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Institute of Nuclear Physics

LOCATION: Salaspils, 20 kilometers from Riga
REACTOR: One
TYPE: IRT, Pool
POWER: 5 MWe
FUEL:
The reactor core contains up to 4 kg of U-235, with the fuel enriched to 90%.[1,2] In addition, twenty kilograms of uranium are stored at Salaspils.[3]
Sources:
[1] "Research Reactors In The Former Soviet Union," GAO/RCED-96-4 Nuclear Safety, p. 23.
[2] NUCLEAR RESEARCH REACTORS IN THE WORLD, 5/91, p. 60; in "Republics' Locations of Nuclear Materials Eyed," FBIS-SOV-92-034.
[3] *Diena* (Riga), 10/3/94, p. 4; in "Future For Salaspils Nuclear Reactor Viewed," FBIS-SOV-94-201, 10/3/94.
OPERATOR:
Nuclear Research Center, Latvian Academy of Sciences
["World Nuclear Industry Handbook 1995," NUCLEAR ENGINEERING INTERNATIONAL, p. 114.]
ADMINISTRATION:
Director: Antons Lapenas
[Iveta Tomsone, "Na Salaspilsskom Reaktore Uluchshayut Systemu Bezopasnosti," RIGAS BALSS, 1/3/96, p. 5.]
Chief Engineer: Dzintars Kalnins
[DIENA (Riga), 10/3/94, p. 4; in "Future For Salaspils Nuclear Reactor Viewed," FBIS-SOV-94-201, 10/3/94.]
STATUS:
One of the first research reactors in the USSR, the Salaspils reactor was built in 1959 and went critical in 1961.[1] The facility possessed a unique gamma radiation unit.[2] The last shipment of reactor fuel from Russia was received in 1986, and the reactor was shut down and decommissioned on 19 June 1998.[4,5] The decision to close the plant was based on a lack of government finances and concerns for environmental safety in the event of an accident.[3] For more information on decommissioning please see the safety and closure section below.
Sources:
[1] International Atomic Energy Agency, *Nuclear Research Reactors in the World,* December 1992, p. 43.
[2] "Vesti News Bulletin," Russian Television Network, 4 December 1997; in "Safety of Latvian Nuclear Facilities Questioned," FBIS-SOV-97-338.
[3] "Latvia To Shut Down Research Reactor," *Post-Soviet Nuclear and Defense Monitor,* 15 December 1997, p. 3.
[4] *Diena*, 10 March 1994, p. 4; in "Future For Salaspils Nuclear Reactor Viewed," FBIS-SOV-94-201, 10 March 1994. [entered 1/30/98 djw]
[5] Radio Riga Network; in "Latvian Government Shuts Down Nuclear Research Reactor," FBIS-SOV-98-170, 19 June 1998. {updated 9/8/99 FW}

MPC&A DEVELOPMENTS

12/4/97: UNITED STATES INSTALLS PROTECTION SYSTEM
In an interview with Russian television, Salaspils Director Antons Lapenas stated that although the Salaspils research reactor has been prepared for closure, the uranium rods within the core are still active. To prevent an act of nuclear theft, the United States has installed a computerized protection system at the plant.
["Vesti News Bulletin," Russian Television Network, 4 December 1997; in "Safety of Latvian Nuclear Facilities Questioned," FBIS-SOV-97-338.] [entered 1/30/98 djw]

3/12/96: MPC&A IMPROVEMENTS COMPLETED
After two years of MPC&A upgrading by the US Department of Energy's Sandia and Los Alamos National Laboratories and the Russian/NIS Nuclear Materials Security Task Force, the Salaspils research reactor has become the first former Soviet nuclear enterprise at which MPC&A improvements have been completed. Salaspils now possesses electronic PIN-access controls and a hand-geometry biometric identification system to prevent entry by unauthorized personnel. Further physical protection upgrades include video surveillance, improved radio communications, motion detectors, and a central alarm system. Computerized systems of accounting, measurement, reporting, containment, and surveillance

enable Salaspils to interface with the IAEA safeguards system.
["Improving Nuclear Materials Security at the Latvian Academy of Sciences Nuclear Research Center," Brochure printed by the *Office of Arms Control and Nonproliferation of the US Department of Energy.*]

