

# REPUBLIC OF TURKEY NUCLEAR REGULATORY AUTHORITY

NUCLEAR SAFETY FORUM  
NDK Head Office, ANKARA  
«12.11.2019»

**YUSUF CEYLAN**  
Head, Department of Inspection

- ❖ Organization of Inspection Department
- ❖ Issues Under NDK's Regulatory Control
- ❖ Draft of Secondary Legislations
- ❖ Implementation of Inspection Activities
- ❖ Regulatory Oversight Program for Manufacturing and Construction Stages of Akkuyu
- ❖ Current Status of Akkuyu Project
- ❖ Technical Support for Inspections

## Organization of Inspection Department

Issues Under NDK's  
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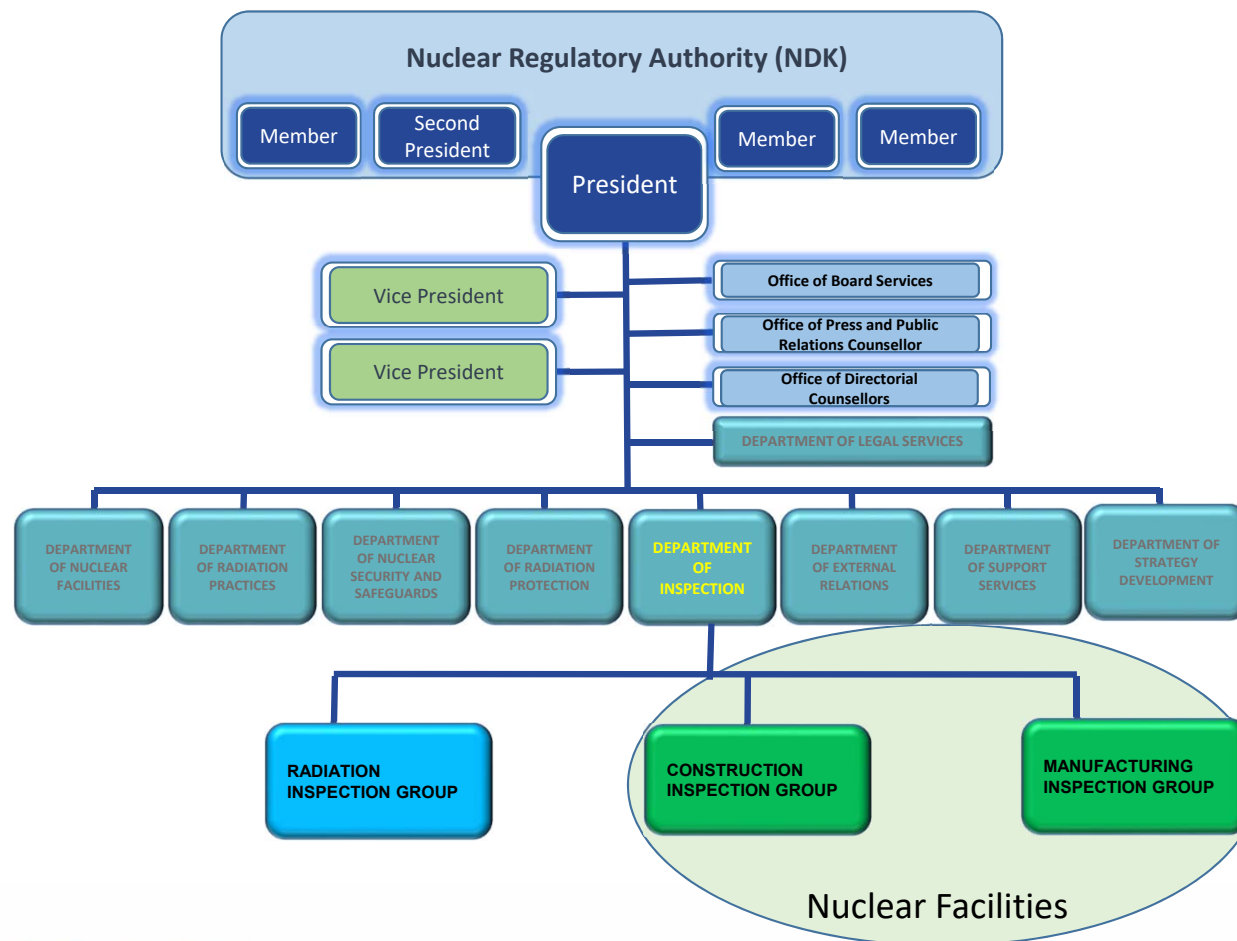
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**Inspection  
Department  
«Management  
System  
Handbook»**

