergencies that lead, or may lead, to transnational radiological consequences, but of any event that has implications for another state or its interests independent of the cause of the event (accident, negligence or deliberate act).

2 CO-OPERATION IN EMERGENCY PREPAREDNESS

2.1 Nordic Working Group of Emergency Preparedness (NEP)

Chiefs of the Nordic radiation protection and nuclear safety authorities established in 1993 a working group (NEP) for co-operation, co-ordination, exchange of information and assistance in the field of emergency planning and response. NEP's tasks are:

- To exchange information, experience and good practice between the Nordic nuclear and radiation safety authorities on ongoing and planned projects and work in the field of nuclear and radiological emergency planning, preparedness and response.

¹ Especially IAEA Safety Standard series No GS-R-2 Preparedness and Response for a Nuclear or Radiological Emergency; Safety Requirements and EPR-ENATOM 2004 Emergency Notification and Assistance; Technical Operations Manual

- To take initiatives and make proposals to Chiefs Meeting² areas when NEP finds that joint projects related to emergency matters should be carried out. To follow up on initialised and finalised projects.
- To co-ordinate and improve mechanisms and arrangements for notification, information exchange and assistance between the Nordic authorities³ involved in emergency situations.
- To review the use of communication tools for emergency situations and carry out tests on a regular basis.
- To follow and, when beneficial and possible, coordinate participation in and positions related to actively taking part in the Nordic and international development in the field of nuclear and radiological emergency planning, preparedness and response.
- To communicate, co-operate and co-ordinate, where appropriate, the implementation of international standards and guidelines into national arrangements in the Nordic states.

A work plan is made for a two-year period and given for approval to the Chiefs Meeting.

Emergency contact information details are kept continuously updated by NEP members. Even temporary short term changes shall be communicated.

The members of NEP consist of representatives from all Nordic radiation protection and nuclear safety authorities which are centrally involved during relevant incidents or emergencies. Each authority nominates its representative(s). The participating authorities are:

Denmark:	Danish Emergency Management Agency (DEMA) National Institute of Radiation Hygiene (SIS)
Finland:	Radiation and Nuclear Safety Authority (STUK)
Iceland:	Icelandic Radiation Protection Institute (GR)
Norway:	Norwegian Radiation Protection Authority (NRPA)
Sweden:	Swedish Radiation Safety Authority (SSM)

The entire NEP group typically meets twice a year, in spring and in autumn. At the meetings, ad hoc groups may be formed and tasked to carry out specific projects or assignments.

The chairmanship and secretariat follow a countrywise rotation regime⁴. The chairman and secretary serve for two years and the term begins on first of January.

The representatives in NEP are nominated by the participating authorities. The general objective is contingency but individual representatives may be replaced during the terms as deemed appropriate by the authorities.

² Regular meeting of the chiefs of the Nordic radiation protection and nuclear safety authorities.

³ The term "Nordic authorities" covers all authorities within the NEP group.

⁴ Finland, Norway, Sweden, Denmark and Iceland.

2.2 Exercises and drills

It is beneficial to exchange information and experiences gained in exercises and drills, to co-operate in organising them and to participate in exercises organised by authorities in other states. Therefore, the Nordic authorities have agreed on the following:

- To communicate the national exercise schedules between each other and to invite other Nordic authorities to participate in exercises either by sending observers or by activating their own response organisation. Other Nordic authorities may also assist in the preparation of exercises and also assist during exercises by actively interacting with the “exercise country” for training purposes regarding international communication. Nordic authorities may also assist in evaluation of national exercises.
- Exercise scenarios and other relevant material from both national and international exercises will be exchanged between the Nordic authorities when beneficial.
- Nordic authorities may also consider, when relevant, establishing specific joint Nordic objectives, in addition to international and national objectives.

Details regarding Nordic participation and joint Nordic objectives will be agreed upon prior to all exercises.

NEP will follow international guidance regarding conducting exercises, as well as following results and experiences gained during national, multinational and international exercises and taking into consideration lessons learned at national and Nordic levels. NEP will also organise regular, unannounced communication exercises to test duty systems of the Nordic authorities. Tests will be carried out during and also outside office hours. The guidelines and schedules are agreed by NEP.

2.3 Nordic contribution and implementation of international work

There is a strong tendency for harmonisation, co-ordination and co-operation on an international level of emergency related issues. Nordic authorities actively take part in work carried out in several work groups/committees at an international level and form and promote Nordic positions and perspectives when appropriate. The Nordic members of work groups/committees keep other Nordic authorities informed through NEP on the progress of the work. Furthermore, the Nordic authorities make, where relevant, joint statements on the outcomes of the work. As practical examples:

- IAEA Guidance (safety requirements, safety guides, technical documents)
- IAEA and EU guidance (ENATOM, ECURIE) for fulfilling obligations set by the international conventions and for the EU member states set by the Council Decisions.

