

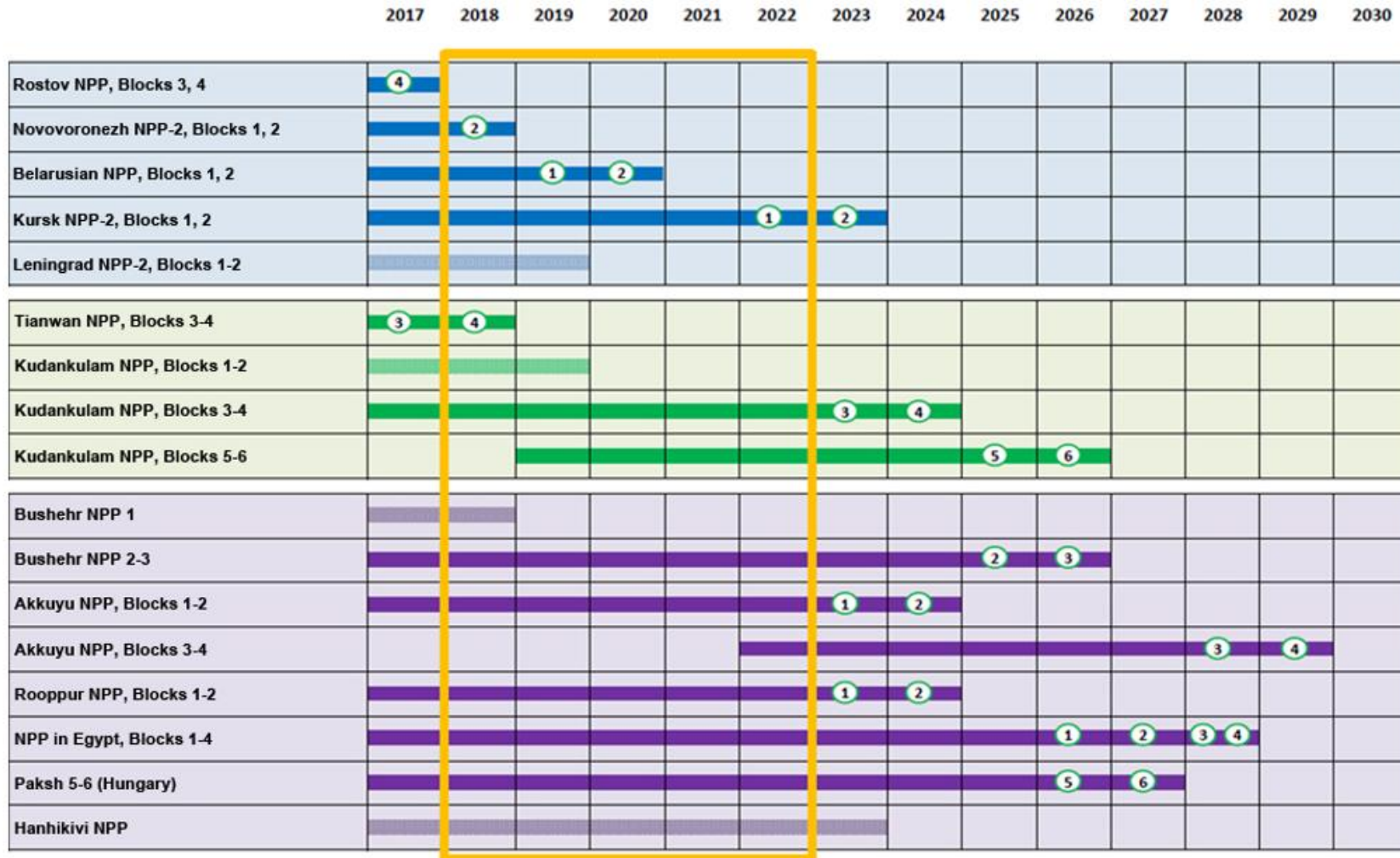
NPP construction program, equipment procurement plan, requirements for the suppliers of foreign NPPs