{updated 7/2/97 djw}

1/96: **SALASPILS DIRECTOR CALLS FOR SECURITY IMPROVEMENTS**
Salaspils plant director A. Lapenas reported that there is enough nuclear material stored at Salaspils to make 5 atomic bombs. In addition, Lapenas stated that improving security at the plant was of the utmost importance. At present, Salaspils is installing bullet-proof glass and automatic doors.
[Iveta Tomsone, "Na Salaspilsskom Reaktore Uluchshayut Systemu Bezopasnosti," RIGAS BALSS, 1/3/96, p. 5.]

4/95: **IAEA ALLOCATES $250,000 TO SALASPILS**
The IAEA allocated $250,000 to Salaspils for the creation of a safeguards system.
[Iveta Tomsone, "Na Salaspilsskom Reaktore Uluchshayut Systemu Bezopasnosti," RIGAS BALSS, 1/3/96, p. 5.]

12/2/94: SAEIMA PASSES A LAW CONCERNING RADIOACTIVE MATERIALS
The Saeima passed a law which, beginning on 31 December 1994, will require parties which possess or use radioactive materials to register with and be licensed by the Radiation and Nuclear Safety Agency. The law, which gives the agency the authority to close down sources of nuclear radiation it deems to be harmful to the environment, bans the import of radioactive waste. The Ministry of Welfare is currently drawing up related regulation, including those setting maximum radiation exposure limits.
[Leta (Riga), 2 December 1994; in "Parliament Passes Law On Radioactivity, Nuclear Safety," JPRS-TEN-94-030, 30 December 1994, pp. 86-87.]

9/94: SITE SURVEY OF PHYSICAL PROTECTION CARRIED OUT
The US Department of Energy's Sandia national laboratory carried out a site survey of the physical protection system at Salaspils.
[SANDIA NATIONAL LABORATORIES, "Protection and Surveillance of Nuclear Materials in the Former Soviet Union," Hearings Before the Senate Governmental Affairs Committee Permanent Subcommittee on Investigations, 3/29/96.]

6/94: **IAEA ORGANIZES DONORS TO ASSIST IN UPGRADING PHYSICAL PROTECTION OF NUCLEAR MATERIALS**
The IAEA organized a group of donor countries to assist Latvia in upgrading the physical protection of its nuclear material. Sweden and Finland agreed to oversee the development of national MC&A regulations. The United States assumed responsibility for upgrading facility-level physical protection.
[SANDIA NATIONAL LABORATORIES, "Protection and Surveillance of Nuclear Materials in the Former Soviet Union," Hearings Before the Senate Governmental Affairs Committee Permanent Subcommittee on Investigations, 3/29/96.]

SAFETY AND CLOSURE DEVELOPMENTS

7/30/2003: LATVIA POSTPONES DISMANTLING OF SALASPILS REACTOR

On 30 July 2003, Guntis Pukitis, the State Secretary of the Latvian Ministry of Environment, told Interfax that due to budget cuts for 2004, the Ministry must delay the dismantling of the Salaspils nuclear reactor. Guntis Pukitis said that insufficient funds for the country's priority project will result in the failure to remove nuclear fuel from Latvia in 2004, a project estimated to cost 3 million lats ($5.28 million as of July 30, 2003). Pukitis remarked that the Ministry is continuing to look for funding to close the Salaspils reactor but emphasized that it is impossible to obtain foreign assistance if the Latvian government cannot provide some financing on its own.[1] Preparations for the dismantling of the reactor have been ongoing since 1999. The government announced in 2002 that the project would be complete by the end of 2008.[2]
Sources:
[1] "V Latvii otkladyvaetsya likvidatsiya Salaspilsskogo yadernogo reaktora," Interfax, 30 July 2003.
[2] "V Latvii obyavlen konkurs na demontazh Salaspilsskogo yadernogo reaktora," Baltic News Service, 1 November 2002; in Integrum Techno, http://www.integrum.com. {Entered 09/16/2003 AI}

