

## PRESENTATION

### OPEN JOINT - STOCK COMPANY "KYIV INSTITUTE ENERGOPROJECT"

The Institute "Energoproject" was founded in 1944 and has been a General Designer for fossil fuel power plants (coal, gas, mazut) and nuclear power plants for more than 50 years.

The Institute has been involved in nuclear power engineering for 28 years.

The Institute is staffed with 750 people, 600 of them are engineers and technicians.

The Institute engineering staff is represented by different specialities such as: thermal engineers, physicists, electrical engineers, civil engineers, etc. which allows us not only to develop integrated designs for power plants but also to solve specific technical problems in nuclear power engineering.

The Institute has obtained relevant state licenses for executing activities in nuclear and thermal power engineering.

The Quality Assurance System effective at the Institute is based on the criteria of the ISO 9001-95 standard.

In the event of performing activities for nuclear power plants, the quality assurance system takes into consideration the IAEA requirements specified in the "Code on the Safety of Nuclear Power Plants. Quality Assurance for NPPs", Safety Series No. 50-C-QA (Rev.1).

## LEGAL STATUS OF THE INSTITUTE

The Institute used to be a state institution within the Ministry for Power Industry of the USSR and later on the Ministry for Power Industry of Ukraine till 1996.

In 1996 the Institute was privatized and today it is an Open Joint-Stock Company.

Its stock is shared as follows: 60% belong to the Institute personnel, 15% belong to other individuals of Ukraine not working for the Institute and 25% is owned by the state.

The state share of stock (25%) is to be valid for 5 years, at the expiration of the specified period, this packet of shares will be sold by the state.

The Institute as a joint-stock company is stable in terms of finance, the state budgetary fees and taxes are paid by the Institute in a timely manner. There have not been any claims made to the Institute.

## NUCLEAR POWER FACILITIES DESIGNED BY THE INSTITUTE

A number of nuclear power units have been built on the base of our Institute design: these units are successfully operated at Balakovo NPP( Russia), at Ignalina NPP (Lithuania) and Paksh NPP (Hungary).

Ukrainian Rovno and Khmelniyskiy nuclear power plant units under operation have been designed by the institute. It should be mentioned, that the perspective power output increase is expected at these two power plants (Rovno NPP and Khmelniyskiy NPP) in Ukraine.

At present, two VVER-440 MW power units and one VVER-1000 MW unit are operated at Rovno NPP.

One power unit with the reactor of VVER-1000 MW type is operated at Khmelniyskiy NPP.

Some erection and construction activities are being performed to complete one extra power VVER-1000 unit for each of these two power plants.

The specific features of the mentioned power units under construction need to be clarified separately.

The fact is, that the construction of these power units was stopped in 1991 due to the established moratorium for nuclear power plants construction in Ukraine. The moratorium being canceled, the completion activities are in progress in Ukraine today. The completion activities are related not only to construction itself but also to the so called Modernization Program to be implemented at these power units in Ukraine, which means the implementation of a whole series of new technical solutions due to which the safety level of two power units would be equivalent to that of power units operated in Western countries today.

Our Institute has developed this Program to improve the safety level of these power units.

The Program was subject to review by many Western Consortiums (RISKAUDIT and others) and there is a final conclusion: if the Modernization Program is implemented, the power units will be compliant with the Western ones with regard to their safety.

The Modernization Program was approved by the Ukrainian Regulatory Body and the Ministry of Power Industry in Ukraine.

Why am I drawing your attention to this Modernization Program for the power units VVER-1000 aimed at safety improvement? For the following reason: the power units operated in the countries of Eastern Europe and the Commonwealth of Independent States (CIS) are equipped with the reactors of the same VVER-1000 type for which in Ukraine the mentioned Modernization Program is planned to be implemented and that might be of mutual interest for us with regard to the other countries (CIS and Eastern Europe).

## **Chernobyl Nuclear Power Plant (ChNPP)**

After Ukraine proclaimed its independence our Institute was assigned to be a General Designer for ChNPP units under operation and later for the destroyed unit 4.

You are aware of grants provided for the preparation of operating ChNPP units for further decommissioning; there was a number of tender calls for the performance of activities within these funds, so our Institute firstly, wish the American companies to win in these tenders and, secondly, we propose our cooperating as a Ukrainian subcontractor with the American winners of tenders since the Institute has a perfect knowledge of codes and standards and specific features of Ukraine.