ASE Group



November 14-16, 2017

2018-2022 ROAD MAP OF NPP CONSTRUCTION

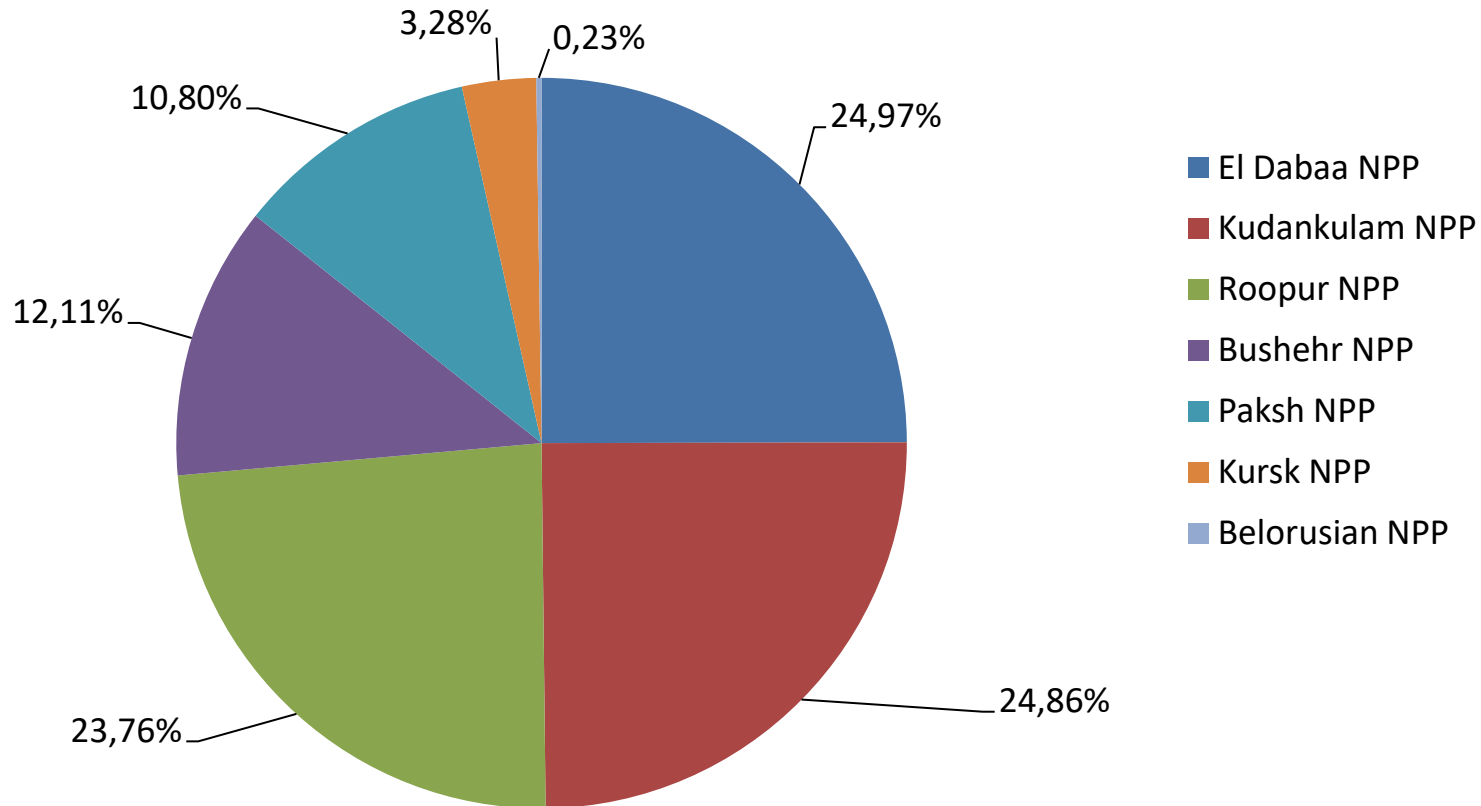


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2018 PROCUREMENT PLAN—



2018 Procurement Plan, projects (more than RUB 170 bln) NPPs under construction (more than RUB 170 170 bln)



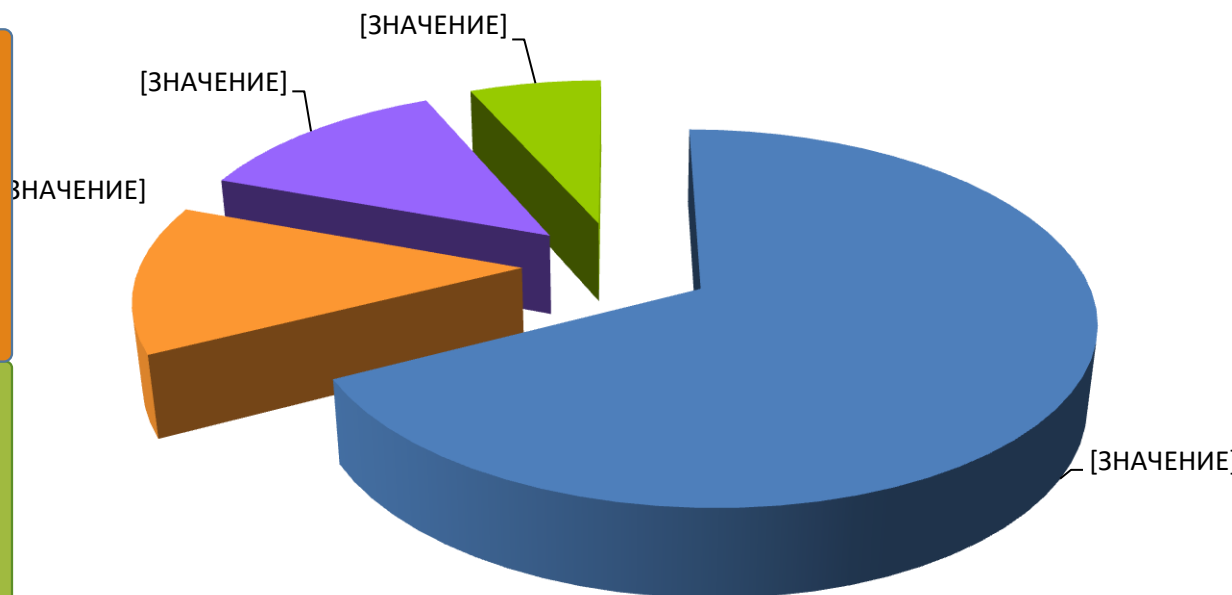
2018 PROCUREMENT PLAN, EQUIPMENT



Types of heat mechanical equipment	
Ventilation equipment	25,8%
Heat-exchange equipment	13,6%
Pumping equipment	10,4%
