

EVALUATION

BARENTS RESCUE 2001

Barents
Rescue2001



<http://barentsrescue.srv.se>

This report was produced by an evaluation group made up of representatives from the Swedish Defence Research Agency, the Swedish Armed Forces, the Swedish Rescue Services Agency, the Swedish National Board of Psychological Defence, and the Swedish Agency for Civil Emergency Planning. The Swedish Defence Research Agency had the main responsibility for the evaluation group, and compiled the content of this report.

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Preface

It is with great pleasure that I can say the Barents Rescue 2001 exercise went well, and that in general everyone who participated is pleased with the outcome. I would like to thank all the participants from Sweden and the 21 other countries who through their participation contributed to making the exercise such a huge success. That the number of participants and participating countries was finally double what was initially anticipated was a gratifying indication of the interest the exercise received.

It was an interesting challenge when we received the government commission, along with several other authorities, to prepare and execute the first really large international civil led exercise in Sweden. The preparation work was extensive and instructive. I thank the Exercise Management, the planning group, the Swedish Armed Forces and the other Swedish authorities and organisations, the representatives from other countries, and others who wholeheartedly participated in the planning and execution of the exercise.

Barents Rescue 2001 contributed to increasing knowledge about how society should react if it is subjected to danger from radiation, and on how countries should cooperate if such an incident were to happen in reality. The concept of the exercise was hatched in the Barents region, and one of the results of the exercise has been an improvement in cooperation in the region and enhanced emergency preparedness in this particular field.

My hope is that Barents Rescue 2001 will be imitated both in the Barents region and in other countries. And if that leads to an enhanced capacity for dealing with major incidents and crises, and amplified international cooperation, then the results of Barents Rescue 2001 will have been more than satisfactory.

C. Salomonson

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Director-General
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Barents Rescue 2001

In 1999 the Swedish Rescue Services Agency (SRSA) was commissioned by the Swedish Government to plan and execute an exercise, in Norrland in 2001, focused on preparedness for nuclear energy emergencies. The exercise was to be conducted in the spirit of the Partnership for Peace (PfP) and centred on the Barents region, and executed under civil command with support from the Swedish Armed Forces (SAF).

In addition to the SRSA and the SAF, the following were also assigned to the planning and execution of the exercise: the Swedish Board of Agriculture, the Swedish National Food Administration, the Swedish Civil Aviation Administration, Norrbotten County Administrative Board (CAB), the Swedish National Police Board, the Swedish Defence Research Agency, the Swedish National Board of Health and Welfare, the Swedish Nuclear Power Inspectorate, the Swedish Radiation Protection Authority, the Swedish National Board of Psychological Defence, the Swedish Meteorological and Hydrological Institute, and the Swedish Agency for Civil Emergency Planning. A planning group was set up – the Central Planning Team (CPT) – and appointed the task of planning and executing the various elements that made up the exercise as a whole. The CPT reported to a steering committee.

The aim of the exercise was to increase knowledge about the organisation of rescue operations in other countries. Denmark, Estonia, Finland, Germany, Iceland, Latvia, Lithuania, Norway, Poland, and Russia were all invited to participate. Some other PfP nations were invited to attend the planning conferences and the exercise as observers, among them, Portugal and Ukraine.

The objectives for Barents Rescue 2001 were to:

- improve capabilities for cooperation both on a civil – military level and a national – international level;
- improve capabilities for the coordination and command of operations at major incidents;
- improve capabilities for carrying out a situation analysis based on measurements;
- improve capabilities for informing the public about major incidents and actions taken at them; and
- increase knowledge, and make new contacts and build networks.

Apart from these objectives, the exercise would also study the need for international agreements. The exercise was planned to include an alarm exercise (ALEX), a command exercise, field exercises, lectures, and an exhibition. The exercise also included a role-play Distaff, a Visitors & Observers Bureau (VOB), a Press & Information Centre (PIC), a Host Nation Support service (HNS), and an Evaluation Team. Security with the aim of combining openness and guarding was an important aspect during the planning process and the execution of the exercise.

At an early stage it was decided that the planning process would consist of three planning conferences: the Initial Planning Conference (IPC) 10th – 11th May 2000 in Boden, the Main Planning Conference (MPC) 8th – 9th November 2000 in Luleå, and the Final Planning Conference (FPC) 17th – 19th June 2001 in Kiruna. The concluding live exercise (LIVEX) was scheduled for 16th – 20th September 2001. In addition to these elements, a number of lectures and workshops were planned for the respective sub-projects and specialist fields.

The model for the whole planning and execution process was similar to that used on military PfP (Partnership for Peace) exercises, and entailed a long process of planning conferences, preliminary exercises, and workshops. The aim of the FPC was to check and confirm provisional plans prior to the LIVEX. Cooperation between the various countries and organisational representatives developed over time. The conferences and preliminary exercises became common forums for exchanges of knowledge based on experience.

Norrbottnen County Governor Kari Marklund had overall responsibility for the exercise, and had as his deputy Major General Jan Frank, Commander Northern Military District. The Exercise Manager, Lena Tistad (SRSA) led the planning and managed the LIVEX. The LIVEX was held in Norrbotten County. The exercise areas were in Luleå and Boden. Boden, Kiruna, Luleå, and Piteå municipalities took part in the exercise.

A total of 1,500 visitors from 22 countries were registered at the LIVEX. Their overall impression of the exercise was very positive. In the questionnaire intended for representatives of authorities and organisations, 98% of respondents felt that more exercises like Barents Rescue ought to be held in the future.

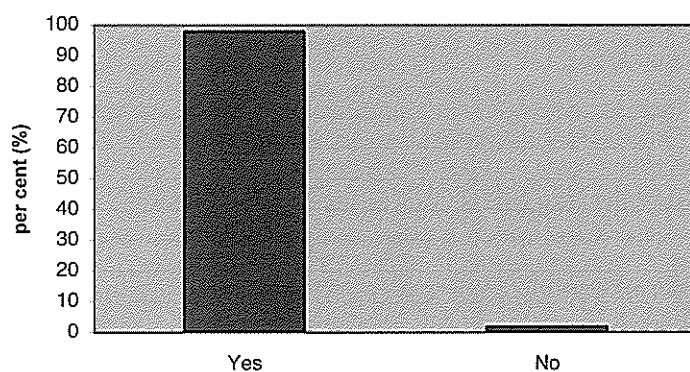


Figure 1. Do you feel that in the future there ought to be more exercises held in the same spirit as Barents Rescue?

The planning and execution of the various exercise elements were evaluated on a continuous basis. The primary purpose of which was to gather experience, which could be of general interest to the planning for future exercises of the same type. The results of the evaluation are recorded in this report, which describes, in brief: the various exercise elements, the planning process, observations, and the attainment of objectives. The report concludes with assessments on whether or not the objectives for the exercise were attained. Appendices 1 and 2 are summaries in Swedish and Russian respectively. Appendix 3 is a list of abbreviations.

Right from the beginning many authorities and organisations participated in the planning process with great commitment and responsibility. As the participating authorities were to finance their own participation, within their own economic framework, some of them encountered problems – of both an economic and manpower nature – with prioritising participation when activities already planned were taken into consideration. In some cases this was due to the ministries not sharing the priorities of their authorities. These difficulties were resolved along the way, for example, through financial support, and due to the long planning period, which allowed for the possibility to fit the exercise into the normal schedules of planned activities for the authorities in question.

The budget for the exercise was decided upon without reference to previous experience, plus the exercise was finally much larger than was originally anticipated; both these facts led to further problems in the planning process.

Nato made no financial contributions. The exercise was financed totally from within Fenno-Scandinavia.

Figure 3 shows the estimated cost for Barents Rescue 2001. Besides the SRSA the other participating authorities and organisations made considerable financial contributions. Total working time has been estimated as being in excess of 31 man-years. The total cost of the exercise has been estimated as being approximately 28 million SEK.

Swedish Rescue Services Agency	
Exercise budget	10.0 million SEK
Other	
Personnel	12.5 million SEK
Long standing investments	0.8 million SEK
Other outlays	4.7 million SEK
Total	28.0 million SEK

Figure 3. Estimated cost of Barents Rescue 2001

For a few authorities the prioritising of Barents Rescue meant that planned for development and research work had to be rescheduled to a later date. Norrbotten CAB was forced to deprioritise its regular activities, but its emergency preparedness has improved substantially.

The long period of planning provided the opportunity for the detailed testing of various scenarios. The realism of using a nearby or a fictitious nuclear power plant, a nuclear powered vessels or satellite was examined in depth, until a scenario was developed that the majority could accept, and which simultaneously would allow for the attainment of the exercise objectives. If one of the first named alternatives was chosen and at the same time an attempt was made to fulfil the exercise objectives, then it would have been necessary to upgrade the consequences of an emergency to far beyond what is physically possible.

The relatively long period of planning and the financial contributions from the participating authorities and organisations meant that the exercise could be carried out as originally planned.

Work on information about the exercise was extremely extensive, both during the planning stage and the exercise itself. Without exception the exercise participants were pleased with the information they received regarding the exercise. The Barents Rescue homepage was frequently visited.

International contact was, primarily, made by the Exercise Management and the central authorities, as it would have been unusual for the municipalities and the CAB to have such contacts other than those few they made during the planning conferences. This was unfortunate because cross-boundary networks at regional and local levels ought to be just as important during a major incident as networks at a national level.

International agreements

There was nothing to indicate that customs, passport, and insurance matters would pose any major problems for the foreign participants. However, there is good reason to have regulations and routines made clear, not least to make it easier to prepare for future exercises. During the preparations, the information from the relevant authorities on these matters was unclear and often divergent. An overall permit could perhaps have been created in conjunction with the commission to execute the exercise. Regulations on customs, passports, and insurance regarding cross-border travel with military personnel and equipment, ought to be able to be stipulated in good time before the exercise via agreements between the countries involved. All the formalities were settled and personnel and vehicles insured prior to the start of the exercise.

The Nordic Rescue Services Agreement and other agreements were not cited during the planning process.

Observations

Planning would be simplified if participating countries appointed a coordinator for points of contact within their respective authorities and organisations.

Planning ought to be supported by an actively participating steering committee, which could use its influence and contacts to solve certain types of problem.

A prerequisite for good planning is that a realistic budget is allocated to the Exercise Management. Participating authorities ought to obtain details of the nature of their participation in sufficient time, so that it can be planned into the ordinary budget work of the authority.

Also, at an early stage the various sub-projects of the exercise ought to be issued with their own project plans, including timetables and a set budget, and this ought to have the support of the relevant authorities.

Exercise planning is largely about information and contacts. It is vital to set aside considerable resources for this and to commence the work in good time.

Planning ought to be organised in such a way that even regional and local authorities are afforded the chance of building up international networks that are of interest to them and relevant to their work.

Planning is simplified if the commission to plan and execute the exercise also includes the mandate to enter into agreements with participating countries.

The alarm exercise

The alarm exercise, which was the first exercise element of Barents Rescue 2001, was carried out on 28th March 2001. The ALEX was an international exercise, based on the scenario that a fictitious nuclear power plant, the Baria FNPP, in northern Sweden, was experiencing operational problems, which resulted in the decision being made to go to high alert. With this scenario the Exercise Management wanted to simulate the first phase of a nuclear energy emergency, in which the situation is still not under control and the release of radioactive substances and subsequent fallout is imminent.

The aim was to train and test both the national and international alarm routes and information services in the event of a nuclear energy emergency, in line with existing international and bilateral agreements. Prior to the ALEX the participating countries had been informed that it would take place at some time between 12th February and 30th April, on a normal working day during normal office hours, and that it would run for approximately ten hours. The weather conditions of the day would be used for dispersion prognoses and simulation programs etc.

Denmark, Estonia, Finland, Iceland, Latvia, Lithuania, Norway, Poland, Portugal, Russia, Ukraine, and Sweden took part in the ALEX. The EU via Ecurie and the IAEA also participated in the exercise.

Course of events

Before the ALEX was held, an extensive questionnaire was sent out to all participating countries and organisations, which would be filled in and returned to the Exercise Management on completion of the exercise. The questionnaire also served as an aide-mémoire for the participants. There was a good response to this questionnaire, which is the primary source of information for building up a picture of how things functioned during the ALEX. The good response can be interpreted as indicating an active interest among the participants to be involved and to train, and that they considered the exercise as a priority.

Radiation protection, the fire & rescue services, meteorology, and the environment were all represented among the authorities and organisations that took part in the ALEX. Among the most commonly trained functions were: internal and external communication, alerting and reporting, crisis management, and calculations using meteorological and radiological prognosis models. The number of those trained in each organisation varied between four and 61. The countries that participated with the most participants were those in the Barents Region.

According to the scenario the operational problems at the Baria FNPP began at 0245 UTC (Universal Time Coordinated). The situation then deteriorated, which resulted in the FNPP going to high alert. The message detailing this was dispatched, via fax, from the Swedish Radiation Protection Authority (SSI) and the Swedish Nuclear Power Inspectorate (SKI) at 0550 UTC to all the various countries and organisations covered by existing agreements. In

line with existing agreements, when a plant goes to high alert then all three channels of communication fax, telephone, and Ecurie must be used. From the time the message was dispatched to the time that the SSI received message receipt acknowledgments from the various bodies took on average about 49 minutes. The quickest acknowledgment of receipt came within 8 minutes, and the slowest was received after 1 hour 53 minutes.

From the time the SSI dispatched the first message, to the time contact was made with personnel, at the various organisations, who had the authority to order the taking of national emergency preparedness measures, took on average about 17 minutes, which is to be considered as good.

The figures below show when the respective countries received the message. The information in this figure is based on the questionnaires sent in to the SSI, which means that those countries that didn't submit a questionnaire are not mentioned in this figure.

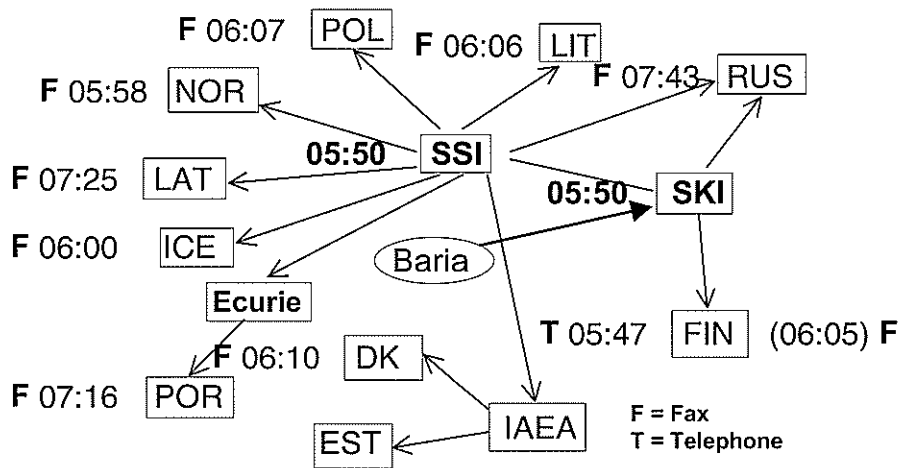


Figure 4. Times of receipt of the first alarm message (notifying high alert at the Baria FNPP) in those countries that returned completed questionnaires. (All times in UTC.)

During the exercise the fax generally worked well as a channel for information. There was one case whereby the fax numbers for all the various bodies had not been updated. Some participants experienced difficulties with the telephone network, which was due to the lines being temporarily busy or not working. Owing to that, it took, for example, 6 hours 34 minutes before one country received confirmation from the IAEA regarding the first message on high alert at the Baria FNPP. Obviously that is far too long. Problems of this kind can to a greater extent be eliminated if the use of the Internet for information transfer increases, initially of course as a complement to the usual channels of communication.

The SSI's password protected website, Swerem, which was specifically set up for the ALEX, received a lot of positive comment from the participants. Spontaneous comments in the questionnaires included, for example, 'Excellent', 'A considerable improvement', and 'It was our primary source of information.' During the ALEX, the Swerem website was visited 260 times. On the other days of the same week (25th to 30th March) there was an average of

35 visits per day. Iceland also conducted tests with WAP (Wireless Application Protocol) technology, i.e. connecting up to the Internet via mobile phones.

