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SSINS No.: 6835  
IN 86-33

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
OFFICE OF INSPECTION AND ENFORCEMENT  
WASHINGTON, D.C. 20555

May 6, 1986

IE INFORMATION NOTICE NO. 86-33: INFORMATION FOR LICENSEE REGARDING THE  
CHERNOBYL NUCLEAR PLANT ACCIDENT

Addressees:

Fuel cycle licensees and Priority 1 material licensees.


Purpose:

The purpose of this notice is to provide background information only and requires no action on the part of recipients. The reference background information relates to the Chernobyl nuclear plant accident and is contained in the enclosed copy of Information Notice No. 86-32 sent to NRC nuclear power plant licensees on May 2, 1986.

Discussion:

As indicated by the enclosed information, radioactive material from the Chernobyl accident is expected to be detected in the continental United States through EPA environmental surveillance, perhaps as assisted by Department of Energy facilities and NRC-licensed nuclear power reactor sites. The level of activity in the United States is expected to be low and should have little, if any, impact on licensee monitoring programs. As stated in the enclosed notice, any anomalous detection of radioactive material should be evaluated in accordance with your license to assure that any detected materials are properly identified as to source (i.e., licensed activities or the Chernobyl Event).

If you have any questions regarding this matter, please contact the Regional Administrator of the appropriate NRC regional office, or this office.

  
Edward L. Jordan, Director  
Division of Emergency Preparedness  
and Engineering Response  
Office of Inspection and Enforcement

Technical Contact: L. Rouse, NMSS  
427-4205

Attachments:

1. Information Notice 86-32
2. List of Recently Issued IE Information Notices

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PDR IE Notice 86-01

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
OFFICE OF INSPECTION AND ENFORCEMENT  
WASHINGTON, D.C. 20555Attachment 1  
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May 2, 1986

IE INFORMATION NOTICE NO. 86-32: REQUEST FOR COLLECTION OF LICENSEE  
RADIOACTIVITY MEASUREMENTS ATTRIBUTED  
TO THE CHERNOBYL NUCLEAR PLANT ACCIDENTAddressees:

All nuclear power reactor facility licensees holding an operating license (OL) or construction permit (CP).

Purpose:

The purpose of this information notice is to update licensees of the recent Chernobyl nuclear power plant accident and to request voluntary reporting of any licensee environmental radioactivity measurement data probably caused by that event.

In order to enhance the Federal and state monitoring programs, all nuclear power reactor facilities with on-going environmental monitoring programs are requested to consider the NRC request to report confirmed anomalous environmental radioactivity measurements probably caused by radioactive material released in the accident at the Chernobyl nuclear power plant in the U.S.S.R. It is requested that recipients review the attached information and provide the environmental data discussed herein.

Description of Circumstances:

Information issued by the Environmental Protection Agency (EPA) concerning the recent reactor accident in Chernobyl, USSR is contained in Attachments 1, 2 and 3.

In the week following the accident at Chernobyl, elevated levels of radioactivity have been detected in air, rainwater, soil and food in many European countries. The radionuclides that have been detected in air in these countries include: I-131, Cs-137, Cs-134, Te-132, Ru-103, Mo-99, Np-239, and Nb-95. Although estimates of plume arrival time and location of entry into the continental United States are highly uncertain at this time, the plume may arrive in the Pacific Northwest United States during May 7-10, 1986.

Discussion:

It appears likely that radioactive material from the Chernobyl accident may arrive within the continental U.S. in concentrations that are readily detectable. In order to enhance nationwide environmental surveillance, the EPA (and some states) have increased the airborne monitoring sampling frequencies to be better able to detect any traces of the plume. In order to supplement and reinforce this state and federal nationwide surveillance program, the NRC licensees [as

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part of their routine Environmental Monitoring Program (EMP)] are requested to voluntarily provide the following information:

1. Report to the NRC any anomalous environmental radiation or radioactivity measurement that can be reasonably assumed to have resulted from the Chernobyl accident. These confirmed measurement results from the licensee's routine EMP should be telephonically reported to the NRC Operations Center (301-951-0550) within 24 hours of determining that material from the accident has been measured. (Environment air sampling probably is the most sensitive and thus most likely means of detecting the airborne materials. Some other less-sensitive potential means of detection may include personnel whole body counting equipment).