Tanks and vessels	5,6%
Load-lifting equipment	3,9%
Gates/doors/hatches	2,7%
Other equipment	38,0%

Types of electrical equipment	
Board equipment	46,3%
Thermal monitoring devices and equipment	17,9%
Transformers	5,9%
Communication and signaling systems	5,5%
Diesel generator plant	0,1%
Other equipment	24,3%

Valves and pipelines	
Valves	99%
Pipelines	1%



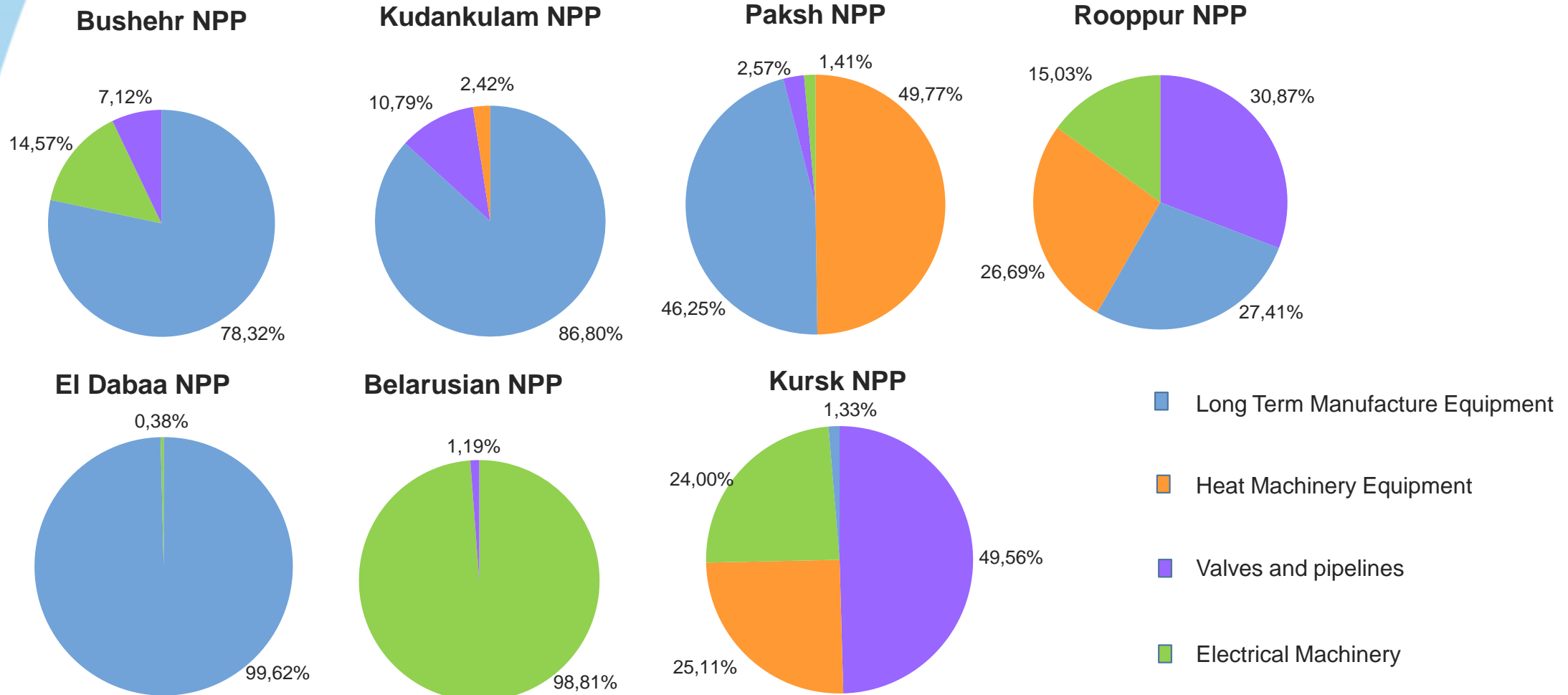
- Long Term Manufacture Equipment
- Heat Machinery Equipment
- Valves and pipelines
- Electrical Machinery

