1. INTRODUCTION AND HISTORICAL CONTEXT

The Ignalina NPP is a product of the former Soviet Union. This fact is relevant in understanding some of its design and operational characteristics, it also explains why a number of safety studies which should have been conducted during plant design, have been carried out only recently. This up-dated source book provides a systematic over view of the design data, summarises results from the completed safety studies and provides a description of completed and planned modifications.

The Ignalina NPP contains two RBMK-1500 reactors. This is the most advanced version of the RBMK reactor design series (actually the only two of this type that were built). "RBMK" is a Russian acronym for "Channelized Large Power Reactor". Compared to the Chernobyl NPP, the Ignalina NPP is more powerful (1500 MW versus 1000 MW), and is provided with an improved ACS (Accident Confinement System). In most other respects, the plants are quite similar to their predecessors. They have two cooling loops, a direct cycle, fuel clusters are loaded into individual channels rather than a single pressure vessel, the neutron spectrum is thermalized by a massive graphite moderator block. The plant can be refueled on line and uses slightly enriched nuclear fuel.

The power plants were built not to meet Lithuania's needs, but as part of the Soviet Union's North - West Unified Power System. The first unit of Ignalina NPP went into service at the end of 1983, the second unit in August, 1987. Their design lifetime is projected out to 2010 - 2015. A total of four units were originally planned on this site. Construction of the third unit was terminated in 1989 because of political pressure.

Because of their online re-fuelling capability RBMK - type reactors were not exported, and were built exclusively in the territory of the former Soviet Union. There are presently plants at Saint Petersburg (Sosnovy Bor), Kursk, Chernobyl and Smolensk (Table 1.1). A total of 17 such reactors have been built and 15 are currently in operation.

Lithuania declared its independence in March of 1990, but the Ignalina NPP was guarded by Soviet troops and KGB operatives and remained factually in the jurisdiction of the Soviet Union until August, 1991. Supervision was carried out by that country's regulatory authority, the State Atomic Supervision. After the political events of August, 1991 (the formal collapse of the Soviet Union), Ignalina NPP finally came under the authority of the Lithuanian Republic. It is now controlled administratively by the Lithuanian Ministry of Energy. Regulatory control is exercised by the Lithuanian State Atomic Energy Safety Inspection (VATESI). Most of the former technical, operation and administrative personnel of the plant have retained their jobs.

Table 1.1 Specific status of the RBMK plants [1]

	Generation *	Status	Number of CPS Channels	Number of Fuel Channels
Ignalina 1	2	operational	211	1661
Ignalina 2	2	operational	211	1661
Chernobyl 1	1	operational	179	1693
Chernobyl 2	1	shut down	179	1693
Chernobyl 3	2	operational	211	1661
Chernobyl 4	2	shut down	211	1661
Kursk 1	1	operational	179	1693
Kursk 2	1	operational	179	1693
Kursk 3	2	operational	211	1661
Kursk 4	2	operational	211	1661
Kursk 5	3	under construction	223	-
St. Petersburg 1	1	operational	191	1693
St. Petersburg 2	1	operational	179 (191)	693
St. Petersburg 3	2	operational	211	1661
St. Petersburg 4	2	operational	211	1661
Smolensk 1	2	operational	211	1661
Smolensk 2	2	operational	211	1661
Smolensk 3	3	operational	211	1661

* The term "Generation" pertains to the initial design or an updated version of the initial design

1.1 GENERAL PLANT DESCRIPTION

1.1.1 Location of Plant

The Ignalina NPP is located in the north-eastern part of Lithuania, near the borders of Latvia and Belarus. More details on the location of the Ignalina NPP are provided in Section 2.1.

1.1.2 Plant Panorama

The general Ignalina NPP panorama is shown in Fig. 1.1. The site of the nuclear power plant covers an area of about 0.75 km^2. (In comparison: the Swedish Barsebeck nuclear power plant with two BWR reactors covers an area of about 0.24 km^2). The buildings take up about 0.22 km^2.

The Ignalina NPP possesses two similar units of RBMK-1500 reactors, as shown in Fig. 1.2. Each unit consists of five construction buildings; namely, buildings designated as A, B, V, G and D. There are also two separate reactor buildings A1 and A2 adjacent to a common building D1 and D2 with control rooms, electric instrumentation rooms and deaerator rooms. The last building is adjacent to a common turbine hall. The main buildings of the plant are situated about 400-500 m from the banks of lake Drūkšiai.

Both units have the following common facilities: low-activity waste storage, medium - and high-activity waste storage, liquid - waste storage, an open distributive system, nitrogen and oxygen manufacturing facility and other auxiliary systems. The building which houses the 12 diesel- generators (six diesel- generators per each unit) for emergency power supply is physically separated from other buildings. A separate water-pump service station is also built for each unit, serving the needs of uninterrupted supply of water.

A panorama of the auxiliary services for the Ignalina NPP is shown in Fig. 1.3. The general area of the Ignalina NPP, the city of Visaginas, the construction organisations and the auxiliary services encompass an area of about 26 km^2.