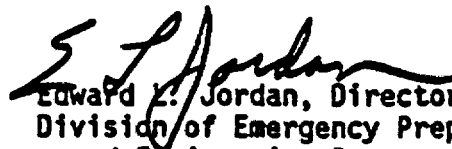
The reporting format should provide for:

1. Sample date(s) and approximate locations(s).
2. Medium or pathway (e.g., air particulate, air charcoal, milk).
3. Type of analysis (e.g., gross beta, iodine-131, other gamma emitter).
4. Statistical data (mean, range, number of samples).

Any data provided by NRC licensees will be shared with appropriate federal agencies. The NRC as part a combined Interagency Task Force is providing daily technical information reports to the Institute for Nuclear Power Operations (INPO). This updated technical information is available to member utilities through INPO's Nuclear Network system. Because the sensitivity and broad scope of existing licensee programs, augmentation of the NRC licensee EMPs is not necessary.

Any anomalous detection of radioactive material should be evaluated in accordance with facility license, technical specifications and applicable regulations to assure that the detected materials are properly identified as to source (e.g., either plant operations or the Chernobyl Event).

We appreciate your cooperation with us on this matter. If you have any questions regarding this matter, please contact the Regional Administrator of the appropriate NRC regional office, or this office.

  
Edward L. Jordan, Director  
Division of Emergency Preparedness  
and Engineering Response  
Office of Inspection and Enforcement

Technical Contacts: James E. Wigginton, IE  
(301) 492-4967

Roger L. Pedersen, IE  
(301) 492-9425

Attachments:

1. EPA Task Force Report (May 1, 1986)
2. Talking Points (April 30, 1986)
3. Fact Sheet (May 2, 1986)
4. List of Recently Issued IE Information Notices

# Soviet Nuclear Accident

FOR RELEASE: 2:00 P.M., THURSDAY, MAY 1, 1986

## A Task Force Report

CONTACT: DAVE COHEN  
(202) 382-4355

On Tuesday, the Environmental Protection Agency, which maintains the nation's radiation monitoring network, increased its sampling frequency for airborne radioactivity to daily. Results obtained thus far show no increase in radioactivity above normal background levels. The Canadian air monitoring network has also increased its sampling frequency to daily. Results there show no increase in radioactivity.

The air mass containing the radioactivity from the initial Chernobyl nuclear event is now widely dispersed throughout northern Europe and Polar regions. Portions of radioactivity off the northwest Norwegian coast yesterday morning should continue to disperse with possible movement toward the east in the next several days. Other portions of the radioactive air mass may move eastward through the Soviet Union and through the Polar regions over the coming week.

The Soviets have reported they have smothered the fire. From our information it is not clear whether the fire is out or not. We also cannot confirm news reports of damage at a second reactor, but the second hot spot seen in the LANDSAT photos is not a reactor.

The U.S. Government has offered to provide technical assistance to the Soviet Government to deal with the accident. On Wednesday afternoon, a senior Soviet official from their Embassy in Washington delivered a note to the Department of State expressing appreciation for our offer of assistance and stating that for the time being, assistance is not needed.

At the present time, the U.S. Government has no data on radiation levels or contamination levels at any location within the Soviet Union. We also have no firm information concerning the number of casualties from the accident.

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The Department of State is not advising against travel to the Soviet Union, Scandinavia and Eastern Europe. As a result of the nuclear accident, the State Department has issued a travel advisory recommending against travel to Kiev and adjacent areas. We are largely dependent on the Soviets for information on conditions within the USSR and we are doing everything possible to obtain relevant information from Soviet authorities. Americans planning travel to the Soviet Union and adjacent countries should carefully monitor press reports on this rapidly changing situation to make as fully informed a decision as possible with respect to their travel plans. They should bear in mind that many of these countries have reported increased levels of radiation in the environment.

The State Department Office of Legislative Affairs has commented that customary international law requires the Soviet Union to notify other States/Countries of the possibility of transboundary effects of the incident and to furnish them with the information necessary to address those effects.