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BREAKDOWN OF EQUIPMENT FOR NPPs UNDER CONSTRUCTION



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REQUIREMENT TO PAKSH NPP AND HANHIKIVI NPP



PAKSH NPP and HANHIKIVI NPP are built within the territory of the European Union (EU), the requirements for equipment and suppliers are identical.

The requirements for NPPs in the EU are based on:

- prescriptions of the European Parliament and the Council;
- requirements and safety guides of the International Atomic Energy Agency (NSC - Nuclear Security Code);
- legislation and national standards of the contracting country;
- relevant European standards;
- relevant standards of international standards organizations;
- relevant nuclear and non-nuclear standards of the contracting country;
- relevant approved internal regulations, procedures, and other regulatory documents used by the Contractor;

PRODUCTION-RELATED OBLIGATIONS OF THE SUPPLIER

PAKSH NPP AND HANHIKIVI NPP

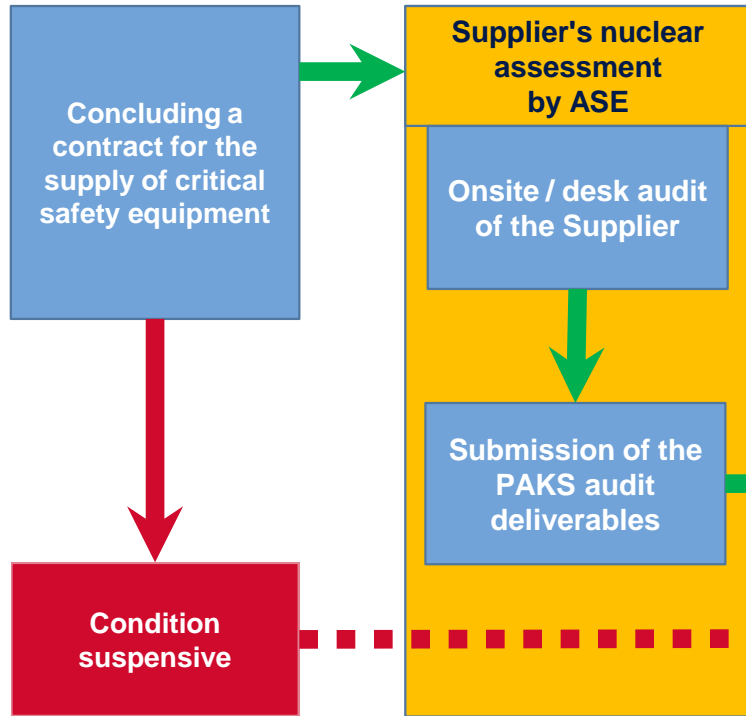
- Obtain a nuclear qualification certificate from the customer (nuclear assessment of the supplier);
- Obtain a permission from a nuclear energy supervisory authority (HAEA in Hungary, STUK in Finland) for production and transportation, as well as a separate permit for material acquisition;
- Obtain a certificate of conformity for materials marked with EU symbols;
- Contract an accredited third party (independent experts) for quality control at various production stages, the NANDO list is available on the EU website;
- Use in-house or third-party (involved through subcontracting) laboratories certified in the EU.