10/26/99: LATVIA TO DISMANTLE SALASPILS REACTOR
On 26 October 1999, the Latvian government decided that dismantling of the Salaspils reactor should begin in 2001. The government approved the reactor's dismantlement, and estimated that the process would take about nine years and would cost about 12 million lats ($20.86 million). The Foreign Ministry is to draw up a plan with Russia on accepting Latvian spent nuclear fuel. The source indicated that the

dismantlement will actually start in 2003 and then only if nuclear fuel is transported from the reactor's pool to a dry storage facility, or outside Latvia altogether. The nuclear fuel from the Salaspils reactor (130-150 cubic meters) will be held in containers until a decision is made about where to ship it.
[BNS, 27 October 1999; in "Latvia To Dismantle Salaspils Nuclear Reactor," FBIS Document FTS19991027001574.] {Entered 11/16/99 LBB}

10/12/99: LATVIA ASKS RUSSIA TO HELP STORE SPENT NUCLEAR FUEL
Maris Dambis, manager of the radiation and nuclear safety department of the Latvian State Environmental Inspectorate told ITAR-TASS in an interview that Latvia is awaiting an answer from Russia as to whether that country will accept spent nuclear fuel from the shut-down Salaspils reactor. "Latvia is prepared to pay Russia for the transport container and for taking it back," said Dambis. He attributes the absence of dialogue with Russia on this issue to the decision by the Russian State Duma to not accept spent nuclear fuel from other countries' research reactors. The Latvian-Russian intergovernmental commission, which could have dealt with this issue, is no longer functioning. Latvia will start negotiating with other countries if Russia refuses the offer.
[ITAR-TASS, 12 October 1999; in "Latvia May Ask Russia To Help Store Spent Fuel," FBIS Document FTS19991015000388.] {Entered 1/14/00 LBB}

6/19/98: SALASPILS REACTOR SHUT DOWN
The Salaspils research reactor in Latvia was shut down and decommissioned on 19 June 1998. In 1995,the government decided that the reactor would be shut down when it ran out of fuel.[1] According to Antons Lapenas, head of the nuclear research center, complete dismantling of the reactor will cost $50 million, and it may take from seven to 11 years.[1,2] The center is considering other proposals such as mothballing the reactor for seven years or partially dismantling it.[1] According to a government decree, all the institutions working at the reactor will be divided into three sections, and starting next year, each of them will come under the jurisdiction of various ministries.[3] Reactor employees are dissatisfied with the decision to shut down the reactor and restructure the work force, and claim that the money that will be spent on dismantling the reactor should have been used to create new projects for the facility instead.
Sources:
[1] Radio Riga Network; in "Latvian Government Shuts Down Nuclear Research Reactor," FBIS-SOV-98-170, 19 June 1998.
[2] BNS, 2 June 1998; in "Latvia To Decide on Closure of Nuclear Reactor 2 June," FBIS-SOV-98-153.
[3] Radio Riga Network, 2 June 1998; in "Latvian Nuclear Power Station To Be Closed," FBIS-SOV-98-153.
[4] NTV, 20 Juen 1998; in "TV Report From Newly Decommissioned Salaspils Reactor," FBIS-SOV-98-176.{Entered 10/7/98 NK}

