The Chernobyl Accident and the Reactions of Finnish Authorities*

Kauko Sipponen

THE CHERNOBYL ACCIDENT AND THE REACTIONS OF FINNISH AUTHORITIES

Administrative Studies, vol. 7(1988): 76—83

Serious problems involving the dissemination of information were caused in Finland by the nuclear accident in Chernobyl in the Soviet Union on 26 April 1986 even though the governmental machinery in Finland was legally and functionally prepared for crisis situations. While the radiation level resulting from the accident was evidently too low to justify alerting the public, putting into effect the various governmental emergency contingency plans, or declaring a state of emergency, it was far in excess of the normal dosage level.

Although there were no rules or directives that would have prevented the more active dissemination of information, the Finnish authorities stricly followed the prevailing rules and directives in a routine manner. Given the psychological state of emergency prevailing in Europe, it should have been clear from the beginning that the accident called for ministerial level attention and that ministerial responsibility could not be delegated, divided or avoided. However, none of the ministers was willing to accept the responsibility for leadership or coordination. In addition the authorities were astonished to discover that the public media did not disseminate information in the form in which it was issued but wanted to provide information in the form which they themselves saw as fitting. While it has not been possible to establish that the authorities withheld important information or distorted the facts, the lesson to be learned is that the vacuum abhorred by mass communication can easily be filled with incorrect information.

The reactions of Finnish officials to the Chernobyl accident led the Council of State in January 1987 to set forth the principles to be observed in communicating information to the public during »special situations» which do arouse public attention and public uneasiness.

Keywords: Chernobyl, administration, information.

Kauko Sipponen, Managing Director, LL.D.
The Council of Economic Organizations in Finland, Etelä Esplanadi 20
SF-00130 Helsinki, Finland

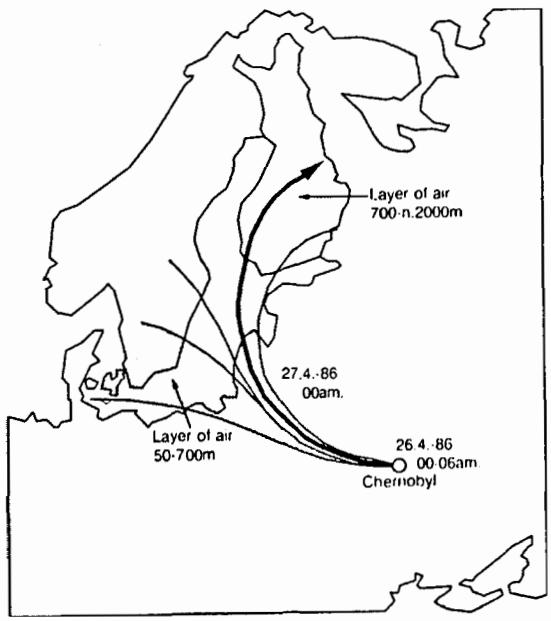
* Based on a Paper presented at the European Group of Public Administration Conference, Valencia, Spain, 6—9 May, 1987.

Saap. 14. 04. 1987
Hyv. 15. 04. 1987

1. RADIOACTIVE FALLOUT IN FINLAND

The worst nuclear accident in the world to date occurred in a nuclear power plant in Chernobyl in the Soviet Union on April 26, 1986, when the plant management conducted an experiment. The graphite cells in the nuclear reactor caught fire, and flames shot high into the air, sending radioactive pollutants to a height of more than a kilometre. Winds carried the radioactive emissions also to Sweden and Finland (Figure 1). When the winds changed, the radioactivity headed for Central Europe. According to the official statement, the accident was caused by inadequate control and by failure to observe safety regulations during tests in the reactor. The distance from the site of the accident to the south coast of Finland is slightly more than a thousand kilometres.

Figure 1. (The Finnish Centre for Radiation and Nuclear Safety)



On Sunday, April 27, 1986, at 15.50 Finnish time, radiation exceeding the range of the measuring device (0.02 milliroentgens an hour) was observed by a research station. This reading was attributed to a malfunction in the instrument.

The Defence Forces measurement station at Kajaani in northeastern Finland recorded 0.07—0.1 milliroentgens an hour after 20.40 on the same day, and reported this to the Defence Forces Headquarters. Control data from other nearby stations did not confirm the rise in radiation. The single observation was interpreted as a random fluctuation of the kind frequently occurring in the spring and related to the melting of snow.