**Regulation on Safety  
Inspections and  
Sanctions on Activities  
Related to Nuclear  
Energy and Ionizing  
Radiation**

**Directive for Inspections**

**Directive for Qualification of  
Inspectors**

**Procedures and Principles for Inspections**

**Inspection Guide for Nuclear Facilities**

**Inspection Guide for Radiation Applications**

**Procedures, Checklists and Other Documents**  
Akkuyu NPP– Site&Construction Inspections: # 60  
Akkuyu NPP-Manufacturing Inspections : # 45  
Inspections of Radiation Applications: # 63

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## Draft Inspection Regulations;

- To define Scope of Inspection Activities, type of inspections, responsibility of the facilities or companies, preparation of inspection programs
- Qualification, training and requirements for inspectors in brief,
- Inspection Planning,
- Preparation to inspection,
- Execution of Inspection,
- Reporting of the inspection results,
- Follow up of the inspection results.
- Enforcement actions,
- Classification of Findings,
- Graded approach for SSC,
- Technical Support Organisations,

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## Inspection Program

- An Annual Inspection Program is developed within the frame of a determined inspection strategy.
- In preparation of the Annual Inspection Programs, the following issues are taken into consideration:
  - Category of the facility or outside facility to be inspected,
  - The subject areas and scope of inspection,
  - Resources and manpower needs,
  - Results of previous inspections,
  - Regulatory review and assessment results,
  - Work schedules of organizations to be inspected,
  - Performance indicators of organizations to be inspected,
  - Operation experience and lessons learned.



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## **Inspection Plan**

For a specific nuclear safety inspection mission; an inspection plan consistent with the annual program is prepared by Inspection Department and with participation of related departments of NDK

## **Notification of Inspections**

For annouced inspections, the authority notify the organization to be inspected with an official letter, in advance about the date and plan of inspection, so its documentation, records and personnel be available and can facilitate inspection activities.

Announced follow up inspections are notified as well in advance of five (5) workday.