12/97: SALASPILS SET TO CLOSE DUE TO FINANCES AND SAFETY CONCERNS
Head of the Institute of Nuclear Physics Antons Lapenas stated that a reactor accident at Salaspils, and the resulting groundwater contamination, would create an environmental disaster for Riga as serious as that of the Chornobyl disaster.[1] Although an IAEA commission visited the plant to study the situation, the Latvian government has already made the decision to close the reactor in line with IAEA recommedations after 1 January 1998, when its fuel is depleted. Despite the protests of the physicists at the plant (48 out of Salaspils' 115 employees will lose their jobs after decommissioning), the decision was based on a lack of government finances and safety concerns.[1,3] The Latvian government may petition the IAEA to donate $50 million for the costs of decommissioning Salaspils. The US Department of Energy's International Nuclear Safety Program is prohibited from providing any assistance since the program's money cannot be put towards research reactors.[2]
[1] Oleg Meshkov, "Vzorvyotsya li Latviya?" *Pravda*, 6 December 1997, p. 1.
[2] "Latvia To Shut Down Research Reactor," *Post-Soviet Nuclear and Defense Monitor,* 15 December 1997, p. 3.
[3] "Nuclear Reactor Preparing for Retirement," *Baltic Times,* 4-10 December 1997, p. 3. [entered 1/30/98 djw]

10/24/97: POWER TO SALASPILS SHUT OFF; INES LEVEL 1
Heavy snow caused two electric power lines to the Salaspils research reactor to collapse. As a result, Salaspils remained without electricity and telephone service for four days.[1] Lithuanian Environmental Ministry spokesperson Natalija Gedvilaite announced that the incident received a rating of 1 on the INES scale.[2]
Sources:
[1] ELTA, 4 November 1997; in "Lithuania Assails Latvia Over Salaspils Nuclear Incident," FBIS-TAC-97-308.
[2] ELTA, 5 November 1997. [entered 1/30/98 djw]

1/31/96: **REPORTS ON RADIATION LEAKAGE DIFFER**
The Latvian Academy of Science Nuclear Research Center and the Hydrometeorological Center announced that no radiation leakage occurred at the Salaspils plant during January. Norway and Finland,

however, registered small radioactive fallout readings of iodine and cesium-137 between 1/8/96 and 1/15/96, most probably from Russia or the Baltic states.
["Radiation Level Reported Unchanged In Latvia In January," BALTIC NEWS SERVICE DAILY REPORT, 1/31/96.]

6/6/95: SALASPILS WILL BE DECOMMISSIONED
According to *Komsomolskaya Pravda*, the Latvian Government has decided to decommission the nuclear reactor at Salaspils. The shutdown of the reactor will cost $US 50 million and take seven years.
[Karen Markarian, "Vsled Za Lokatorom V Latvii Unichtozhayut Reaktor," KOMSOMOLSKAYA PRAVDA, 6/6/95, p.3.] {Entered 10/28/96 RD}

1995: SWEDEN FOCUSES ITS ASSISTANCE ON THREE BALTIC COUNTRIES, BELARUS, AND RUSSIA
Swedish assistance in radiation protection and waste management has focused on the three Baltic countries, Belarus, and Russia. Sweden has already spent $10 million on various projects.
["Nuclear Safety," GAO/RCED-96-4, p. 29.]

10/3/94: **DECISION ON CLOSING SALASPILS HAS NOT BEEN MADE**
Latvian energy officials do not envisage the construction of a replacement nuclear facility until 2010, if then. Dzintars Kalnins, Chief Engineer at Salaspils, expressed concern that once the reactor is shut down, Latvia will be compelled to buy western goods that the country currently receives in the form of humanitarian aid. Salaspils' Director, Anton Lapenas, and Kalnins recently met Russian Energy Ministry officials in Russia to discuss sending spent uranium to that country. It was reported that Russia would be willing to receive the material for 500,000 lats. The US and Sweden did not express interest in a Latvian offer to send them the uranium. Shutting down the reactor, which once employed 240 nuclear specialists but now only employs 18, would cost approximately 30 million lats. If the reactor were used for another 20 years, the cost would be approximately 60 million lats for upgrades and 30 million for eventual dismantlement. It is also reported that few young people are willing to work in the nuclear field, in part because of poor wages. A final decision by the Latvian government on whether to close the Salaspils facility has not been made.
[DIENA (Riga), 10/3/94, p. 4; in "Future For Salaspils Nuclear Reactor Viewed," FBIS-SOV-94-201, 10/3/94.]

