

**REGULATION ON CONSTRUCTION INSPECTION  
OF THE NUCLEAR POWER PLANTS  
UNOFFICIAL TRANSLATION**

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**FIRST SECTION**

**Objective, Scope, Basis, Definitions and Abbreviations**

**Objective**

**ARTICLE 1 - (1)** The purpose of this Regulation is to establish the scope of the inspections which will be made by the Owner for the purpose of constructing nuclear plants in compliance with nuclear safety principles and related legislation and standards, the methods and principles regarding the authorization of nuclear construction inspection organizations to conduct such inspections, the duties and responsibilities of interested parties, and the scope of the contract of service that will be concluded between nuclear construction inspection organization and the Owner.

**Scope**

**ARTICLE 2 - (1)** This Regulation is applied to the manufacture, construction and installation activities of the entire structures, systems and components in the nuclear power plant sites which are to be founded or modified.

(2) This Regulation is issued at nuclear power plants, and is applied to other nuclear installations on the basis of graded approach.

**Basis**

**ARTICLE 3 - (1)** This Regulation is issued on the basis of additional article 1 of the Turkish Atomic Energy Authority Law dated 9/7/1982 and numbered 2690.

**Definitions and abbreviations**

**ARTICLE 4 - (1)** The terms in the implementation of this Regulation are defined as follows;

- a) Graded approach: Fulfillment of regulatory requirements with an approach consistent with the characteristics of an activity, the likelihood and magnitude of radiation exposure,
- b) Safety culture: The assembly of characteristics and attitudes in organizations and individuals which establishes, as a priority, radiation protection and safety issues receive the due diligence and attention in the order of their significance.
- c) ISO: International Organization for Standardization.
- ç) Owner: Legal entity recognized by the Authority to construct a nuclear power plant and obtained a license.
- d) Authority: Turkish Atomic Energy Authority.
- e) Licensing basis requirements: Legislations, standards and guidelines approved by the Authority for the related nuclear power plant on ensuring nuclear safety and security.
- f) Structures, systems and components important to nuclear safety: The structures, systems and components the failure of which may lead to nuclear power plant workers' and the public's exposure to radiation above normal levels or those that prevent anticipated operational occurrences from leading to accidents or mitigate the consequences of the accidents.

g) Nuclear construction inspection organization: Organization authorized by the Authority in accordance with the provisions of this Regulation to perform inspections of the manufacture, construction and installation activities of all structures, systems and components in nuclear power plant sites.

ğ) Construction inspection: Inspections of the manufacture, construction and installation activities of all structures, systems and components in the nuclear power plant sites.

## **SECOND SECTION**

### **General Principles, Duties, Authorizations and Responsibilities**

#### **General principles**

**ARTICLE 5 -** (1) Nuclear construction inspection organizations are made to perform inspections by the Owner for the purpose of constructing nuclear plants in accordance with the principles of nuclear safety and related legislation and standards. These inspections do not substitute the regulatory inspections performed by the Authority.

(2) The manufacture, construction and installation activities of nuclear power plants cannot be initiated unless the contract of service between nuclear construction inspection organization and the Owner is signed and submitted to Authority.

(3) In order to be a nuclear construction inspection organization, it is necessary to make an application to Authority in accordance with the principles specified in this Regulation and be authorized as such.

(4) Nuclear construction inspection organizations may perform inspections only on the fields compatible with the extent of their license and within the context of their authorization conditions.

(5) Authorizations granted by the Authority to the nuclear construction inspection organizations cannot be shared or transferred.

(6) Organizations or their employees that are involved in the design, project designing and construction of a nuclear power plant or the Owner and its employees cannot take charge as a nuclear construction inspection organization or its personnel at the same plant.

#### **Responsibilities of the Owner**

**ARTICLE 6 -** (1) Owner has an exclusive and strict liability for the implementation of activities related to nuclear plants in accordance with the relevant legislation. The Owner's exclusive and strict liability also involves administrative, technical and inspection responsibility along with survey and project designing related to the manufacture, construction and installation activities.