The IAEA International Action Plan for Strengthening International Preparedness and Response Systems for Nuclear and Radiological Emergencies was approved by the IAEA Board of Governors in June 2004. It consists of three parts: communication, assistance and sustainability. The conceptual phase of the plan was concluded in 2007 and the work is at present undergoing an implementation phase. The outcomes will affect Nordic and national arrangements regarding communication during emergencies as well as requests/provisions of assistance during emergencies. NEP will also co-operate with regard to the implementation of the new arrangements into national systems.

NEP follows closely the work carried out e.g. by OECD/NEA, EU (in particular non-EU member states are regularly informed about the status and development), WHO and the EU research projects. Information on co-operation with the Baltic States and Russia as well as NATO is regularly updated during NEP meetings.

2.4 Exchange of background information regarding emergency arrangements

Ideally all states should make the same decisions regarding the protection of their citizens if they are exposed to same type of hazard. But since this is not always the case, one should at least be able to explain the differences. In any emergency it is of outmost importance that the responsible authorities have a clear understanding of the situation and its development, and also have an ability to communicate decisions being made in order to protect the public and to minimise the consequences of the emergency. This holds true not only for domestic emergencies but also for emergencies taking place in neighbouring states or even more remote states. The responsible authorities not only need to be able to communicate and explain the decisions on protective measures to the state's own citizens, they must also be able to explain the possibly deviating decisions made by authorities in other states involved.

To facilitate the above, the Nordic authorities share information regarding emergency planning under the frame of the NEP co-operation. In Appendix 2, there are summaries of some of the most important parts of background information, such as:

- Emergency Action Levels (EALs),
- Generic and Operational Intervention Levels (GILs and OILs),
- Action zones,
- Distribution of iodine tablets,
- Description of activating emergency response,
- Monitoring strategies,
- Response times,
- Duty system in all the Nordic authorities,
- National legislation concerning crisis management and public information.

Additional static information, e.g. maps and demographic data, are also available on national web pages established for emergency purposes. At this stage this background information is very much focused on nuclear events. NEP will, when found beneficial, extend the background information to also cover other types of situations causing potential, perceived or actual radiation hazard.

In addition to Appendix 2, each state is also obliged under bilateral agreements to exchange information about nuclear installations (general information about construction, safety systems, operation, radiation protection, consequence mitigating actions and onsite and offsite emergency arrangements). This also includes consultations (cf. Article 3 in the bilateral agreements) in order to clarify the risk of incidents and emergencies.

2.5 Public information

The Nordic authorities benefit from co-operation regarding public information issues. This co-operation promotes harmonisation on how the media and the public are informed. The Nordic authorities should keep each other informed of the public communication activities during incidents and emergencies with the aim of harmonising information, including timing when possible. Active

exchange of public information issues during incidents and emergencies helps the authorities to detect contradictory information issued in various states.

The information units of the Nordic nuclear and radiation safety authorities should keep regular contact with each other. The co-operation regarding emergency planning, preparedness and response issues is organised under the NEP framework. The Nordic authorities are also actively taking part in the international work and progress in public information issues, thus promoting Nordic aspects of the matter. They also co-operate in implementing new arrangements into national systems.

Short overviews of public information practices in the Nordic authorities are described in Appendix 3. In addition, it is beneficial to share background information produced especially for the public and for the media among the Nordic authorities.

3 RESPONSE ARRANGEMENTS

3.1 Communication policy between the Nordic authorities during emergencies

Taking into account the bilateral and multilateral agreements between the Nordic states, to improve information flow between the Nordic authorities⁵ and to harmonise the Nordic policy with the IAEA guidelines, in particular the Emergency Notification and Assistance Technical Operations Manual (ENATOM)⁶, the IAEA Safety Requirements for Preparedness and Response for a Nuclear or Radiological Emergency (GS-R-2) and the IAEA Safety Guide on Arrangements for Preparedness for a Nuclear or Radiological Emergency (GS-G-2.1), the following principles are highly recommended when communicating during incidents and emergencies:

1. To make information flow more efficient, information should be communicated to all Nordic authorities (list in section 2.1)
 - simultaneously, indicating that the authorities of other than the states involved are also informed,
 - without prior request.
2. To institutionalise notification and exchange of information
 - communication should not be dependent on “personal” contacts but on official emergency contact points ,
 - it is the responsibility of each authority to communicate any change of contact information details without delay,
 - contact information and means of communication as described in chapter 3.2 in this document should be used.
3. To make contacts of urgent information quick and simple
 - procedures for informing the Nordic authorities should be independent of the time of day,
 - the methods for contacting any Nordic authority should be compatible.
4. To avoid misunderstanding and misinterpretations

⁵ The term “Nordic authorities” covers all authorities within the NEP group. This should not be confused with the term NCA as defined in the IAEA ENATOM.

