

CHERNOBYL

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SWB

AGRICULTURE

[16] **Results in the RSFSR last year** A meeting of the council of the agro-industrial complex of the RSFSR was held in Moscow on 26th January. The participants analysed last year's results and discussed tasks for 1990. Yegor Stroyev and Gumer Usmanov, Secretaries of the CPSU Central Committee, were present. A report was delivered by Yevgeniy Sizenko, Deputy Chairman of the RSFSR Council of Ministers. The data cited in this report indicated that no radical changes had taken place in the development of the federation's agro-industrial complex in 1989. Only in some oblasts had there been a certain improvement in supplies of foodstuffs. The volume of foodstuffs production in the RSFSR had increased by only 3.1% during the year, taking population growth into account, this had obviously been insufficient. Deliveries to the state of grain, potatoes and other vegetables had not reached the planned levels. Certain unfavourable trends had become apparent at the start of 1990 as well. Even though the republic met its grain requirements by only 75%, many farms were curtailing their production of cereals. In addition, purchases of combines by farms had more than halved of late. The rate of growth of meat production had fallen. As in the past, there had been very large losses of cattle from disease. In effect, the livestock output of two large oblasts simply went to make up for these losses. A great deal of uninstalled imported equipment for the processing industries had accumulated in various parts of the federation. It frequently happened that such equipment had still not been installed when its guarantee period expired. Were it put into operation shortly after arrival in the country a marked increase in feed resources could be achieved. Sizenko called for assistance to be rendered to the individual peasant farms which had begun to appear in the republic. However, judging by the speeches made after his report, this appeal did not evoke a great response. Just as in previous years, complaints were heard that industrial enterprises were reluctant to provide help with harvesting work. (Moscow 1200 gmt 26 Jan 90)

Farms in only 22 of the RSFSR's territories [krays, oblasts, ASSRs] reached their 1989 production targets. Fewer potatoes and other vegetables were procured than in 1988. Procurements of livestock, including poultry, and milk went up by only 2%, which is considerably less than the planned increase. (Moscow 0430 gmt 24 Jan 90)

ENERGY

ELECTRICITY

RUMOURS OF PROBLEM IN CHERNOBYL AES "SARCOPHAGUS" DENIED

[17]
 'Trud' 18 Jan 90

Text of report of D. Kiyanskiy's Kiev interview with Yu. Tsoglin, "Are there cracks in the 'sarcophagus'? - Some answers to alarming questions related to the present condition of Chernobyl nuclear power station"

[Trud' introduction] "Again we have trouble in the No 4 unit, they say." "I heard something has come crashing down inside the 'shelter'." "One comrade in a responsible position stated that filters were destroyed in the 'sarcophagus' by a strong gas discharge".

Rumours are circulating around the housing areas, one more incredible than the other. What is actually happening in this unit at Chernobyl nuclear power station? This is discussed by Yu. Tsoglin, nuclear power station safety section director of the Nuclear Research Institute of the USSR Academy of Sciences and scientific head of the Shater monitoring and diagnostics system of the No 4 unit at Chernobyl nuclear power station.

[Tsoglin] There has been nothing of the kind. However, I do not condemn those people who trustingly accept such "facts". Their alarm is entirely understandable - the accident at Chernobyl has brought too much grief. There is one way to handle it - to provide the population regularly with precise and objective information. We need complete glasnost here.

[Kiyanskiy] But perhaps you simply have not yet received the news of some emergency occurrence?

[Tsoglin] If something were to happen, we in Kiev would know about it in less than a minute. I have the same "picture" on the display screen in my office at the Nuclear Research Institute as that which appears on the operator's screen at the No 4 unit's terminal. A data link between the Shater system model located in the institute and the analogous system in the No 4 unit enables any deviation to become immediately apparent to us. All the information obtained from 150 sensors located inside the "sarcophagus" is analysed by computer. The institute has a computer with the same programme, and operators are on duty at the "site" 24 hours a day.

[Kiyanskiy] How frequently do they change the aerosol filters in the ventilation system of the "shelter"?

[Tsoglin] When a sensor indicates that the filter has accumulated a certain quantity of radioactive aerosols, it is extracted, put in a special container and sent to a solid-waste

the level of these emissions is far below the tolerance level. It is another matter if the danger arises of construction elements collapsing. Experts servicing the destroyed unit regularly inspect all premises accessible to radiation and they are certified.

[Kiyanskiy] Why are instances of internal collapse so dangerous? Could the destruction of some construction elements threaten the integrity of the "sarcophagus" itself?

