

Information on the level of radioactive contamination of the Chernobyl NPP facilities and the city of Pripyat

May 4, 1987

Secret

Regarding the situation at the Chernobyl Nuclear Power Plant and its surroundings

From April 15 to May 3, 1987, the operational situation at the Chernobyl Nuclear Power Plant and its surroundings remained unchanged.

The primary efforts of organisations involved in the accident response were focused on decontamination and preparation for the start-up of Unit 3, the safe operation of the existing units and the Shelter, the construction of the new power industry city of Slavutych, and the decontamination of the surrounding area and populated areas.

During counterintelligence activities, additional data was obtained indicating increased interest on the part of foreign citizens and organisations in the work being carried out in the accident zone.

Thus, on April 23 of this year, a press conference was held at the Ministry of Foreign Affairs of the Ukrainian SSR with A.P. Kovalenko, Head of the Information and International Relations Department of the Combine Production Association. Present at the meeting were German television correspondents Boris N. Kazin and Peter Bauer, Spanish correspondent for the newspaper El Pais Pilar Bonet, and Dutch correspondent for NRK Handelsblad Raymond van den Boogaard, who asked questions about the operating procedures of personnel in the 30-kilometer zone, its number, including military personnel, new methods of decontaminating the contaminated territory and the prospects for settling the zone, public sentiment regarding the choice of nuclear power plant construction sites, the results of medical monitoring of working personnel, evacuated citizens, including those affected by radiation sickness, the number of people killed as a result of the accident, the possible increase in mortality and the birth of disabled children, the date and composition of the trial of those responsible.

In accordance with the decision of the Authorities, on April 24 of this year, a film crew from the American television company CBS was in the 30-kilometer zone of the Chernobyl Nuclear Power Plant. This crew included: Moscow Bureau Chief Andrews Wyatt, cameraman Ritchie Joseph, and sound engineer Roachal Colin. They interviewed the director of the Chernobyl Nuclear Power Plant, Comrade M.P. Umanets, filmed the Shelter facility, the work of the USSR Ministry of Defence units to decontaminate the territory in the Chernobyl Nuclear Power Plant area, the process of receiving visitors by doctors at the plant's medical centre, and the dosimetry monitoring station at the exit from the special zone.

They visited the Rudnya-Veresnya waste disposal facility and learned about the vehicle decontamination technology. During a conversation with the director of the Chernobyl Nuclear Power Plant, as well as at a meeting (April 23 of this year) in Kiev with the management of the information and external relations department of the Combine Production Association, the television company's employees expressed interest in the

monitoring of the Shelter facility, the level and concentration of radioactive substances in emissions from the damaged unit, the decontamination technology being used, and the prospects for agricultural development of contaminated lands. The issues of radioactive waste disposal, the commissioning deadline for Unit 3, the living conditions of the evacuated population and the re-evacuation timeframe, the number of vehicles used in the zone, the purposes of radiobiological experiments conducted in the Pripyat greenhouse, the percentage of electricity generated by the Chernobyl Nuclear Power Plant in the country's energy system, and the estimated number of individuals who will subsequently receive maximum permissible radiation doses were discussed.

According to agent "Vladimir" and a trusted person of "KAP," the film crew is interested in covering the progress of the accident clean-up in a way that is favourable to us, due to the intention of the owners of Western nuclear power plants to prove the safety of their continued use (reported in a memo on April 24, 1987).

On April 24, a press conference was held via telephone communication channel between the NPP management and correspondents from Western European countries accredited in Moscow.

Foreigners asked questions to the heads of the Combine Production Association, the Chernobyl Nuclear Power Plant, and the Department of Hydrometeorology and Environmental Monitoring about the tasks facing the newly created association, measures to enhance reactor safety, the costs of implementing them, and the prospects for the construction of nuclear power plants with RBMK reactors in the USSR, the timing of the commissioning of Units 5 and 6, the organisation of monitoring the condition of the Shelter facility, the methods for decontaminating contaminated areas, and the disposal of radioactive waste, the impact of the spring flood on radiation levels, details of the upcoming re-evacuation and problems of agricultural activity in the zone, the number of workers at the Chernobyl Nuclear Power Plant before and after the accident, the number of people removed from the zone due to radiation exposure, the benefits provided to plant personnel, the permissible length of work at the plant, the accommodation conditions for shift workers, the date of the trial of those responsible for the accident, their number, and the reasons for the lengthy investigation, the purpose of the city of Slavutych under construction, and the contingent of its future residents.