The station at Kuhmo, which is not far from Kajaani, recorded radiation of 0.09 milliroentgens an hour on Monday, April 28, 1986, at 7.00. The Defence Forces Headquarters conveyed the information to the Finnish Centre for Radiation and Nuclear Safety, and the Air Force began taking air samples.

It became obvious after midday that the observations were not random, individual cases. Defence Forces Headquarters informed the Finnish Centre for Radiation and Nuclear Safety of this at 13.30 and the rescue section of the Ministry of the Interior received word at 14.30. From that afternoon on, the officials concerned had heavy burden of work for several weeks.

At 13.45 Swedish authorities announced that increased radiation had also been recorded in Sweden. A few hours later it was determined that the radiation did not originate from either Sweden or Finland.

At 16.00 the Centre for Radiation and Nuclear Safety released a bulletin on the radiation to the Finnish News Agency. According to both this bulletin and others issued on the same or the following day, there was no health hazard in Finland.

Radiation of 0.4 milliroentgens an hour in Uusikaupunki on April 29 was the highest recorded in Finland.

2. ACTION TAKEN BY THE RADIATION CONTROL AND PROTECTION ORGANIZATION

The following bodies participated in radiation protection and control:

— The Ministry of the Interior, which is in charge of civil defence and rescue operations, the Defence Forces and the Meteorological Institute, all of which maintain a radiation monitoring network and report their observations;
— The Ministry of Social Affairs and Health, which monitors the effects of radiation on health. The Centre for Radiation and Nuclear Safety is under this Ministry, carries out nationwide radiation monitoring in connection with civil defence, studies and monitors the dispersal of radioactive substances in the atmosphere and on the ground, monitors radiation received by the population, and reports on its observations;
— The Ministry of Trade and Industry, which is concerned with the use and control of nuclear energy;
— The Ministry of Agriculture and Forestry, which issues recommendations and regulations concerning agricultural products;
— The Ministry of Communications, which oversees broadcasting, and the Meteorological Institute; and
— The Ministry of Foreign Affairs, which handles contacts abroad.

If radiation exceeds the warning limit of 0.07 milliroentgens an hour, which is five to ten times more than the normal dosage, the agency making the observation must inform the other agencies concerned with radiation monitoring as well as its own ministry. The Centre for Radiation and Nuclear Safety informs the Ministry of Foreign Affairs and the authorities in the other Nordic countries.

In the event of a sudden risk situation, the public is warned (by radio and television) at the latest by the time the radiation reaches a level of 20 milliroentgens an hour. People are alerted to take cover immediately when the radiation reaches 200 milliroentgens an hour. The Finnish Centre for Radiation and Nuclear Safety can also recommend to the Ministry of the Interior, for example, that doors and windows be sealed, that people remain indoors, and that pregnant women and small children be evacuated.

The Defence Council has defined the types of crisis for which society must be prepared. The principal govemment agencies have issued instructions for protective measures in advance.

The civil defence organization cannot be kept on constant alert during the time of peace. Under normal conditions, its activities are con-

fined to making plans, providing training, collecting material, directing and monitoring preparions by individuals, etc. If a state of war is declared, or if war threatens the country or it is otherwise necessary under exceptional circumstances to step up civil defence activity, the Council of State (The Cabinet) can call for the implementation of far-reaching measures for the protection of life and property.

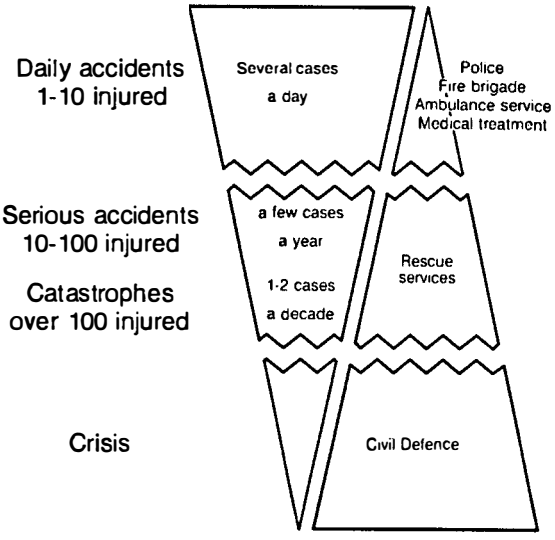
The Council of State has not once called for the preventive measures referred to in the civil defence act since the Second World War. Neither did it issue a directive of this kind after the Chernobyl accident. The radiation was too low to justify declaring a state of emergency and alerting the public. None of the emergency contingency plans made in various branches of the government were undertaken.

