Report on the Results of Operational Control over the Situation at the Chernobyl Nuclear Power Plant and in the 30-kilometer Zone

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Secret

On the situation at the Chernobyl Nuclear Power Plant and in the 30-kilometer zone

During January 1990, the KGB Directorate of the Ukrainian SSR for the city of Kiev and Kiev Region continued to carry out planned counterintelligence support measures at the Chernobyl Nuclear Power Plant and other facilities within the 30-kilometer zone, participating in the accident clean-up and other scientific and practical tasks.

From January 8–10 of this year, a meeting of the Government Commission, chaired by Deputy Chairman of the USSR Council of Ministers Comrade V.Kh. Doguzhiev, was held in the 30-kilometer zone. Issues related to improving the safety of the Chernobyl Nuclear Power Plant (CNPP), the reorganisation of enterprises involved in the emergency response work and conducting research and practical work at the Shelter facility were discussed, and decisions were made on a number of socio-economic issues.

In January, planned measures were implemented to ensure reliable operational monitoring of the situation at the Chernobyl Nuclear Power Plant and its development.

Through Agent Pavlov, we disclosed information about malfunctions in the nitrogen-oxygen station (AKS-1, which prepares the nitrogen and helium gas mixture) that were leading to deviations from the reactor's normal operating conditions (the presence of argon and oxygen impurities resulted in graphite burnout). As with the UOG-1 malfunctions, plant management, in order to achieve planned performance, issued orders to operate the units in violation of regulations without the required power reduction under such conditions.

At the same time, agents "Andrey," "Pavlov," and others, analysing the situation, confirm that such violations of regulations could lead to premature damage to the reactor's graphite stack and significantly complicate the future operation of the units.

On January 26, the AZ-2 emergency protection system shut down the TG-1 turbogenerator in response to a "three seal oil pumps (SOP) shutdown" signal, reducing unit power by 50%. An investigation into the cause of the signal revealed that operators M.V. Pankratyev and A.V. Osnovskiy, without understanding the cause of the shutdown of one of the SOP pumps, allowed the SOP-2 signal to be generated. M.V. Pankratyev's actions are considered negligence, leading to the unit's failure and under-generation. TG-1 was reconnected to the grid that same day. An administrative penalty is being prepared for Pankratyev.

In January of this year, Unit 2 operated generally soundly, at 50% capacity (turbine generator TG-4 has been under repair since December 1989 due to the failure of transformer 4T). However, on January 2, a radiation hazard occurred, fraught with serious consequences (sedimented fuel assembly (SFA) jamming in the so-called small REE zone).

Assessing the incident, agents "Yura" and "Andrey" note that there were four similar incidents during 1989-1990. The most likely cause is that, due to embrittlement of the support tube material under conditions of increased ionising radiation, the fuel assembly tilting conditions are changed, resulting in impacts, jolts, and other loads not specified by regulations. A final conclusion regarding the cause of the damage to the spent fuel assemblies will only be possible after a metallographic examination, which is significantly complicated by the high activity of the spent fuel assemblies.

A decision has been made to not unload spent fuel assemblies from the spent fuel pools at the nuclear waste storage facility until item 1319 is replaced. Proposals are being developed to address this issue if a similar situation occurs again. On January 27, Unit 2 was shut down for a scheduled 4-day medium maintenance.

Power Unit 3 operated steadily at rated power throughout January, and no preconditions for failure of the main equipment were identified.

The investigation into the emergency shutdown of unit transformer 4T, which occurred on November 26, 1989, continued. This resulted in a 50% reduction in the power of Power Unit 2. Specialists were developing measures to restore this electrical equipment.
The commission's conclusion determined that the short circuit in the high-voltage winding was caused by poor soldering of the winding components during transformer assembly. Other violations of the assembly technology were also identified (attributed to PO Zaporizhtransformator). However, the issue of repairing this transformer remains unresolved. Its removal outside the 30-kilometer zone and delivery to the manufacturer are impossible due to radioactive contamination.

The Chernobyl Nuclear Power Plant Authority's proposal to dispatch repair specialists from the Zaporizhtransformator Production Association to the Chernobyl Nuclear Power Plant was rejected by the plant administration due to the specialists' refusal to travel to the 30-kilometer zone. Considering that this enterprise is the only one in the country with the specialists and equipment to carry out the necessary work, as well as the significant economic damage and reduced reliability of the Chernobyl Nuclear Power Plant and the power grid, we have informed the Ukrainian State Security Directorate for the Zaporozhie Oblast regarding this matter.