On April 23 and 24 of this year, Valdemar Savinsky, deputy editor-in-chief of the newspaper "Shtandart Mlodykh" (Polish People's Republic), visited the 30-kilometer zone and the Chernobyl Nuclear Power Plant to gather material for a book. In conversations with representatives of the Pripyat City Committee of the Communist Party of Ukraine and the Young Communist League of Ukraine (VLKSM), the heads of the Combine Production Association, the Chernobyl Nuclear Power Plant, the consumer services plant, the House of Culture, stores, cafeterias, libraries, and Soviet Army servicemen, the foreigner was primarily interested in everyday matters, biographical details of the General Director of the Combine Production Association, Comrade E.I. Ignatenko, as well as the progress of the accident clean-up, the prospects for the development of nuclear energy in the USSR, and RBMK reactors, the technical condition of Unit 3 and the launch dates of Units 5 and 6 of the Chernobyl Nuclear Power Plant, the number of personnel at the plant, the technical means of decontamination,

the structure and size of the production association, and the problems of resettling people in the city of Slavutych.

On April 27, a film crew from the Japanese television company "Osahi" visited the Chernobyl Nuclear Power Plant, the city of Pripyat, and the Zeleny Mys shift camp. The crew included: anchor correspondent S. Imamuri, cameraman K. Kuzuwada, and technical worker H. Takashima. They filmed the administrative and amenity building of the first stage, the "Shelter" facility from both sides, the streets and buildings of Pripyat, scenes of the head of the clinic in the village of Zeleny Mys receiving visitors, and the interior of one of the village's apartments. At the checkpoint in Zeleny Mys, they proactively interviewed a passing plant employee (about everyday issues). They also inspected the operations of the general store and cafeteria.

During a conversation with the Chernobyl Nuclear Power Plant director, they expressed interest in the condition and reliability of the Shelter facility, the prospects for the development of nuclear energy in the USSR and the construction of RBMK reactors, the social problems caused by the accident, the penalties for those responsible and their number, the number of personnel at the plant, and the possible timeframe for re-evacuation. According to agent "Vladimir" and the trusted "PEI," the de facto leader of the group was cameraman Kuzuwada.

In Pripyat, foreigners repeatedly installed filming equipment on the ground, which may indicate that they were collecting data on the radiation situation, in particular on alpha and beta radiation (reported in a communications memo of April 27, 1987).

On April 29, representatives of the American television company CNN, Lourie Stewart and Harry Shore, and correspondents from the newspapers People's Daily World (USA), Karl Bloys, and the Canadian Tribune (Canada), Fred Weir, visited the Chernobyl Nuclear Power Plant, Pripyat, and the Zeleny Mys shift camp.

The foreigners were introduced to the work of the maintenance personnel at the greenhouse in Pripyat, the clinic, and the Community Centre in the village of Zeleny Mys. Cameraman Luri carefully filmed the control panel of Unit Control Board No. 1 with instrument readings, close-ups of the personnel's workstations, the turbine hall near Turbo Generator No. 1, the deserted streets and buildings of Pripyat, the radiation monitoring station in the village of Kopachi, and the Shelter facility. He persistently attempted to film the station's third-stage facilities, but was denied.

In a conversation with the director of the Chernobyl Nuclear Power Plant, reporters expressed interest in working conditions within the 30-kilometer zone, at Units 1 and 2, the specifics of RBMK reactor operation, the required duration of monitoring of the Shelter and the parameters characterizing its condition, the prospects for continuing construction of Units 5 and 6, potential difficulties during the spring flood, plans for re-evacuation of the population, and the date of the trial of those responsible for the accident.

In a conversation with the First Secretary of the Pripyat City Committee of the Communist Party of Ukraine, Comrade V.G. Lukyanenko, the foreigners, primarily Luri, inquired about the political, social, psychological, and everyday aspects of activities in the 30-kilometer zone. According to agent "Eugene" and a trusted person from "KAP," the delegation members repeatedly referred during their conversations to an article by the Soviet correspondent of the APN in Kiev, Kalinko, who criticised the allegedly established practice of classifying materials about the situation in the accident zone.

This article, according to our sources, has a negative impact on foreign citizens and complicates ongoing efforts to disseminate beneficial information to them (should be in a memo from the communications department on April 30, 1987).

According to operational and official data, the almost daily visits by Soviet or foreign delegations to the station, which has been converted into a showplace, distracts its personnel from their operational tasks and leads to the leakage of classified information.

The radiation situation has not undergone significant changes, however, minor fluctuations in levels are observed in certain places.