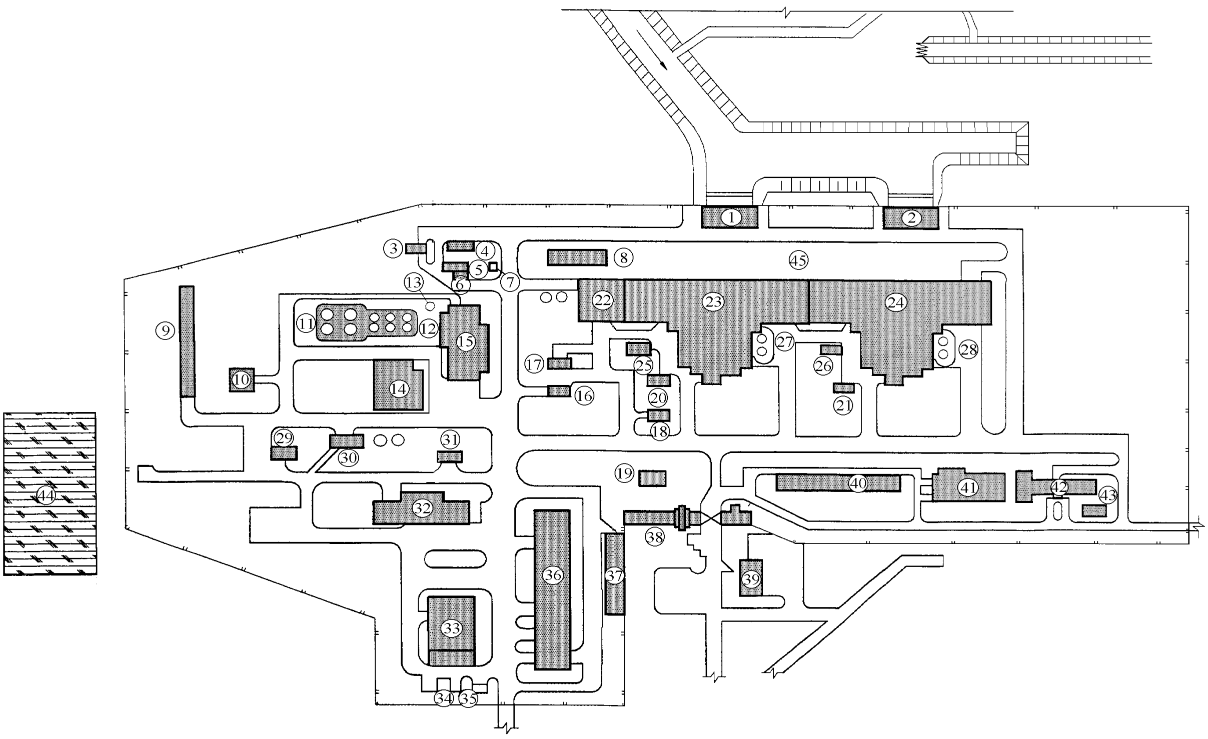

Fig. 1.1 General panorama of the Ignalina NPP [2]
1,2 - service water pump stations, 3 - acetylene bottle depot, 4 - oil depot, 5 - oil system equipment room, 6 - transformers equipment tower, 7 - pump station for waste and liquid sewerage discharge, 8 - hydrogen- and oxygen-receiving facility, low-activity waste storage, 9 - low-level radwaste repository, 10 - medium- and high-activity waste storage, 11 - operational shower- water reservoir, 12 - drainage water tank, 13 - venting stack of the radwaste reprocessing building, 14 - bitumen storage, 15 - liquid waste storage, 16 - chemical water treatment building, 17 - primary grade water tanks, 18,19 - recreational facilities, 20,21 - gas purification systems, 22 - heat power station , 23,24 - building plant units 1 and 2, respectively, 25,26 - pressurised tank (accumulator) of the ECCS, 27,28 - purified deminiralized water tanks, 29 - car-washing facility, 30 -bitumen depot, 31 - special laundry, 32 - chemical reagent depot, 33 - equipment storehouse, 34 - noble-gas reservoir depot, 35 - reservoir facility with artificial evaporation, 36 - repair building, 37,38 - administrative buildings, 39 - cafeteria, 40 - diesel - generator building, 41 - compressor and refrigeration station, 42 - nitrogen and oxygen manufacture building, 43 - liquid nitrogen reservoir, 44 - 110/330 kV open distributive system.

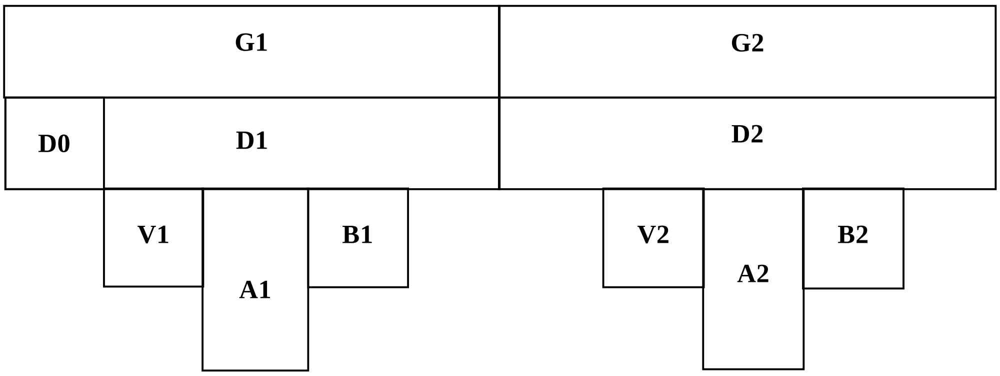

Fig. 1.2 General units arrangements [2]
A1,A2 - reactor buildings, B1,B2 - demineralized water treatment facilities of the MCC, V1,V2 - reactor gas circuit and special venting system, G1,G2 - turbine generators with auxiliary systems, feed facilities and heat supply facilities, D1,D2 - control, electrical and deaerator rooms, D0 -heat pipe service and fire fighting facilities