On January 26, water from the air conditioner leaked onto the thyristor valve panels, causing the TG-6 exciter to trip. The generator was switched to backup excitation, which resulted in increased vibration of the 12th bearing. The exciter is being restored. Agent Maxim and other sources attribute this to poor equipment monitoring by maintenance personnel at the Chernobyl Nuclear Power Plant's electrical and chemical shops.
Analysing the situation in the centralised repair shop at contractor repair organisations, as well as the quality of repairs performed on primary process equipment, agents "Kazakov," "Semyon," "Marina," "Ushakov," and others note the following facts.
Effective January 1 of this year, the units of the commissioning and repair company "Kurskatomenergoremont" working at the Chernobyl Nuclear Power Plant have been transferred to a shiftless work schedule. Their number has been reduced from 160 to 85 people.

Due to a refusal to relocate to Slavutych, a number of the most qualified and experienced specialists have resigned. At the same time, sources point to ongoing shortcomings during repairs and poor post-repair inspections. For example, the disconnection of the 800 mm diameter valve drive (DN-800) and loss of control were the most likely cause of the seizure of the first main circulation pump (GCN-23), which required lengthy and costly repairs. We have informed the Chernobyl Nuclear Power Plant management of this matter, and the necessary measures are being taken.

The problem of staffing the Chernobyl Nuclear Power Plant's operational management with qualified specialists remains acute. The positions of unit shift managers (USM) are currently occupied by individuals on secondment: two from the Kursk NPP and one from the Leningrad NPP. The Chernobyl Nuclear Power Plant Directorate has re-invited the previously dismissed UMS managers, I.I. Kazachkov, M.Yu. Deev, and V.S. Minin, to temporary positions. The unit control panel operators trained to replace them, according to competent specialists, lack sufficient experience and skills in their previous positions and were prematurely promoted to management positions.

Considering that operational personnel residing in Slavutych work on a 3-day-on-2-day-off schedule, while those on business trips and those based in Kiev work on a 6-day-on-4-day-off schedule, shift teams are not stabilised and there is a lack of proper mutual understanding, which impacts operational quality.

As a new factor in the situation at the plant, operational sources note the dissatisfaction expressed by reactor shop operating personnel that their salaries are inconsistent with their working conditions and responsibility for the nuclear safety of the power units and are equivalent to the salaries of turbine operators. Due to the current lack of reserves for the material incentive fund, the NPP management does not intend to address this issue.

The situation at the Shelter facility has not changed significantly over the past month. The parameters monitored by the Shater IDC are as follows:
– gamma radiation level above the reactor compartment collapse — 1,700,000 µSv/hr;
– above the reactor shaft — 16,450,000 µSv/hr;
– neutron flux density — 7.9 n/cm^2/sec;
– average temperature in the reactor compartment collapse — 20°C.

On January 20 of this year, the standard emergency dust suppression system was tested. Over the course of 30 minutes, more than 30 tons of dust suppressant were sprayed over the reactor compartment collapse.

Experts have highly praised the effectiveness of the system. However, Agent Mikhailov and Dr. Sha note significant shortcomings inherent in the design of this system: the system cannot be controlled from the standard Shelter control panel; operating the system requires an additional 26 specialists, which is unacceptable under the operating conditions of the Shelter facility; and the system could also be destroyed in the event of a roof collapse.

Agent "Bor" and recruitment candidate "P," a leading specialist from the Kurchatov Institute of Atomic Energy's Integrated Expedition, expressed concerns regarding the VNIPIET developers' proposed method of securing the reactor's upper lid by lining the reactor shaft with concrete. This could lead to a violation of the temperature regime, as the primary heat transfer occurs through the shaft. According to "Bor" and "P," in such a case, the temperature of the fuel-containing masses could rise to 2000°C, which, in addition to the destruction of the reinforced concrete structures, could lead to the movement of residual fuel masses into the ground beneath the foundation support by burning through it.

We informed the Integrated Expedition's leadership about the identified deficiencies in the dust suppression system and the reactor's top lid reinforcement project, after which the corresponding decisions were made at a meeting of the Government Commission.

During the monitoring of the radiation situation at the Chernobyl Nuclear Power Plant and within the 30-kilometer zone, the following was established.

On January 11, an increase in alpha activity was observed in Unit 3 rooms 415 and 513, adjacent to the Shelter, where levels of 7.77 and 13.69 Bq/m^3 were recorded, respectively (with a permissible limit of 0.078 Bq/m^3). Experts estimate that this indicates ongoing contamination of the plant's territory with activity from the Shelter due to air flow in the adjacent rooms.

Through operational capabilities, it was established that four employees of RC-1 had exceeded the permissible daily dose. Violations in the organisation of dose monitoring were also discovered: the shop's maintenance personnel were transferred to the "operational" category and sent to perform urgent work in the central hall without work permits or appropriate oversight by the radiation safety shop (RSS). The Chernobyl Nuclear Power Plant administration was informed of this incident.