The gamma radiation level at the entrance to the Stage I administrative and amenity building is 15 $\mu\text{Sv/hr}$, within its premises it is 2-25 $\mu\text{Sv/hr}$, and in the rooms of the unit and central control boards it is 2-7 $\mu\text{Sv/hr}$.

In the turbine halls of the operating units, it is 20-150 $\mu\text{Sv/hr}$, and in Unit 3 it is up to 1,200 $\mu\text{Sv/hr}$.

At the ceiling of the Shelter, according to updated data, it is 100-150 $\mu\text{Sv/hr}$, and at an altitude of 200 m above it, up to 90 $\mu\text{Sv/hr}$.

Along the perimeter of the NPP at regularly decontaminated points it is 25-2,800 $\mu\text{Sv/hr}$.

On the road from the NPP to Chernobyl, it is 1-50 $\mu\text{Sv/hr}$.

In Pripjat, it's up to 80 $\mu\text{Sv/hr}$; in Chernobyl, it's up to 7 $\mu\text{Sv/hr}$.

In the "red" forest, it's 25-10,000 $\mu\text{Sv/hr}$.

In response to a request from the administration of the Production Association Combine to accommodate some of its units for work and rest shifts in the city of Pripjat, by order of the Third Main Directorate of the USSR Ministry of Health, with the participation of specialists from the Scientific Centre of the USSR Ministry of Defence, the State Committee for Hydrometeorology and Environmental Monitoring, the Kurchatov Institute of Atomic Energy, the Production Association Combine, and the Institute of Biophysics of the USSR Ministry of Health, the radiation situation in the city was studied.

The commission determined that decontamination of the city of Pripjat, including removing the topsoil and some trees and shrubs, reduced the radiation dose by approximately 100 times. However, areas with high radiation levels (the hospital complex, the City Executive Committee building and the surrounding area, the beginning of Lenin and Lesi Ukrainka Streets, and School No. 3) remain, requiring continued decontamination work.

The city's beta-activity contamination levels for cesium-137, strontium-90, and plutonium-239 and 240 exceed the temporary permissible limits (555,000,000,000 Bq/km²) [555 GBq/km²] by approximately 70 times. The average rooftop contamination with beta-active nuclides is 7-120 times higher than the norm. The presence of surface contamination sources (the Red Forest, the second-stage construction site, the sand pit, etc.) around Pripjat does not exclude the risk of secondary contamination of the city's territory.

Under the influence of the management of the Combine, which insisted on the need to conduct economic activity in the city of Pripjat, the commission, in its final report to the USSR Government, did not reflect certain figures on the city's high levels of contamination and permitted the temporary accommodation, as an exception, of 200-400 seconded personnel for a period of 1-2 months at the Jupiter dormitory, subject to compliance with the sanitary

and radiation-hygienic requirements of the State Sanitary Supervision Authority, conducting further decontamination and dust suppression work in the city and surrounding areas, establishing control points and testing vehicles at the entrance to Pripyat, and continuing scientific research into the radiation situation and forecasting its dynamics.

The monitored parameters of the damaged unit continue to decline steadily. The maximum temperature inside the facility is 97.7°C, and gamma radiation above the reactor's debris is 17,370,000 µSv/hr.

To date, monitoring has been carried out using a temporary diagnostic system. The information and diagnostic complex (IDC), installed in the auxiliary systems unit of the reactor compartment (ASRU) and commissioned in February of this year, is effectively inoperative due to repeated water leaks from upper rooms, periodic power outages, and increased dustiness in the air, which could damage expensive electronic equipment. According to a trusted "GVM" expert, reliable operation of the permanent complex is impossible until decontamination and construction work on the ASRU unit is completed and the room is waterproofed.

On April 28 of this year, secondary instruments of the temporary diagnostic system recorded a sharp spike in the neutron field in reactor 18 of the Shelter facility. This occurred when an unknown individual pressed the "pulse" button on the input amplifier. This resulted in the instruments displaying the total neutron flux readings from all sensors. It was not possible to identify the culprit, since a significant number of construction workers and military personnel are constantly working near the amplifier room. Measures are being taken to create conditions that prevent unauthorized persons from entering the rooms housing the diagnostic systems.

To date, Construction Directorate No. 605 of the USSR Ministry of Medium Machine Building has not implemented the Government Commission's decision to install equipment to monitor the condition of the Shelter's supporting structures, which could deform due to changes in seismic conditions and other natural disasters. Chernobyl Nuclear Power Plant management is preparing a letter to the USSR Ministry of Atomic Energy requesting an expedited resolution of this issue to ensure the safe operation of the damaged unit.