(2) Owner is responsible for;

a) Approval of the design projects of the nuclear power plant,

b) Determination of whether structures, systems and components are important to nuclear safety or not, based on their safety classifications

c) Receiving structures, systems and components whose manufacture, construction and installation activities have completed.

(3) The Owner is responsible for obtaining documentation on permits, approvals, licenses, and similar transactions that must be obtained from the public administrations in concerning with the activities covered by this Regulation.

(4) Approval or observation of surveys and projects belonging to the nuclear power plant by any public administration or nuclear construction inspection organizations; permission,

licensing, approval or a similar authorization of an activity or inspection of an activity by public administration or nuclear construction inspection organizations does not reduce or vanish the responsibility of the Owner, nor does it associate public administration or nuclear construction inspection organizations with this responsibility.

(5) The responsibilities within the context of this Regulation start from the obtaining of the site license and continue until the completion of decommissioning.

(6) Owner signs a contract of service with the nuclear construction inspection organizations to perform the inspection of structures, systems and components and notifies the Authority of the contract and changes in the contract within thirty days.

(7) Owner takes care of the nonconformities and deficiencies identified and reported by the nuclear construction inspection organization.

(8) Owner or its sub-contractors cannot exhibit preventative, obstructive or divertive attitudes towards the nuclear construction inspection organization's exercise of its authority of fulfillment of its responsibilities and duties.

(9) Owner is responsible for selecting the appropriate nuclear construction inspection organization to perform the necessary construction inspection services for its nuclear plant, taking into account the scope and nature of the work.

(10) To ensure the occupational health and safety during the execution of the activities within the scope this Regulation, the requirements specified in the related legislation are fulfilled the by Owner, the appropriate occupational health and safety measures are taken and are made taken to the Owner's sub-contractors.

(11) Owner informs all the sub-contractors that are involved during the execution of the activities under this Regulation about the duties, authorizations and responsibilities of nuclear construction inspection organization and the sanctions that can be implemented by it.

(12) In the event that more than one nuclear construction inspection organization work in the site, the Owner is obliged to ensure that these organizations work in harmony by clearly specifying the distribution of authorization and inspection limits within the framework of the principles and responsibilities covered by this Regulation.

### **Duties, authorizations and responsibilities of nuclear construction inspection organization**

**ARTICLE 7** -(1) Duties, authorizations and responsibilities of nuclear construction inspection organization start with signing the contract of service between nuclear construction inspection organization and the Owner.

(2) Nuclear construction inspection organization executes the works related to construction inspection under this Regulation on the basis of construction projects which are approved by the Owner in accordance with the licensing basis requirements.

(3) Nuclear construction inspection organization shall get services from natural or legal entities for the construction inspection works to be performed within the scope of the contract of service. Excluding laboratory services, the total cost of the services received shall not exceed 30% of the total cost of service contract. Nuclear construction inspection organization is responsible for the quality of the service which is procured externally.

(4) Nuclear construction inspection organization, if required, sets up laboratories in proper places for the actual examination and measurement activities or it gets service from the laboratories that are not in association with Owner or its sub-contractors. These laboratories should have Type A certificate of examination based on (TS) EN ISO/IEC 17020 and/or ISO/IEC 17025 standards.

(5) Nuclear construction inspection organization establishes an archive to keep all records kept, the reports and other documents in the site and keeps them open access to Authority. Nuclear

construction inspection organization assigns this archive to Owner after termination of inspection service.

(6) Nuclear construction inspection organization is responsible for quality construction inspection services and ensuring the effectiveness of quality assurance system regarding construction inspection services. However, this responsibility does not reduce or eliminate the responsibility of the Owner that gets service.

(7) Nuclear construction inspection organization ensures that its staff have the safety culture.

(8) Nuclear construction inspection organization establishes mechanisms that guarantees the employment of reliable staff within the scope of human resources management.