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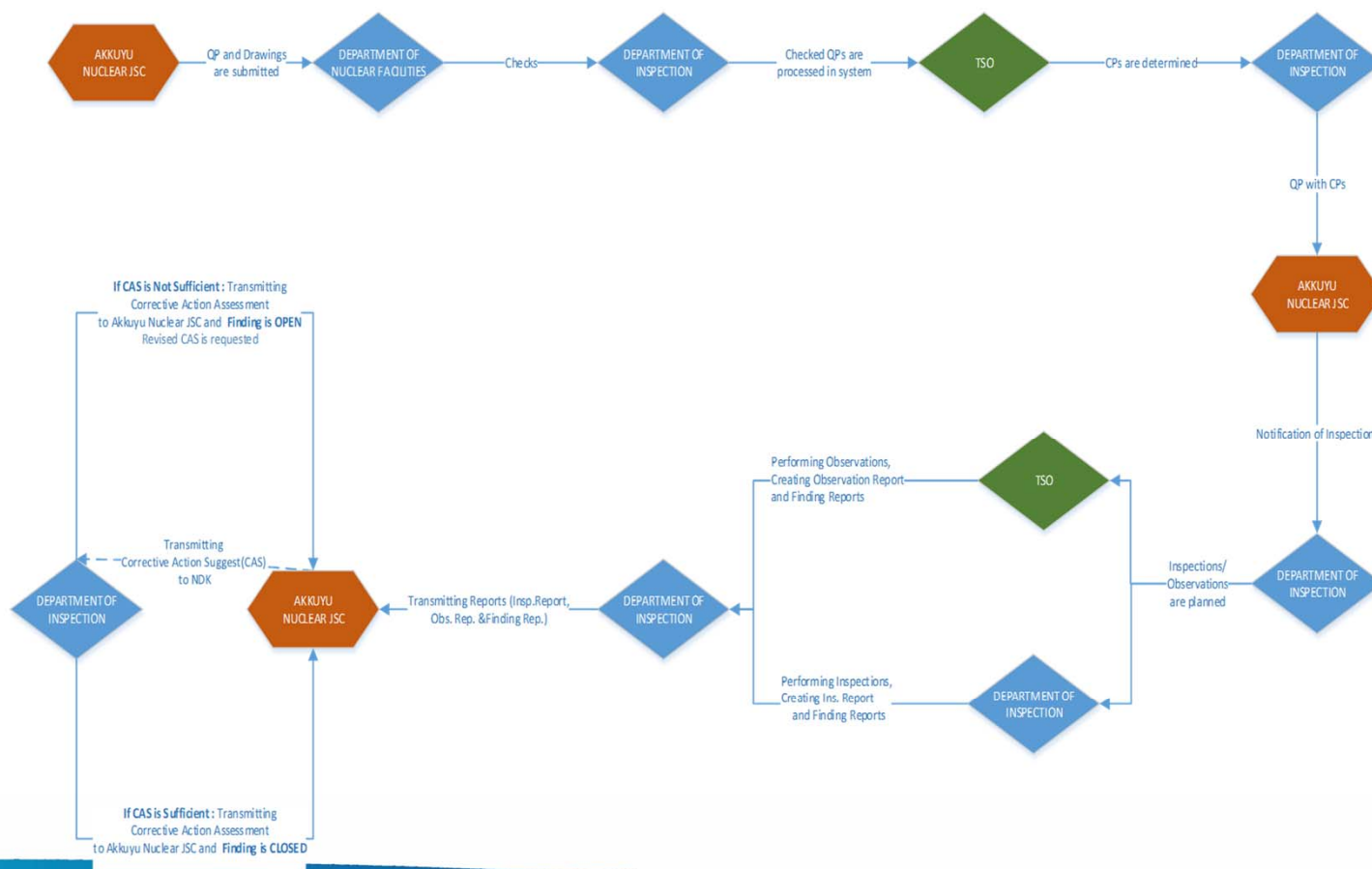
## Reporting

Individual Inspector Reports are compiled by inspectors joined the inspection, dating from the end of mission, in five (5) working days at the latest

An Inspection Report is compiled by Inspection Team leader three (3) working days at the latest, dating from delivery of Inspector Reports.

Authority Report is approved by Department Head. Approved Authority Report is send to inspected organization by an official letter.

## WORKFLOW DIAGRAM FOR MANUFACTURING & CONSTRUCTION INSPECTIONS



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# TSO Inspection Organisation for Manufacturing