Decontamination work in Unit 3 continues by units of the USSR Ministry of Defence and the Chernobyl Nuclear Power Plant Construction Directorate. 843 of the 1,164 rooms have been cleared and completed. Due to disorganisation and poor management of Unit 3's management, military personnel and construction workers are often not provided with specific work assignments, resulting in unnecessary radiation exposure and low productivity.

According to a trusted representative of the SAK, the USSR Ministry of Health has not yet issued radiation level standards for the acceptance of the unit's premises for operation after decontamination and has not approved the standards proposed by plant specialists. The lack of clear criteria for determining the suitability of the premises creates an atmosphere of nervousness and uncertainty, and could subsequently lead to disruptions to repair and restoration schedules.

A number of new workshops have been created for the operation of Unit 3 at the Chernobyl Nuclear Power Plant, and personnel recruitment is ongoing.

According to KVI and SNV trustees, the personnel are not interested in a speedy unit restart due to increased contamination of the equipment and concerns for their health.

In April of this year, before the USSR Ministry of Medium Machine Building units began their routine decontamination of the roof of Unit 3, Chernobyl Nuclear Power Plant employees and a team from NIKIET, with the participation of a PAD trustee, determined the radiation situation on the roof. The maximum dose rate at the site near the ventilation stack was up to 6,000,000 $\mu\text{Sv/hr}$.

Radiation levels on the roof decreased with distance from the vent pipe, with the exception of areas "L" and "N" with sources exceeding 2,000,000 $\mu\text{Sv/hr}$. Calculations have determined that there is 10–40 kg of fuel on the roof in the area of the vent pipe. Roof cleaning and installation of biological shielding are ongoing.

During a preliminary inspection of Unit 3 equipment, authorized representatives of SYUF, ZVL, and BAA reported that after the accident, due to a lack of chemically treated water, the multiple forced circulation circuit was refilled with process water until June 10, 1986, making up approximately one-third of its volume. This could lead to the destruction of the metal fuel assemblies and pipelines. Chernobyl NPP management was informed of this.

During the reporting period, Unit 1 operated in a stable manner, at rated power. However, there were two potential reactor shutdowns. On April 26 and 30 of this year, during a refuelling of fuel channels 30-16 and 20-52, the fuel assembly hangers jammed, destroying the backing rings of the all-metal gaskets. Channel 30-16 has been left without fuel until scheduled maintenance. The failure of the backing rings, which were manufactured at the Chernobyl Nuclear Power Plant and installed before 1986, is being investigated by plant specialists, with the participation of our operational sources.

Power Unit No. 2 has been shut down for scheduled overhaul since April 2 of this year. For a period of two months, according to authorized representatives of ChVD and GVV, during the replacement of defective sections of the steam-water communication (SWC) pipelines, due to the negligence of reactor shop workers and the lack of markings on the pipelines, the centralized repair shop personnel mistakenly began cutting the SWC of a different channel, loaded with a fuel assembly and filled with coolant, which could have led to an emergency. According to our information, the State Nuclear Energy Supervision Inspectorate has issued an order to the Chernobyl Nuclear Power Plant (CNPP) to apply markings to the piping. An administrative investigation is underway against the responsible management personnel of the reactor shop.

Agents "Marina," "Elena," and a trusted representative of "GVV" reported that from April 7 to 11 of this year, VNIPIET specialists, together with Chernobyl Nuclear Power Plant personnel, conducted a reagent-free acid decontamination of the multiple forced circulation circuit (MFCC) of Unit 2, which was undergoing major repairs.

As a result of decontamination, gamma radiation doses were reduced in some areas. However, in work areas (circulation pumps, valves, etc.), in stagnant and dead-end zones of the main circulation circuit, gamma radiation levels increased, resulting in additional personnel exposure. According to the aforementioned sources, the current method for decontaminating the main circulation circuit requires significant revision due to its ineffectiveness and the disruption of scheduled maintenance schedules at the nuclear power plant. The plant administration has been informed of the findings.

Units of the USSR Ministry of Defence continue to bury the "red" forest by felling trees, cutting off upper branches, and covering the territory with sand.

By the end of May, 20 hectares are planned to be treated. Because the sand is being applied in a uniform layer, ignoring high gamma fields in certain areas, specialists from the Kompleks special enterprise plan to develop a plan for adding sand to these areas by May 8th to ensure background radiation levels remain within 100 µSv/hr throughout the buried forest.

After completion of the work, a layer of peat will be placed on the sand, and grass will be sown to stabilize the soil.