[Tsoglin] No, of course not. The problem is elsewhere - a portion of a collapsing wall or, let us say, an overhead beam that crashes down raises radioactive dust which, if there is a lot of it, can escape outside through the tiniest natural cracks or thin sections in the "shelter". This finely dispersed dust contains plutonium, strontium, caesium and other radionuclides, and that is why the defective and questionable construction inside the facility has been reinforced. This was done by a comprehensive field team of the I.V. Kurchatov Nuclear Energy Institute.

Dozens of holes were bored in order to study the well of the reactor and the condition and location of fuel. On the basis of all-encompassing analysis of the extensive information, experts on the comprehensive field team and Academician S.T. Belyayev, the team's scientific head, concluded that it was impossible for a chain reaction to occur. They guarantee that the facility is safe from a nuclear point of view.

[Kiyanskiy] The "pyramid" built over the destroyed unit cannot compete in terms of longevity with the famous burial vaults of the pharaohs. What is the prognosis for the "shelter" and what it contains?

[Tsoglin] The important thing now is to make fast the 2,000 t overturned roof of the reactor - a plate, about 14m in diameter, which is in an unstable condition. Design and construction organisations of the USSR Ministry of Atomic Energy and Industry are working on this. With regard to the fate of the "sarcophagus", scientists have proposed that it be transformed into a long-term edifice and made safe ecologically. Designs are already being drawn up and the strictest deadlines have been established. The technical and economic substantiation is scheduled for completion this year, and the working design is to be completed in 1992. The future "Shelter-2" facility, according to its creators' concept, must be sufficiently solid and hermetically sealed so that any collapse of the destroyed unit does not affect the condition of its walls or roof and does not cause any change in the radiation environment at the site. An alternative proposal is also under development - the so-called "green grass" variant, which entails a complete dismantling of the facility and removal of nuclear fuel waste.

[Kiyanskiy] Which of the two variants will require less effort and money?

[Tsoglin] An answer to this question must be based on the technical and economic substantiation which many organisations are busy working on. The Ukrainian SSR Academy of Sciences has undertaken a large volume of work, in particular the Institutes of Nuclear Research, Geochemistry and Physics of Minerals, Geophysics, Botany, and Cybernetics. The USSR State Construction Committee has concluded that today's "shelter" will be able to fulfil its functions for at least

another 30 years. And so we do have some time. I think we will succeed in completing the selected variant before the turn of the century.

[Kiyanskiy] It is said that the "sarcophagus" is becoming more radioactive with time, and will therefore present an ever increasing danger to the environment.

[Tsoglin] That is not so. There are no nuclear reactions taking place in the "shelter" which would cause it to become radioactive. Moreover, according to the laws of radioactive decay, the level of contamination, and consequently the intensity of emissions, decreases with time.

[Note: According to a Tass report (*in Russian for abroad 1125 and in English 1846 gmt 24 Jan 90*), the sarcophagus built over the No 4 unit destroyed in the 1986 disaster is 60 m long. Experts believe that the sarcophagus can fulfil its purpose for at least another 30 years. However, internal structures could become damaged with time under the impact of chemical and thermal processes within the reactor, so it is necessary to reinforce the sarcophagus.]

PRESS CONFERENCE ON SITUATION AT CHERNOBYL AES

[18]

(a) *Tass in Russian for abroad 1439 (and in English 1753) gmt 27 Jan 90*

Text of report of dispatch in 'Izvestiya' [28th January morning edition by V. Zaykin]

Providing the fullest possible coverage of the situation at the Chernobyl AES was the aim of a press conference for the Soviet and foreign journalists which has taken place in the station's conference hall. Journalists questions were answered by representatives of the AES administration, the Institute of Atomic Energy of the State Committee for Safety in Industry and the Atomic Power Industry, and the USSR Ministry of Nuclear Power.

A threat of closure is hanging over the Chernobyl AES, "Izvestiya" says today [27th January], reporting on the press conference. The public, in whose eyes the station is a symbol of radiation danger, is calling for this.

Three power units are now in operation, it was reported at the press conference. The first one and the third one are operating at their rated capacity, while the second one is operating at 50% capacity because malfunctions have arisen. On 26th January the power unit was shut down for a 40-day repair period.

A system of monitoring the condition of metal and a fundamentally new system which does not permit the operator to deal with the reactor shielding as he wishes, which rules out the possibility of "human error", has been introduced. While previously, during "irregular situations" the instruction was for the operator to maintain the reactor in operation, the situation now is completely the opposite - the reactor should be shut down. Henceforth the safety of atomic power engineering comes first.

Is a chain reaction inside the fourth power unit, or more correctly, inside what remains of it possible? The reply of specialists of the Kurchatov Atomic Power Institute is

unequivocal: it is impossible. Over 70 holes have been drilled inside the "sarcophagus". Instruments are not registering the breeding of neutrons.