The White House has established an Interagency Task Force to coordinate the Government's response to the nuclear reactor accident in Chernobyl. The Task Force is under the direction of Lee M. Thomas, Administrator of the Environmental Protection Agency, with representatives from the White House, Department of State, EPA, Department of Energy, Nuclear Regulatory Commission, National Oceanic and Atmospheric Administration, U.S. Air Force, Department of Agriculture, Food and Drug Administration, Federal Emergency Management Agency, Department of Interior, Federal Aviation Administration, the U.S. Public Health Service, and other agencies.

TALKING POINTS.  
CHERNORYL NUCLEAR ACCIDENT  
April 30, 1986

o Late Friday, April 25, or early Saturday, April 26, a serious accident occurred at the Chernobyl nuclear facility near Kiev in the Soviet Union. As a result of an apparent loss of reactor coolant, the facility experienced a core meltdown, explosion, and fire. Causes of the accident are not known.

o The explosion and resulting fire released a plume of radioactive materials to the atmosphere. So long as the reactor core fire continues, radioactive gases will be given off.

o The facility involved is a graphite-moderated, boiling-water-cooled, pressure-tube unit. It is one of four such units at Chernobyl. To our knowledge, only this one unit, known as Unit #4, is involved in the accident.

o The initial plume traveled in a northwest direction toward Scandanavia. Predictions now suggest it will move in an eastward direction. Radiation levels above normal background have been detected in Scandanavian countries. However, these levels pose no significant risk to human health or the environment.

o The U.S. government has made an offer of technical assistance to the Soviets. This good faith offer was made out of genuine concern for the health and safety of the Soviet people. The Soviet government responded April 30 that no foreign assistance is needed.

o We have also requested specific information on the accident. To date, we have not received a full response to that request. This is also a matter of great concern to the United States.

o The radiation plume emitted as a result of the Chernobyl accident will disperse over time throughout the Northern Hemisphere. Eventually, some radioactive contamination will reach the United States. However, based on the limited information we now have, there is no reason to believe that levels reaching this country will pose any significant risk to human health or the environment. Please see the accompanying fact sheet on radiation health effects for basic information on exposure.

o It is very unlikely that any significant amounts of radiation from the accident will reach the U.S. during the next few days. The Environmental Protection Agency's Environmental Radiation Ambient Monitoring System -- ERAMS -- is conducting daily sampling throughout the nation. In addition to ambient air, the system also monitors radiation levels in drinking water, surface water, and milk.

o The White House has established an interagency task force to monitor the health, safety and environmental consequences of the Chernobyl accident. The task force is chaired by Lee Thomas, Administrator of the U.S. Environmental Protection Agency. Members represent the following federal agencies: EPA, DOE, NRC, NOAA, HHS, USDA, DOD, DOT and others. On a daily basis, the task force compiles, evaluates, and widely distributes current technical information on the Chernobyl accident and its environmental and health consequences.

Attachment 3  
IN 86-33  
May 2, 1986

Fact Sheet-Chernobyl  
SOVIET NUCLEAR  
ACCIDENT

FOR RELEASE: 2:00 P.M., FRIDAY, MAY 2, 1986

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CONTACT: DAVE COHEN (202) 382-4355

Radiation monitoring networks in the United States and Canada are continuing to analyze for airborne radioactivity daily. No increases in radioactivity above normal background levels have been detected in either country. Canadian officials intend to increase the sampling frequency of their milk monitoring network, which consists of 16 stations near population centers in southern Canada, to weekly beginning next week.

It is believed that air containing radioactivity now covers much of Europe and a large part of the Soviet Union. The distribution of radioactivity is likely to be patchy. Air containing radioactivity detected by aircraft at 5000 feet about 400 miles west of northern Norway is believed to have moved westward and now appears to be heading south or southeastward perhaps to return to western Europe. There is no independent confirmation of the radioactivity in the air moving eastward across Asia.

(A weather map should be attached to today's Task Force Report. If you do not have a copy, it can be picked up in the EPA press office, room 311, West Tower, 401 M St., S.W. (202) 382-4355.)