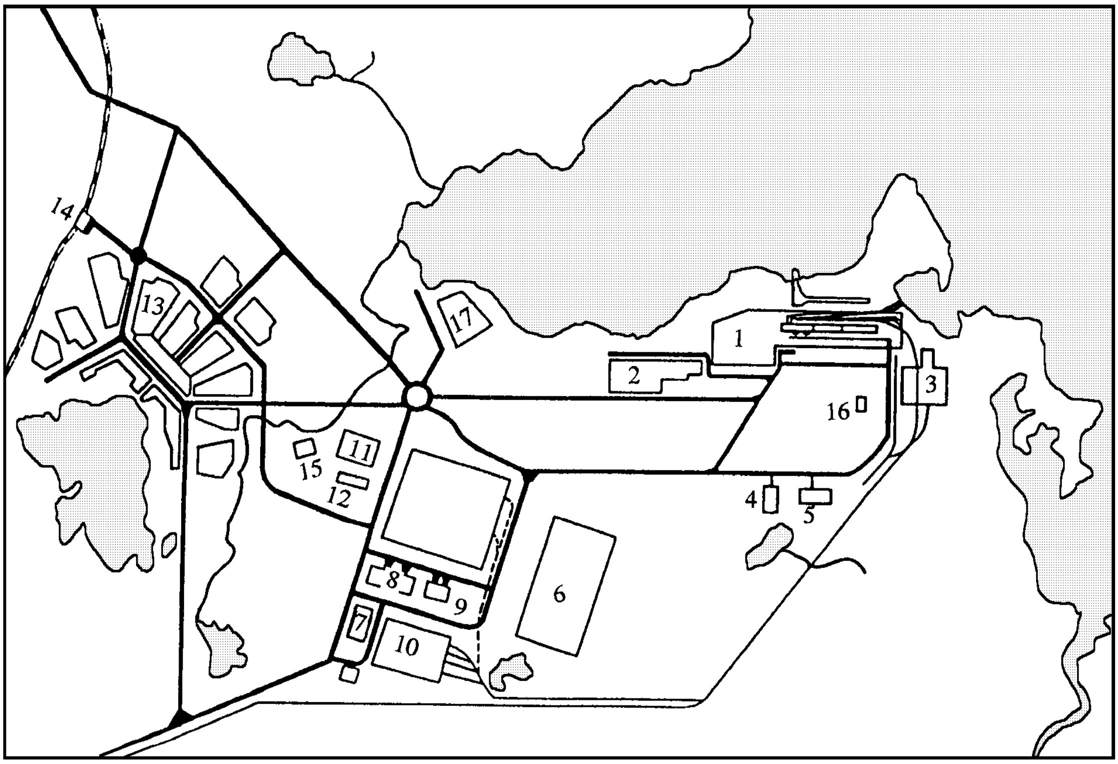

Fig. 1.3 Panorama of auxiliary services [2]
1 - NPP site, 2 - open distributive system, 3 - construction base, 4 - purification constructions, 5 - artisan well site, 6 -supply base, 7 - motor transport department, 8 - car service station, 9 - industrial construction base, 10 - construction base, 11 - military base, 12 - health clinic, 13 - city of Visaginas, 14 - railway station, 15 - the city transformer, 16 -the NPP transformer, 17 - recreational area

1.1.3 Plant Layout

The structure and layout of the main buildings of the Ignalina NPP are subordinate to the peculiarity of the requirements of the RBMK-1500 reactor operation. Fig. 1.4 shows the top view of the buildings of unit 2, which indicates sections A-A and B-B through the building and are displayed in Figs. 1.5 and 1.6, respectively.

Building A contains an RBMK-1500 reactor with a Main Forced Circulation Circuit (MCC), and the following main auxiliary systems of the reactor: Emergency Core Cooling System (ECCS), Accident Confinement System (ACS) and Control and Protection System (CPS). The hall above the reactor is a large open workspace housing the refueling machine. The spent-fuel storage pond is situated in an adjacent hall, but separated from the reactor hall. The reactor compartment consists of a rectilinear structure, the horizontal cross-section of which is 90 m x 90 m and a height of about 53 m.

Building B contains demineralized water treatment facilities. The reactor gas circuit and the special venting system are located in building V. The building area for the special water treatment has dimensions of 66m x 36m, and the building for the reactor gas circuit measures 66 m x 25 m. Both of these buildings have a height of about 31 m.

Building D contains the main control room, the electrical instrumentation and deaerator rooms. The main control room, the batteries and the 6 kV switchyard are situated on the first floor and the deaerator room is situated on the second floor of this building. This common building for both units has an area of 600 m x 25.5 m and a height of about 44 m.

Building G houses the turbine generators with auxiliary systems, the feed and heat supply facilities. The turbines are positioned parallel to the reactor. The turbine hall is common to both units and consequently, houses the four 750 MW turbine generators on the second floor. The first floor of the turbine hall contains condensers, separator-reheaters, evaporators, condensate pumps and components for heat extraction to the district-heating system. The entire building measures 600 m x 51 m and is about 28 m high.