During the breakdown nuclear fuel melted with metal, stone and sand. The dust, containing particles of plutonium, represents a considerable danger. An installation for dust suppression, operating inside the "sarcophagus", is intended to prevent it spreading.

Radiation emission immediately above the destroyed reactor is 800 roentgen an hour at present. In different parts of the "sarcophagus" it varies from 200 roentgen an hour to units of milliroentgen an hour, in premises being serviced it is up to 8 milliroentgen an hour. The dose on the station's staff per person in 1989 was 1.23 roentgen a year compared with a permissible level of 5 roentgen a year. Over 5,000 people are servicing the station. All of them undergo a psychological and physiological examination each year. Twenty percent of the staff consist of young specialists, who arrived here mainly in 1987. Today they hold the key jobs in middle management at the Chernobyl AES.

(b) Kiev in Ukrainian 2015 gmt 26 Jan 90

Excerpts from report

A press conference has been held at Chernobyl AES for Soviet and foreign journalists. Our correspondents, Yevhen Rekunkov and Ihor Kulinichenko, attended it:

[Correspondent] We inspected the town of Pripyat, the machine hall and the control panel of the No 1 power unit. Afterwards a two-hour press conference took place, with senior officials of Atomenergo taking part. . . Among those answering questions was Umanets, director of the AES. The first question was asked by my colleague from Promin [Kiev home service's second programme].

[Question] According to the unspecified data, last year about R 40,000,000 was spent for repairs and various cosmetic jobs on the sarcophagus, and the previous year close to R 70,000,000. And now, as is known, plans for a new sarcophagus are being drawn up which will cost nearly R 1,000 million. How far have you got in designing a new sarcophagus?

[Umanets] Your figures are more or less correct. The money was spent on carrying out the exceptionally important programmes. We had to find out whether a chain reaction would be possible in the reactor of the fourth power unit. The money was spent wisely; no chain reaction will take place. . .

[Correspondent] I am from the Yedinstvo agency. You, Mr Umanets, have stated that what we need is the truth and nothing but the truth. Then why has the whole truth not been revealed about the number of victims resulting from the Chernobyl incident?

[Umanets] If we are to talk about the whole truth, then during the elimination of the consequences of the breakdown and as a result of the effect of radiation and psychological stresses, the health of many workers was ruined. Today we have illnesses and even deaths which can be linked with the Chernobyl accident. However, I do not have any statistics on how many people have died. . .

OTHER REPORTS

[19]

Leningrad AES storage facility leak Slight radioactive pollution has been registered in the vicinity of the storage facility containing waste from the Leningrad AES. Moisture got into the concrete tank situated on the ground and combined with the waste in the tank to form a radioactive sludge which seeped through minute cracks which had developed in the concrete blocks and began to penetrate the soil. At present there is no danger but preventive measures must be taken. According to M.F. Yakushev, director of the experimental plant where the storage facility is located, it is necessary to build a further clay lining around the whole tank so water cannot enter and the waste cannot escape.

Since the radioactive waste will continue a hazard for the next 300 years and the storage tank is only built to last until the end of this century, there is a problem. The nature of the local subsoil has prevented burial of the waste and nobody has thought of looking for an alternative more suitable site. According to Yakushev, there is no single view on how to dispose of radioactive waste and no real strategy for the future. There is no technology for processing the waste and then burying it. (*Soviet television 1800 gmt 23 Jan 90*)

(*Austrian report*) Recent measurements have shown an unexpectedly large increase in the ground water near the storage facility. However, the authorities say there is no danger to the public. (*Austrian television 2100 gmt 25 Jan 90*)

(*Finnish reports*) The leak took place on 21st December. According to Antti Vuorinen, director-general of the Finnish Radiation Protection Centre, the leak did not cause any danger to the environment and no increase in radioactivity has been detected in Finland. The store has been isolated from Leningrad. Vuorinen has received a report on the leak from the Leningrad authorities. The enterprise where the leak occurred is at Sosnovyy Bor at an enterprise, located near the Leningrad AES, which deals with radioactive waste from the Leningrad area. Rain water got into the store through a leak in the roof and dissolved radioactive substances in solid waste and some of these seeped out. The incident has no further safety implications. It is reported that the roof of the store has now been repaired. (*Helsinki in Finnish 1900 and 2030 gmt 24 Jan 90*)

[20]

Zaporozhye AES telephone information service (*Text*) The inhabitants of the Ukraine will now be able to receive information at any time of the day about the work of the Zaporozhye AES. An answering machine has started to operate at the AES. By dialling a telephone number, you will receive information about how many reactors are in operation at a given moment, about the load which they are under, and about what the radiation background is like on the station's territory. (*Moscow 0900 gmt 27 Jan 90*)