⁶ The European Commission has launched a process of joining both IAEA Conventions resulting in more harmonised requirements in future regarding communication and co-operation during incidents and emergencies.

- relevant and important information should be delivered in writing; the use of video conference technique, telephone or other means of communication should only be considered as complementary,
 - information delivered to the other authorities should be processed, focusing on conclusions and decisions; detailed information should however be made available,
 - the language used in communication between the authorities regarding incidents and emergencies should be English. Supplementary information such as press releases and summary reports may be submitted in other languages.
5. Confidentiality
- confidential or classified information shall not be made available to a third party without the consent of the originator,
 - in accordance with the Agreement on the Exchange of Radiation Data between the Baltic Sea States (Appendix 1), unverified data should be declared as such, and parties receiving unverified data and information shall not make these data available to a third party without the consent of the originator.

3.2 Notification and exchange of information

3.2.1 *Threshold of dissemination of information*

The principles for when to exchange information and notify other Nordic authorities are specified in the IAEA Convention on early notification and bilateral agreements between the Nordic states as:

1. in case of a transnational emergency, see IAEA safety standards requirements (GS-R-2) and guides (ENATOM), and

Transnational emergency, as defined in the IAEA safety standards requirements, is a nuclear or radiological emergency of actual, potential or perceived radiological significance for more than one state. This includes:

- a significant transboundary release of radioactive material (however, a transnational emergency does not necessarily imply a significant transboundary release of radioactive material)
- a general emergency at a facility or other event that could result in a significant transboundary release (atmospheric or aquatic)
- discovery of the loss or illicit removal of a dangerous source that has been transported across or is suspected of having been transported across a national border
- an emergency resulting in significant disruption to international trade or travel
- an emergency warranting the taking of protective actions for foreign citizens or embassies in the state in which it occurs
- an emergency resulting in or potentially resulting in severe deterministic effects and involving a fault and/or problem (such as in equipment or software) that could have serious implications for international safety and

an emergency resulting in, or potentially resulting in, great concern among the population of more than one state owing to the actual or perceived radiological hazard.

2. in case of
 - an abnormal safety related event at a nuclear facility which could have offsite impact, or

- detection of abnormal levels of fresh fallout, resulting in need for activating response or informing the public.

In addition to these principles, the Nordic authorities have, under the framework of the NEP-cooperation, agreed to notify each other

3. whenever a Nordic authority receives/has information which is considered to be of urgent interest to the other Nordic authorities.

Examples of situations when information should also be exchanged between the Nordic authorities include:

- events not defined in agreements and conventions (e.g. threats or rumours of malevolent acts);
- incidents below agreement notification level but of media interest;
- detection of minor amounts of fresh fallout indicating exceptional releases;
- rumours, verified to be rumours, of a radiation or nuclear event.

Naturally, situations will occur when it is not clear whether it is appropriate to notify other Nordic authorities or not. In those cases the philosophy should be "*it is better to notify one time too often than the other way around*".

Guidelines for exchange of information between Nordic authorities during unusual events are provided in appendix 4.

3.2.2 Communication means

National Warning Points as defined in the IAEA ENATOM, ECURIE and bilateral agreements shall be used during initial notification of situations described in 3.2.1. Each state shall operate a 24-hour fax contact point.

1. Initial notification

Fax is used for initial notification. The forms to be used for this initial communication are as defined in Attachment 1 in the IAEA ENATOM. Notifications are sent to National Warning Points (NWP) in all Nordic states.

2. Follow up information and other information of potential interest

A non-personal e-mail address; urgent.mail, is used for exchange of follow up information during emergency situations. 24-hour fax will function as a backup. Supplementary information can also be made available on protected websites established for emergency purposes.

3. Public information

When exchanging public information, authorities should use the non-personal email addresses of the information units in order to ensure that communication is independent of the presence of specific individuals.

Although all press releases are issued on ordinary web pages of the authorities, press releases should be sent to all Nordic nuclear and radiation safety authorities and can also be made available on protected websites dedicated to be used during incidents and emergencies.

It is possible for each Nordic authority to send liaison officers to a Nordic accident state in order to increase the understanding of the situation and assist in communication and transmission of

emergency information and data to home base. Details will be agreed on before the actual deployment.

3.2.3 Public information issues

Besides press releases and other products subjected to the media and public, exchange of public information between the Nordic authorities should comprise information about how and when other products were issued. It would be beneficial to also make media reports and commentaries available for all Nordic authorities.