Participants were particularly positive towards use of the Internet as a means of providing updated information, after confirmation that a state of high alert was in force. One organisation, however, stated that the Internet should only be used as a complement to faxing until such time as the Internet becomes completely reliable, and the transfer of information can be performed rapidly and smoothly without disruption. Accordingly there is future potential in developing the Internet as a vital source of information on issues concerning nuclear energy safety. Exercise participants also continuously and spontaneously exchanged information, and informed each other of their prognoses and situation analyses, as well as information on action taken in their respective home countries. On average each participant sent 19 messages during the exercise, mostly by fax and e-mail. This information was used both as primary and secondary information as a complement to one's own analyses or for comparison purposes. With the exception of the IAEA, the most spontaneous contact was between organisations in the Barents region.

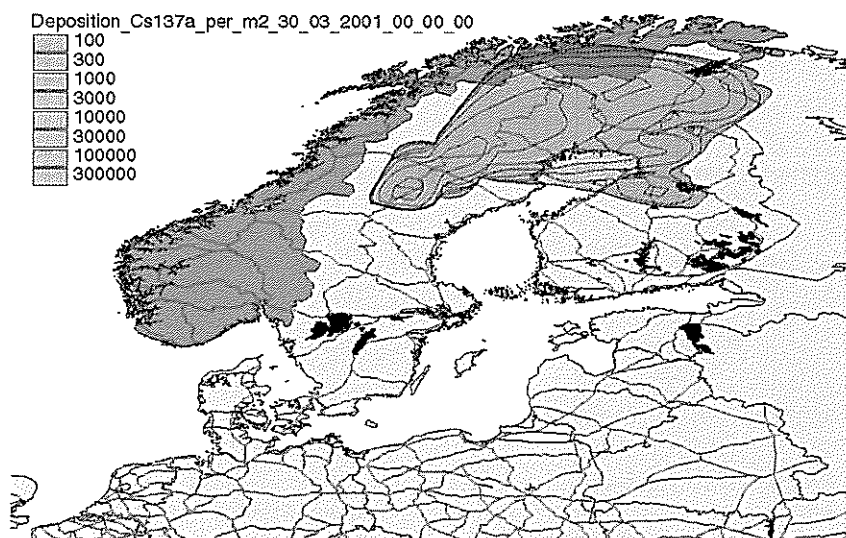


Figure 5. An example of a prognosticated dispersion of Caesium 137 if the scenario at the Barents FNPP had continued and deteriorated. The dispersion was estimated on real weather conditions, and the figure represents a possible situation at 00.00 hours on 30th March 2001. (Figure from the Norwegian Radiation Protection Authority.)

The majority were of the opinion that the analyses and prognoses from other countries were understandable. In addition, foreign analyses and prognoses were used for information or support when making national decisions on measures to be taken. In those cases were, for example, dispersion prognoses from other countries were used on a small-scale or not at all the distance from the site of the emergency to the home country was satisfactorily long. All participants were trained on preventative measures and decision-making. The majority alerted the public authorities. In most cases preparations had been made for the issue of information to the public via the press, radio, TV, and

the Internet. Preparations were also made, in the relevant areas, to protect various industries, such as fishing and reindeer farming.

Observations

To sum up, it can be said that the ALEX was a successful exercise, and that it laid the foundation for further international cooperation for the training and testing of alerting routines, and for the international exchange of information on nuclear energy safety. The exercise showed that there is a lot of interest for using the Internet as a means of communication and information transfer in the future.

Command exercise

The command exercise was held in Norrbotten County on 17th, 18th, and 19th September 2001.

The exercise was preceded by a scenario, in which an unknown number of radiation sources were to be located, identified and rendered harmless. Some individuals sustained injuries and the risk of further injuries was self-evident. The necessary measures required a number of strategic decisions at national, regional, and local levels. Incidents placed specific demands on the information services at the authorities concerned. Simultaneously other incidents in the area were occurring.

Norrbotten CAB, the municipal management groups in Boden, Kiruna, Luleå and Piteå, and the Northern Military District (MD N) all took part in the command exercise. And on a limited scale Norrbotten County Council also took part.

The overall objectives for the command exercise were to:

- provide national, regional, and local authorities, as well as other concerned authorities, the opportunity to cooperate with each other;
- train capabilities for the coordination and command of operations at major incidents;
- provide information for an overhaul of bilateral agreements for this type of incident; and
- provide training for personnel in information sections on how to work with the media, by, for example, learning about the media's need for immediate information.

As far as was possible, the format of the exercise was to emulate real life conditions. The command exercise was carried out in Swedish.

One of the overall aims of Barents Rescue 2001, as a whole, was to train for cooperation at major incidents in the Barents region. Cooperation is a primary means for achieving coordination. And coordination is a prerequisite for being able to command and deal with a major incident in the region. The purpose of coordination is to coordinate operations and to employ the resources that have been made commonly available, so that the largest possible effect can be achieved at any given time. To be able to coordinate both national and international resources requires planning and training.

In the event of a nuclear energy emergency the CAB – in accordance with current rescue services legislation – has a responsibility for the command and coordination of the fire & rescue service. In other major incidents that require coordination, the CAB can assume responsibility for the municipal fire & rescue services in the municipalities involved. When the CAB takes over command of a rescue operation an Incident Commander (overall strategic commander) is appointed. If taking command of an incident implies taking command of a municipal fire & rescue service, then the Incident Commander must be a fire service officer. To assist the Incident Commander there is a Command & Control Staff.

The CAB must cooperate with bodies at a central level, for example, the SSI and SKI; at a regional level, for example, the police, armed forces, and county council for medical services; and at a local level, for example, the municipalities.

Planning for the command exercise was characterised by wide cooperation with all those involved in Barents Rescue 2001. A specific project group was responsible for the preparations, execution, and follow up of the command exercise. The group worked closely with the other project groups for the coordination of the various activities and exchanges of information. One such activity was to develop a scenario for the command exercise. The aim was to train for cooperation within the Barents region, county command, the coordination of information, and the identification of the need for an overhaul of bilateral agreements for the employment of common resources.

Prior to the command exercise, three preliminary exercises were held for the structuring and fine-tuning of the scenario. The command exercise was held during office hours, and those being trained did so from their usual working places.

Role-play organisation – Directing Staff (Distaff)

A role-play organisation, the Distaff, played the roles of the authorities and organisations, which couldn't participate in the command exercise (see figure 6).

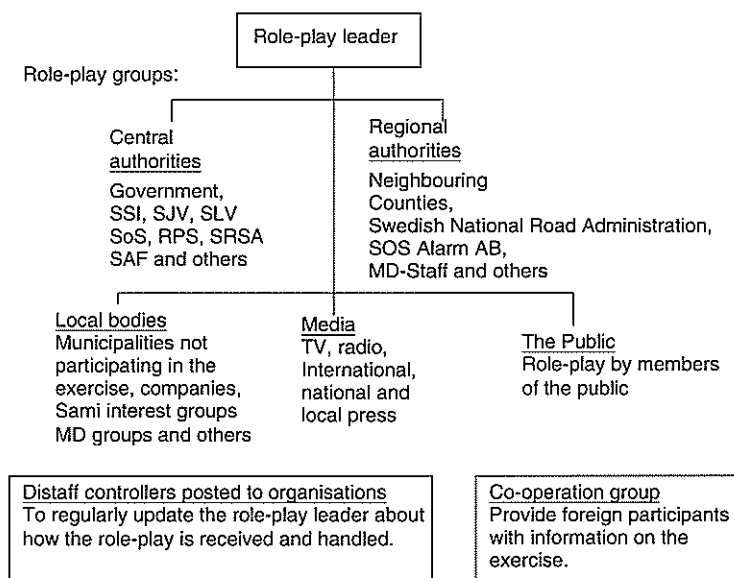


Figure 6. Role-play organisation.

The role-play organisation, the Distaff, was made up of 94 people and based in Boden, and had controllers located at the CAB and with the municipalities.

The task of the Distaff was to create realistic conditions so that they would be the same as those of a real incident. The following documents were drawn up

for the command exercise: invitations to the preliminary exercises, exercise instructions, a scenario for developments prior to the start of the exercise, and a scenario for the exercise itself. In addition, the sub-projects and training authorities had drawn up their own documents to regulate work during the exercise.

Ordinary means of communication were to be used as much as possible during the command exercise. A dedicated Barents Rescue telephone directory with useful phone numbers was compiled. Technical command support, radio transmissions, press cuttings on the homepage, and TV features on video were used to increase realism.

Course of events

The preliminary exercises – prior to the command exercise – provided a good opportunity to adjust the role-play, staff preparations, and to check the technical equipment etc. Despite this, those training in the exercise got off to a very slow start.

Every exercise day began with TV features, including news, and participant interviews, which provided a uniform description of the situation.

The work of the Distaff was characterised by flexibility. The development of events was adapted to the reactions of those being trained. There was, however, uncertainty as to how role-play from the measuring patrols should be handled.

The role-play included elements, which referred to the international coordination of measuring resources. However, this element was performed without representatives from the neighbouring foreign countries. The desired information on issues concerning the Nordic rescue services agreement was therefore not obtained. No light was shed on the need for bilateral or international agreements within the Barents region either.

A specific cooperation group was set up with members from the central authorities of the participating countries. The aim of the group was to pass on lessons learned from the preparation, set up, execution, and organisation of the exercise. There was a lot of interest in these issues. This group did not participate in the role-play.

Observations

Preparations for such an extensive exercise, in the form of training, preliminary exercises, scenarios, role-play methods, and ensuring the role-play organisation possesses the requisite competence, are of major importance. To achieve credibility and commitment among those being trained, extreme care has to be paid to the scenario, the planned role-play, and role-play methods.

The Distaff was in general able to handle the exercise. However, there were no participants for international cooperation, and no measuring team containing both Swedish and foreign personnel. Those bodies training had Distaff controllers posted to them, who followed the role-play and various activities. Which meant that the Distaff management continuously received

information on how participants were responding to the role-play and on whether an increase or decrease in the speed of the role-play was required.

The Distaff had access to computer support, so that all groups could follow the role-play and the measures that everyone was taking. Prior to the exercise there was training for the command sections and on how the technical support could be used. This was of vital importance to the guaranteeing of a well-functioning role-play and exercise.

Personnel on the command exercise and on the Distaff experienced difficulties in finding time to get away to study the other activities going on during Barents Rescue 2001; for training purposes it would have been ideal if the planning of the exercise could have made this possible.

The Sami Parliament is a Swedish authority, which among other things, works with issues on cooperation between Laplanders in Norway, Sweden, Finland, and Russia. The Sami Parliament should also in the future be given the opportunity to participate in emergency preparedness exercises in the Barents region.

Norrbottn County Administrative Board

The objectives for Norrbotten CAB during the command exercise were to:

- increase knowledge both nationally and internationally regarding emergency preparedness for incidents involving radioactive substances;
- develop the capability to cooperate with the command groups of the municipalities and other relevant civil authorities;
- decide on protective measures for the public;
- develop a foundation for the coordination of information operations with other authorities and organisations;
- train the support available in other counties in line with the Swedish Rescue Services Act;
- develop the capability to cooperate with the SAF; and
- develop cooperation and build networks with the authorities responsible for the rescue services, primarily in Barents region.

The CAB's command organisation was in all essential elements the same as that stated in their rescue service plan, and is intended for use during incidents for which the CAB has taken over responsibility from the municipal fire & rescue services in accordance with the Swedish Rescue Services Act (RäL 33 §), or for command of the fire & rescue services when there has been a release of radioactive substances from a nuclear energy establishment (RäL 28 §).

CAB command operated from the appropriately equipped command & control centre, which is in a shelter in the basement of the CAB's building, and in some other rooms in the building.

Apart from CAB personnel, there were also personnel from cooperating authorities, such as the MD N, Norrbotten police, Norrbotten County Council and others present on the CAB staff. Two fire officers from the municipal fire & rescue services rotated in the post of Incident Commander. Both are trained to operate as prospective CAB Incident Commanders, and can therefore, in accordance with the Swedish Rescue Services Act, be appointed as such.

In addition, during the exercise the staff also included Distaff controllers, evaluators, Elvira support personnel, and reception officers for visitors.

- The command exercise was preceded by several preliminary exercises, training days, and information briefings. Personnel being trained were informed about the scenario, which covered a period before and up to the start of the exercise.

Prior to the exercise, the county management laid down a General Decision regarding operations in connection with the searching for the sources of radiation in Norrbotten County from midnight on 17th September. This General Decision included the following two objectives:

- all sources of radiation should be located and removed as soon as possible so as to minimise personal suffering and injury, and costs to the community; and
- there should be a continuous flow of information to the municipalities, the public, the media, and our own personnel, during which we must aim for as much openness as possible.

The Decision also included a division of stages, from which it was clear in what order the various stages of the objectives should be carried out in order to achieve the two main objectives in full. The following was also stated:

- which “what if” scenario the CAB staff would perform;
- orders and instructions to the municipalities, cooperating authorities and organisations;
- how the SAF should support the civil authorities.

Course of events

At a central level Norrbotten CAB cooperated primarily with the government, the SSI, and the SRSA. At a regional level, mostly with the MD N, Norrbotten police, Norrbotten County Council, and other county administrative boards. Cooperation at a local level was, in the main, focused on the municipalities being trained.

Daily Working Schedules and Daily Orders were established for CAB work. The Daily Working Schedules set the times for staff briefings, management briefings, telephone conferences with the concerned municipalities, press conferences etc. The Daily Orders set the focus of work and the daily tasks for the various sections within the CAB command and its support staff.

The command support system Elvira was used for documentation, decision support, and monitoring and follow up. Due to certain technical problems with communication the Elvira system was not available during parts of the

exercise. Among other things, there was a cable failure in Sveg, which disabled communication for a while. Additionally, two municipalities experienced internal communication problems.

Training on Elvira was offered to participants prior to the exercise. However, only a handful took the opportunity to do the training, which of course influenced those occasions when Elvira was used during the exercise. This meant that several officials on the staff, who would need to use the system, either had no knowledge or very poor knowledge of it. Despite this, several officials admitted that they needed more training on Elvira.

At the start of the exercise or when new officials arrived a current situation report was related in a clear, easy to understand manner. Elvira constantly updates and presents a picture of the current situation. This is a prerequisite for satisfactory staff work.

Incoming and outgoing information, and details on measures taken and decisions made should be documented and structured. During the exercise, for example, certain questions from the municipalities were left unanswered for a long time due to shortcomings in the arrangements for internal communication.

Ordinarily Incident Commanders are not part of a CAB organisation; therefore an Incident Commander will not be known to CAB personnel. This meant that in some cases it was unclear who was making the decisions in the CAB command organisation. Many detailed questions from individual staff personnel found their way directly to the Incident Commander.

All officials working on the command and on the support staff were equipped with a vest with their position in the organisation marked on it. Therefore the command and support staffs were easy to identify, which was particularly important for work colleagues from external agencies and experts on the staff.

Key-posts and jobs had to be manned continuously, even during staff briefings, press conferences etc. Particular attention must be paid to the level of endurance of the staff if the incident, or exercise scenario, goes on for a long time. At times, certain operations, for example, situation monitoring, the rescue services section, and parts of the information service were undermanned.

Command manning should, if possible, be organised in such a way as to ensure that work tasks allotted to officials are the same as those that the officials do in their everyday jobs. Groups that ordinarily work together should, as far as possible, be kept together. It took one to two days of the exercise before the command organisation was formed and the groups found their posts and work responsibilities.

During the first half of the exercise the capacity of the support staff wasn't used to its full extent. The support staff should have done much of the work that was done by the command. However, they spotted the problem and realised that the situation would become intolerable if work was to continue in that manner. The set up of the command and support staffs was changed on day two, and further adjustment was made on day three. During the second

half of the exercise, command work and above all coordination work between sections were performed in a more structured fashion.

Certain cooperation personnel and experts felt that at times they weren't used enough. The SSI ought to have had a greater role in the command exercise.

Staff briefings were run in a very structured and comprehensive way. They were held partly in English, which may have had an inhibitory effect. It cannot be ruled out that there were of misunderstandings of vital information and orders. This also means that lecturers may not have expressed themselves, as they would have done had they been using their own respective languages. For the same reason there were, in the main, no questions asked during these briefings.

Staff briefings and press conferences could also be followed on large screen monitors by, for example, the MD N staff. Maps and pictures however could not be transmitted, which had a detrimental effect on clarity and understanding.

An essential part of the CAB's work was the issue of information to the municipalities, the public, and the media. It is important that information is coordinated, so that the various authorities don't issue conflicting information on current developments, risk, planned measures, and expected results. In advance of press conferences all those involved ought to discuss what information is to be released and by whom. It is also vital that information be delivered in a way that makes it easily understandable.