### **Duties, authorizations and responsibilities of authority**

**ARTICLE 8** -(1) All activities under this Regulation are subjected to the regulatory inspection of the Authority. Authority performs the regulatory inspections in accordance within the framework of relevant legislation and graded approach.

(2) The Authority observes through the regulatory inspections whether duties and responsibilities under this Regulation are fulfilled efficiently and productive.

(3) If the Authority encounters with any deficiency during the regulatory inspections including duties and responsibilities of the Owner and nuclear construction inspection organization under this Regulation, the Authority imposes sanction within the framework of relevant legislation.

## **THIRD SECTION**

### **Construction Inspection Works**

#### **Construction inspection works**

**ARTICLE 9** -(1) Before the start of the activities in the scope of this Regulation, contract of service is signed between the Owner and one or more nuclear construction inspection organization which have the skills and competencies to perform the inspection works of structures, systems and components under the licensing basis requirements.

(2) If construction inspection service cannot be sustained for any reason, the inspected activity is stopped by way of taking measures by the Owner and this situation is urgently notified to the Authority in written form.

(3) Construction inspections cover the issues in Article 11 or 12 according to importance of the related structure, system and component in terms of nuclear safety.

#### **Implementation of construction inspection**

**ARTICLE 10** -(1) Nuclear construction inspection organization examines the activities within the scope this Regulation and the related construction projects of before the start of the activities, and plans inspection activities considering the importance of the activity, the difficulty of return, issues such as the difficulty of control after manufacturing, construction or installation, notifies the Owner and the Authority of these inspection plans and changes in the plans.

(2) If nuclear construction inspection organization encounters any deficiency during examination of the construction projects, it notifies the Owner to remedy the deficiency.

(3) Nuclear construction inspection organization constantly inspects the manufacture, construction and installation activities of all structures, systems and components in the nuclear power plant sites; using examination of records and documentation, surveillance, monitoring, audit, actual examination and taking or having taken the measurements and using interview techniques with facility management and staff; and it records the results in a traceable way.

(4) Nuclear construction inspection organization reports all nonconformities and deficiencies that are identified in the results of its inspection activities to the Owner, ensures the elimination of these nonconformities and deficiencies by the Owner by tracing the process, stops the activity subject to inspection until the elimination of deficiencies and nonconformities if deems necessary, and allows the continuation of the stopped activities upon remediation. These authorizations of the nuclear construction inspection organization are stipulated in the contract of service.

(5) Nuclear construction inspection organization urgently notifies the Authority of its decisions on stopping and continuing activities.

### **Inspection of the structures, systems and components important to nuclear safety**

**ARTICLE 11 - (1)** In the inspection of manufacture, construction and installation activities of structures, systems and components important to nuclear safety in the nuclear power plant sites, only those nuclear construction inspection organizations received authorization by the Authority in this regard, may offer service.

(2) Nuclear construction inspection organization, while it conducts inspection service, applies graded approach taking into account the licensing legislation and the regulatory requirements on the subject, the importance of structures, systems and components for safety, competence and experience of the sub-contractors, the existence of a first of a kind manufacture, construction and installation work, the complexity of the activity and experience required for this activity.

(3) During its inspections, nuclear construction inspection organization controls;

a) That the employees performing manufacture, construction and installation works have safety culture.

b) The preparations prior to manufacture, construction and installation.

c) The suitability of the work environment and environmental conditions to work.

ç) That the personnel access controls are carried out in accordance with the procedures.

d) The suitability of the materials used.

e) That the manufacture, construction and installation are implemented in accordance with the projects and the related procedures.

f) That the manufacture, construction and installation are implemented in accordance with the conformable quality.

g) That the foreign materials in the working environment of manufacture, construction and installation activities are controlled properly.

ğ) The conformity of the system guaranteeing the quality of the sub-contractors' services.

h) That the measuring instruments used during manufacture, construction and installation are calibrated.