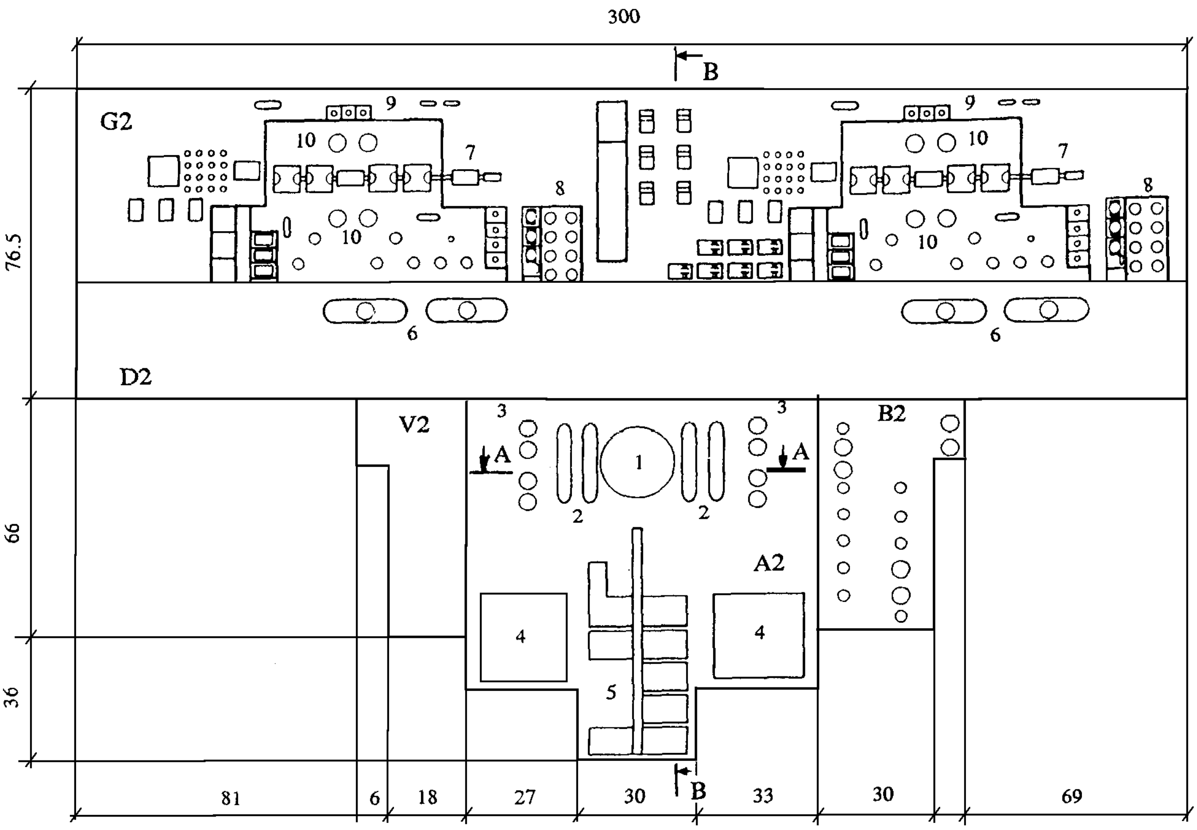

Fig. 1.4 Plan of the Ignalina NPP main buildings [2]
1 - reactor, 2 - pressure and suction headers, 3 - main circulation pumps, 4 - accident confinement system, 5 - spent fuel compartment, 6 - deaerators, 7 - turbine generators, 8 - condensate cleaning filters, 9 - first stage condensate pumps, 10 - separator - reheater

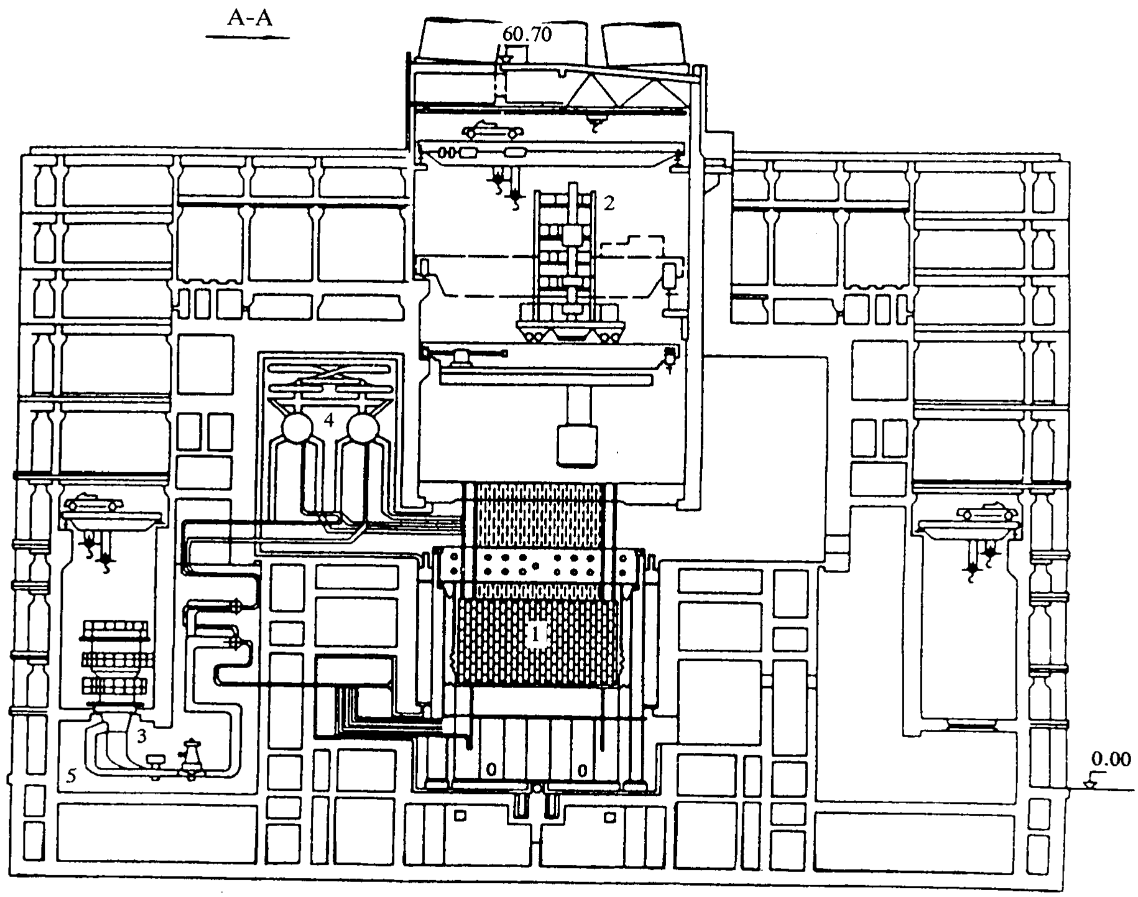

Fig. 1.5 Cross-section A-A of one unit of the Ignalina NPP [2]
1 - reactor, 2 - refueling machine, 3 - main circulation pump, 4 - separator drum, 5 - MCP pipelines