To provide the Incident Commander with the correct decision-support information requires structured work on how to act should developments suddenly drastically differ from the current situation. This work places great demands on those performing it. These officials can, if possible, be bought in from outside organisations, for example, through cooperation with other nuclear energy counties.

Shortcomings in role-play methods and the role-play itself meant that the CAB command wasn't always provided with the right or relevant conditions. Among other things, there was no reporting of measurement readings to the CAB, which should have come to the CAB from the measurement readings received by the municipalities. The role-play method that was used during the exercise, and which meant that there was a long preliminary scenario with many detailed events, placed specific demands on the role-play. Certain officials felt that the pace of the role-play was variable and occasionally extremely slow.

The number of visitors to the CAB's command & control centre was relatively large, especially during the first day of the exercise. Command and other key personnel devoted a lot of their time to visitors, which partly impeded the work of the command and support staffs.

The majority of officials on the CAB's command and support staffs regarded the exercise as positive and meaningful. One official said it was the best-performed exercise he had ever been on. Many were of the opinion that the sections ought to have been able to train in their roles before holding such a large command exercise. At the same time it was pointed out that there

shouldn't be too much of a gap until the next exercise. Shortcomings should be remedied and plans revised now while the issues are still fresh in people's minds and while everyone is motivated.

Observations

The overall objectives for the command exercise were, in all essentials, achieved. However, international cooperation, information for the overhaul of bilateral agreements, and cooperation within the Barents region were only focused on to a limited extent. But all organisations involved in the training were of the opinion that in substance the exercise was useful, important and well executed.

Before the exercise all participating bodies looked over the organisation of their command and support staffs, local and technical issues, and emergency preparedness plans. In some cases this led to changes in command structures and plans. Preparations involved a large portion of personnel from the respective organisations, which contributed to there being a lot of commitment and awareness of the need for emergency preparedness preparations.

The command organisation should be flexible enough so that current work can be adapted to suit current events and requirements. These types of positive changes to the organisation were made during the exercise.

It is important to have a clear division of roles and responsibilities, and structure in the command and support staffs. Several exercise participants were relatively untrained regarding their jobs. Not all of the participants understood the division of roles and responsibilities.

It is advantageous that people who are going to work together on specific incidents are known to each other and used to working together.

It takes several days for an untrained staff to settle down into a working pattern. It is rarely possible to gather together so many decision-makers and other officials, both internal and external, to train for such a long period so that such lessons can be learned. The experience of training together for three days during the LIVEX was therefore viewed as positive.

Time for those training to visit other parts of the exercise and thereby increase their knowledge and understanding of the whole ought to have been planned into the exercise schedule.

Special attention ought to be given to routines and systems for documenting, explaining, and issuing,

- information;
- details of developments;
- situation reports;
- measures taken; and
- decisions.

There must be routines even for when technical command support isn't functioning.

Visitors will be welcome, but they must be looked after by specifically appointed reception officers, because during the LIVEX, showing visitors around drained far too much attention and too many personnel away from the exercise.

Military District Staff

The international Military District Staff (MD Staff) was set up in Boden to provide coordinated military support to the CAB, and to develop a long-term plan, Concept of Operations (CONOPS), in preparation for any severe emergencies. The support to the CAB and the long-term plan were to embrace military resources from around the Barents region.

The goals of the staff work were:

- to develop the SAF's capability to support society during severe emergencies;
- to develop the capability to cooperate with other military forces within the Barents region;
- to create the right conditions for further joint exercises;
- to exchange information; and
- to build networks.

The core of the staff was made up of personnel from the MD N. It was organised as follows: A command team (J 3) which led the current operation; a staff team (J 5) which led the drawing up of the long-term plan (CONOPS); and sections J 1 – J 9 that had specialist skills regarding, among other things, personnel, security, information, logistics, command, and cooperation. These sections supported both the work on the current operation and the drawing up of the CONOPS.

Five officers from Norway, six officers from other units within the MD N, and three officers from units outside the district strengthened the MD Staff. The Swedish Civil Aviation Administration and the Swedish National NBC Defence Centre were also represented. Three officers each from Russia (EMERCOM) and Finland also took part in the MD Staff work. Two liaison officers were posted to the CAB.

Course of events

The first few days of the preparation stage prior to the exercise were spent working on internal preparations, training, and receiving external staff personnel. After which the MD staff was consolidated and contact made with the CAB, however without any joint work occurring. The MD Staff set a starting-point before the start of the role-play on 17th September, and worked on the CONOPS.

On the day prior to the start of the exercise the Chef of Staff worked with the CAB command. During which time they dealt with command and responsibility issues for when military units would be placed at the disposal of

the Incident Commander. This meant that the CAB had the responsibility for deciding where and when military resources would be employed. The Incident Commander had the direct responsibility for assigning tasks to the military unit commanders, for those units placed at his disposal.

The Staff commenced the execution stage (17th – 19th September) by the following the CAB staff briefing via video conferencing equipment. The staff work focused on defining and organising available military resources, amongst which they had available the commanders from a Swedish NBC company. The resources available were reported to the CAB. Military resources were used in the Kiruna area. Parts of the MD Staff followed further staff briefings and two press conferences held at the CAB. Work on the CONOPS continued. Cooperation with the Cab was primarily via the two liaison officers. Initially, the MD Staff and the CAB focused their resources on command of the current operation.

On the following day MD Staff work continued in the same fashion. During the morning the Chief of Staff and the CAB held joint discussions on, among other things, the form cooperation would take, and the possible further need of military support. The need for a long-term alternative plan was also discussed. Cooperation with the CAB regarding current work was improved during the day. The CONOPS work was based on assumptions because there had been no joint work on it with the CAB.

Staff work on the Wednesday was characterised by command, preparations, and the presentation of reports on the CONOPS for the MD N Commander, and a presentation by and about EMERCOM. There was no further cooperation with the CAB, as the military resources put at their disposal exceeded their requirements. And due to that the intensity of the role-play decreased. There were visits to the field exercises and an internal evaluation during the afternoon.

Observations

Cooperation with the CAB must work during severe emergencies. Cooperation was, in the main, conducted via the two liaison officers posted to the CAB, and via telephone calls between the two Chiefs of Staff.

There has been discussion on whether or not cooperation would be improved if the two staffs were combined. That might improve cooperation, but it has many disadvantages, for example, the MD N Commander has four CABs in his district; to which one of those should he join his MD Staff in the event of an incident that involves several counties? Besides, a regrouping during such a major incident can contribute to deterioration in communication and contact between the various chiefs, and to a disruption of staff routines. These drawbacks will probably outweigh the advantage of a combined staff. On the other hand, posting a CAB liaison officer to the MD Staff might strengthen cooperation.

Technical aids were not used to the full. During the exercise the MD Staff followed CAB staff briefings and press conferences via video conferencing equipment, which improved the chances of obtaining a common understand-

ding of the situation. However, these technical aids were not used for mutual cooperation and coordination.

The MD Staff compiled a draft for a contingency plan (CONOPS) for a real nuclear energy emergency. This work was led by a Norwegian officer and carried out by Swedish, Norwegian, and Finnish officers in coordination with each other. Denmark and Russia also supplied data. The plan includes measures and resources that can be set into action in the Barents region.

The MD Staff goals were in the main achieved. Cooperation on the MD Staff as regards command of the current operation is assessed as having worked well. The exercise was viewed as important, instructive, and interesting. During future exercises of this nature and at real incidents the MD Staff ought to a greater extent, than during Barents Rescue, include more of the Military District's peacetime staff and the necessary reinforcements that the situation demands

The municipalities

Four municipalities trained together with the CAB. Role-play personnel represented the other ten municipalities in Norrbotten County.

The objectives for the municipalities during the exercise were:

- to increase knowledge regarding national and international emergency preparedness for incidents involving radioactive substances;
- to develop the capacity to cooperate with authorities and organisations at a local level;
- to train the capability to receive and manage incoming national and international resources; and
- to train crisis management and crisis information personnel.

The municipalities were consulted on their experiences during and opinions on their participation in the exercise. The report below is based on interviews with the politicians responsible for the exercise, officials, and each of the four municipal Chief Fire Officers.

The municipalities performed a number of large and small preliminary scenarios. In Piteå municipality, for example, the 12 members of a hunting team were exposed to radiation. In Kiruna municipality a school in the village of Kuttainen (on the Finnish border 180 km from Kiruna) was affected. Björknäs School in Boden municipality was contaminated by a capsule, which had been found and retained by some pupils. In Luleå municipality the water supply, amongst other things, was affected.

During the planning process the municipalities had been given plenty of opportunity to influence the form of the exercise. Some of the municipalities were of the opinion that the planning process was too lengthy, which meant that it was difficult to maintain motivation. Several municipalities didn't realise the scale of the exercise until very late on. A couple of municipalities made alterations to their plans as a preparation for the exercise. Others will

look over their current planning, while bearing in mind and because of the lessons they learned during the exercise.

In this exercise the CAB assumed responsibility for the municipal fire & rescue services. The municipalities considered this as an obvious development as the extent of the scenario incident and resource needs demanded coordination at a regional level. The municipalities saw themselves therefore as extensions of the CAB. There were those, however, who were of the opinion that responsibility should have remained with the municipalities, the representatives of which are elected by the populace. The removal of responsibility would also remove responsibility for municipal citizens and thus make municipal managements redundant. The role of the municipalities without responsibility for the fire & rescue services is unclear and passive.

As it was, the most important tasks of the municipalities were to reassure municipal residents and create a sense of safety and security, follow up on the results taken by measurement patrols, plan for 'what if' scenarios, prepare for evacuations, guarantee the supply of water continued, resolve logistics problems, ensure that communication between cooperating bodies worked, and prepare for decontamination. The most important task of the fire & rescue service was to ensure the necessary emergency preparedness, assist in taking measurements, and to prepare for decontamination.

Despite the fact that the actions required due to the scenario were considered as a rescue service it was obvious to the municipalities to consider the task as one that should be under municipal command. This did not entail problems in the division of responsibilities between the municipal management and the fire & rescue service.

All the municipalities used an emergency preparedness plan. Information operations were prioritised. Problems arose with the language issue; insufficient knowledge on radiation and decontamination; and the long distances involved.

CAB command of the work and coordination of information was considered by some as unclear. Above all there was no clear picture of the situation. Questions from the public, which were passed on to the CAB, weren't always answered. Occasionally technical problems made cooperation with the CAB difficult.

In one municipality they had to wait a long time before receiving measurement readings. The lack of which created uncertainty about how to progress with the exercise and how to react. The impression formed was that the Distaff didn't always follow up on the role-play. Also, it was felt that the pace was too slow during certain parts of the exercise.

One municipality was of the opinion that its crisis management found itself somewhat outside the exercise, and that they were getting more information from the media than they were from the CAB.

Cooperation worked well between the municipalities and the authorities at a local level, such as the police and the SAF.

One municipality felt that the marketing of the LIVEX in Boden was of a poor quality. A couple of municipalities pointed out that the obscurity surrounding Elvira was a problem. "The best exercise so far" was the view of another municipality.

Observations

The municipalities are positive over the fact that they were permitted to partake in the exercise. They also felt that it was good having three exercise days as this allowed them to really get into the exercise and away from everyday issues. The local politicians expressed the reminder that one of the duties they have is to protect the public. The municipalities were given the opportunity to apply their plans, to develop their command capabilities, to test cooperation between local government services and municipal management, and to test their command organisations.

Such an extensive exercise as this upsets routine work and takes personnel away from other activities. But the municipalities felt that it was worth paying that price to be able to participate. Knowledge on how to deal with crises involving the release of radiation has been improved.

During a crisis, when one is working closely together and under a lot of pressure as part of a crisis management team it is easy for the boundaries of the roles of politicians and officials to run together, and for the limits between political decisions and official decisions to be erased. This ought to be avoided.

Information work often becomes more extensive than has been planned for. The Information Centre and the Public Information Office ought to be located close to the municipal command.

There were very few international contacts.

Information and media role-play

The scenario for the command exercise painted a picture of a very uncertain situation, which required cooperation between the various Swedish authorities and international bodies. This also placed great demands on the work for the issue of information to the public, the media, and to the cooperating authorities.

During a severe civil emergency it is of vital importance that adequate, concrete, and full information are issued at the right time, and via the right channels to the correct target groups. In this way misunderstandings and rumour can be avoided. The public and the media must be able to reach the responsible authorities. Access to relevant information influences the confidence of people for the community but also influences the capability of society's institutions to resolve problems as they arise.

During a major incident the authorities and others concerned are usually subjected to a massive number of requests, from the public and the media, for information. Training is required if this is to be handled successfully. One of

the goals of the command exercise was to train the various information sections to meet the media and to understand the media's need for immediate information. 'Pressure for information' was created and played by a media role-play group, and included representatives from the central, regional, and local authorities, and from radio, TV, local, national, and international press.

The goals for the media role-play were to:

- train the personnel of information sections on the various levels of media contact;
- train for the interplay between authorities and the media at the various levels;
- train for holding press conferences;
- increase understanding for the way the media respond during civil emergencies, and how the media can be used to assist with one's own work;
- train for routines on the Important Public Announcement system and Authority Announcements;
- train for the analysis of media information;
- increase awareness about the importance of a fast response to the media;
- supply information for the completion and adjustment of information plans; and
- to demonstrate for Barents Rescue participants how information services can be operated at local and regional levels.

The CAB should coordinate information work and issue information to the public, the authorities, and organisations. The municipalities should, among other things, issue advice and instructions to municipal residents when emergencies arise. They should also coordinate local information work, train municipal Information Centre personnel, and cooperate with the CAB.

Course of events

Information operations on the first day of the exercise were not free of problems, but they gradually improved. Even relations between the organisations involved were initially poor but improved later. The opportunity was provided to correct routines, to reorganise, and to correct information plans.

The capability to arrange and hold press conferences, and to increase awareness about the importance of a fast response to the media also improved as the exercise progressed, as did the ability to analyse the possible consequences of different press releases.

The course of events of the role-play initiated the need for a certain reorganisation of the information section at the CAB, which subsequently led to more effective coordination. From the start of the exercise experts from central specialist authorities and information officers from the county council medical services bolstered the CAB information section. The information plans of the CAB and the municipalities functioned correctly. There were certain

requirements for extra resources, however they were to enable the issuing of information in different languages and to groups with special needs.

The municipalities also reinforced their information sections. Information Centres and Public Information Offices were established. Information was also issued via local radio stations, websites, the telephone exchange, press releases, and press conferences. Kiruna didn't have sufficient resources to create a media crowd. And so therefore that municipality wasn't afforded the chance to train for holding a press conference.

The Internet was used as an information channel, both internally and externally, as were local radio stations. Unfortunately there were technical problems and a disruption to the telecommunications network, the causes of which the Exercise Command was unable to control, which occasionally led to irritation, but above all presented difficulties to the monitoring of developments.

Daily telephone meetings were held between those responsible for information at the CAB, in the municipalities, and at the county council. This was much appreciated, and someone suggested that even municipal representatives should be posted to the CAB as an extra resource and as a point of contact for their own municipality.

Relations between the various elements of the media were in general good, but there was also criticism.

The CAB did not have a media-monitoring unit. That is to say, that no one had the monitoring of what the media were issuing as their main task. The CAB, therefore, was poorly prepared at the first few press conferences, despite the fact that other information services were working well. None of the other information sections made contact with the media. It is important that the CAB maintain a high quality service and supplies the media with material.

The radio stations felt that there was very little initiative from the authorities, for example, in the form of Authority Announcements. The municipalities and others often referred the media to press conferences and were unwilling to answer questions. If one wants to issue information during a crisis, then one must get used to direct media contact and be prepared to answer questions at any time of the day.

CAB coordination of information to the public was unreliable in the beginning and the information blurred. Initially the public received different, unclear – and sometimes contradictory – information. Questions were freely passed around between municipalities and the CAB – those questioned tried to refer enquirers to someone else. The information strategy was more one of fending off than responding.

Radiation and its consequences was a difficult subject to deal with, from an information viewpoint, as personnel were not supplied with the basic data on which to base information. Based on the reactions of the public it is clear, however, that the opinion is that everyone did their best, even if at times there was a lot of uncertainty. People were treated in a friendly manner.