The government agency whose sector is involved has overall responsibility for coordination and for ensuring the implementation of all necessary measures. The current radiation control directive for officials does not define the responsibility for leadership and coordination in the event that no special measures for the protection of citizens are needed. No single authority took this responsibility; each sought to avoid encroachment of the others' prerogatives in the politically sensible situation.

The Ministry of the Interior was prepared from the outset to take responsibility, had protection, evacuation or other similar measures been required. This Ministry had a central role to play, because in any case the fire and police authorities under it are responsible — both in normal circumstances and in the event of an accident or other danger situation — for protecting the public (Figure 2).

The central government agencies therefore began their activities separately, and when necessary were in contact with each other. However, coordination soon proved so necessary that on April 29, 1986, the Council of State set up an unofficial working group of civil servants representing the most important central government agencies. The task of the working group was to monitor the situation and coordinate the action taken. The Council of State, however, did no decide which ministry had overall responsibility. The working group did not have independent decision-making authority; decisions about measures to be taken and their implementation were left up to the agency in question.

Figure 2. Civil Defence and Frequency of Accidents



The working group was chaired by a representative of the Ministry of Trade and Industry. This Ministry was in fact dealing with the problems of nuclear energy, and discussion about building a fifth nuclear power plant in Finland was under way at the time. Did the Council of State first see the situation in terms of its effect on the discussion of the nuclear power plant rather than as a problem of radiation control? The former is suggested by the fact that neither the National Board of Health nor any journalists were included in the group at the beginning.

In order to reduce the general effect of the radiation on the public, first the Centre for Radiation and Nuclear Safety and later other agencies issued recommendations, but not directives.

The Ministry for Foreign Affairs recommended that travel should be avoided in areas of the Soviet Union and Eastern Europe where there was a risk of radiation contamination. Customs officials stepped up their monitoring of foodstuffs. The National Board of Health did not consider iodine tablets necessary. The Centre for Radiation and Nuclear Safety recommended that rain water not be given to cows nor used for drinking and that planting of rapidly grow-

ing leafy vegetables should be postponed. Gathering of plants and mushrooms was to be avoided and children were not to play in puddles. The Ministry of Agriculture and Forestry recommended that cows not be let out to pasture. Vehicles and imports entering the country were checked for radiation.

According to announcements by officials, no direct effects of radiation were to be expected in Finland from external radiation, food or drinking water. The long-term effects of the radiation, for example an increase in the incidence of cancer, are difficult to estimate, even though some forecasts have been made. The total radiation received over the years, caused by the accident, will probably be close to the equivalent of one year's dosage under normal conditions (The Finnish Centre for Radiation and Nuclear Safety, Reports 1986 and 1987.)

On April 29 the Finnish ministries requested additional information from Soviet representatives in Helsinki and in Moscow. They had little success.

Like a number of other Western nations, Finland was concerned about the safety of its citizens in this unclear situation. Finland was the only Western country to evacuate those of its citizens desiring to leave, directly from Kiev on April 30 and May 1. Cooperation with Soviet authorities proceeded smoothly and quickly, although the evacuation was described as a »demonstration» on the main Soviet television news broadcast.

Officials had to work under exceptionally difficult conditions. Because of a strike by the union representing a substantial proportion of the civil service, some staff of the Centre for Radiation and Nuclear Safety and the Meteorological Institute were not on the job; certain measurement stations and a computer needed for weather forecasting were not in operation. There was no postal service abroad, and telephone connections were unreliable. This hindered the flow of information abroad and to Finnish diplomatic missions and led to claims that information was being withheld. As the nature of the accident was revealed, staff involved in radiation monitoring were excluded from the strike. This happened on April 30. A maximum of more than 100 staff members took part in radiation monitoring and related work at the Centre for Radiation and Nuclear Safety.

An interpellation concerning the actions of the Government and the authorities was made in the Finnish Parliament on May 13, 1986. After extensive debate, the Government received a vote of confidence of 121—40.

3. OFFICIAL AND OTHER INFORMATION

The Chernobyl accident caused serious information problems in Finland (Joutsenniemi 1987).