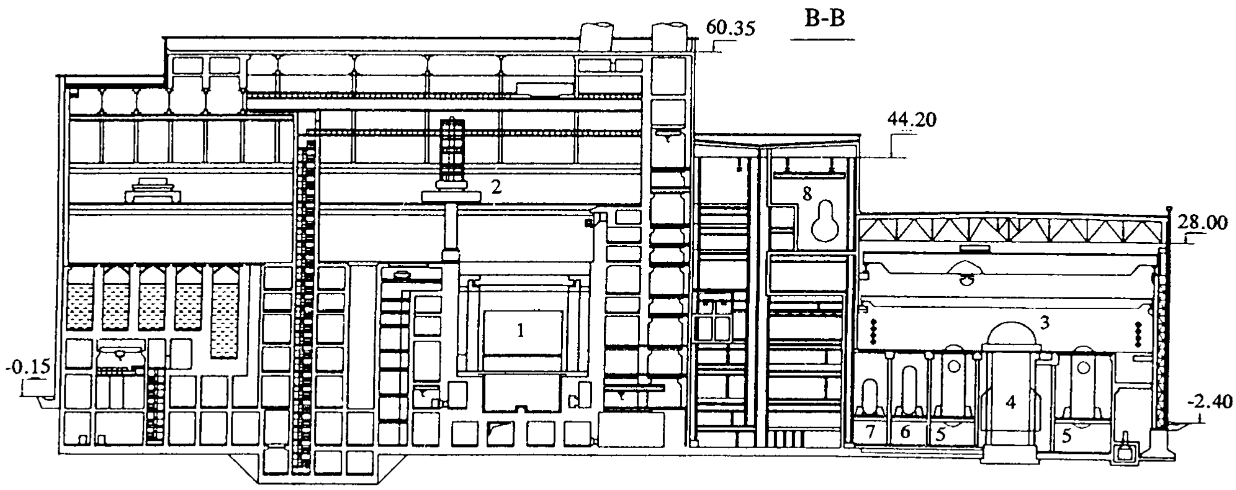

Fig. 1.6 Cross-section B-B of one unit of the Ignalina NPP [2]
1 - reactor, 2 - refueling machine, 3 - turbine, 4 - condenser, 5 - separator - reheater, 6 - evaporator, 7 - first stage of the condensate pump, 8- deaerator

1.1.4 Power Plant Parameters

The Ignalina NPP belongs the category of "boiling water" reactors, a simplified thermal diagram of which is provided in Fig. 1.7. As it passes through the reactor core the cooling water is brought to boiling and is partially evaporated. The steam - water mixture then continues to the large separator drums (3), the elevation of which is above the reactor. Here the water settles, while the steam proceeds to the turbines (4). The steam which remains uncondensed beyond the turbines is condensed in the condenser (6), and the condensate is returned via the deaerator (8) by the feed pump (9) to the water of the same separator drum (3). The coolant mixture is returned by the main circulation pumps (10) to the core, where part of it is again converted to steam.

This fundamental heat cycle is identical to the Boiling Water Reactor (BWR) cycle extensively used throughout the world, and is analogous to the cycle of thermal generating stations. However, compared to BWRs used in Western power plants, the Ignalina NPP and other plants with the RBMK-type reactors have a number of unique features. The most important features are discussed in the subsequent sections.

The Ignalina NPP uses an RBMK - type channelized reactor [3]. This means that each nuclear fuel assembly bank in this type of an RBMK - type reactor is located in a separately cooled fuel channel (pressure tube). There are a total of 1661 of such channels and the cooling water must be equally divided among that number of feeder pipes. Past the core, these pipes are brought together to feed the steam- water mixture to the above - mentioned separator drums.

The RBMK reactors belong to the thermal neutron reactor category. Due to the large number of metal piping in the core of this type of a reactor, the neutronic characteristics of the reactor are degraded. To improve the neutronic characteristics, the reactors of Ignalina NPP

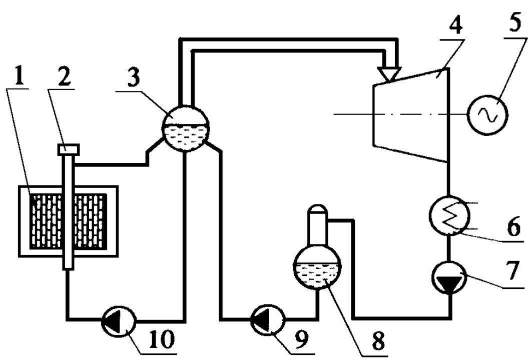

Fig. 1.7 Heat cycle diagram
1 - reactor, 2 - fuel assembly, 3 - separator drum, 4 - turbine, 5 - generator, 6 - condenser, 7 - condensate pump, 8 - deaerator, 9 - feedwater pump, 10 - main circulating pump

use graphite to moderate (slow down) the fast fission neutrons. This requires a large amount of graphite, so that the graphite stack of the reactor becomes its dominant component, at least by volume.

The nuclear fuel assemblies of the Ignalina NPP are changed without shutting down the reactor. This is possible only for a channel type reactors. Since there are many channels, it is possible to disconnect one of them at a time from the reactor cooling system, change the fuel assembly, and then reconnect the channel.

Further similarities and differences in comparison with other types of generating stations are described in subsequent sections of this document. Table 1.2 presents several of the more important plant parameters [2].

When analysing emergency conditions and establishing safety measures, the RBMK-1500 design is based on the following safety criteria [4]:

- with the reactor at nominal power, breaking of the maximum diameter pipe with discharge of coolant from both ends is considered to be the Design Basis Accident (DBA),
- first design limit of fuel-element failure under normal operating condition:
  - ∗ 1% of fuel elements with gas leakage-type defects,
  - ∗ 0.1% of fuel elements having defects resulting in direct contact between coolant and fuel,
- second design limit on fuel failure:
  - ∗ fuel cladding temperature less than 1200°C,
  - ∗ local depth of fuel cladding oxidation less than 18% of initial clad thickness,
  - ∗ fraction of zirconium oxidation less than 1% of fuel cladding weight in one group distribution header channels (about 40 of such channels).