Observations

The media must participate in a command exercise if the scenario is to be realistic. A huge number of media representatives need to be involved in an exercise in order to attain the right level of pressure from the media. And the media must be involved in the work of creating a scenario.

The role-play scenario and the role-play itself must be suitable for those training to enable them, as regards information, to deal with the situation. Otherwise credibility is lost. TV and radio broadcasts ought to be included.

Press conferences ought to be particularly trained for; especially those that are transmitted live. It isn't possible to train for them if there aren't any journalists present. The number of journalists must be planned for in correspondence to the type of exercise and its size. A large group of journalists also renders it possible for media representatives with different language skills to be present at all exercise locations.

The use of the Internet and homepages for information relieves the pressure on information sections. And is, for many, their usual way of obtaining information.

To reveal shortcomings and to allow for reallocations in the information organisation and its operations requires many training days.

Joint field exercises

The civil-military exercises included measuring exercises, field exercises, and an Air Wing. The planning of the exercises was carried out by a joint command. Both the measuring exercises and the field exercises included air operations, which required particular planning and coordination. This was handled by an Air Wing, which acted as a staff and support unit for the coordination and command of air operations.

Gamma Search Cell

According to the LIVEX scenario there were a number of sources of radiation within a large area. The Gamma Search Cell, using the same scenario, had as its goal training for the locating and identifying of the sources across a large area using realistic conditions, and to gain experience that could improve search methods. The measuring exercises were to simulate a real situation. A number of radiation sources were positioned within restricted and guarded military areas close to Boden. A total of around 40 measuring teams from eleven countries took part. Measuring was performed from helicopters, land vehicles, and to a certain extent from aeroplanes. The exercise made use of both Swedish and foreign, and civilian and military aircraft and vehicles.

The task of the measuring teams was to locate the sources of radiation, determine their position with GPS (global positioning system) equipment, establish the presence of radioactive substances (nuclides), and estimate the level of activity (number of nuclear disintegrations per second – stated in becquerels - Bq) of the source. Principally used were closed radioactive sources, which emit gamma radiation (electromagnetic radiation with massive powers of penetration).

For technical training reasons the type of training radiation sources used and their exact locations were kept secret. At the end of the exercise those details were announced on the SSI's homepage, Kärnporten (which was also used during the ALEX). A total of 44 radiation sources with varying levels of activity were positioned in the restricted areas. The radiation sources used were: 1 x Am 241 (americium), 24 x Co 60 (cobalt), 11 x Cs 137 (caesium), 1 x I 131 (iodine), 2 x Ir 192 (iridium), 2 x Mo 99 (molybdenum) and 3 x Ra 226 (radium). The choice of nuclides was guided by what was available rather than by consideration of the scenario.

Several radiation sources were placed in buildings, in vehicles, and in artillery range shields. Many were also shielded by lead or concrete to make detection harder. For safety and training reasons they were physically shielded in order to prevent direct contact with people and animals. In practice the stronger sources could be detected up to a hundred metres away, while the weaker sources weren't detectable beyond a distance of ten metres. In certain instances specialist equipment was required

Austria, Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Norway, Poland, Russia, and Sweden all took part. The following organisations

participated: the Swedish Radiation Protection Authority, nuclear energy, research, and radio physics institutions, civil and military emergency preparedness authorities, and relevant ministries. The equipment used was either spectrometers or dosimeters.

Course of events

The measuring areas intended for use for patrols by land vehicles and by helicopters were partly shared. The total area for helicopter patrols was 50 square km. Patrolling land vehicles had 300 km of roads to search. The areas for helicopter measuring patrols were designated A1-A5 (5 areas) and those for land vehicle measuring patrols designated C1-C4 and C7 (5 areas). C1 and C2 encircled A1 and A2. C3 and C4 encircled A3. A5 was not used for land vehicle patrols because it contained the strongest sources of radiation. The speed of the helicopters and the land vehicles in the search areas varied between 120-130 kph and 30-40 kph respectively.

Reconnaissance and subsequent positioning of the radiation sources was preceded by intensive planning, concentrating not least on safety issues. The Exercise Management reconnoitred the positioning of the radiation sources for about 14 days and used a total of 15 tons of concrete for shielding. Every radiation source was purposefully positioned to make the teams think and not be deceived. Several sources were positioned close to each other and were pointed in certain directions so as to make detection harder. Others only pointed upwards to enable detection from the air, and then from certain angles.

Some sources were especially difficult to find, among which was one placed in a nesting box high up in a tree, and another one placed on a trailer being towed by a car, which drove round on the roads within the search area. Background radiation of course also made measuring harder. The goal of the Exercise Management was that every team should find something, but that no team should detect everything.

Measuring tasks were divided up into inspection and fine-tuning of equipment, test measuring, and measuring over the area containing the radiation sources. Searching was divided up into detection of radiation sources, determining the position with GPS equipment, establishing what radioactive substances were present, estimating the level of activity, and reporting data to the REAC. The maximum permitted search time in all areas was about 55 minutes for helicopters, and about 5 hours for land vehicles. On landing helicopter crews had one hour to report their results to the REAC. That one hour reporting time limit also applied to land vehicle teams.

The REAC (Radiological Emergency Assessment Centre) was the analysis and staff unit for the planning and coordination of all measuring patrols. Its tasks were to receive, analyse, and evaluate measurement readings, to present data on, for example, the Kärnporten homepage, to cooperate with the Air Wing regarding airborne measuring patrols, and to be responsible for radiation protection operations. Both civilian and military personnel manned the REAC. The REAC was equipped with computers, overhead projectors for displaying results and other data, equipment and space for teams to compile their reports, a data management service, a radiation protection centre, web

production, places for foreign participants and visitors, and space for exhibitors.

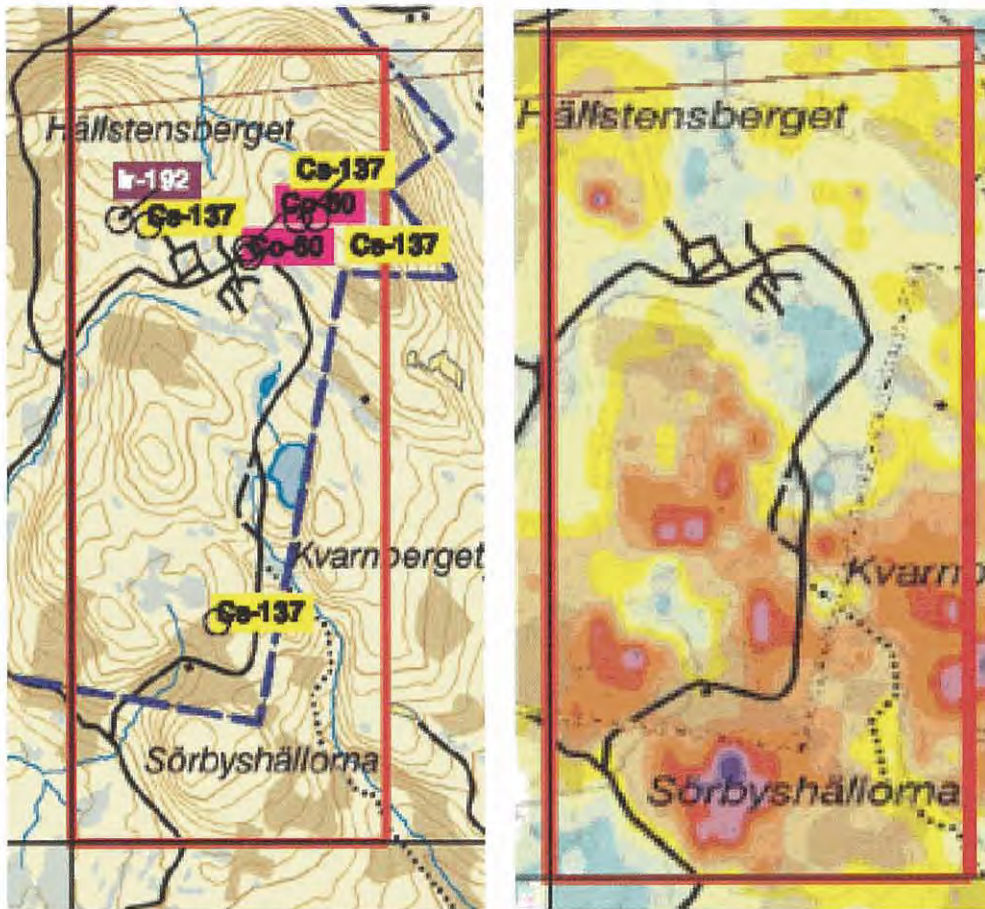
REAC Ground Control maintained communication with all measuring teams. The following means of communication were used: personal radio, telephone, fax and e-mail. Measurement data was submitted by fax, telephone, e-mail or floppy disk. However for security reasons radio was used to submit data and to report a team's position to Ground Control. As the coverage for radio and cell phone communication in the area was limited the SAF erected relay stations and supplied cell phones to the foreign measuring teams. Ground Control monitored the movements of the patrols and when they entered and exited the search areas. Personnel from the SSI and the SRSA entered measurement results onto the password protected Kärnporten, where the teams could read them. The teams only had access to their own results up to the end of the exercise when everyone was able to view all the results. Measurement results, positions, activities, etc. received were later converted to digital maps that were put up in the REAC. From then the teams had a few hours to make corrections to the reported data.

The Kärnporten provided general information about the measuring exercise and displayed the teams' results. It contained both password protected and open sections. Kärnporten was visited 651 times between 10th September and 1st October. The majority of visits were during the LIVEX.

Cooperation between the teams, for technical training reasons, was not permitted. Except for between ground and airborne teams from the same country. It was thought that that kind of cooperation ought to be encouraged; whereby a helicopter detects a source but can't establish the type, so informs a ground team of the position who can then go to the given location and investigate the source closer and identify it. In a real situation measuring would have been conducted over a much larger area with very little chance of joint work.

Primarily the teams used a special piece of equipment called a field gamma spectrometer that is used for measuring ionising radiation, which is created by the disintegration of radioactive substances. Field gamma spectrometers can determine the type of activity present in a radioactive source, which substance is emitting the radiation, and give a reading of the various wavelengths of the radiation. This means that the equipment can distinguish between natural background radiation and man-made radiation. Simpler measuring instruments were also used during the exercise, for example, dosimeters, which measure the intensity of the radiation or dose absorbed over a given period.

Measurement data was reported in two ways, either on a Search Identification Report or on an NKS (Nordic Nuclear Safety Research) report. The former is completed and submitted manually and consists of coordinates, radiation intensity, and source activity etc. The most common way of reporting was via cell phone. The NKS report is completed digitally either on floppy disk or submitted to the REAC via e-mail, and can include the exact routes taken by plotting with GPS equipment, and can also display radioactivity on a colour scale (see figure 7).



Maps are taken from the Swedish National land Survey's atlas. Gävle 2002. Permissoin for use: M2002/2344.

Figure 7. Left: This picture shows the positioning of seven radioactive sources (Caesium 137, Iridium 192 and Cobal 60) in area A4. Right: This picture shows the measuring performed by the Russian team RUA (EMERCOM) over area A4 using gamma spectrometry. Compare the activity of the iridium source in the top left corner and the cobalt source with the powerful natural background radiation in the lower part of the area. This picture is in NKS format.

Depending on the type and performance of the equipment used the teams could establish the location, the type of radiation source, and its activity in the search area. The activity of the different sources varied between 0.4 MBq (Am 241) and 41 GBq (Ir 192). In several cases equipment both in helicopters and in land vehicles indicated the location of radioactive sources without identifying them. Those were classified as found but not identified. Teams also missed positioned sources or got readings on their instruments for sources that weren't there. Figure 8 shows how the results from the teams can be classified.

	Found & correctly identified	Found but not identified	Found but incorrectly identified	Unfound
Air teams	41%	8%	5%	46%
Ground teams	38%	12%	5%	45%

Figure 8. The results from the air and ground teams for found and unfound sources.

In general, in those cases where there was cooperation between air and ground teams from the same country more radiation sources were detected and identified. The NKS will be conducting a scientific evaluation of the results obtained by the measuring teams.

Many of the participants were very pleased with the measuring exercise, and both national and international interest in it was immense. The measuring exercise provided the chance for comparisons between the various methods and equipment used by the participants. The planning and execution of the exercise was, for the most part, centred round the personal dedication of a few real enthusiasts. Civil – military cooperation worked extremely well. It wouldn't have been possible to hold the exercise in the same way if equipment, personnel, and military resources had not been made available.

Safety

Specific safety regulations were drawn up for the LIVEX. For example, the lowest flying height within the exercise areas was 60 metres. There were stringent safety regulations in place for aviation companies that took part in the Gamma Search Cell and other exercises during Barents Rescue. The Swedish Defence Materiel Administration inspected and approved all installations on the Swedish military helicopters. The Swedish Civil Aviation Administration inspected the civil helicopters.

During the planning and execution of the exercise the radiation protection work concentrated on preventing unnecessary radiation, regardless of how minor it was. This is usually called the ALARA principle (As Low As Reasonably Achievable). The method used for achieving this was careful planning, physical barriers, and guarding. In addition, the measuring teams and radiation protection personnel were equipped with personal dosimeters and radiation protection instruments. There were no reports of any radiation protection or absorbed dose incidents.

The exercise area was guarded throughout the exercise. The SSI inspected and gave permission for operations in accordance with the Swedish Radiation Protection Act. The areas in which radiation sources had been positioned were restricted, locked, permanently guarded, and marked with warning signs. During the daytime Home Guardsmen guarded the entry and exit points to the land vehicle search areas. There were SAF mobile patrols on patrol round the clock in all areas, checking on the radiation sources and ensuring that there were no trespassers in the restricted areas. They also acted as radiation protection guides for the land vehicle teams. There was also a contingency plan should any of the radiation sources be stolen. An expert from the Swedish Defence Research Agency was responsible for safety around the radiation sources.

Observations

At the end of the measuring exercise all teams received a simple questionnaire, the majority of which were filled in and returned. The opinion of 94% of those who participated was that the preparations in Boden, prior to the LIVEX, were good or very good. 92 % felt that the exercise had gone

well or very well. Many participants were very positive towards the form of the exercise and that the measuring was performed on real radiation sources, in a real environment and not in a laboratory. Civil – military cooperation worked extremely well. The Exercise Management received a lot of praise for the well-planned and well-organised nature of the exercise.

The majority opinion of the REAC was that it also had functioned well or very well. Its personnel were regarded as professional and helpful.

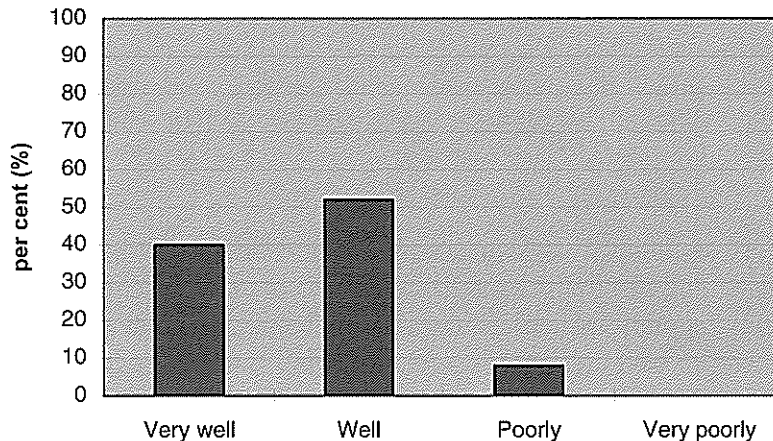


Figure 9. The opinions of the measuring teams on how the measuring exercise went.

The Exercise Management wanted to promote cooperation between airborne and ground teams. The opinion of 72% was that this cooperation had worked well or very well. The remainder felt that the exercise was too competitive, and therefore didn't encourage cooperation.

Several of the teams felt that the positioning of some of the radiation sources was predictable. The results however showed that the exercise was neither too difficult nor too easy, and that the positioning of the sources was not at all predictable. Therefore the aim of the Exercise Management to ensure that the exercise was neither too difficult nor too easy was achieved.

Cooperation between airborne and ground teams however couldn't be fully implemented because the mornings were foggy and didn't allow for flying. The reduced flying time therefore reduced the opportunities for cooperation.

An evaluation and follow up meeting with most of the measuring teams was held a month after the LIVEX. During the two-day meeting the teams were able to report on and explain their results and their impressions of the measuring exercise. Observations from the meeting showed that many of the teams had acquired better knowledge about their equipment and its performance. This meeting was jointly arranged by the SRSA and the NKS.