In addition to the information mentioned above, the Centre for Radiation and Nuclear Safety released statements on two radio and four television broadcasts on April 28. Late evening news broadcasts reported an accident at a nuclear power plant in the Soviet Union. The information came via TASS and a Soviet television news broadcast.

Interviews with the authorities and official bulletins indicated already on April 29 that radiation in Finland had reached its peak and had begun to decline; that the reactor in question was not like those in Finland; that since the growing season in Finland had not yet begun and cattle were still indoors, the effect of the radiation on agriculture and food stuffs would be smaller than in Central Europe.

On the evening of April 29, the Council of State held a press conference for political reporters at the Parliament House. The conference was hosted by the Ministry of Trade and Industry. It was, however, improvised. It was originally considered that the Centre for Radiation and Nuclear Safety was responsible for providing information, and when reporters who had attended a press conference held by the Centre at approximately the same time in another location began to write their stories, the information efforts of the Council of State were easily forgotten.

From then on, there were official bulletins and press releases almost daily until the end of May. More than 50 press releases were made and 15 press conferences were held.

The standard fare in the official bulletins comprised the radiation situation in Finland, a weather forecast featuring air currents and completed with pictures and maps, and possible recommendations from the authorities.

At the outset, information was not provided very efficiently, and it was not even possible to centralize this within the agencies. The Government's own information section held its first press conference at the Council of State on May 8, and from then on compiled and distributed bulletins from various agencies.

The Minister of the Interior took part in the above press conference and explained the action taken by the authorities up to that time. Criticism was voiced by both officials and press, particularly when, with the radiation levels in mind, the Minister said that a press conference had been called now that the nature of the situation had been understood and there was something to tell. The Minister of the Interior, who otherwise has a reputation for vigilance and criticalness, slipped once again in August 1986. As a result, her votes in the 1987 parliamentary elections dropped to 3349 from 6139 received four years earlier, and she lost her seat in Parliament.

The standard of information improved once the professionals took over, and the communications media responded favourably.

Attempts were also made at the press conference on May 8 to refute claims made abroad about »Finlandization». The Westem media had given the impression that no-one in Finland dared speak about radiation originating from the Soviet Union nor demand explanations from the Soviet Union, even though there were rumours of serious damage in Finland.

This is how some journalists attached to the Observer described the situation in Finland (Hawkes 1986, 142): More than two weeks after the event, the average Finn hardly knew more than that an accident had happened, and that the radiation level in Finland had risen as a result. No-one wanted to tell just how bad the situation really was. — In the light of studies concerning the flow of information, this is a heavy misrepresentation of the situation.

In debate concerning the interpellation, the Prime Minister maintained that correct information had been available from the outset, although there had been difficulties in conveying it to the Finnish public and abroad. Here it should be borne in mind that Finland did indeed act quickly to safeguard its own interests and those of it citizens. However, Finland is not as accustomed to making publicity as a number of other Western European countries. Finland found itself in the midst of an unexpected international propaganda battle. Finns were still not prepared for the Western media's desire for sensation, although previous experience should have warned them.

At a meeting of radiation experts on May 9 in Paris, Finland was the first country to submit an extensive and comprehensive report on the radiation situation within its borders.

Since the beginning of May, the Ministry for Foreign Affairs had attempted to explain to the rest of the world that there had not been any fatalities in Finland because of the accident, and that it was not dangerous to be in the country. In mid-May an expert from the Centre for Radiation and Nuclear Safety journeyed to the United States to explain the radiation situation in Finland. Despite these efforts, considerable damage was caused to the tourist trade by the accident. At a Finnish-Soviet seminar for reporters in Kiev at the end of May, Finnish reporters were persistently critical of the information conveyed about the accident, although the flow of information had in fact gradually increased.

Information on the accident was made more difficult to grasp by the numerous units used to measure radiation dosages: roentgen, rad, rem, gray, becquerel, sievert. Even the major newspapers were not always able to use the terms correctly. Only several days after the accident there was information on the amount of radiation from Chernobyl as compared, for example, to the annual dosage in Finland from radon in homes, x-rays, the soil, and from space.

A study was made in the University of Tampere of 1428 stories published during a 30-day period in nine Helsinki morning and evening newspapers, in one local paper and in two important magazines (Timonen etc. 1987). Most of these — about 60 % — were written by the publications' own staff.