1.2 COMPARISON WITH OTHER FACILITIES

A comparison of RBMK and BWR reactor parameters is presented in Table 1.3. It is worth noting that these reactor types [2] are quite similar in power per fuel quantity or fuel rod length, but large differences appear when comparing reactor power per core volume. The power of the RBMK reactor is somewhat less in that respect, and its heat capacity is correspondingly larger. These parameters have a certain impact on the operation of the reactor during an emergency.

1.3 IDENTIFICATION OF DESIGN ORGANIZATIONS AND CONTRACTORS

The Ignalina NPP belongs to the RBMK-type of reactors as designed and constructed by the former USSR's Ministry of Nuclear Power Industry. A schematic dependence of various institutes responsible for the design and construction of the Ignalina NPP is provided in Fig. 1.8.

Table 1.2 Fundamental parameters of the RBMK-1500 reactor [38,36,62]

Coolant	water (steam-water mixture)
Heat cycle configuration	single circuit
Power, MW:	
thermal (design)	4800
thermal (actual)	4200
electrical (design)	1500
Core dimensions, m:	
height	7
diameter	11.8
Thickness of reactor's graphite reflector, m:	
end	0.5
side	0.88
Lattice pitch, m	0.25 x 0.25
Number of channels:	
fuel	1661
control and shutdown system	235
reflector-cooling	156
Fuel	uranium dioxide
Initial fuel enrichment for ^{235}U, %	2.0 *
Nuclear fuel burnup, MWdays/kg	21.6**
Number of main circulation pumps	8
Capacity of main circulation pumps, m^3/s (m^3/h)	1.805 - 2.22 (6500 - 8000)
Temperatures, ^oC:	
maximum acceptable temperature at center of fuel pellet	2600
maximum acceptable graphite stack temperature	760
maximum acceptable fuel cladding temperature	700
maximum acceptable fuel channel temperature	650
coolant temperature at fuel channel inlet ***	260 - 266
feedwater temperature ***	177 - 190
Pressures, MPa (kgf/cm^2):	
at separator drum	6.86 (70)
at pressure header	8.5 (86.6)
Coolant flow rate through reactor, m^3/s (m^3/h)***	10.83 - 13.33 (39000 - 48000)
Steam produced in reactor, kg/s (t/h)***	2056 - 2125 (7400 - 7650)
Void fraction at reactor outlet, %	23 - 29
Maximum fuel channel parameters:	
fuel channel power, kW	4250
coolant flow rate through fuel channel, m^3/s (m^3/h)	0.0111 (40)
void fraction at fuel channel outlet, %	36.1

* Now the fuel is being changed to 2.4 % enrichment fuel with erbium.
** At fuel enrichment for ^{235}U 2%.
*** At 4200 MW (th).

Table 1.3 Comparison of BWR and RBMK-1500 reactor parameters [3]

Parameter	BWR*	RBMK
Thermal power, MW	3800	4800
Core diameter, m	5.01	11.80
Core height, m	3.81	7.0
Core volume, m^3	75	824
Mean specific power per core volume, MW/m^3	51	5.82
Mean specific power per fuel quantity, MW/t	24.6	25.4
Mean power per fuel element length, kW/m	19.0	15.0

* General electric design

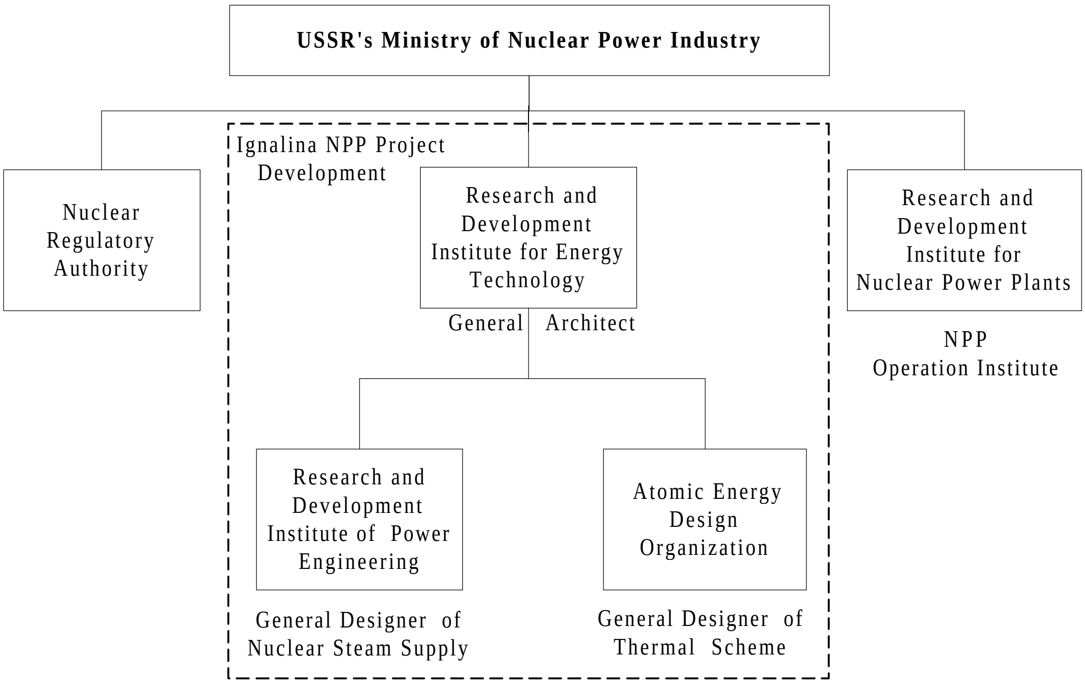

Fig. 1.8 Scope of responsibility for the Ignalina NPP project

The development of the Ignalina NPP project was carried out by the Research and Development Institute for Energy Technology (Russian abbreviation - VNIPIET), St. Petersburg, (at that time Leningrad) Russia. This institute originated the design of the reactor internals and other radiation-related structural components. The development of the Accident Confinement System was carried out by the Sverdlovsk branch, Ekaterinenburg, Russia, of the above mentioned institute. Metal structures of the main building were designed by the Main Design Office "Leningrad Steel Design" (translation the Russian - "Leningradstalkonstrukcija"), St. Petersburg, Russia. The turbine hall, the open distributive system and the auxiliary facilities were developed by the Atomic Energy Design Organisation (Russian abbreviation - "Atomenergoproekt"), Kiev, Ukraine.