As for the destroyed ChNPP unit is concerned, the situation is the same. That is, there are Western grants and International tenders and there is an interest and potentialities for our Institute to cooperate with American companies.

## INSTITUTE PREPAREDNESS TO PERFORM JOINT ACTIVITIES WITH WESTERN COMPANIES

For many years our Institute experts have been involved in training courses on the use of computer codes and expertise applied in the Western companies working for nuclear power engineering.

For this purpose our experts were trained in the USA companies "Westinghouse", "Morrison Knudsen" and "Southern Company" as well as in "Framatome" (France), "Siemens" (Germany), "Ansaldo" (Italy), "Empresarios Agrupados" (Spain).

We can say that our experts today are performing such important developments as safety analysis, thermal hydraulic calculations, probabilistic safety analysis on the base of computer codes commonly used in Western countries.

These are the following computer codes: RELAP, ATHLET, JRRAS, PLEXUS, RISK SPECTRUM etc.

We think that such preliminary training will allow us to execute possible joint activities more successfully.

I would say that our engineers will be able to collaborate basing on the generally known "engineering" language. Unfortunately, it is worse with English!

## **EXPERIENCE IN TENDERS PARTICIPATION AND COOPERATION WITH WESTERN COMPANIES**

The Institute "Energoprojekt" has accumulated certain experience in executing joint work with Western companies which happened to be awarded as a result of cooperative victory in tenders or in the separate contracts performance subcontracted to the Institute.

So, in 1996 in cooperation with the companies "Westinghouse"(USA) and NNC Ltd. (Great Britain) we won a tender for a Project Management Unit required to manage high priority activities for decommissioning Chernobyl nuclear power units.

For 2 years we have been involved in that contract via a collective team of American, English and Ukrainian experts.

This year, our Institute making a part of the Ukrainian consortium KSK and the American Morrison Knudsen International Company, Inc. have won a tender for the Package "A" activities to be implemented for the "Shelter" object at Chernobyl NPP. Nowadays these activities are carried out by a joint group of American and Ukrainian experts.

Of course, we happened to have lost some tenders but they are not worth your spending time.

We have performed and are still performing a certain scope of work with the companies EDF(France) and Siemens (Germany).

The experience like that has already demonstrated the possibility of our Institute experts cooperating with the Western companies. In addition, this experience has proved the expediency of Ukrainian organizations involvement in the work performed in Ukraine where projects are to be executed in accordance with the national norms and regulations.

At last, cost-effectiveness is another important factor if take into consideration the Ukrainian engineer labor cost.

**POSSIBLE TRENDS  
FOR INSTITUTE "ENERGOPROJECT" COOPERATION  
WITH THE USA COMPANIES**

We suppose, there might be several trends for cooperation:

1. Joint activities with regard to modernization and upgrading of operating nuclear power units with the equipment of Soviet design such as VVER-440 and VVER-1000 in Eastern Europe and CIS countries (Taking into account the availability of Modernization Program and good knowledge of that type equipment).
2. Joint participation in tenders for nuclear power projects sharing the consortium membership.
3. Institute subcontract performance awarded by the USA companies winning the tenders in Eastern Europe and CIS countries.
4. We are ready to develop data bases with regard to the demands for the equipment to be replaced and modernized at power facilities in Ukraine.
5. We are prepared for participation in developing technical specifications for equipment design and procurement with due account of national normative requirements.
6. We are ready to jointly perform the activities to improve fire safety at the NPPs in Ukraine within International and American Programs which are financed and coordinated by the USA Department of Energy.
7. There are possibilities for American companies to temporarily employ specific engineers of our Institute via the contracts with the Institute "Energoproject". The experts have to be preliminary interviewed and selected by an interested American company.

**DEAR GENTLEMEN!**

No doubt, 10 minutes are not enough for me to provide detail information about our Institute activities and potentialities, but while staying here in the USA we are able to discuss and response all the issues you are likely to have.

Welcome to our country, to Ukraine! We would be very glad to see you at our Institute in order to get closely acquainted with us and discuss probable mutual interests.

I appreciate you giving me an opportunity to participate in this Conference and represent our Institute in the USA.

Thank you for your attention!