After verifying the information provided by Agent Lisov, it was established that, at the initiative of the plant's public organisations, a group of specialists from the Central Regional Hospital and the Chernobyl Nuclear Power Plant's Radiation Centre No. 4 analysed a document submitted by the administration on determining internal radiation doses for RC-4 personnel and the regulations being developed for individual dose monitoring at the Chernobyl Nuclear Power Plant. According to the specialists, the analysis revealed circumstances indicating an underestimation and incomplete accounting of the radiation doses received by personnel.

A conclusion based on the analysis results is currently being prepared, which addresses the issue of liability for violating radiation safety standards.

Furthermore, proposals are being developed for additional benefits for plant workers who are exposed to the most challenging radiation conditions. The prepared document is planned to be submitted to the central authorities of the republic, the country, and the prosecutor's office.

The radiation situation within the 30-kilometer exclusion zone is characterised by a slight decrease in airborne radionuclides. Average values (according to the ASRC system) are 0.00034 Bq/m^3.

The trend toward increased activity, primarily due to strontium-90, persists in closed surface water bodies and in the Pripyat River backwaters within the exclusion zone. Experts attribute this to the release of strontium-90 from bottom sediments into the water as it leaves the fuel matrix and enters the soluble phase.

Operational sources point to this circumstance as a problem requiring, along with the migration of radionuclides into underground aquifers from temporary radioactive waste containment sites, urgent study and development of environmental protection measures.

During the reorganisation of the Combine Production Association into the Pripyat Scientific and Production Association, intelligence agencies noted a decrease in officials' demands for compliance with radiation safety standards during the removal and disposal of radioactive waste (RW).

On January 28, material with up to 150,000 µSv/hr up from the Chernobyl Nuclear Power Plant was buried in Module 1 of the Podlesny repository, although the permissible rate of RW received for this module is up to 100,000 µSv/hr.

During January of this year, radioactive waste was delivered along the Chernobyl Nuclear Power Plant-Podlesny-Burakovka route without an escort vehicle. Radioactive waste activity levels were not adequately monitored during loading, and contamination levels in the driver's cabs of the special vehicles were virtually non-existent. We are taking measures within our operational capabilities to normalise the situation, and information is being prepared for a report to the Pripyat Scientific Production Association's management.

A tense situation has developed within the Spetsatom production association due to its reorganisation and the proposed relocation of key divisions outside the 30-kilometer zone, as well as the lack of realistic prospects for the association's continued existence. Currently, more than 10 leading specialists, including key project developers and section and sector managers, have submitted resignations. The management's actions in this situation have not met with understanding or support from certain divisions.

More than 20 other engineering and technical workers expressed concern about finding new employment.

In December and January, a "group to support the People's Movement of Ukraine" (an informal, unregistered association) was created within the Specialised Dispatch and Technological Department of the Pripyat Scientific Production Association. It is headed by SDTU engineer I.A. Syromyatnikov (former secretary of the Komsomol Committee of the Production Association "Combinate"). According to operational data, the group currently consists of 22 people, mostly employees with positive character references from Syromyatnikov's circle.

No unconstitutional or illegal actions or intentions on the part of the group have been identified. Measures are being taken to expand the group's membership by including employees of the Combinate Production Association and the Kurchatov Institute of Atomic Energy, and members of the group's inner circle are conducting propaganda for the NRU.

On January 25-26 of this year, a press conference was held at the Chernobyl Nuclear Power Plant for Soviet and foreign journalists (including eight from capitalist and five from socialist countries), at which representatives of the Chernobyl Nuclear Power Plant, the Kurchatov Institute of Atomic Energy, the State Atomic Energy Institute, and the USSR Ministry of Energy and Nuclear Policy described the situation at the plant (covered in the national press).

On January 25, with the approval of the Slavutich Committee of the Communist Party of Ukraine, a delegation from the Mozyr District Party of the Gomel Region visited the Chernobyl Nuclear Power Plant and met with the Chernobyl Nuclear Power Plant director, the party committee secretary, and other plant officials. The delegation arrived to discuss the feasibility of decommissioning the plant, while also attempting to prove the periodic radioactive contamination of their district during the operation of the power units during this period.

During the discussion, certain biased views on this issue were presented by most delegation members. According to official and operational sources participating in the meeting, such contacts between Chernobyl NPP employees and representatives of the public contribute to the formation of public opinion regarding the objectivity of information and increase the responsibility of Chernobyl NPP personnel for the reliability and safety of the main equipment. It seems advisable to develop this form of public relations.
We are continuing to carry out planned activities.

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