It was intended, that the Ignalina NPP would be the pilot nuclear power plant for the RBMK-1500 reactor type. The scientific supervisor of the RBMK-1500 project was the Kurchatov Atomic Energy Institute (often referred to as the Russian Research Center "Kurchatov Institute"), Moscow, Russia. The principal designer of the nuclear steam supply system was the Research and Development Institute of Power Engineering (Russian abbreviation - NIKIET), Moscow, Russia. These two institutes prepared and in 1987 published the Technical Safety Report of the RBMK-1500 reactor. In 1988 the mentioned institutes, together with the Research and Development Institute for Energy Technology, prepared the Technical Safety Report of the Ignalina NPP. Last safety report comes closer to the Western standard in comparison with the Technical Safety Report of the RBMK-1500 reactor. Unfortunately, the Technical Safety Report of the Ignalina NPP was not officially approved. In 1996 in-depth safety assessment of the Ignalina NPP was completed and Western style Safety Analysis Report was issued. The results of this study are discussed in Sections 10 and 11.

1.4 OPERATIONAL RESPONSIBILITY FOR THE IGNALINA NPP

The Ignalina Nuclear Power Plant is a state owned enterprise (a utility) founded by the Lithuanian Ministry of Economy. A schematic outline of the administrative and overview organizations responsible for the Ignalina NPP is shown in Fig. 1.9. The Ministry of Economy is the owner of the plant and has the responsibility for:

- assignment of electricity generation goals,
- determination of prices for the output,
- assignment of administrative positions which are filled subject to appointments made by the owner.

As the owner, The Ministry of Economy is responsible for a broad scale of activities, in addition to nuclear safety. These include economical issues such as tariffs, pricing system, organization, and financial audits. The Ignalina NPP is a corporate entity and has the ultimate responsibility for the safe operation of the plant and development and implementation of a quality assurance program. The plant is required to submit the following documents to the Ministry of Economy:

- annual report on plant safety,
- report on abnormal operation events,
- reports on faults and defects in equipment of safety related systems (twice a year),
- monthly and annual reports on environmental impact (releases and discharges),
- annual reports on radioactive wastes and harmful chemical materials present on site.

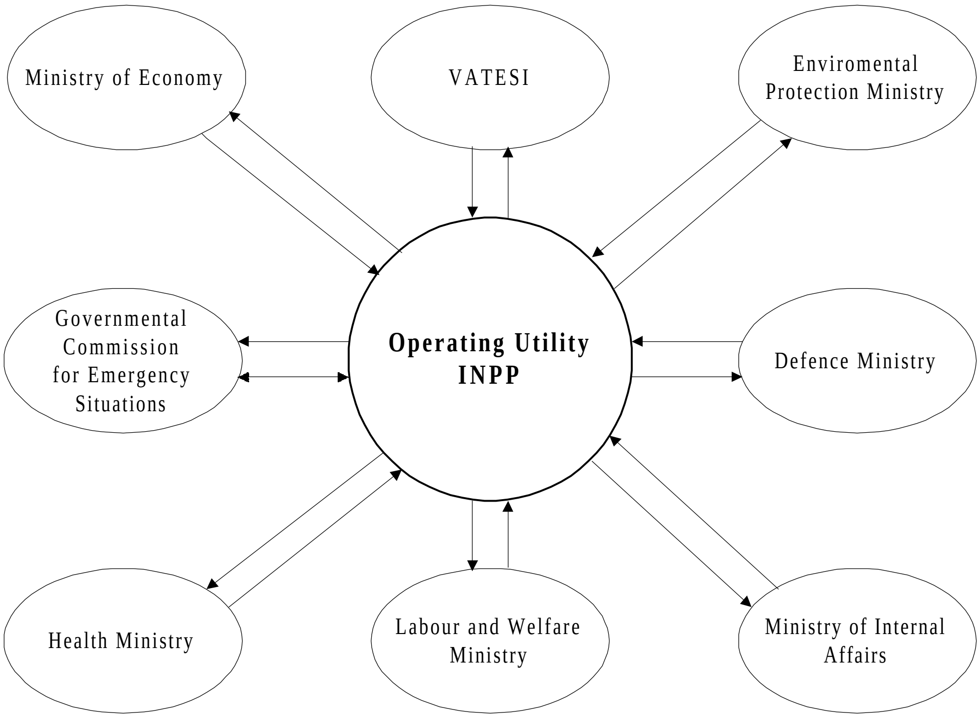

Fig. 1.9 Relationship of the Ignalina NPP with the authorities of the Republic of Lithuania

In addition, the Ministry of Economy regularly receives information from the radiation survey system which maintains 4 monitoring locations in the vicinity of the site. The owner checks financial activities of the plant by way of audits. Annual audits are mandatory.

State regulation in the area of nuclear and radiation safety is exercised in Lithuania by the Lithuanian Nuclear Power Safety Inspectorate (VATESI). VATESI is vested with executive authority by the Republic of Lithuania, and the Head of VATESI is appointed by the Prime Minister. Although VATESI reports to both the Lithuanian government and the Ministry of Economy, it is not subordinated to the Ministry of Economy in matters of nuclear safety. VATESI would have direct recourse to the highest levels of government, if required to address safety issues. The main functions of VATESI as:

- setting up principles and criteria for safe use of nuclear energy,
- development, approval and enforcement of safety standards in nuclear energy,
- licensing of the operating organization,
- safety review and assessment for operating nuclear power plants,
- annual report to the Lithuanian Government and Ministry of Economy on the safety of nuclear installations,
- inspection and review for adherence to national standards on the safety of nuclear power.