3.3 Co-operation and co-ordination during response phase

3.3.1 Co-operation regarding safety assessments and protective measures

In cases of serious emergencies or situations with any kind of possible transboundary impact it is important that authorities deal with the situation in co-operation with the authorities in neighbouring states. Below are some examples:

- Assessments of the situation and decisions regarding protective measures may affect decisions in another state. It is therefore important that such decisions are communicated among the neighbouring states.
- When it comes to definition of risk areas, different states use different models and input parameters for dispersion calculations. This, in turn, may lead to slightly different results from the calculations. Therefore it is valuable, if time allows, to compare the calculations made by other authorities before decisions are being made regarding protective measures and information is disseminated to the general public.
- All severe accidents and situations have international implications in a sense that all states have interests almost anywhere in the world and an ambition to protect these interests. These include citizens living in the accident state, tourism, trade, transport, travel and production.⁷ If an incident or emergency takes place in a far-off country from the Nordic states' point of view, the decisions should be harmonised in the Nordic states when the expected consequences are similar.

To meet the above mentioned expectations, the Nordic authorities should strive for harmonised decisions. The responsible authorities in a state should be able to explain what decisions other Nordic states have made and the reasons why. The Nordic authorities have agreed the following:

- Promptly and without prior request inform other Nordic authorities of recommendations on actions, countermeasures or non-actions. The information should be accompanied by relevant assessment results.
- If decisions on e.g. countermeasures are made based on other issues than radiation consequences and without prior recommendation from the competent authority in that state, other Nordic

⁷ These are called light countermeasures

authorities should be informed as soon as the competent authority in that state becomes aware of actions decided. This might especially be the case with the so called light countermeasures⁸.

- If no information is distributed, the other Nordic authorities may rely on there having been no recommendations regarding protection of own citizens, production and trade in a potential hazard area.

3.3.2 Additional exchange of information of an urgent nature between the Nordic authorities and Russian or Lithuanian nuclear installations

Information of an urgent nature may be received via a dedicated, satellite-based communication system installed in the Kola and Sosnovy Bor nuclear power plants. It may also be received by other means, e.g. being a rumour in the media.

As initial information is limited, an urgent need will arise to contact the possible event site for verification and further information. This will probably result in several phone calls to the site in question as well as calls between the Nordic authorities. Experience has shown a need for defining and co-ordinating the response of the Nordic authorities. It is also important for the Russian and Lithuanian authorities to be aware of the response actions made in the Nordic states in case a satellite communication system is used or notification is sent by other means.

The following procedures are adopted by all Nordic authorities:

1. The event site shall be contacted according to the list below:

Message from	Prime state
Leningrad NPP	Finland
Kola NPP	Finland
Murmansk area	Norway
Ignalina NPP	Sweden

The other Nordic authorities get more information by contacting the prime state.

2. The prime state should immediately, even before new information is available, inform the other Nordic authorities about its actions to contact the event site and the authorities in the country in question.
3. As soon as further information has been obtained, the prime state should send it to all Nordic authorities without delay or prior request. All the other Nordic authorities, as well, should share the new information received via bilateral contacts.

3.4 Assistance

All states are required to plan, prepare and dedicate resources to respond to the consequences of a nuclear or radiological incident/emergency. When the resources and capabilities required to respond to a nuclear or radiological incident/emergency are beyond the capacity of a state, international

⁸ E.g. countermeasures related to tourism, trade, transport, travel and production

assistance may be requested. In October 1963, Denmark, Norway, Sweden and Finland signed an agreement to assist each other in case of radiological hazards - *Nordic mutual assistance agreement in connection with radiation accidents between Denmark, Finland, Sweden and Norway*. In addition, all Nordic states have ratified the Convention on Assistance in the case of a Nuclear Accident or a Radiological Emergency.

Traditionally 'International Assistance' has been understood to be something physical going from one state to another, like experts, equipment or material. The term 'assistance' can also be extended to cover additional forms of aid which do not require a physical presence in the accident state, like radiation protection advice, assessments, data analysis and interpretation, information on emergency situation etc., which can be provided from home base with modern communication technology.

Requests for assistance can be made directly from one Nordic state to another on the basis of the Nordic mutual assistance agreement. Requests for assistance can also be made directly from one state to another or to IAEA, on the basis of the Assistance Convention.

Nordic representatives have actively been involved in the development of international strategies and principles for requesting and providing assistance as well as relevant co-operation to establish arrangements etc. The Nordic states follow the international procedures as described in the document IAEA Response Assistance Network, EPR-RANET 2006 and there is no need for additional Nordic ones.

4 REVISION OF THIS DOCUMENT

NEP will assess the need for revision of this document biannually and update the necessary details. A need for essential changes in policy for communication and co-operation will be presented to the Chiefs Meeting for approval. Updated versions of this document will be distributed to all organisations.