Exercises of this type require lengthy and detailed planning. For example, specific approval is required when advanced measuring equipment is mounted on helicopters. Preliminary exercises during the planning stage are vital, partly to decide on who will participate, and with what equipment etc. It is an advantage if those who attend the planning meetings and conferences

are also those who are going to attend the exercise. This facilitates the process of making international contacts.

Measuring teams from other countries bring their own specific equipment and methods. It is therefore important, before the exercise, to check measuring and GPS equipment, to carry out test measurements, and to go through local requirements and regulations. For example, at the beginning of the exercise it was discovered that different map coordinate systems were being used for reporting. This was corrected.

During the exercise it was clear that it was a very good idea to have a forward measuring and analysis centre close to the measuring areas. There are now plans to develop the REAC concept so that the civil authorities and the SAF will in the future be able to set up a mobile REAC.

Field exercises

The field exercises included the following five demonstration elements:

- surface decontamination;
- mobile command & control;
- detection of radioactive sources;
- decontamination and medical treatment; and
- searching for missing people.

All these elements were performed at Heden Airbase. In addition, during the Wednesday there was an evacuation of pupils from Björknäs School in Boden. The demonstration exercise was arranged in a way that made it possible to follow the work of the Incident Commander, while at the same time being able to observe the demonstrations on the field.

Preparations for the joint field exercises included lots of meetings and a relatively long period of planning. The participating countries and organisations were given plenty of opportunity to influence the shape of the exercise. Both during the planning stage and during the LIVEX those involved showed great commitment.

From a command angle the field exercises were not connected to the command exercise, and thereby were not bound to decisions made and orders issued within that exercise. It was considered unsuitable to join a demonstration exercise performing the same repeated elements to an exercise that was constantly changing over time.

There was immense interest in the field exercises. During the Monday (the VIP day) about 170 people visited the field exercises. On the Tuesday (the observers day) about 350 attended, and on the Wednesday (the public day) about 1,000 people attended. The demonstrations gave visitors a broad picture of several elements of a rescue service operation when it is at its most advanced.

After the visitors had been welcomed, the scenario described, and the equipment and personnel resources presented the programme began when a

Russian Mi 8 helicopter at low height executed a simulated oil combating operation with a so called sling basket.

After which the demonstration included the following elements:

Mobile command & control

The aim of this element was to demonstrate cooperation between civil and military units exercising operative command at a major incident, the responsibility for which was on a civilian Incident Commander. The mobile command post was set up in advance using municipal command vehicles, police vehicles, and several types of military staff duties and communications vehicles. The command post was used to command the various elements of the demonstration exercise.

The Civil Incident Command was made up of an Incident Commander from Boden, a Medical Incident Officer from Sunderby Hospital, and a Police Incident Officer from Boden.

Detection etc. of radioactive sources

In this element military units from various countries, supported by helicopters, located a point radiation source, and dealt with it with the assistance of robots.

The scenario included people that had been injured by radiation. A helicopter fitted with radiac indication instruments was despatched to the contaminated area, and detected an area with an increased level of radiation. A Norwegian ground measuring patrol was transported by helicopter to the area, where they located the radiation source, marked out its position, and requested robots to deal with the source. A Russian robot pinpointed the position of the source, and then another Russian robot took the object and handed it over to a Swedish police robot. The source was then taken to an EOD (explosive ordnance disposal) container, which was sealed and taken away.

At the same time as this element was being performed, training in the use of the SRV 2000 intensity meter, and on the principles of locating point radiation sources was being conducted.

Decontamination and medical treatment

The purpose of this element was to demonstrate decontamination and medical treatment for contaminated people in an area with no infrastructure for normal medical services.

Supported by helicopters and ambulances victims were transported to and from a temporary decontamination and medical treatment facility. Three separate and independent decontamination and medical treatment lines were set up well in advance of the exercise. The participating organisations had had plenty of time for joint training. The joint work went well.

Searching for missing people

Units from different countries searched for and found missing people, and where necessary transported them to the medical treatment facility. The scena-

rio stated that the police had received information regarding missing people, and so requested assistance from the SAF for rural searching. Two people were found in rough country; so the police requested a helicopter to airlift them out and transport them to the nearest medical facility. A Norwegian helicopter was assigned and carried out the requested task.

Evacuation

The aim of this element was to perform a large evacuation in a short time, using various forms of transport.

At 1145 the fire alarm at Björknäs School sounded. The school, containing approximately 1,800 people, was evacuated by 1155. SAF personnel then searched it. The ground transportation of the evacuees began at approx. 1210, with support from the SAF (Off-Road Vehicle 20, All-Terrain Carrier 206, and buses).

Because of the fog in the area, helicopter evacuation of the remaining 220 pupils couldn't start until 1300. But when helicopter evacuation commenced it went very quickly. Cooperation between the helicopters from the various countries worked well. Full evacuation from the area was completed by 1400.

Observations

The field exercises were presented as demonstration exercises, which contributed to creating good and meaningful exercises.

The demonstrations were carried out with a great amount of coordination and cooperation. Use was made of the competence and resources of those involved. Their participation during the planning process and with the preparations for the exercise contributed to a strong commitment amongst the exercise participants.

When various civil and military units are to work together the different systems for radio communications can lead to misunderstandings. To remove this risk both civil and military units need to, at an early stage, compile lists of their respective current radio channels, including channel numbers and frequencies.

During searches of large areas and during evacuations it is important that there be good coordination between the police, the SAF, and helicopter crews. If possible operations should be coordinated from a mobile command & control unit.

Air operations

Air operations were carried out during the measuring exercises and the field exercises, in the latter, for example, for evacuating people. To coordinate air operations and aviation safety during Barents Rescue the SAF set up a specific staff, the Air Wing. This staff included representatives from each participating country and organisation who commanded and made decisions for their own national aviation units. The Air Wing was also responsible for weather reports, flight route planning, fuel, ground power, and maintenance.

The atmosphere between helicopter pilots and Air Wing personnel was very good. Many who were on the Air Wing or on air operations felt that the international cooperation worked very well, that many new contacts were made, and that they obtained a greater understanding of foreign routines and equipment. The fog in the mornings reduced the available time for flying. The Air Wing was stationed at the SAF's helicopter base in Boden.

Observations

An exercise including aviation units from many different countries requires a specific air traffic organisation.

There was no training for the decontamination of helicopters, which very probably requires specific personnel.

Flying over contaminated areas in a real situation would require more helicopter crews, because those flying would be exposed to radiation for long periods. There is a need to develop methods and routines for this also.

The teams in the measuring exercise were of the opinion that the Air Wing functioned very well, which is reflected in figure 10.

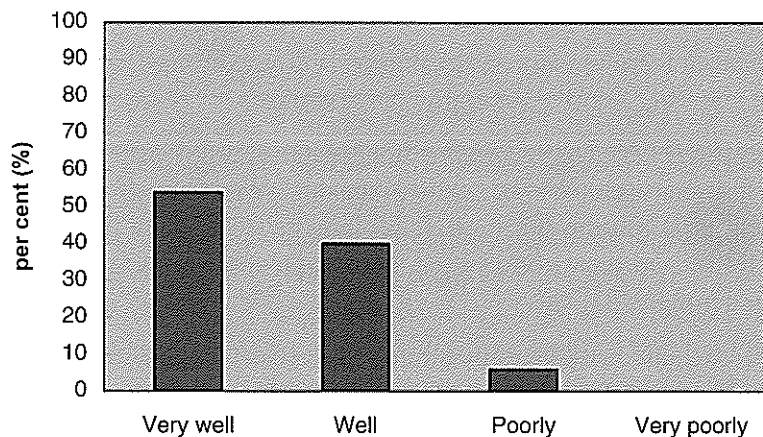


Figure 10. The opinions of the measuring teams on how the Air Wing functioned.

At the SAF's helicopter base there was an internal evaluation of the Air Wing, which showed that the set objective and requirements were reached.

Other activities

One of the objectives of Barents Rescue 2001 was to increase and exchange knowledge, and to develop cooperation both nationally and internationally, with the focus being on nuclear energy emergencies. With that objective in mind there was a series of lectures and workshops and a technical exhibition at the LIVEX.

Lectures

The lecture series was held over three whole days with three individual themes, which are summarised below. Each day began with lectures, after which the invited countries delivered short reports on their views regarding the subject at hand. Each day concluded with a panel discussion. During the planning of the LIVEX all eleven of the invited countries and the Swedish emergency preparedness authorities participated in compiling the lecture series.

The general conditions for the lectures were good with good technical support for, among other things, video equipment and satisfactory interpretation (English to Russian; Russian to English) via individual earpieces. The book tables were well visited and many orders were taken. All the lectures and discussions were video filmed. Simultaneously summarised accounts were produced for immediate distribution to the PIC to appear in their newsletter *The News*

Some of the lectures were delivered to packed halls, but usually they were only half full. The panel discussions experienced the lowest attendance of listeners.

Emergency Management

The Director-General of the Swedish Agency for Civil Emergency Planning in his opening address made a connection between the events in New York and Washington and Barents Rescue 2001. He pointed out the extended threat that includes everything from major peacetime incidents to terrorism and war. He stressed the need for wider research on the subject, for the increased coordination of civil and military resources during severe peacetime emergencies, and the importance of building up international and national networks for better and more flexible crisis management.

In another statement the background, organisation, and work of the IAEA, which is a UN body with 132 member states, was described. Apart from international conventions, technical documents, and the creation of networks through international and national projects, the IAEA is responsible for an Emergency Response Centre. This is manned round the clock and has the task of passing on information on incidents that occur within the IAEA's area of responsibility. The IAEA can also assemble and activate field teams that can be despatched anywhere in the world within 24 hours.

From the 'State of the Art' presentations and subsequent discussions it could be seen that, among other things, emergency preparedness tools (authorities, organisations, legislation etc.) are relatively similar in the various countries. The scope differs depending on whether or not the country in question or its neighbours have nuclear power plants. Further differences depend on whether the country has a centralised or decentralised decision-making structure. The smaller countries stated that at larger incidents they have to ask for international assistance very early on because their resources are insufficient for them to cope with an extensive incident alone.

Elisabeth Rehn (independent UN expert) emphasised, among other things, the importance of conducting PfP exercises with comprehensive international participation. She especially stressed the need for more women to be involved in safety and emergency preparedness work. Elisabeth Rehn summed up her observations by saying that the resolution of problems is no longer purely a military issue but that it often requires major civilian operations, supported by the military, and that the need for cooperation and coordination at international operations keeps growing.

The day concluded with some observations, for example, that the organisations involved are large and complex, which means there is a risk of divergent announcements being issued, that it ought to be clear in advance where and when political decisions are required, that technical systems should be improved so that they are more user friendly, and that networks and personal connections are important.

Crisis/Risk Communication

The second day of lectures began with the Director-General of the Swedish National Board of Psychological Defence, who discussed the connection between the public, the authorities, and the media in crisis communication. He stated, among other things, that the creation of a working relationship between the public, the media, and the authorities requires long-term work and is based on how credibility and truthfulness are handled.

The various countries reported on how they work with issues surrounding the dissemination of information and warning systems in the event of major incidents. All of the countries present are well organised and prepared for the rapid dissemination of information in the event, for example, of a nuclear energy emergency. Due to different traditions and systems the ways in which information is spread to the public vary. Ranging from centralised routes to the use of strongly decentralised systems. Several countries use the Internet and homepages to relay information. Warning systems are partly built on older equipment, such as sirens and loudspeakers, but several countries are now installing newer technology. They are all determined to relaying reliable information.

During the afternoon the role of the media as major incidents was touched upon. Two TV news journalists gave their personal views on how the media acts at major incidents. One of them stated that it is of the utmost importance for the authorities to cooperate with the media during serious emergencies, but that that is often difficult to achieve. The other, with experience from major

incidents, earthquakes, terrorist attacks etc., suggested that an information centre should be set up as soon as possible, close to the incident site, from where the media can interview and photograph people involved in the incident.

Environmental & Health Issues

The third and last day of lectures began with the Director-General of the SSI. One lecture, among other things, dealt with the historical perspective of European institutions. Another dealt with Cs137 fallout and its transport from the air via water and soil into vegetation, which in turn is transferred to herbivores, such as reindeer and elk. Even now 15 years after Chernobyl, Cs137 is still present in the top 10 cm of soil and is thereby easily accessed by plants.

The lecture on the consequences for agriculture and food pointed out that a lot of energy has been devoted to developing and testing various counter-measures that can be employed in the event of a radioactive incident involving contamination

The afternoon session commenced with a lecture on health and the environment. Ionising radiation and radioactive substances are used in industry, agriculture, medical treatment, research, and teaching. Quite a number of accidents are reported annually. Serious radiation incidents require well-coordinated operations both nationally and internationally. The lecture included an outline of the effects of radiation incidents on both health and the environment with a connection to a number of real incidents. Finally, the potential terrorist threat using weapons of mass destruction was mentioned.

The lecture *Reacting to the Unknown* pointed out that natural disasters remind us that there are powers that we cannot control, whereas technical disasters represent the realisation that we have lost control of systems that we are expected to control. From a psychological angle the loss of control can be more stressful than the absence of control. Radioactive contamination often takes the form of long-term and extended developments, which cause chronic stress amongst the exposed population. Manmade pollution of the biosphere is a relative new crisis. Being poisoned is psychologically very different to being injured in an everyday type of accident.

The following viewpoints can be noted from the concluding panel discussion:

“Train experts in the communication of difficult subjects so that they can relay uniform and reliable information to the public.”

“Never underestimate the public’s understanding of various serious incidents.”

“Don’t forget the long-term effects of a radioactive release. Ordinarily only the initial events/operations are trained for.”

“Do exercises lead to changes in behaviour, organisation etc., or does everything just remain the same as it was before?”

Observations

The limited attendance at the lectures might partly be due to the fact that the lecture hall was 300 - 400 metres off camp, where the exhibition, the PIC, the VOB and other services were located. It is possible that the lecture hall was difficult to find. Where possible the lecture hall ought to be located centrally in the exercise area and housed with other activities, so that listeners can more easily go from one activity to another.

The lectures ran for all three days of the exercise, which is why exercise participants had to choose between attending lectures or other exercise elements. The ambition ought to be that the lectures supplement the other parts of the exercise; and that they are planned for times when other activities aren't in progress

Exhibition and workshops

The technical exhibition displayed products, equipment, and services that have been developed to support society in the event of, in the first place, the release and fallout of radioactive substances.

Twenty-five authorities and companies were represented at the two exhibition venues. Outside one of the venues various fire & rescue service vehicles, heavy equipment and various tools were on display. The exhibitors represented various fields, for example, reporting systems, command & control systems, presentation systems, measuring and indicating systems, protective equipment, and decontamination equipment.

Workshops were held in the central exhibition hall, one on a UAV (unmanned aerial vehicle), and one on modern information systems for effective exercises, and one was held in the lecture hall on information preparedness in nuclear emergencies.

The few visitors, both Swedish and foreign, were very knowledgeable within the various fields of expertise. Company representatives said that they had met many old customers and also made new contacts. Several exhibitors felt that it wasn't worth the cost to exhibit.

The exhibitors themselves felt that the low number of visitors was due to the lectures being held at a venue a long way away from the exhibition, which ruled out spontaneous visits to the exhibition during breaks in the lecture programme. Another reason was that many of the participants were bussed straight to the field exercises thus bypassing the exhibition venues.

Observations

The lectures and exhibition ought to be located at the same venue.

Support services

As a consequence of the large number of participants for Barents Rescue 2001 a comprehensive service for the participants was required, handling, for example, lodging, food, transport, information on activities, a visitors programme. Therefore, a Host Nation Support service and a Visitors & Observers Bureau were set up.

The exercise was expected to arouse major interest from the media; so to provide them and the exercise participants with a news service a Press & Information Centre was set up.

Host Nation Support

The support for 2001 was extremely extensive. The responsibility for this rested, primarily, with the HNS service, which was established by the SAF.

It was the first time that the SAF had participated in such a large civil exercise with so many civil authorities. So they were therefore very anxious to show that the SAF was a worthy contributor even for such an exercise.

The SAF made available a large portion of the structure for its I 19 Regiment in Boden. They vacated some of the regimental buildings and sent soldiers and officers out on exercise to make room for Barents Rescue 2001. The various venues were then fitted out in accordance with the wishes of the Exercise Management; for example, telephones and 185 computers were installed. Heden Airbase was prepared so that it could host the field exercises.