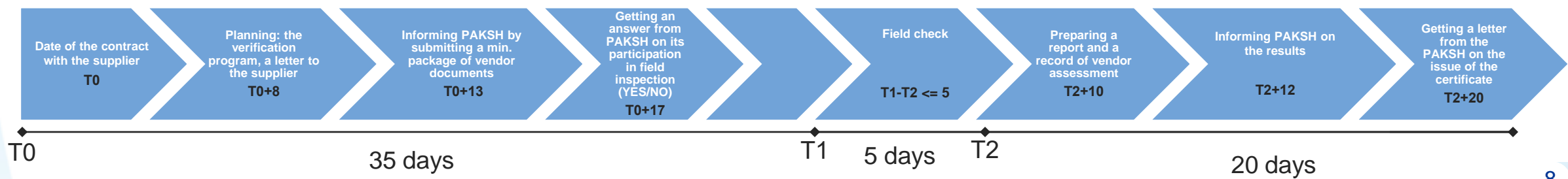
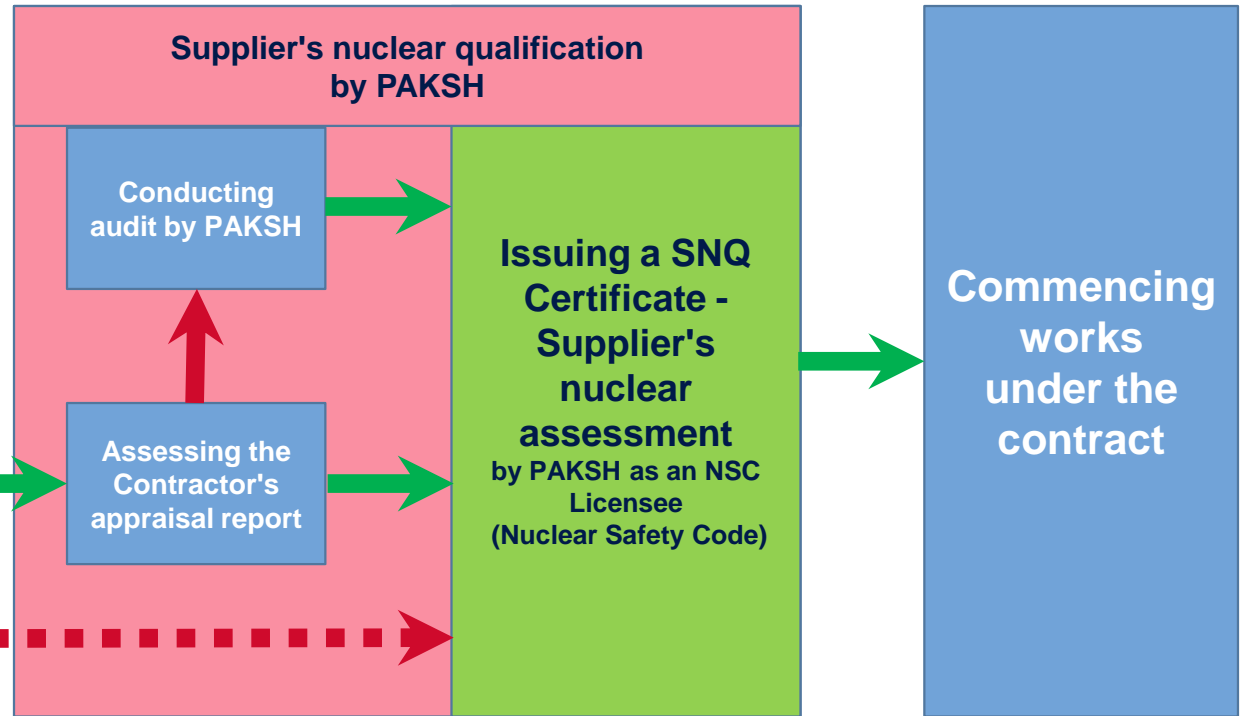
NUCLEAR QUALIFICATION – 60 CALENDAR DAYS