Decontamination of equipment, construction, and other materials located at the Chernobyl Nuclear Power Plant's Phase II construction site has begun. Due to a lack of coordination between the Kompleks joint venture, which is organizing this work, and the Chernobyl Nuclear Power Plant, the determination of which equipment to decontaminate first is being delayed for Unit 3. The lack of fencing and security around the storage facilities creates conditions for the possible theft of various materials, some of which have high levels of radioactive contamination and could be transported outside the designated area.

According to operational and official data, the Burakovka and Podlessny high-level disposal sites are unguarded, which also creates the potential for the theft of contaminated items for subsequent sale or use outside the zone. One possible means of removing such items is the acceptance of parcels without radiation monitoring by post offices in non-evacuated villages in the Chernobyl and Ivankovsky districts.

In coordination with Party and Soviet authorities, operational groups of the Ministry of Internal Affairs and special departments of the KGB, and the administration of organizations in the zone, a series of intelligence, organisational, and preventative measures were carried out to prevent antisocial and other undesirable actions on the anniversary of the Chernobyl accident, the period of memorial holidays with traditional visits to cemeteries, and the celebration of International Workers' Day. No emergencies were reported as a result. No complications in the operational situation in the zone were recorded.

Representatives of the Chernobyl District Executive Committee, who were on duty at all checkpoints, conducted explanatory talks with individual citizens (up to 10 people) who attempted to enter the zone to visit cemeteries on April 25-26. No group conflicts were allowed to occur.

Agent "Zubov" reports regarding plant personnel's dissatisfaction with the conditions of their daily commute from the village of Zeleny Mys and back due to dust on the roads and the lack of respiratory protection at the sanitary checkpoint due to the negligence of the radiation

safety shop's management were used through the Chernobyl Nuclear Power Plant administration.

On April 23 of this year, Agent "Egorov" discovered approximately 50 ampoules of the narcotic painkiller "Caffeine" (10%) in a room of the administrative and amenity building of the Chernobyl Nuclear Power Plant's second stage.

An investigation established that a team from the USSR Ministry of Health was stationed in this room in the first days after the accident, using these substances for medical purposes. The ampoules were seized through the plant's security team and, with the consent of the management of Medical Unit No. 126, destroyed as unfit for use.

During the reporting period, an unhealthy situation developed among the personnel of the military construction detachment military unit 93631, caused by significant differences in the determination of radiation doses for service members of the detachment and the 25th Chemical Defence Brigade of the USSR Ministry of Defence. Potential negative consequences were promptly prevented by the VSO command through explanatory talks within the team. Since May 1 of this year, the USSR Ministry of Defence has introduced a procedure for calculating radiation doses received in accordance with the actual gamma background levels at work sites.

In contact with the leadership of the operational group of the Ministry of Internal Affairs of the Ukrainian SSR, adjustments were made to the procedure for replacing fire department personnel. Initially, on the eve of May 1, it was planned to assign personnel unfamiliar with the layout of the Chernobyl Nuclear Power Plant premises to duty, which could have significantly weakened the plant's fire safety capabilities.

Internal Affairs officers and the special commandant's office for the protection of the Chernobyl Nuclear Power Plant detained six individuals who were photographing the Shelter and private homes in evacuated communities.

Given the lack of evidence of hostile intent, warning and explanatory talks were conducted with them through their workplace administration and command.

Reports on the discovery of unaccounted for classified documents on the radiation exposure of unit personnel and the radiation situation in the area in the possession of Lieutenant Colonel V.V. Kochetkov, head of the operational group department of military unit 19772, were transferred to the Directorate of Special Departments of the KGB of the USSR for the KVO.

Through the political department of military unit 49634, information from a trusted person, "INN," was disclosed regarding politically damaging statements made by retired Warrant Officer A.A. Vasiliev, a platoon commander in the military construction detachment of military unit 93605.

Vasiliev was subjected to disciplinary action by the unit's command for these actions and a gross violation of military discipline. In order to improve the morale and political situation among the detachment's personnel, Vasiliev's behaviour was reviewed at a general meeting of junior officers.

To carry out counterintelligence tasks, the KGB department for the Chernobyl Nuclear Power Plant uses 50 agents, 3 residents, and 96 trusted individuals. The "Felix" and "Genrikh" facilities are being investigated under the "DOP."

Head of the KGB department of the Ukrainian SSR for the city of Kiev and the Kiev region for the Chernobyl Nuclear Power Plant
Lieutenant Colonel A.N. Mirgorodsky