The most common sources of information were the foreign mass media (18 %), the Centre for Radiation and Nuclear Safety (12 %), foreign politicians or civil servants (11 %), domestic mass media (10 %), the Finnish Government including ministries and experts (10 %), and other experts (9 %). The publications also made a consistent effort to obtain non-official views as well. When official information seemed to be in short supply, news material was taken from the sources available. News from the Soviet Union, especially at the beginning, was not adequate when bearing in mind the direct effect of the accident on many European countries. There was no previous experience of publicity of this kind in the Soviet Union. The accident took place in the East, but the news sources were in the West. This naturally hindered the flow of information.

4. ASSESSING COMMUNICATION

Although the extent of the radiation did not even approach dangerous levels, there was a psychological state of emergency in Europe. People felt that the danger of invisible radiation was real and were concerned. However, an opinion survey in Finland does show that people were less concerned about the accident and its consequences and for a shorter period than was initially believed. Only 14 % of the respondents to surveys made in June and only 5 % in December listed the effects of the dangers posed by the Chernobyl accident among their primary sources of concern. Researchers expected the public to react more strongly and for a longer time (Suhonen and Virtanen 1987). Did the media overestimate the need for information?

Nevertheless, Finland's political leadership should have realized that the accident called for ministry-level attention. In many other countries the ministers, including the prime minister, came to the fore. Nuclear power is an emotional and politically sensitive issue. As none of the ministers was willing to take responsibility for leadership or coordination, one can understand the reporters who felt they were trying to avoid confronting a difficult situation.

The authorities were not prepared to provide information in a situation that was not a formal state of emergency, but which nevertheless was in actual fact. Information coming from various agencies might seem to conflict and give cause to ask whether the authorities were really in control of the situation.

Assigning the responsibility for providing information at the outset principally to the Centre for Radiation and Nuclear Safety, which is not a professional channel of communication, was ill-advised. The important initial bulletins contained many points that the general public could not really understand. However, reporters and commentators interviewed in summer 1986 gave the highest rating — »satisfactory» — to the Centre for Radiation and Nuclear Safety (Energia 10/1986). The Ministries of the Interior and Environment received »poor» ratings.

The events showed how tightly government is bound to rules and directives. No rules would have prevented more active communications at a faster pace. But it must be remembered that when information about a high level of radiation recorded later at Kotka was made public immediately, both in Finland and abroad, the source of the high reading eventually proved to be a malfunction in the measuring device.

Approval of directives for providing informations to the public had been delayed, although a draft had been ready for years. Now the draft directives had to be applied.

The authorities criticized the information media on the following points:

— Journalists lacked sufficient background information.
— Journalists sought to create an »adversary relationship» by using outside experts and by making official information seem questionable; this made the public uncertain.
— The mass media edited the official bulletins like any other news material and factual errors resulted.
— A great many journalists were critical of nuclear power or opposed to it and this attitude may have had an effect of which they were not aware (Critically Lindblad 1986, 70—94).
— Journalists received from abroad information based on assumptions and rumour which were not confirmed by the Finnish authorities. This readily led to allegations of sloth, secrecy and manipulations, which in turn offended the authorities.

Suspicion of official information voiced by the media — which the authorities found incomprehensible — can also be explained by the fact that information on nuclear energy is very generally withheld. The reasons why information on the Chernobyl accident was withheld even from neighbouring countries for more than 48 hours were still not known by the time the Soviet Union announced the continuation of its nuclear power programme in April 1987.

The authorities have admitted that the early information efforts nor the pertinent role of the authorities were successful. The Government maintained a low profile; the technical standard of the information provided was poor at the outset; the administrative style was condescending and difficult to understand. However, several studies made afterwards provide no indication that the authorities had withheld information or been misleading.

On May 9 the Centre for Radiation and Nuclear Safety proposed that radiation reports — like those on weather and pollen — should be broadcast on radio and television (Kytömäki etc. 1987, 31—32). However, the Finnish Broadcasting Company would not give its consent.

It wanted to handle the editing, and moreover felt that critical examination by the editorial staff would make the information process more reliable.

The Council of State could have required the Broadcasting Company to broadcast official bulletins in an emergency on the basis of the operating permits it grants to the Company. The Govemment did not want, however, to demand this, as no direct danger was involved.

How would the mass media have reacted if the public's security had really been in jeopardy and wide protective measures had been necessary? This situation would, of course, have called for the implementation of the plan for informing the public during a state of emergency.

5. REFORMS AND CONSEQUENCES OF THE CHERNOBYL ACCIDENT

Action taken in response to the Chernobyl accident was viewed as an exercise for a crisis situation, and the shortcomings revealed were to be eliminated.