Step 1 / ASE - Supplier



Step 2 / ASE - PAKSH



* Note: the regulations are agreed upon between ASE EC and PAKSH. The Hanhikivi regulations are within the competence of RAOS Projects

REQUIREMENTS FOR SUPPLIERS FOR THE NUCLEAR QUALIFICATION OF THE PAKSH NPP AND HANHIKIVI NPP PROJECTS



- A Quality Management System Certificate, licenses, and other permits issued by a national regulatory body for the implementation of the declared type of activity;
- Quality Manual (ISO 9001), supplier quality policy;
- List of supplied equipment by safety class;
- Experience in supplying class equipment to nuclear power plants;
- Information about the personnel certification system, the personnel development system of the supplier;
- Information confirming the availability of a certified laboratory to conduct non-destructive/ destructive control or information on contracting this activity out (if applicable);
- Information confirming the availability of the personnel certified for performing V&DT (visual and dimensional tests), welding work (if applicable);
- The procedure of using the current control system for the implementation of corrective and preventive actions, handling of nonconforming products.

**More
than 16
documents**

THE MANUFACTURER MUST OBTAIN A PERMIT FROM THE **SUPERVISORY BODY OF PAKSH NPP AND HANHIKIVI NPP**

PRODUCTION PERMIT

To be issued for a period not exceeding 5 years

The permit entitles you to produce and transport:

- Safety Class 1 system components;
- Safety Class 2 system components or pressure equipment, and pipelines;
- Safety Class 3 pressure equipment and pipelines;

PERMIT TO PURCHASE

To be issued for a period not exceeding 5 years

The permit entitles you to purchase:



SPECIFIC REQUIREMENTS FOR SUPPLIERS WITHIN THE FRAMEWORK OF THE KUDANKULAM NPP PROJECT



In accordance with the decision of the Indian Customer (ICAEL), the equipment manufacturers of the Kudankulam NPP shall be approved by the Customer.

This procedure concerns the approval of the ASE EC main subcontractors / suppliers of Safety Class 1, 2, 3 (QA1, QA2, QA3 Quality Categories) and QNC Quality Category equipment for which quality plans are provided for. The approval procedure shall be conducted during tenders for selecting suppliers before concluding a contract with the selected supplier.

Only the actual manufacturer and the design (engineering) organization participating in equipment designing and manufacturing shall be admitted to approval. ASE EC shall submit for approval only the companies that have been qualified within the Quality Management System (the QMS) framework, as confirmed by the audit conducted by ASE EC. The Indian Customer does not consider the ASE EC Subcontractors failed to qualify within the QMS framework as confirmed by quality audit. ASE EC shall decide on the selection of a new Subcontractor, considering the obligations to meet the equipment delivery deadlines established by the contract.

SPECIFIC REQUIREMENTS FOR SUPPLIERS WITHIN THE FRAMEWORK OF THE AKKUYU NPP PROJECT



Supplies of nuclear safety equipment shall be made in accordance with the “Regulation on the equipment supply process and manufactures’ approvals for nuclear installations” of May 28, 2015.

To obtain the approval of TAEK, manufacturers shall attached the following package of documents to their application:

- ISO 9001 certificate (or other globally recognized certificate) attached to a letter from a Turkish accreditation body (TÚRKAK - turkak.org.tr), confirming such a certificate;
- a guide to the quality management system;
- a list of equipment with a report on the equipment type and characteristics, and the codes and standards to follow during manufacturing, adequacy of the manufacturer's infrastructure;
- a receipt for payment for the amount of 51,000.00 Turkish liras;
- certificates issued by the regulatory authorities of other countries in respect of the Manufacturer's activities.

Prior to the equipment manufacturing (at least 2 months before), the Customer (AKKUYU NÜKLEER ANONİM ŞİRKETİ) shall forward to TAEK the documentation submitted by the Manufacturer:

- a quality plan,
- a copy of the Manufacturer's certificate issued by TAEK,
- a document from TÚRKAK confirming the accreditation of the organization (laboratory)that conducts tests, inspections and observations in the course of equipment manufacturing,
- a list of normative acts, guidelines and standards to follow in the course of equipment manufacturing.

THANK YOU FOR YOUR TIME!