The HNS service was responsible for transport; catering; lodging; participant registration; reception of participants; travel arrangements; printing; vehicle, supply, and medical services; and maintenance of other technical equipment.

The exercise was performed at several locations. And the participants stayed at a large number of hotels. Regular traffic services were arranged to serve between the various destinations. The transport organisation contained about a hundred vehicles.

Feeding took place partly out at the various exercise locations, and partly at the various regimental messes on camp. A total of 30,000 meal vouchers were issued.

Transport, catering, and service in general was handled by those units on camp that usually have that responsibility, but was in some cases strengthened by outside units.

The HNS also arranged free time activities, such as, trips, dinners, and evening get-togethers in the messes, and in a specifically erected entertainment/beer tent on the parade ground. All of which was well appreciated.

In addition, the HNS arranged all the ceremonies. Sweden's Minister for Defence addressed those present at the opening ceremony, which was well attended. At this ceremony, as at the opening ceremony for the technical exhibition and the closing ceremony, the music and song was much

appreciated. Among others, The Murmansk Philharmonia String Orchestra gave a performance.

The registering of all the participants required a long period of work by several full-time employees. Because registration forms came in late, and changes were made, and participants exchanged for others, a great amount of flexibility was needed in the registration organisation, which is a quality that was well used when the total number of participants greatly exceeded that which was planned for.

Observations

It is very important that the HNS operates well. The participants will easily recall if the food tasted bad, if the transport facilities didn't work, or if the rooms one slept in were of a poor quality. This can easily be the lasting impression even if the exercise itself was a success. However, there isn't much risk of that being the lasting impression considering that more than 90% answered that the HNS either operated well or very well.

The HNS had a very flexible working method. Late registrations, alterations, late deliveries etc., were things that had to be dealt with.

In an exercise of this type a military organisation that plans its operations at an early stage must also at the same early stage allocate resources for participation. In particular, budgets and responsibilities must be set and chiefs appointed. The SAF and the civilian arrangers must at an early stage be in agreement over finances. In addition, considerable foresight is required when it comes to the booking of rooms and transport.

Our generic summary is that exercises of the scale and focus of Barents Rescue 2001 would hardly be able to be conducted without the support of the SAF. The organisational structure, the technology, and the personnel are already in place and don't need to be established especially for an exercise. Other solutions would be far more expensive.

Visitors & Observers Bureau

The VOB was a service that assisted the exercise participants with various activities. The VOB, among other things, offered a programme for Distinguished Visitors, a programme for observers, study visits, and social events (this last jointly with the HNS). The VOB also provided hosts, guides, and interpreters, and the planning of certain transport needs.

The VOB operated on a daily basis from 12th to 20th September. Information was available in English and Swedish, and in Russian when required.

The VOB was also responsible for inviting countries and organisations to the LIVEX and to the planning conferences, which was a complex task that took a long time. It placed huge demands on previous experience of work with international contacts.

The VOB relied on accurate participant lists for its planning work. The problem with that was that registration forms came in late and alterations were

constantly being made. This is natural with a large number of visitors, but it made it hard to keep the participant lists up to date and therefore also difficult to plan activities in detail. The HNS encountered the same problem.

The VOB was dependent on, and worked closely with the HNS. Therefore, the VOB was located by the camp gates near to the PIC and the HNS. Via video conferencing facilities visitors to the VOB were able to follow staff briefings and press conferences being held at the CAB in Luleå.

Observations

Inviting countries and participants to an exercise is a difficult and time-consuming job. It must be planned and started well in advance. Experienced personnel should be assigned to this task.

The handling of registrations also requires massive resources. In order to enable the flexible compilation of up to date lists of participants, which can form the basis for planning lodging and invitations to various activities, requires partly that the registration form is thoroughly thought out, and partly that the information be entered into a database.

The VOB and the HNS had roles that influenced each other and that were partly the same. That required very close cooperation during both the planning stage and the exercise. For similar exercises in the future it might be considered to combine these host services into one organisation.

Press & Information Centre

The PIC was to provide the local populace, the media, participants, observers, and other visitors quick, correct, and continuous information about the exercise. That was achieved via a newspaper that detailed events during the LIVEX, and which every participant received on arrival. And through the creation and distribution of a newsletter twice daily, the updating of the Barents Rescue homepage, press conferences, information to the media, press cuttings etc. The PIC staff was made up of representatives from various authorities.

During the planning stage expert authorities were asked if they wanted to participate in the PIC. The PIC required information officers, graphic designers, webmasters, translators, photographers, video film teams, and IT technicians. Two meetings were held with the PIC staff prior to the exercise. During the planning process contact was made with the press in connection with the three planning conferences and large sub-project meetings. A media list and a media plan were drawn up. During the month before the LIVEX press activities were intensified, so that four local press conferences and one in Stockholm were held. This last was aimed, in the main, at the city and branch newspapers. Media monitoring of the exercise began in August and continued up to December.

PIC tasks prior to the LIVEX were numerous and wide-ranging, they included the early creation of a graphic profile for the exercise, templates for overheads, invitations, reports, and newsletters which were available on the

homepage. The PIC also provided diverse objects such as binders, badges, pens, writing pads, stickers, a commemorative postmark, and the briefcase etc. that all participants/visitors to the LIVEX received.

The PIC was also responsible for a lot of printed matter, such as postcards, invitations, the various programmes, and the diploma; and also produced a 32-page newspaper, Barents Rescue 2001 LIVEX. A number of fact sheets were produced for visitors and journalists with the aim of providing a simple description of certain things.

In cooperation with IT specialists the PIC ordered video conferencing equipment. The aim being to allow visitors in the exercise area to follow the staff briefings and press conferences at the CAB in Luleå.

An information and picture material package was compiled for use during the exercise. Announcements were placed in local papers. And an FAQ was compiled and placed on the homepage.

An official and a password-protected home page were created on the Internet. The CPT used the password-protected version as a working page, while the official page was for use by all groups. The format of the homepage changed in the week before the LIVEX. The reason for this was so that visitors would notice that the page was an information source for the LIVEX. The earlier password-protected page was converted to a hidden channel, which could be activated and used if a real incident occurred during the exercise, but it was never needed. A Swedish-English glossary and a list of terms and abbreviations were available on the homepage.

The PIC started its operations the week before the exercise. Graphic designers and webmasters were at their posts from 10th September, the Section Heads from 11th September and the remainder from 14th September. The PIC had a total of 23 personnel. Throughout the exercise there were two video film teams and two photographers available to document the exercise and the lectures. The homepage was regularly updated.

Two editions of the newsletter, The News, were produced daily. The morning edition contained information on what had happened on the previous day, and the evening edition described what was going to happen on the following day. Maybe one edition per day would have sufficed.

Next to the PIC was a pressroom, from which it was possible to obtain information and to borrow equipment. The pressroom also contained a large screen for showing the staff briefings and press conferences at the CAB in Luleå.

The Internet Café provided facilities for surfing the Internet and reading foreign newspapers.

Observations

The work of the PIC was especially multifaceted and, like the work of the VOB, required considerable resources, which must be allocated at an early stage of the planning process.

As a PIC is responsible for information on the exercise a working group should be set up at an early stage. The personnel must be formed into a good

working team before the exercise and learn about the exercise, so they know what they are going to be issuing information about.

Because of what happened on 11th September in New York the exercise attracted very little interest from the national press. It is difficult to estimate how much interest there would have been under normal conditions. Despite what had happened the local media covered the exercise in a very satisfactory manner.

An exercise on the scale of Barents Rescues generates masses of paperwork. Preparations for the next exercise should examine whether or not a document management group should be responsible for all documentation.

The objectives for Barents Rescue 2001

As earlier stated there were five objectives for the Barents Rescue 2001 exercise. In addition, the exercise was to contribute to the creation of new contacts and cross-border networks; and to examine the need for international agreements. This chapter reports on observations of the exercise with regard to those objectives. The questionnaire responses dealing with objectives and observations are also reported here. The answers are mainly from the representatives of authorities and organisations.

Improve capabilities for cooperation both on a civil – military level and a national – international level

About 75 percent of those who completed the questionnaire were of the opinion that the capability for civil – military cooperation had been improved. In the questionnaire that was aimed at all participants, nearly all those responding said that civil – military cooperation had worked well or very well.

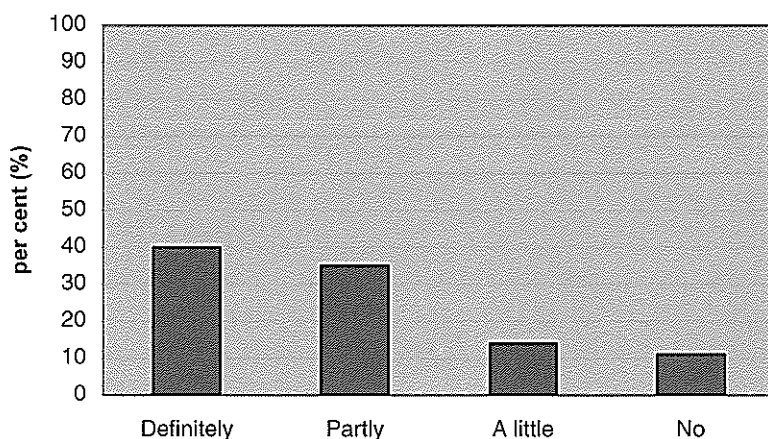


Figure 11. Has your capability for civil – military cooperation been improved as a result of Barents Rescue?

The exercise was planned and executed by both civil and military resources, but was under civil command. The steering committee and the CPT also contained both civil and military representatives. It is not likely that an exercise of this nature could have been conducted without the assistance of the SAF, especially in the measuring and field exercises, which required a very high level of civil-military cooperation. The support the SAF provided in the shape of the HNS, which included all kinds of support services, has no civil equivalent. It is not likely either that an equivalent civil organisation could have been set up for this exercise without incurring extremely high costs. The extensive cooperation between the civil authorities and the SAF functioned very well and was one of the conditions for ensuring that the exercise could go ahead. Bearing that in mind we are of the opinion that the capability for civil-military cooperation has been improved.

The exercise was planned with the representatives of several countries being present at the planning conferences, the planning meetings, the preliminary exercises, and the workshops. To a large degree the execution of the exercise was a multinational affair. Good examples of this are the ALEX, the measuring exercises, the Air Wing operations, and the field exercises. Furthermore, the need for international agreements has been examined, mainly during the planning conferences, meetings, and the preliminary exercises. Generally it can be said that the exercise was permeated by a good atmosphere and a great interest to contribute with resources and knowledge. One shortcoming however was that personnel at the CAB and in the four municipalities didn't get the opportunity for any international cooperation. The CAB was visited by foreign guests and participants but on a relatively small scale. The municipalities, which are partly dependent on the geographical situation, weren't visited at all.

Slightly more than two thirds of those who answered the questionnaire felt that the capability to cooperate on an international level had also been improved.

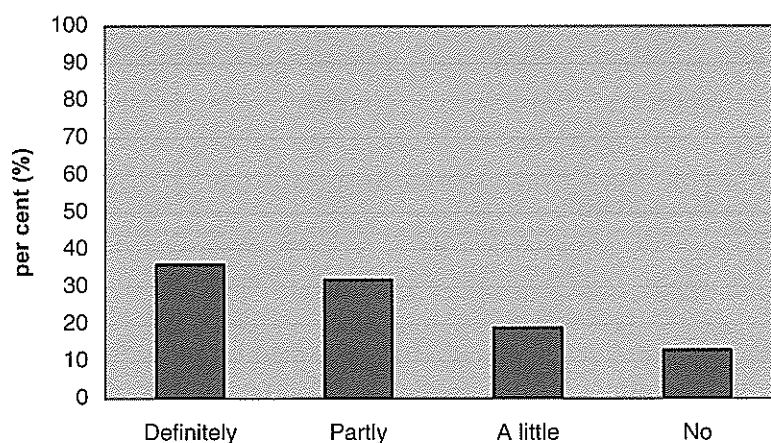


Figure 12. Has your capability to cooperate on an international level been improved?

We are of the opinion that the capability to cooperate on an international level has been improved to a great degree, but not amongst the CAB and the municipalities. The internationally attended planning conferences contributed to participants getting to know each other and to increasing international networks, while at the same time imparting better knowledge on, and understanding about, the participating countries and their professionalism.

Improve capabilities for the coordination and command of operations at major incidents

Just under two thirds of those who answered the questionnaire felt that capabilities for the coordination and command of operations at major incidents have been improved.

The coordination and command of operations was performed in various ways and on various occasions during the exercise. During the ALEX personnel

trained at commanding and coordinating national operations based on developments at the Baria FNPP. During the LIVEX participants trained, partly on the command exercise at the CAB and at the municipalities, and partly on the field exercises with evacuating, and the coordination of international aid missions. Because Barents Rescue 2001 was an extensive exercise conducted in several separate elements, conditions varied for coordination and command work, for example, in the number of those training.

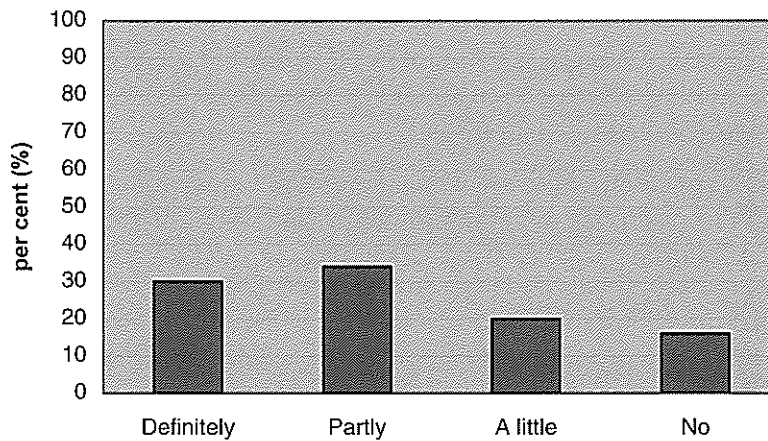


Figure 13. Has your capability to coordinate and command operations at major incidents been improved?

We are of the opinion that coordination was trained for more than command, which can, among other reasons, be due to the large amount of resources, both national and international, that were present during the LIVEX. The coordination of operations was also trained for during the planning stage with the conferences, workshops etc. With regard to the above we feel that capabilities for the coordination and command of operations at major incidents have been improved.

Improve capabilities for carrying out a situation analysis based on measurements

Just over half of those who answered the questionnaire considered that this objective had been fulfilled. However, almost half felt that this capability had not been improved to any considerable degree. During the exercise the majority of the exercise participants however did not work on a situation analysis based on measurements, and many of them probably answered 'No' in the questionnaire. Situation analyses based on measurements were trained for, among other occasions, during the ALEX, on the command exercise at the CAB and at the municipalities, even if they didn't have access to measurements taken during the measuring exercises. It should be noted that even situation analyses based on measurements were trained for in the measuring and field exercises.

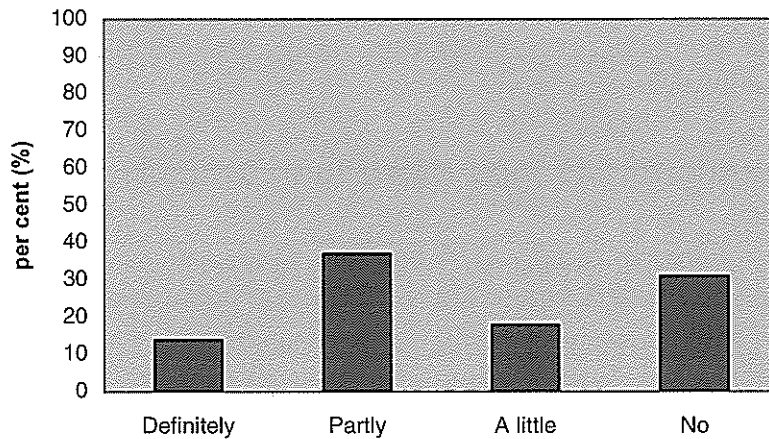


Figure 14. Has your capability to carry out a situation analysis based on measurements been improved?

Bearing that in mind we feel that, among only those who participated in an exercise element where measurement data was analysed, there was an improvement in the capability to carry out a situation analysis?