In June 1986 a working group was set up to analyze, in the light of experience, the management organizations dealing with nuclear power plant accidents and similar special situations, as well as the issuing of recommendations and informing of the public (Report on special situations, 10. 12. 1986). The concept of what was termed a »special situation», between normal conditions and emergencies, was recognized. It was felt that such situations required special measures. The effects of a special situation do not justify the implementation of emergency plans. However, they may arouse public attention and uneasiness as much as true emergencies do.

In special situations it is not enough, in keeping with established practice, to inform the public only of decisions; the authorities must also see to it that deficient or inaccurate information does not increase public uncertainty and worsen the situation. Special points of information can be established. Informing the public is an integral part of government, and there must be a positive attitude towards it. The information section of the Prime Minister's Office is responsible for coordination.

With these views in mind, the Council of State made a decision in January 1987 on the principles to be observed in communicating information to the public. The system for keeping people in key leadership positions informed was improved. It should now be possible at any time of the day or night to keep the members of the Council of State and key civil servants informed and for government to undertake critical functions.

Appropriations for additional radiation monitoring equipment and for replacing existing equipment over a five-year period was included in the 1987 State budget. The alarm system will also be improved.

Reform of the civil defence act has long been in the offing. A basic improvement would be to include people living outside major urban areas within the scope of radiation protection. The proposed reform will probably go to the Parliament in 1988.

Information on radiation provided by the civil defence organization has not interested the Finnish public, either individual citizens or the authorities responsible for appropriating funds. While the voluntary civil defence organization had sent radiation protection guides to all farms in 1985 — a couple of hundred thousand copies — none of them seem to have been at hand in 1986. The organization was flooded with requests after the Chernobyl accident, for most farms lacked even basic information about radiation protection. The importance of voluntary civil defence work may increase in the future.

Although plans for the construction of a fifth nuclear power plant were nearing completion, the project was postponed indefinitely. While opinion surveys before the accident showed that support and opposition were roughly equal, support declined afted the accident by almost half and opposition virtually doubled. There has been a move back towards the previous balance, but it is unlikely that nuclear power will be able to regain the support it had prior to the accident, at least not in the near future.

Although there were substantial economic losses in most European countries, there seem to be no international agreements covering such damages.

After the accident, Finland signed an agreement with the Soviet Union aimed at speeding up the flow of information in the event of a nuclear accident and providing for an exchange of information on nuclear power plants.

The Ministry of the Interior has ordered several studies on the communication of information to the public and on the public's reaction. The Broadcasting Company has commissioned a study of its own activities after the accident.

6. ANALYSIS OF CRISIS DECISION-MAKING

Professor U. Rosenthal has written about crisis situations in Holland and has analyzed the decision-making process (Rosenthal 1986). In the case of Chernobyl, the focus is on the initial phase of the crisis: a serious threat to the basic structures of a social system under time pressure and uncertain circumstances.

We are dealing here with a threat to the environment that did not really become a grave physical danger. It would perhaps be more suitable to treat the crisis in terms of some other type of analysis, for example the theory of action, or the theory of information and communication. I would, however, like to mention here some observations that may fit into Professor Rosenthal's analytical frame including the organization, the information process and the psychological features of crisis decision-making.

6.1. Organization of crisis decision-making

The case in question support's Professor Rosenthal's contention that a bureaucratic organization will have trouble dealing with a serious crisis or threat thereof.

According to Rosenthal, no serious threat can be dealt with as a routine matter. Vice versa, if the threat is treated as a routine matter, it cannot be serious.

The representatives of the information media, however, did not understand this, though they saw the authorities presenting radiation data and explaining their significance without any dramatization, as if it were matter of ordinary routine. Indeed, the foreign media spoke of the widest imaginable range of dangers in Finland.

As the forms of violence have multiplied and become more sophisticated, open wars have decreased. In contrast, terrorism, sabotage, kidnapping and armed conflict have increased. The concept of a state of emergency between »normal conditions» and war has arisen. Preparations are also being made in Finland for such situations. The concept of emergency legislation is indeed known in Finland, but in order to safeguard democracy, there is a desire to ensure as far as possible that officials have authority from the Parliament and are supervised by it for all crisis situations.

As an outgrowth of the Chernobyl accident, it proved necessary to create a new administrative concept, the special situation, during which government must have greater capacity to act, even though there is no state of emergency.