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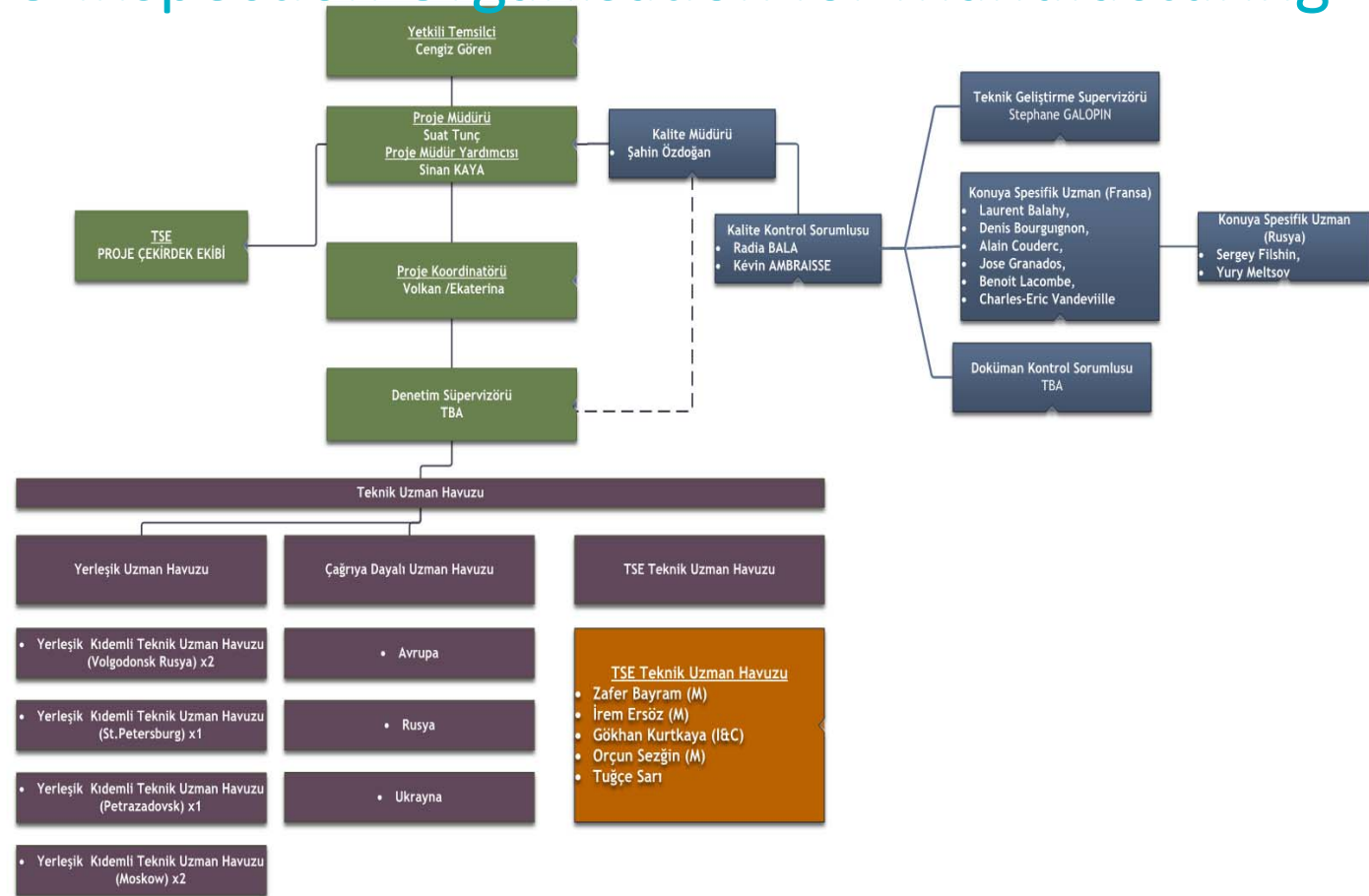
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## Main Equipment Manufacturer

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# TSO Inspection Organisation Construction Inspections