Improve capabilities for informing the public about major incidents and actions taken at them

Sixty percent of those who answered the questionnaire considered that the objective had been achieved. The majority of exercise participants however were not part of the exercise elements that focused on information, even though information was an important ingredient of the exercise. Training for the dissemination of information, regarding major incidents and actions taken, was performed in many ways and in many different contexts continuously during both the LIVEX and the ALEX, the latter of which was, in the main, an alarm and information exercise.

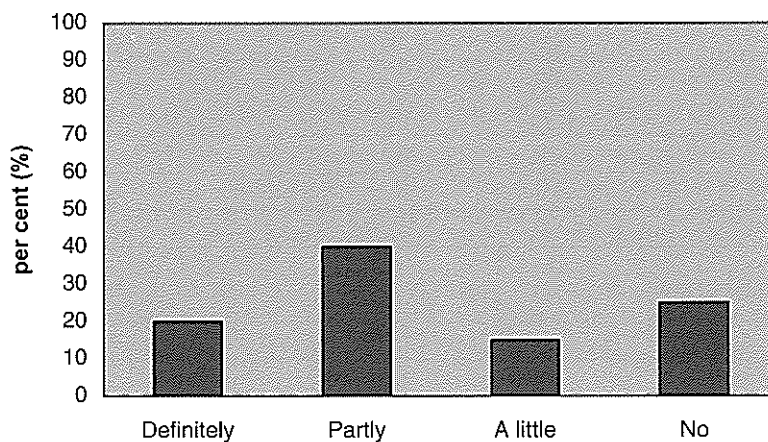


Figure 15. Has your capability to inform the public about major incidents and actions taken at them been improved?

Based on the nature of the exercise, the answers received on the questionnaires, the interviews and observations we are of the opinion that the capability to inform the public about major incidents and actions taken at them has been improved.

Increase knowledge, and make new contacts and build networks.

We are also of the opinion that the objective to increase knowledge, and make new contacts and build networks has been attained. We base that view on the widespread international cooperation that was present before and during Barents Rescue, and also on the ambitious scale of the lecture series.

Conclusion

We consider that Barents Rescue 2001 was a successful exercise, and that it created a good foundation for future civil-military exercises in the spirit of the PFP. Participants and visitors alike particularly mentioned the great international and civil-military cooperation. The measuring and field exercises were especially discussed. The measuring exercises provided the opportunity to train large sections of the assembled measuring resources that exist in northern Europe, which in itself was a unique occurrence. Both the execution and the planning of the exercise were well performed. The participating countries were very positive towards the exercise, and also towards further exercises of the same type.

Appendix 1.

Svensk sammanfattning

Räddningsverket fick år 1999 i uppdrag av regeringen att med stöd av Försvarsmakten och flera andra myndigheter genomföra en kärnenergi-beredskapsövning i Norrland under år 2001. Övningen, Barents Rescue 2001, skulle genomföras i Partnerskap för freds anda och ha bäring på Barentsregionen.

Till övningen inbjöds Danmark, Estland, Finland, Island, Lettland, Litauen, Norge, Polen, Ryssland, Tyskland och Österrike att delta. Utöver dessa inbjöds övriga PFP-länder att delta med observatörer.

Målen för Barents Rescue 2001 var bl a att förbättra förmågan att samverka civilt – militärt och nationellt – internationellt, att samordna och leda insatser vid stora olyckor, att göra lägesanalys baserad på mätningar, att informera om stora olyckor och om vidtagna åtgärder samt att höja kunskapen och skapa kontakter och nätverk.

Övningen bestod av momenten larmövning, ledningsövning, fältövningar, föreläsningar och utställning. Till övningen hörde också motspelsorganisation, besöksorganisation, pressinformation, stödfunktioner och utvärdering. Säkerheten var en viktig del i planeringsprocessen och i genomförandet.

Inför övningen genomfördes tre planeringskonferenser. Den avslutande övningen fick namnet LIVEX och genomfördes den 16-20 september år 2001. Därutöver genomfördes ett antal förövningar och workshops.

Ansvarig för övningen var landshövdingen i Norrbottens län, Kari Marklund, med biträde av chefen för Norra militärdistriktet, generalmajor Jan Frank. Avdelningschef Lena Tistad från Räddningsverket var övningsledare och ledde planeringsarbetet och genomförandet. Planering och genomförande utvärderades fortlöpande med syfte att tillvarata erfarenheter av allmänt intresse vid arbetet med framtida övningar av samma karaktär. Några av dessa erfarenheter redovisas nedan.

Totalt deltog ca 1500 personer från 22 länder under LIVEX.

Kostnaderna, inklusive personalkostnader, för övningen Barents Rescue 2001 har beräknats till omkring 28 milj. SEK. Den sammanlagda arbetstiden var över 31 manår. En förutsättning för god planering är att övningsledningen tilldelas en realistisk budget och att deltagande myndigheter får besked om karaktären av sitt deltagande i så god tid att verksamheten kan planeras in i myndigheternas ordinarie budgetarbete.

Larmövningen

Övningen ALEX var en internationell larmövning som genomfördes våren 2001. Den byggde på att ett fiktivt kärnkraftverk beläget i norra Sverige fick driftsproblem vilket resulterade i beslut om höjd beredskap. Syftet var att öva

och pröva både den nationella och internationella larmkedjan och informationstjänsten vid kärnkraftsolyckor enligt gällande internationella och bilaterala avtal. ALEX var en lyckad övning som lade en grund för vidare internationellt samarbete i att öva och pröva larmrutiner samt utbyte av information länder emellan om kärnenergisäkerhet. Övningen visade på ett stort intresse att i framtiden använda Internet som informations- och kommunikationskanal.

Ledningsövningen

I ledningsövningen övades främst länsstyrelsen i Norrbotten, kommunledningarna i Boden, Kiruna, Luleå och Piteå samt Norra Militärdistriktet.

Enskilda människor hade kommit till skada. Ett okänt antal strålkällor, skulle lokaliseras, identifieras och oskadliggöras. Händelserna krävde strategiska beslut på nationell, regional och lokal nivå och ställde stora krav på information.

Inför övningen såg man över lednings- och stabsorganisationer, lokal- och teknikfrågor och beredskapsplaner. I några fall ledde detta till förändringar av ledningsstrukturer och planverk.

Ledningsorganisationen ska löpande kunna anpassas till aktuella händelser och behov. Sådana positiva förändringar genomfördes under övningen bl a för att åstadkomma en tydlig roll- och ansvarsfördelning.

Flera av de övade var relativt otränade i sin uppgift. Roll- och ansvarsfördelningen i lednings- och stabsorganisationerna var inte klar för samtliga. Eftersom det tar flera dagar för en otränad stab att finna sina former var erfarenheten av att öva tre dagar positiv.

De övergripande målen för ledningsövningen uppnåddes i allt väsentligt. Inslaget av internationell samverkan, underlag för översyn av bilaterala avtal och samverkan inom Barentsregionen, genomfördes dock i begränsad omfattning. Samtliga övade organisationer ansåg dock att övningen var både nyttig och väl genomförd.

En motspelsorganisation spelade myndigheter och organisationer som inte deltog i ledningsövningen. Den hade controllers hos de övade som gav kontinuerlig information om hur inspel mottogs och behandlades. Motspelsorganisationen saknade deltagare för internationell samverkan och mätgrupp med svensk och utländsk personal.

En internationell militär stab organiserades i Boden bl a för att lämna understöd till länsstyrelsen. Samverkan med länsstyrelsen genomfördes i huvudsak via samverkans-officerarna i länsstyrelsen, samt genom telefonsamtal direkt mellan respektive stabschefer. Samverkan skulle kunna stärkas genom att en samverkansperson ur länsstyrelsen placeras vid staben. Vid framtida övningar av detta slag och vid verkliga händelser bör staben bestå av militärdistriktets fredsstab med de eventuella förstärkningar som situationen kräver.

Staben utarbetade dessutom ett utkast till en krisplan för en verklig kärnkraftsolycka. Planen innehåller åtgärder och resurser som kan sättas in i Barentsregionen. Arbetet leddes av en norsk officer och genomfördes samordnat med svenska, norska och finska officerare. Även Danmark och Ryssland lämnade underlag.

De deltagande kommunerna var positiva till övningen och de tyckte att det var bra med tre övningsdagar. De fick tillfälle att tillämpa sina planer, att utveckla sin ledningsförmåga, att pröva samverkan mellan förvaltningarna och kommunledningen samt att pröva sin ledningsorganisation. De internationella kontakterna var få. Vid kommunal krisledning är det lätt att rollfördelningen mellan politiker och tjänstemän flyter ihop och att gränsen mellan politiska beslut och tjänstemannabeslut suddas ut. Detta bör undvikas.

En av målsättningarna för ledningsövningen var att öva olika informationsfunktioner, att möta medierna och att förstå deras behov av omedelbar information. Vid en stor olycka utsätts vanligtvis myndigheter och andra berörda för ett mycket stort informationstryck från allmänhet och medier. Detta informationstryck spelades av en mediespelgrupp med representanter för centrala, regionala och lokala myndigheter, radio, teve samt lokal, nationell och internationell press. Att öva presskonferenser förutsätter god tillgång på journalister.

Mätövningen

Mätövningen syftade till att öva sökande och identifiering av radioaktiva strålkällor över stora områden. Totalt deltog ungefär 40 mätteam från elva länder. I övningen användes både svenska och utländska, civila och militära helikoptrar och fordon.

Mätövningar av detta slag kräver lång och detaljerad planering. Exempelvis krävs det särskilda typgodkännanden av helikoptrarna när avancerad mätutrustning skall monteras i dem. Försvarets materielverk granskade och godkände alla installationer i de svenska militära helikoptrarna.

Mätteam från olika länder har specifika utrustningar och metoder. Det är därför viktigt att före övningen ha en kontroll av mätutrustning och positioneringssystem, genomföra provmätningar samt gå igenom lokala förutsättningar och bestämmelser.

Deltagarna ansåg att övningen var välplanerad och välorganiserad. De var mycket positiva till att mätningen skedde på riktiga strålkällor och i verklig miljö och inte i laboratoriemiljö. Erfarenheten av att ha en framskjuten mät- och analyscentral nära mätningarna var mycket goda. Det finns nu planer på att utveckla konceptet REAC, så att civila myndigheter och Försvarmakten i fortsättningen snabbt skall kunna upprätta en mobil mät- och ledningscentral.

Fältövningarna

Fältövningarna, som var uppskattade inslag i Barents Rescue 2201, innehöll förevisningsmomenten sanering av yta, rörlig ledningsstab, lokalisering av radioaktiva källor, sanering och sjukvård, sökning efter saknade personer samt en evakuering av Björknässkolans elever i Boden. De var upplagda så att man kunde följa den ansvarige räddningsledarens arbete samtidigt som man såg på förevisningarna.

För att koordinera flygverksamheten och flygsäkerheten i mätövningen och i fältövningarna upprättades en särskild organisation, Air Wing. I denna fanns representanter från varje land eller organisation med mandat att leda och ta

beslut för de egna flygande enheterna. Air Wing tillhandahöll även rapporter om vädret, färdplanering, drivmedel, markström och underhåll.

Föredrag, seminarier m m

För att öka och utbyta kunskap genomfördes en seminarieriserie samt organiserades en teknisk utställning.

Seminariererien genomfördes under tre dagar med tre skilda teman. Varje dag avslutades med en paneldiskussion. Samtliga elva inbjudna länder och svenska beredskapsmyndigheter deltog i utformandet av seminarierna. Föreläsningarna genomfördes i en lokal belägen 300 - 400 meter utanför övningsområdet.

Tre expertföreläsningar hölls, i form av workshops, i en av utställningshallarna.

I den tekniska utställningen visades produkter, utrustning och tjänster som tagits fram för att stödja samhället vid i första hand utsläpp och nedfall av radioaktiva ämnen. Tjugofem myndigheter och företag fanns representerade i de två utställningshallarna.

Seminarierna var uppskattade och hade relativt många åhörare. Utställningen hade få besökare. Utställarna själva ansåg att detta berodde på att föreläsningarna ägde rum i lokaler långt från utställningen, vilket uteslöt spontana besök under uppehåll i föreläsningarna.

Stödfunktioner

Det stora deltagarantalet i Barents Rescue 2001 medförde krav på en omfattande service för deltagarna, t ex boende, mat, transporter, information om aktiviteter och program för besökare. Av detta skäl inrättades Host Nation Support (HNS) samt Visitors and Observers Bureau (VOB). För att ge nyhetservice till medier och deltagare inrättades ett press- och informationscenter (PIC).

Försvarmaktens stöd till Barents Rescue 2001 var mycket omfattande. Försvarmakten ställde en stor del av sin organisation vid regementet I 19 i Boden till förfogande. Man utrymde en del av regementet och sände ut soldater och befäl på övning för att få utrymmen för Barents Rescue 2001. Lokalerna utrustades enligt övningsledningens önskemål.

HNS svarade för transporter, utspisning, rum, deltagarregistreringar, mottagning av övningsdeltagare, resebyråttjänst, tryckning av tidning, fordons-, förråds- och sjukvårdsservice samt service och underhåll av annan teknik. HNS organiserade också en del fritidsverksamhet såsom rundresor, middagar samt kvällssamvaro i mässen och i ett särskilt för detta ändamål uppbyggt mässtält på övningsområdet. Vidare organiserade HNS olika ceremonier. Arrangemangen uppskattades av i stort sett alla.

Övningar av Barents Rescues omfattning och inriktning skulle knappast gå att genomföra utan Försvarmaktens stöd. Organisation, teknik, personal rutiner m m finns redan och behöver inte anskaffas speciellt för övningen. Andra lösningar torde ta lång tid och bli mycket kostsamma.

VOB var en serviceorganisation som assisterade övningsdeltagarna med olika aktiviteter som t ex program för särskilt inbjudna gäster, observatörsprogram, studiebesök samt kvällsaktiviteter. VOB tillhandahöll också värdar, guider och tolkar. VOB samarbetade med HNS.

VOB hade även ansvaret för att bjuda in länder och organisationer till LIVEX och till planeringskonferenserna. Det var en komplicerad uppgift som måste påbörjas i mycket god tid och som ställde stora krav på tidigare erfarenhet av internationellt kontaktarbete.

PIC skulle ge en snabb, korrekt och löpande information om övningen. Detta åstadkoms bl a genom en tidning som beskrev verksamheterna under LIVEX och som varje deltagare fick vid ankomsten. Ett nyhetsblad gavs ut två gånger per dag. Information spreds också via Barents Rescues webbplats, vid presskonferenser, genom distribution av pressklipp m m.

Under planeringsprocessen informerades pressen i samband med konferenser och större delprojektträffar. Månaden före LIVEX genomfördes fem presskonferenser. I anslutning till PIC fanns ett pressrum där det fanns möjlighet att få information. Där fanns även en storbildsskärm, som visade stabsgenomgångar och presskonferenser vid länsstyrelsen i Luleå.

På grund av det som hände den 11 september i New York blev intresset för övningen i riksmidierna litet. De lokala medierna följde övningen intensivt.

Målen för Barents Rescue 2001

Vi bedömer att målen för Barents Rescue 2001 har uppfyllts.

Förmågan att samarbeta internationellt har höjts i hög grad, med undantag för länsstyrelse och kommuner där förmågan höjts i mindre utsträckning. De internationellt sammansatta planeringskonferenserna bidrog till att deltagarna lärde känna varandra och ökade sina internationella nätverk, samtidigt som det medförde bättre kunskap om, och förståelse för, deltagarnationerna och deras professionalism.

Samordning övades mer än ledning vilket bl a kan bero på den mängd nationella och internationella resurser som förekom under LIVEX. Samordning av insatser övades också under planeringsfasen med konferenser, workshops etc. Förmågan att samordna och leda insatser vid stora olyckor har därigenom förbättrats.

För dem som deltagit i övningsmoment som innehöll lägesanalys baserad på mätningar har förmågan att göra sådana analyser ökat. Övriga påverkades inte.

Med stöd av de svar som framkommit genom enkäter, intervjuer och observationer bedömer vi även att förmågan till att informera om stora olyckor och om vidtagna åtgärder har förbättrats.

Vi bedömer också att målen om kunskapshöjning, skapande av kontakter och nätverk har uppfyllts. Vi grundar det på det omfattande internationella samarbetet som förekommit, men också på den ambitiöst upplagda seminarieverksamheten.