Decision-making is centralized during a crisis. At the outset it was not recognized that the fourth estate, i.e. the mass media, and a concerned public would have required centralized, ministry-level information, even though the radiation levels being recorded did not constitute a serious danger.

Ministerial responsibility cannot be delegated, divided or avoided. Apparently the Minister of the Interior should have headed a crisis group and appeared on television the same evening the increased radiation level was detected. This would have shown symbolically that the Government was monitoring the situation closely and taking charge.

Government responded to the challenge posed by the crisis in routine fashion adhering strictly to written rules. The consequences of the accident were too weak to force government to improvise, although they were strong enough to have justified a more visible role in informing the public. Autonomous action by government agencies to some extent offset the slowness of the ministerial level, and the information media gradually also learned to value the efforts of the civil service.

6.2. Information and the communication process

In a crisis situation there is competition to see who takes charge of the process. The authorities were astonished that the information media did not disseminate their information directly and called in experts who criticized their reports and presented a variety of views on them. It has not been possible afterwards to show that the authorities held back important information or distorted the facts. In a Norwegian report on Chernobyl one speaks about the difference between the democratic and hierachical models of information (Norges offentlige utredninger 1986, 19, 230).

The journalistic tenets of free communication of information are altogether different from the civil servant's approach, which reflects the attitudes of the official and researcher. For this reason, government must resort in crisis situations to the use of professionals in informing

the public. It was not prepared to do this in the case of Chernobyl.

It was observed that mass communications abhor a vacuum. Incorrect information takes the place of facts. For this reason, the authorities should have availed themselves of the services of popularizers, graphic artists and even advertising men from the outset. Official information should have been made easier to understand from the beginning.

Civic organizations opposing nuclear power were planning to set up their own information centre. It would have provided accurate, uncensored information, independent of the authorities and the power companies. Nothing further has been heard about this project, so perhaps the events did not provide sufficient justification.

6.3. The psychology of crisis decision-making

In assessing the action taken by the Finns it should be remembered that a legalistic and positivist attitude prevails in government circles. In such a climate the provision of precise instructions for the organization of future crisis decision-making is important. Government has made critical reports and aims at obtaining better results in the future through various reforms (Reports on the effects of Chernobyl in the Finnish administration 26. 6. 1986 and on special situations 10. 12. 1986).

The fourth estate does indeed wield power over the public in communications, and it also has ethics of its own. It is obvious from presentations and articles by numerous journalists and commentators that the situation was considered problematic at this level too, and placed a strain on professional ethics. Journalists gave themselves a satisfactory rating; the authorities made a similar assessment of their own actions.

The events after the Chernobyl accident do not suggest that information and orders from the authorities would not be communicated rapidly and without editing in the event of a grave and immediate danger, but they show that the provision of information under special conditions involves many problems that we are little aware of, and that have been discussed only to a limited extent. There is a need for further discussion as all administration to a great extent involves issues concerning the open dissemination of information.

REFERENCES

The Finnish Centre for Radiation and Nuclear Safety: *Chernobyl and Finland,* Report, Helsinki 1987.

The Finnish Centre for Radiation and Nuclear Safety: *The Effect of Chernobyl on the Finns,* Report, Helsinki 1986.

Hawkes, Nigel et al.: *The Worst Accident in the World,* Otava, Keuruu 1986.

Joutsenniemi, Anna: *Information given by Central Government on Chernobyl,* University of Helsinki, Helsinki 1987.

Kytömäki, Juha, Lehtola, Markku and Paananen, Seppo: *Chernobyl in radio and TV,* Helsinki 1987.

Lindblad, Kjell (Red.): *Efter Thernobyl,* Hangö 1986 (in Swedish).

Norges offentlige utredninger 1986: 19: *Informasjonskriser,* Oslo 1986 (in Norwegian).

Report on the effects of Chernobyl in the Finnish Administration 26. 6. 1986, Working group, duplicated.

Report on special situations 10. 12. 1986, Working group, duplicated.

Rosenthal, U.: Crisis Decision-making in the Netherlands. *The Netherlands' Journal of Sociology* 22 (1986), p. 103—129.

Suhonen, Pertti and Virtanen, Hannu: *How the citizens reacted upon the Chernobyl,* University of Tampere, Tampere 1987.

Timonen, Ilkka, Kallio, Riitta and Mörä, Tuomo: *Chernobyl in Press,* University of Tampere, Tampere 1987.