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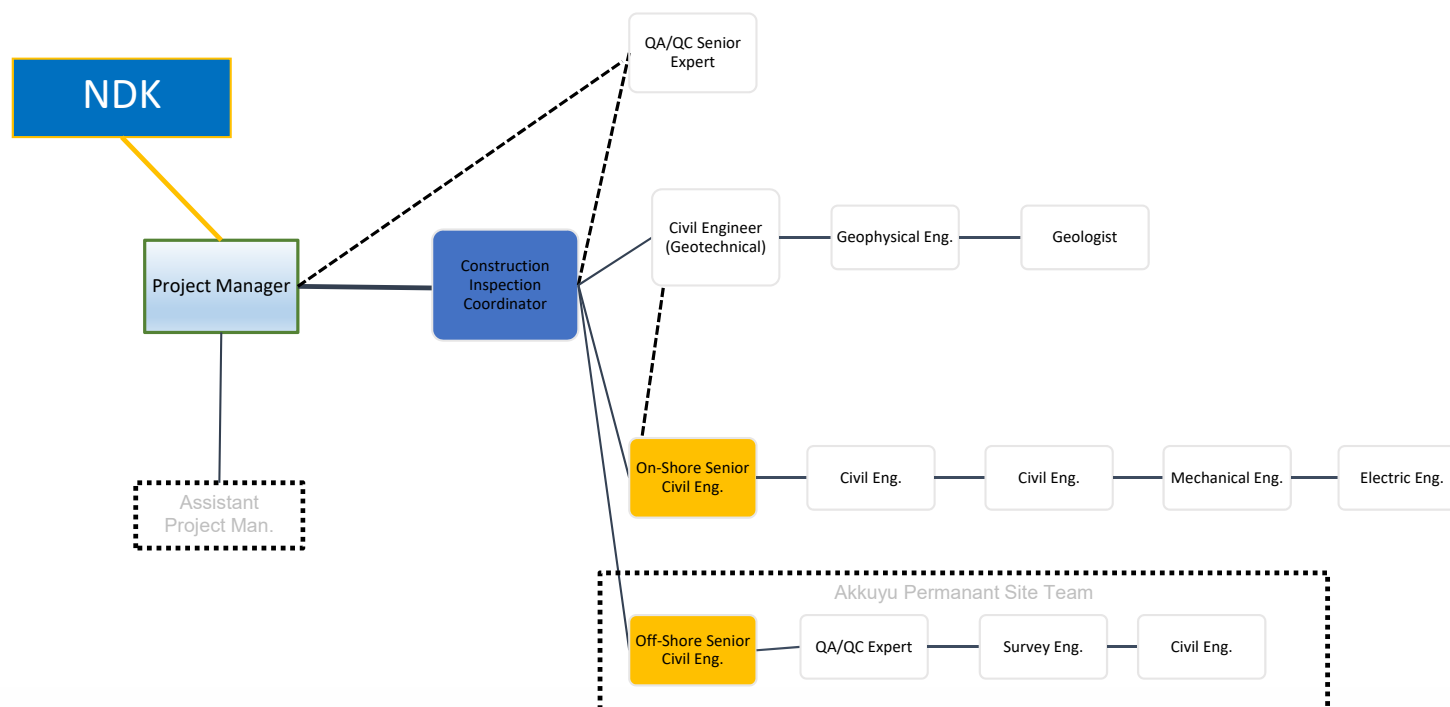
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# Pictures from Manufacturing Inspections

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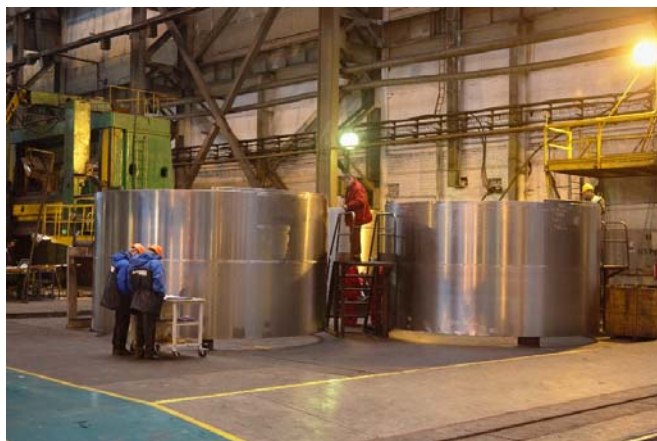
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## Pictures from Site Inspections





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## Pictures from Construction Inspections