9/12/94: **US AND SWEDISH DELEGATION VISITS LATVIA**
US and Swedish officials arrived in Latvia for a three day visit to "help prepare a program of technical aid."
[DIENA (Riga), 10/3/94, p. 4; in "Future For Salaspils Nuclear Reactor Viewed," FBIS-SOV-94-201, 10/3/94.]

7/22/94: **MINISTRY OF EDUCATION, CULTURE, AND SCIENCE AGREES TO CLOSURE OF SALASPILS**
In a letter addressed to the Ministry of Environmental Protection and Regional Development, the Ministry of Education, Culture, and Science agreed with the former's proposal to close the Salaspils reactor.
[DIENA (Riga), 10/3/94, p. 4; in "Future For Salaspils Nuclear Reactor Viewed," FBIS-SOV-94-201, 10/3/94.]

4/94: **DISCUSSIONS OVER CLOSURE OF SALASPILS BEGIN**
Discussions on closing the Salaspils reactor were begun in the Ministry of Environmental Protection and Regional Development.
[DIENA (Riga), 10/3/94, p. 4; in "Future For Salaspils Nuclear Reactor Viewed," FBIS-SOV-94-201, 10/3/94.]

10/27-29/93: IAEA AND UNDP CARRY OUT FACT-FINDING MISSION
The IAEA and the United Nations Development Program carried out a fact-finding mission in Latvia as part of the program to improve radiation protection, nuclear safety, and waste management infrastructures in countries of the former Soviet Union.
["Radiation Protection and Waste Management Services Upgrading (LAT/9/002)," IAEA Department of Technical Co-Operation, located at homepage
http://www.iaea.or.at/programs/tc/schedc.95/lat9002.htm, 2/21/96.]

OTHER FUEL CYCLE FACILITIES:

Radioisotope Apparatus Plant

LOCATION: Riga
STATUS:

0.5 kg of plutonium was in storage here, but was then scheduled to be shipped immediately to the Radon State Enterprise in Baldone, Latvia. The electricity at the Radioisotope Apparatus Plant had been shut off, rendering the plant's alarm system useless.
[DIENA (Riga), 10/3/94, p. 4; in "Future For Salaspils Nuclear Reactor Viewed," FBIS-SOV-94-201, 10/3/94.]

Radon State Enterprise

LOCATION: Baldone

RADIOACTIVE WASTE DEVELOPMENTS:

10/23/2003: FOUR ARRESTED FOR POSSESSION OF STRONTIUM
Latvian secret police arrested four people for possession of parts containing radioactive strontium on 23 October 2003 in the capital, Riga.[1] Officials from the Constitution Protection Office made the arrests, which took place in a corridor at the University of Latvia's solid-state radiation chemistry laboratory[2] and at a home on Vienibas Gatve Street. Latvian security police and a Latvian Army special task force assisted in the arrests. The Center for Radiation Safety was reportedly working to determine the amount of the radioactive isotope, its level of radioactivity and when and where it was produced. According to the report, the four suspects were later released, as Latvian law calls for criminal charges to be made only in the case of a second offense within one year against the Latvian law on handling radioactive and chemical substances.
Sources:
[1] "V Latviyskom universitete konfiskovan strontsiy," Baltic News Service, 24 October 2003; in Integrum Techno, http://www.integrum.ru.
[2] "Radioactive substance seized in Latvia is strontium: official," Spacewar.com, 29 October 2003, http://www.spacewar.com. {Entered 12/12/04 CC}

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