Environmental monitoring data have been provided by the Swedish government for the Stockholm area for April 28-30. Extrapolations of those data suggest that radiation exposure levels at the Chernobyl site would have been in a range from 20 rem to hundreds of rem whole-body for the two-day period over which most of the radiation release probably took place. Radiation doses for the thyroid gland have been estimated to be in a range from 200 rem to thousands of rem for the same period. These doses are sufficient to produce severe physical trauma including death. It should be emphasized that these are estimates subject to considerable uncertainty. The U.S. has as yet no information from the Soviet Union as to actual radiation levels experienced at the accident site.



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The Soviets have reported they have smothered the fire. We still cannot confirm that the reactor fire in unit 4 has been extinguished. There is evidence that the reactor or associated equipment continues to smolder. We also cannot confirm news reports of damage at a second reactor, but the second hot spot seen in the LANDSAT photos is not a reactor.

Based on the fact that no harmful levels of radioactivity are expected to reach the continental United States, it is highly unlikely that potassium iodide (KI) will be needed to minimize the uptake of radioactive iodine from the Russian nuclear power plant accident. KI, although relatively harmless, has been associated with certain allergic reactions; thus, since the use of KI is not without some risk to the population, the U.S. Public Health Service recommends against taking KI as a precautionary measure. Federal authorities do not believe there is any reason for concern at this time about the safety of either our domestic food or drug supplies. Nor should there be concern over imported products already in the United States or on their way to the United States at the time of the nuclear accident in the Soviet Union.

The State Department is continuing efforts to obtain relevant information from Soviet authorities on the nuclear accident and the potential health dangers that might be posed to individuals in the Soviet Union and adjacent countries. State has noted, for example, recent statements issued by Polish authorities concerning public health precautionary measures.

The State Department is seeking more information from all the governments in the region. The U.S. is sending experts to potentially affected areas for medical consultation and to provide relevant expertise on which to make appropriate recommendations with regard to the health of American citizens.

With the limited data at hand, the Departments of State and Health and Human Services have issued an advisory against travel to Kiev and adjacent areas. To minimize possible exposure to radioactive contamination, we also suggest that those in Eastern Europe avoid milk and other dairy products. In addition, State is recommending that women of child-bearing age and children should not travel to Poland until the situation is clarified.

The State Department is receiving reports from our European embassies, based on their discussions with local officials, as to the impact of the accident and local reactions to it. We are still not receiving the necessary technical information from the Soviets on the details of the accident.

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The White House has established an Interagency Task Force to coordinate the Government's response to the nuclear reactor accident in Chernobyl. The Task Force is under the direction of Lee M. Thomas, Administrator of the Environmental Protection Agency, with representatives from the White House, Department of State, EPA, Department of Energy, Nuclear Regulatory Commission, National Oceanic and Atmospheric Administration, U.S. Air Force, Department of Agriculture, Food and Drug Administration, Federal Emergency Management Agency, Department of Interior, Federal Aviation Administration, the U.S. Public Health Service, and other agencies.

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PLEASE NOTE: THE EPA PRESS OFFICE WILL BE OPEN OVER THE WEEKEND FOR UPDATING. HOURS WILL BE FROM 10am TO 2PM. 202-382-4355.

LIST OF RECENTLY ISSUED  
IE INFORMATION NOTICES

Information Notice No.	Subject	Date of Issue	Issued to
86-32	Request For Collection Of Licensee Radioactivity Measurements Attributed To The Chernobyl Nuclear Plant Accident	5/2/86	All power reactor facilities holding an OL or CP
86-31	Unauthorized Transfer and Loss of Control of Industrial Nuclear Gauges	5/6/86	All power reactor facilities holding an OL or a CP
86-30	Design Limitations of Gaseous Effluent Monitoring Systems	4/29/86	All power reactor facilities holding an OL or a CP
86-29	Effects of Changing Valve Motor-Operator Switch Settings	4/25/86	All power reactor facilities holding an OL or a CP
86-28		4/28/86	
86-27	Access Control at Nuclear Facilities	4/21/86	All power reactor facilities holding an OL or CP, research and nonpower reactor facilities, and fuel fabrication & processing facilities
86-26	Potential Problems In Generators Manufactured By Electrical Products Incorporated	4/17/86	All power reactor facilities holding an OL or CP
86-25	Traceability And Material Control Of Material And Equipment, Particularly Fasteners	4/11/86	All power reactor facilities holding an OL or CP

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OL = Operating License  
CP = Construction Permit