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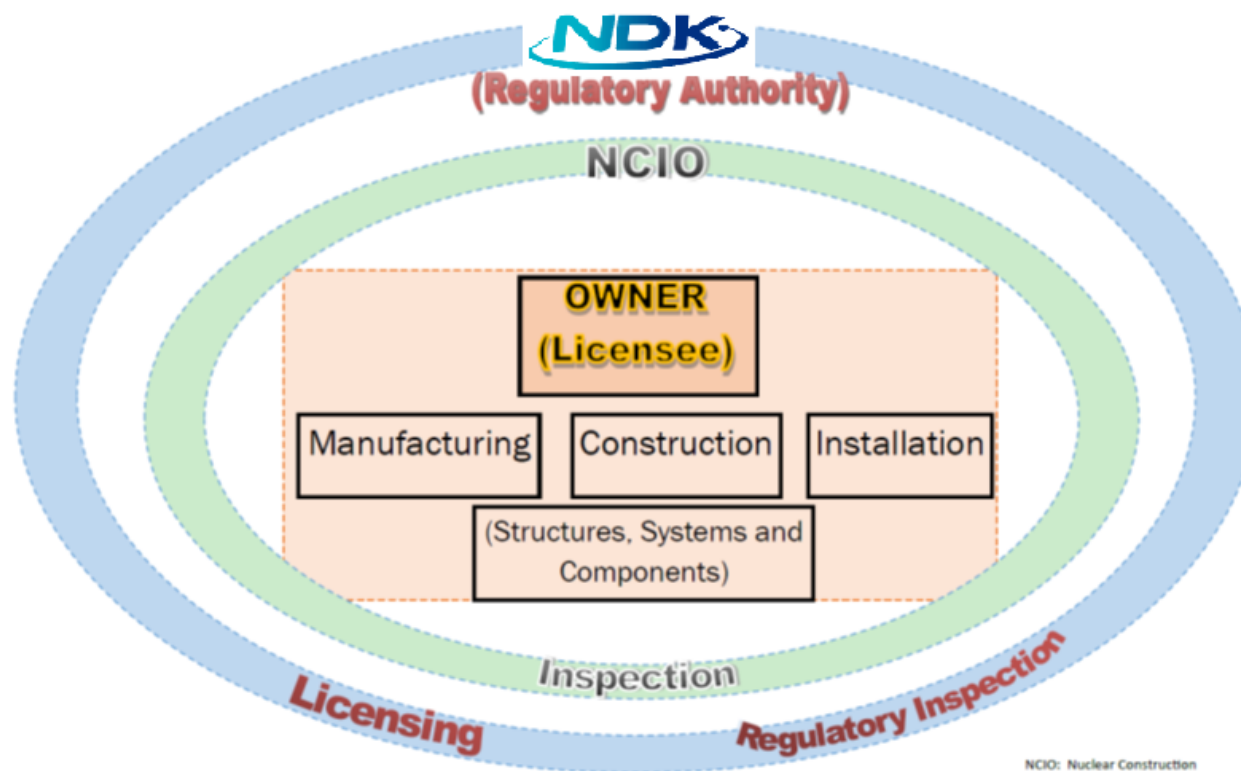
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## INSPECTION ORGANISATION IN NUCLEAR FACILITIES