At the close of 1997 the Ignalina NPP did not have a formal Operating License. In those conditions VATESI regulates plant operation by an annual operating permit that is issued following submittal of specified documents by the Ignalina NPP. However, in accordance with and agreement with EBRD a License for continue operation of unit 1 should be issued in 1998.

With respect to safe operation of the plant the role of VATESI includes inspection, surveillance, review, oversight, and in the case of some activities, issuance of permits. VATESI has free access to all required documents and information and the plant generally gives assistance to VATESI in the performance of its function. VATESI maintains a group of inspectors at the plant site. The group includes four inspectors and is headed by the State Inspector who reports to the Head of VATESI. Issues which can be handled by the on-site inspection group are usually addressed by plant management to this group. Despite these contacts at lower levels of the plant organization, the formal interface with the Regulator is by the Director General or technical director.

To perform functions ascribed to them, inspectors of the supervisory group visit the plant every day and are given access to operational documentation both in the main control room and other locations where work is carried out. It is customary for one VATESI inspector to attend routine meetings held every day to discuss various operational and maintenance issues. The inspector can take part in the discussions held at these meetings.

A detailed list of significant events is maintained at the plant which is used by plant personnel as the basis for reporting events to VATESI inspection. Emergency messages are conveyed by telephone. The plant shift supervisor is responsible for reporting abnormal events to the inspection group. Information about abnormal operation events is reported to the head of VATESI by the Director General and the technical director. In addition, official information is passed to VATESI, the Ministry of Economy, mass media and other interested organizations by facsimile lines. The plant submits the following reports to VATESI:

- annual report on Ignalina safety,
- reports on abnormal events in plant operation,
- reports on faults and defects in equipment of safety related systems (twice a year),
- monthly and annual reports on environmental impact (releases and discharges),
- annual reports on radiation exposure of plant personnel,
- annual and quarterly reports on radiation exposure of plant personnel, reports on the cases of exceeding maximum permissible radiation levels and occupational diseases.

Ignalina NPP relations with the Ministry of Environment are defined by the Lithuanian Law on Environmental Protection. In accordance with this law, the Ministry of Environment:

- defines, together with VATESI, procedures for receiving and shipping nuclear and radioactive wastes, their transportation, use and disposal,
- sets maximum permissible levels for radioactive releases in the environment,
- sets radiation safety standards,
- gives authorizations for the use of natural resources, etc.

Ignalina NPP is expected to submit the following reports to the Ministry of Environment:

- monthly and annual reports on environmental impact (releases and discharges),
- monthly and annual reports on radwastes and harmful chemical materials present on site,
- reports on the cases of exceeding maximum permissible environmental releases.

In addition, The Ministry of Environment regularly receives data from the radiation monitoring instruments in the vicinity of the plant.

The Ministry of Health:

- develops and approves standards and rules for looking after the health of people working at nuclear sites,
- sets health requirements for radiation protection,
- defines time and requirements for medical examination of people working with radiation sources and supervises their performance.

The Ignalina NPP is required to submit to the Ministry of Health annual and quarterly reports on personnel exposure, reports on the cases for which the maximum permissible levels of radiation exposure were exceeded and occupational diseases. The technical inspection service of the Ministry of Health performs surveillance of potentially dangerous equipment (cranes, pipelines, vessels) except for those subject to inspection by VATESI.

State labour inspection in the Ministry of Labour and Welfare checks adherence to labour protection requirements set in laws regulating labour relations and other regulations. Ignalina NPP is expected to report to the State Labour Inspection all cases of industrial accidents and send annual reports on industrial safety.

The Interface of the Ignalina NPP with the Ministry of Internal Affairs is based on the Lithuanian Temporary Law of Internal Service. The Visaginas Township and the Ignalina NPP Militarized Fire Protection Department is responsible for operational fire fighting and rescue service at INPP. This department is a structural sub-unit within the Fire Protection Department of the Ministry of Internal Affairs, and consists of three fire brigades located outside the plant. As a contracted service to INPP this department also provides a fire inspection team, located at the plant. The main functions of the team are:

- supervision of activities bearing the risk of fire,
- fire prevention and provision of technical and administrative measures for fire fighting at the Ignalina NPP,
- supervision of the state of automatic fire fighting systems,
- supervision of the execution of remedial measures aimed at fire protection enhancement and analysis of the cases of fire.

The fire inspection function at INPP is arranged as a 24-hour job performed by a team of 13 inspectors who conduct their activities based on relevant instructions and Fire Safety Rules for INPP. The fire inspection team interfaces with the Safety and Quality Assurance Department within the plant organization. In the event of a fire at the plant the plant shift supervisor is in charge of operation until the officer of the First Brigade arrives at the plant. Ignalina NPP must also report to the fire protection team on cases of violations of fire safety.

The Defence Ministry, in cooperation with the INPP and other local and national authorities, develops plans for public protection in case of an accident at INPP. Together with VATESI and other state authorities the Ministry organizes exercises for coping with nuclear accidents.

According to the National Law on Civil Defence, Department of Civil Defence performs the following activities:

- organizes accident mitigation activities for INPP,
- coordinates activities of all institutions involved in accident mitigation at Ignalina,
- periodically reports to the President, Seimas (Parliament) and Government on the progress in accident mitigation,
- implements Governmental decisions and instructions related to the accident,
- organizes public evacuation from the affected area,
- informs interested organizations, mass media, general public on accident mitigation measures and the risk of ionizing radiation.

The responsibility for the emergency plan for the Republic of Lithuania, which is currently being prepared, rests with the Department of Civil Defence. According to the "Plan of Personnel Protection in Case of an Accident at INPP", the Ignalina NPP must notify the Department of Civil Defence and other state authorities on the accident and measures taken to cope with them. The Director is responsible for a timely notification of the accident.