Slutord

Vi anser att Barents Rescue 2001 var en lyckad övning och att den har skapat en bra grund för fler civil – militära övningar i PFF-anda. Deltagare och besökare talade särskilt om mätövningen och fältövningarna samt om det goda samarbetet internationellt och civil – militärt. Mätövningen gav möjlighet att träna större delen av de samlade mätresurserna som finns i norra Europa, vilket i sig är en unik händelse. Såväl genomförandet av övningen som planeringen av den var väl genomförd. Deltagarna var mycket positiva till såväl denna övning som fortsatta övningar av samma karaktär.

Appendix 2/ПРИЛОЖЕНИЕ 2.

КРАТКАЯ ВЕРСИЯ НА РУССКОМ ЯЗЫКЕ

В 1999 году Аварийно-спасательная служба Швеции получила задание государства о проведении при поддержке Вооруженных сил Швеции и других организаций в 2001 году в Норрландии учений по готовности в случае возникновения чрезвычайных ситуаций, связанных с ядерной промышленностью. Учения Varents Rescue 2001 должны были проводиться в духе Партнерства ради мира в регионе Баренцева моря.

Для участия были приглашены Германия, Дания, Эстония, Исландия, Латвия, Литва, Норвегия, Польша, Россия и Финляндия. Помимо этого некоторые другие страны участвовали в качестве наблюдателей.

Учения Varents Rescue 2001 ставили своей целью улучшение возможности сотрудничества на гражданском - военном и национальном - международном уровнях, координации и командования операциями при возникновении аварий крупного масштаба, проведении анализа обстановки на базе данных полученных радиационных замеров, распространения информации об аварии и мероприятиях по ее устранению, а также повышения знаний и расширение сети контактов.

Учения включали в себя учение по передаче сигнала тревоги, командные и полевые учения, лекции и выставку. Во время учений функционировали ролевая организация, бюро приема наблюдателей и посетителей, пресс-информационный центр, организационно-административная служба и группа по оценке проведения учений. Вопросы безопасности играли важную роль как при планировании, так и в ходе учений.

Учениям предшествовали три подготовительные конференции. Завершающие учения получили название LIVEX и проходили 16-20 сентября 2001 года. В дополнение к названному проводилось несколько предварительных учений и семинаров.

Ответственным за учения был губернатор области Норрботтен Кари Марклунд при поддержке командующего Северным военным округом генерал-майора Яна Франка. Руководитель отдела Аварийно-спасательной службы Швеции Лена Тистад - руководитель учений, организатор подготовительной работы и проведения учений. Планирование и проведение учений постоянно подвергалось оценке с целью накопления опыта при работе в будущем с учениями подобного характера. Часть приобретенного опыта описывается ниже.

Около 1500 участников из 22 стран зарегистрировались для участия в учениях LIVEX.

Расходы, включая расходы на персонал, на учениях Varents Rescue 2001 составили около 28 миллионов шведских крон. Общее рабочее время - более 31 месяца. Залогом успешной подготовительной работы послужило

то, что руководство учений распределяло реальный бюджет, и участвующие организации получили информацию о характере своего участия заранее, что позволило запланировать затраты в бюджетах собственных организаций.

Учение по передаче сигнала тревоги

АЛЕКС – международное учение по передаче сигнала тревоги состоялось весной 2001 года. Сценарием послужила авария на фиктивной атомной станции, расположенной в северной Швеции, где в результате операционной проблемы возникла необходимость повышения чрезвычайной готовности. Целью было отработать и опробовать национальную и международную цепь оповещения и мероприятия по информированию при возникновении аварии ядерного характера в соответствии с подписанными международными и двусторонними соглашениями. Учение АЛЕКС прошло успешно и заложило основу для дальнейшего международного сотрудничества в области отработки и опробования мероприятий по передаче сигнала тревоги, а также обмену информацией между государствами о ядерной безопасности. Учение выявило большой интерес к использованию в будущем Интернета в качестве канала информации и связи.

Командное учение

В командном учении приняли участие главным образом администрация области Норрботтен, муниципалитеты городов Буден, Кируна, Люлео и Питео, а также Северный военный округ. Пострадали обычные люди. Неопределенное количество радиоактивных источников необходимо было локализовать, идентифицировать и обезвредить. Мероприятия требовали принятия стратегических решений на национальном, региональном и локальном уровнях и выдвигали большие требования к информации.

Перед учениями были проанализированы существующие руководящие и штабные организации, локальные и технические вопросы, а также планы чрезвычайной готовности. В некоторых случаях были внесены изменения в руководящие структуры и планы.

Руководящая организация должна иметь возможность гибкого адаптирования к реальной ситуации и нуждам. Позитивные изменения были внесены во время учений для достижения четкого разделения ответственности и обязанностей.

Некоторые из участников не обладали значительным опытом. Разделение ответственности и обязанностей были не до конца понятны всем. Поэтому несколько дней для штаба заняло нахождение форм работы для достижения положительных результатов за три дня учений.

Командное учение достигло поставленных целей. Элементы международного сотрудничества, предложения по доработке двусторонних соглашений и сотрудничеству в Баренцевом регионе были

изложены в сокращенном варианте. Все участвующие организации пришли к выводу, что учения были полезными и прошли хорошо.

Ролевая организация имитировала организации и учреждения, не принимавшие участие в командных учениях. Это были контролеры, находившиеся вместе с участниками и постоянно информирующие о ходе учений. Ролевой организации не хватало участников для международного сотрудничества и команды, проводившей радиационные замеры, со шведскими и иностранными участниками.

Международный военный штаб был организован в Будене для оказания поддержки областной администрации. Сотрудничество с областной администрацией осуществлялось, главным образом, через присутствие контактных офицеров в областной администрации, а также посредством телефонных звонков напрямую между руководителями соответствующих штабов. Сотрудничество могло быть улучшено посредством размещения представителей областной администрации в военном штабе. В будущих учениях подобного плана и при возникновении реальной чрезвычайной ситуации необходимо ввести в состав штаба мирный военный районный штаб с возможными усилениями в зависимости от ситуации.

Кроме того, штаб разработал черновой вариант плана чрезвычайного реагирования при возникновении реальной чрезвычайной ситуации ядерного характера. План включает в себя действия и ресурсы, которые могут быть собраны в Баренцевом регионе. Штабом руководил норвежский офицер, работа проводилась в сотрудничестве со шведскими, норвежскими и финскими офицерами. Дания и Россия также внесла свои предложения.

Участвующие муниципалитеты позитивно оценили сами учения и их продолжительность. Они получили возможность выполнить запланированное, улучшить свои руководящие функции, опробовать сотрудничество между административными ресурсами и руководством муниципалитета, а также свою руководящую организацию. Были установлены международные контакты. При руководстве муниципалитета в кризисной ситуации достаточно легко смешать роли политиков и служащих, что ведет к увеличению границы между политическими и административными решениями. Этого необходимо избегать.

Одной из целей командного учения была отработка различных информационных функций, работа со средствами массовой информации и понимание необходимости их немедленного информирования. В случае возникновения масштабной аварии учреждения и другие предприятия обычно подвергаются информационному прессингу со стороны населения и средств массовой информации. Данный информационный прессинг имитировался группой средств массовой информации с представителями центральных, региональных и местных организаций, радио, телевидения, а также местной, национальной и международной прессы. Отработка проведения пресс-конференций предполагает активное участие журналистов.

Учение по проведению радиационных замеров

Учение по проведению радиационных замеров ставило целью отработку поиска и идентификации радиоактивных источников на большой территории. Всего приняли участие около 40 команд из 11 стран. В учении использовались шведские и иностранные, гражданские и военные вертолеты и транспорт.

Учение по проведению радиационных замеров данного типа требует длительного и детального планирования. К примеру, необходимо получение специального разрешения на монтирование в вертолетах оборудования для проведения радиационных замеров. Команды из разных стран имеют специфическое оборудование и методы. Поэтому представляется особенно важным проконтролировать перед учениями оборудование и позиционные системы, провести пробные учения и обсудить местные условия и правила.

Участники пришли к выводу, что учения были хорошо подготовлены и организованы. Очень позитивную оценку получило проведение радиационных замеров на реальных источниках и в настоящих, а не лабораторных условиях. Опыт размещения аналитического центра в непосредственной близости от проведения радиационных замеров был очень положительным. Появились планы развития концепции REAC (PEAK) для того, чтобы гражданские организации и военные подразделения имели возможность в будущем быстро развернуть мобильный руководящий центр.

Полевые учения

Полевые учения, интересная часть Barents Rescue 2001, включали в себя показы моментов санации территории, работы мобильного командного штаба, локализации радиоактивных источников, санации и оказания медицинской помощи, поиска пропавших людей и эвакуации школьников из Бьорк школы города Буден. Учения были построены таким образом, что публика могла наблюдать за работой руководителя спасательной операцией и одновременно видеть показы.

Для координации работы воздушного транспорта и воздушной безопасности в учениях по проведению радиационных замеров и полевых учениях была создана специальная организация управления полетами Air Wing. В нее входили представители каждой страны или организации с полномочиями руководства и принятия решений для собственных экипажей. Air Wing располагала также прогнозами погоды, планами полетов, бензином, электричеством и сервисным обслуживанием.

Лекции и семинары

Для отработки и обмена опытом была проведена серия семинаров, и организована техническая выставка.

Серия семинаров прошла в три дня по специальным темам. Каждый день завершался панельной дискуссией. Все одиннадцать приглашенных стран и шведские организации гражданской обороны приняли участие в

подготовке семинаров. Лекции проходили в здании, расположенном на расстоянии 300-400 метров от территории гарнизона.

На технической выставке были показаны продукты, оборудование и мероприятия, которые используются для поддержки общества в первую очередь в случае выброса и оседания радиоактивных осадков. Двадцать пять предприятий и компаний были представлены в двух выставочных залах.

Семинары вызвали интерес и привлекли достаточно много слушателей. Меньше посетителей было на технической выставке. Участники выставки объяснили данный факт тем, что лекции проводились в здании, удаленном от технической выставки, что снизило количество спонтанных посетителей выставки во время лекций.

Функции поддержки

Количество участников учений Varents Rescue 2001 выдвинуло интенсивные требования обеспечения участников местом проживания, питанием, транспортом, информацией о мероприятиях и программой для наблюдателей. Для этой цели были созданы Организационно-административная служба (HNS) и Бюро приема наблюдателей и посетителей (VOB). Для работы со средствами массовой информации и информирования участников был создан Пресс-информационный центр (PIC).

Поддержка со стороны Вооруженных сил Швеции в учениях Varents Rescue 2001 была очень значительной. Вооруженные силы Швеции задействовали на учениях большую часть своего гарнизона И 19, размещенного в Будене. Часть полка была эвакуирована, солдаты и командование были отправлены на собственные учения для использования освободившегося пространства в учениях Varents Rescue 2001. Помещения были оборудованы в соответствии с требованиями руководства учений.

Организационно-административная служба HNS отвечала за транспортировку, питание, проживание, регистрацию, встречу участников, услуги по приобретению/обмену билетов, печатание газеты, транспортные, складские и медицинские услуги, а также обслуживание и сохранность другой техники. Служба HNS организовала также часть мероприятий в свободное время: экскурсии, совместные ужины и вечерние встречи, и именно для этой цели была разбита палатка на территории гарнизона. Также служба HNS организовала различные церемонии. Во основном все мероприятия были высоко оценены участниками.

Проведение учений, подобных по объему и целям учениям Varents Rescue, с трудом представляется возможным без поддержки Вооруженных сил Швеции. Организация, техника, персонал и т.д. имеются в наличие у военных и нет необходимости создавать специально для учений. Другие решения данного вопроса потребовали бы больше времени и затрат.

Бюро приема наблюдателей и посетителей VOB представляло собой организацию, которая оказывала различные услуги участникам учений: программа для особо почетных гостей, программа для наблюдателей, ознакомительные экскурсии и вечерние мероприятия. Бюро VOB обеспечивало также сопровождающими, гидами и переводчиками. Бюро VOB работало вместе с Организационно-административной службой HNS.

Бюро VOB отвечало также за приглашение стран и организаций на учения и подготовительные конференции. Это была сложная задача, решение которой необходимо начинать заранее, что выдвигает большие требования наличия опыта международной работы.

Задача Пресс-информационного центра PIC заключалась в предоставлении быстрой, корректной и полезной информацией об учениях. Это достигалось посредством выпуска газеты, описывающей мероприятия во время учений, которую каждый участник получил при приезде. Так называемое "информационное письмо" выходило два раза в день. Кроме этого функционировала Barents Rescue 2001 страничка в Интернете, были организованы пресс-конференции, информировались средства массовой информации, распространялись пресс-релизы и т.д.

В ходе процесса планирования пресса информировалась во время подготовительных конференций и больших заседаний руководителей различных частей учений. В центре PIC имелась пресс-комната, где желающие могли получить информацию об учениях. Там же был расположен большой стенд с фотографиями, который описывал штабную работу и пресс-конференции в муниципалитете города Люлео.

В связи с событиями 11 сентября в Нью-Йорке интерес государственных средств массовой информации к учениям был небольшим. Местные средства массовой информации интенсивно следили за учениями.

Цель учений Barents Rescue 2001

По нашей оценке цель учений Barents Rescue 2001 была полностью достигнута.

Возможности международного сотрудничества были значительно расширены, за исключением муниципалитета и коммун. Международные подготовительные конференции помогли участникам познакомиться друг с другом и расширить сеть своих международных контактов, что привело к обогащению знаниями и пониманию участников различных национальностей и их профессионализма.

Координация отрабатывалась больше, чем командование, что можно объяснить тем, что на учениях присутствовало много национальных и международных ресурсов. Координация отрабатывалась также во время фазы планирования: на конференциях, семинарах и т.д. Возможности координации и командования операциями при возникновении аварий крупного масштаба таким образом были улучшены.

Для участников части учений, содержащей проведение анализа обстановки на базе данных полученных замеров возможности проведения данного анализа повысились. На остальных это не оказало эффекта.

С помощью полученных ответов на анкеты, проведения интервью и анализа мнения наблюдателей мы пришли к выводу, что возможность распространения информации об аварии и мероприятиях по ее устранению также улучшилась.

Мы считаем также, что цель повышения знаний и расширения сети контактов была полностью достигнута. Основой для этого послужило предшествующее международное сотрудничество, а также огромное желание участников во время работы семинаров.

Заключение

Мы считаем учения Parents Rescue 2001 успешными, заложившими хорошую основу для проведения гражданско-военных учений в духе Партнерства ради мира. Участники и посетители особенно отметили учение по проведению радиационных замеров и полевые учения, а также хорошее сотрудничество на международном и гражданско-военном уровнях. Учение по проведению радиационных замеров предоставило возможность опробования большей части ресурсов, имеющихся в наличии в северной Европе, что само по себе уникальное событие. Как сами учения, так и процесс по планированию прошли хорошо. Участники очень позитивно оценили как данные учения, так и продолжение проведения учений данного характера.

Appendix 3.

Abbreviations used during Barents Rescue 2001

ALEX	Alarm Exercise
CAB	County administrative board
CONOPS	Concept of Operations
CPT	Central Planning Team
Distaff	Directing Staff
Ecurie	European Commission Urgent Radiological Information Exchange
Elvira	Technical command support system
EMERCOM	Ministry of Russian Federation for Civil Defence, Emer- gencies and Elimination of Consequences of Natural Disasters
FNPP	Fictitious Nuclear Power Plant
FPC	Final Planning Conference
GPS	Global Positioning System
HNS	Host Nation Support
IAEA	International Atomic Energy Agency
IPC	Initial Planning Conference
LIVEX	Live Exercise
MD N	Northern Military District
MD Staff	Military District Staff
MPC	Main Planning Conference
NATO	North Atlantic Treaty Organisation
NBC	Nuclear, Biological, Chemical
NKS	Nordic Nuclear Safety Research
PfP	Partnership for Peace
PIC	Press & Information Centre
REAC	Radiological Emergency Assessment Centre
RPS	Swedish National Police Board
RäL	Swedish Rescue Services Act
SAF	Swedish Armed Forces
SEK	Swedish Kronas
SJV	Swedish Board of Agriculture
SKI	Swedish Nuclear Power Inspectorate
SLV	Swedish National Food Administration
SoS	Swedish National Board of Health and Welfare
SRSA	Swedish Rescue Services Agency
SSI	Swedish Radiation Protection Authority
Swerem	Swedish Radiological Emergency Management
VOB	Visitors & Observers Bureau

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