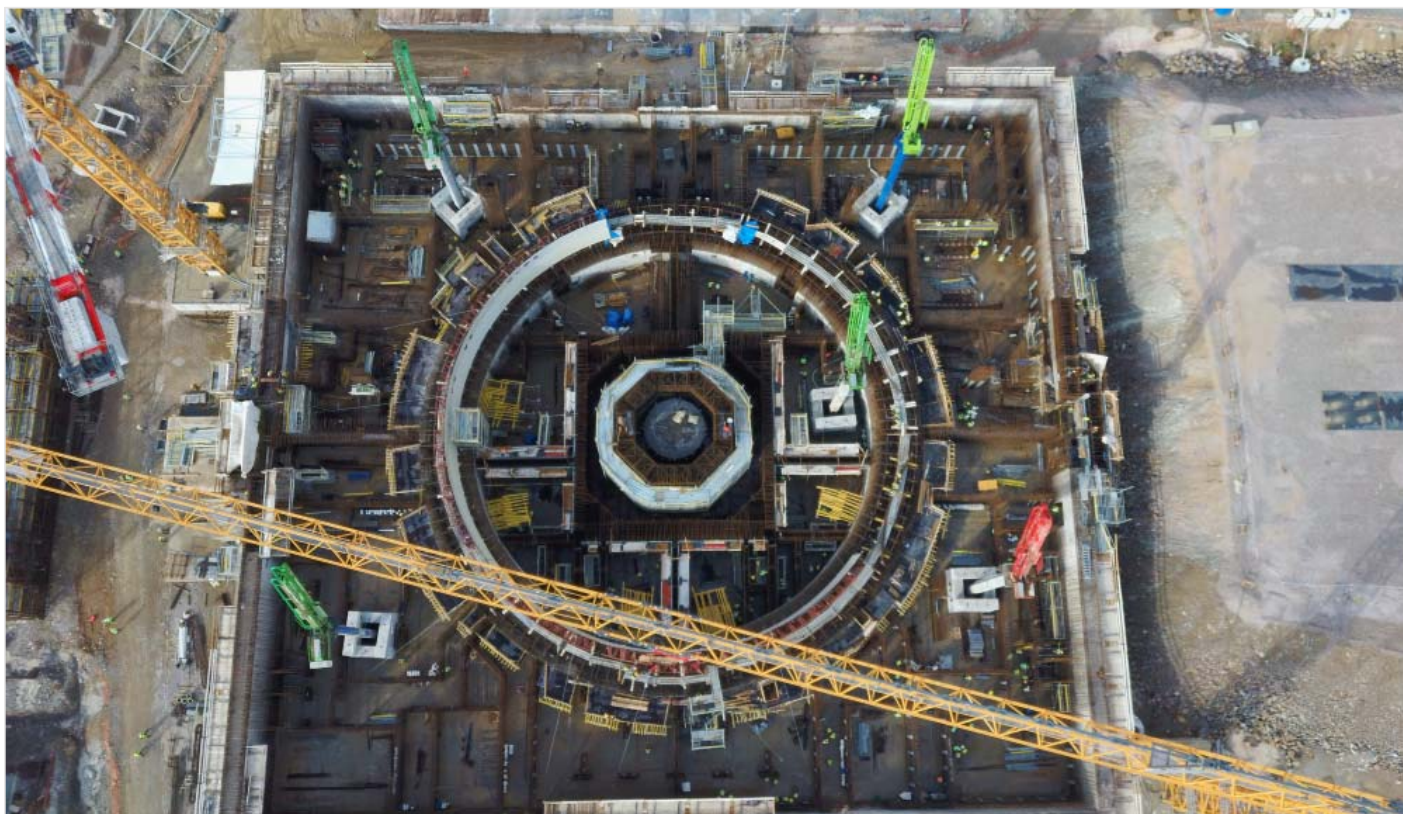


## CONSTRUCTION INSPECTION SYSTEM FOR NPPs

NCIO: Nuclear Construction  
Inspection Organization  
NPPs: Nuclear Power Plants



### Main nuclear island facilities of Power Unit 1 Reactor building 10UJA



#### Current status:

- Arrangement of the tendon gallery walls is completed
- The reinforcement block of the reactor cavity is installed up to the elevation of +2.754
- The core catcher vessel is installed
- Installation of the metal structures at the 1-st level of the internal containment is commenced
- Reinforcement of the internal walls up to the elevation of -0.500 is completed

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## New Technical Support Model for Inspections

To improve the competency of NDK a TSO, NÜTED (Nuclear Technical Support Joint Stock Company), has been established by the new nuclear law as a government owned company.

NÜTED has the responsibility to provide all necessary TSO services to NDK. Hiring staff and capacity building for NÜTED will be implemented in parallel to the needs of NDK.

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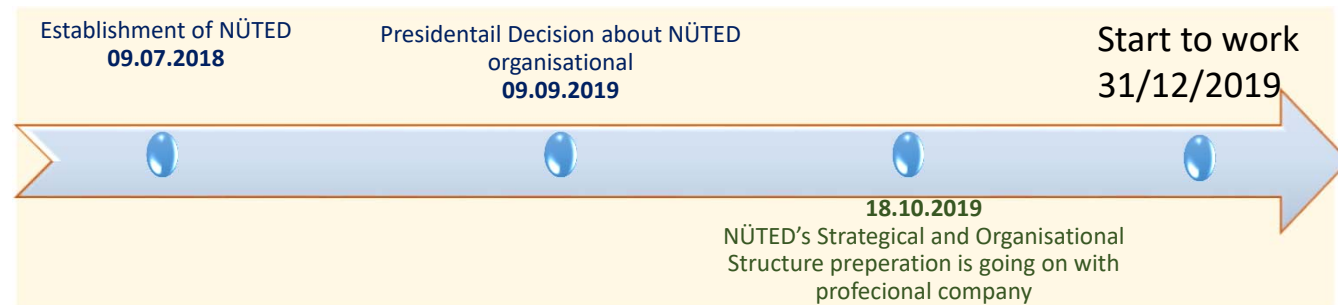
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## INSPECTIONS FOR AKKUYU NPP

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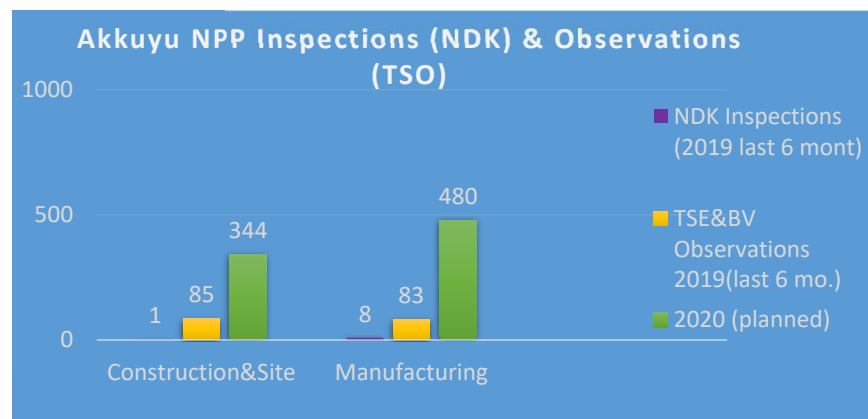
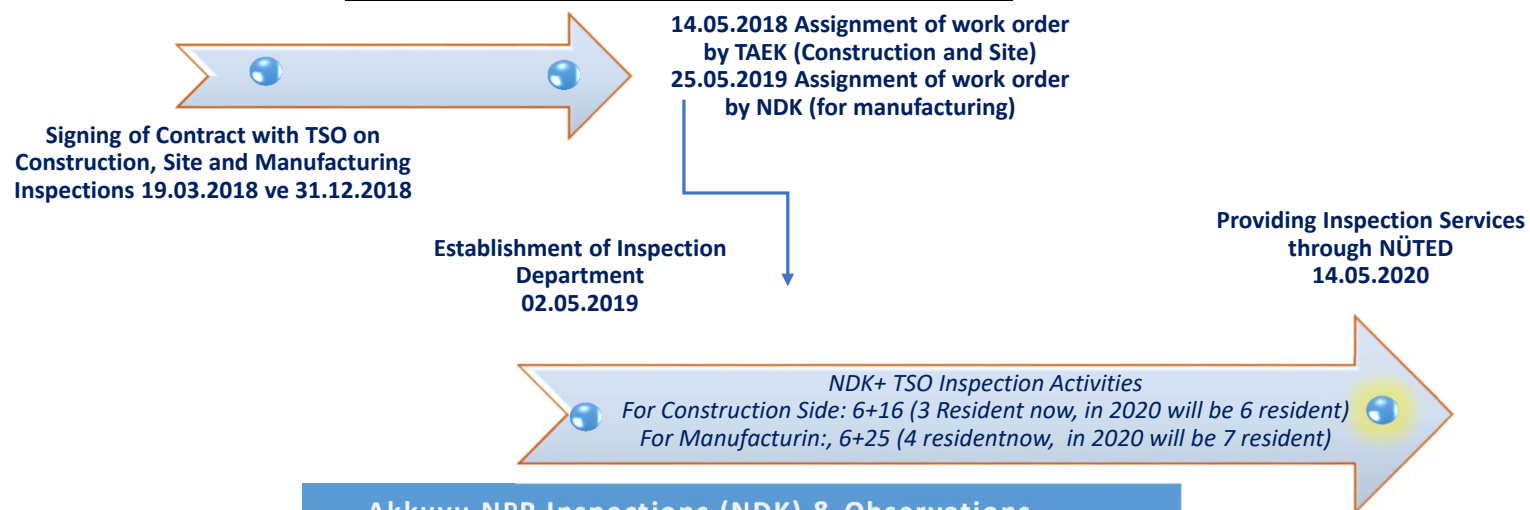
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Thank you for your atttention!

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