ı) That the proper marking and labeling regarding the traceability of the components is done during the manufacture, construction and installation activities.

i) That the design modifications are reflected in the relevant projects by with kept records.

j) That the nonconformities are eliminated.

k) That the activities regarding aging management is executed in accordance with related procedures.

l) That materials and goods are transported, received, stored, protected and maintained in accordance with the procedures.

m) The competence of employees, and that the manufacture, construction and installation activities which should be conducted by certified personnel according to the relevant standard are

carried out by certified personnel.

n) Other additional issues considered necessary by nuclear construction inspection organization or the Owner.

### **Inspection of the structures, systems and components not related to nuclear safety**

**ARTICLE 12 - (1)** In the inspection of manufacture, construction and installation activities of structures, systems and components that are not important to nuclear safety in the nuclear power plant sites, nuclear construction inspection organizations authorized by the Authority may offer service.

(2) During its inspections, nuclear construction inspection organization controls;

a) Preparations prior to manufacture, construction and installation.

b) The suitability of the work environment and environmental conditions to work.

c) The suitability of the materials used.

ç) That the manufacture, construction and installation are implemented in accordance with the projects and procedures.

d) That the manufacture, construction and installation are implemented in accordance with the conformable quality.

e) Design modifications are reflected in the relevant projects by with kept records.

f) Nonconformities are eliminated.

g) Other additional issues considered necessary by nuclear construction inspection organization or the Owner.

## **FOURTH SECTION**

### **Qualification and Authorization of Nuclear Construction Inspection Organizations**

#### **Qualification of nuclear construction inspection organizations**

**ARTICLE 13 - (1)** Nuclear construction inspection organization are obliged to have ISO 9001 or an equivalent quality management system.

(2) Human resources management and inspection process must be defined in details in this quality management system.

(3) Nuclear construction inspection organization's human resources management process must envisage the below procedures:

a) Employment of full-time staff for project management.

b) Employment of staff with at least five-year-experience in their field of inspection, with at least three of which in inspection.

c) A structure with an ability to respond work load modifications rapidly.

ç) Detection of that the staff does not have a health condition prohibiting them from perform the job.

d) Employment of certified staff for inspections activities that require to be carried out by certified personnel as the nature of work.

(4) Nuclear construction inspection organization's inspection process must contain;

a) General procedures on how to perform inspections,

b) Records and forms to be kept during inspections,

c) Detailed procedures about the inspection of structure, system and components.

(5) The Owner may define additional requirements to be met by nuclear construction inspection organization so long as they do not contradict the above qualities.

### **Nuclear construction inspection organizations' application for authorization and documents to be submitted**

**ARTICLE 14** -(1) Organizations pursuing to perform construction inspection activities for nuclear power plants are authorized by the Authority. These organizations apply to the Authority with the below attachments to their application letters:

a) Official documents showing that the organization is active and performs registered commercial activities,

b) Organization's documents listing representing staff, this staff's approved statement of signature or authorized signatory list,

c) A report containing the organizational structure, technical capability, human resources information and past construction inspection experience of the organization,

ç) Form on the extent of the authorization, as published on the Authority's website,

d) Documents showing organization's qualities indicated in article 13, in accordance with the authorization it demands;

1) Organization's quality management system certification with international validity,

2) A letter taken from the Turkish Accreditation Agency, showing that the quality management system certification is issued by a certification body accredited by Turkish Accreditation Agency or an accreditation body included in the International Accreditation Forum Mutual Recognition Agreement,

3) Documents and procedures related to human resources management and inspection process within organization's quality management system documents,

e) Documents issued to organization by other country regulatory bodies' related to inspections of structures, systems and components, if any.

f) Written commitment of the organization that it will employ only reliable staff,

g) Bank receipt for proof of service charge payment that is located in the goods and service production type fee list determined within the scope of "Regulation on Production of Goods and Services and Revenue of Publications of the Turkish Atomic Energy Authority" which has been entered into force by publication in Official Gazette no: 24766, dated 26/05/2002.

(2) If deemed necessary, additional documents may be demanded by the Authority.

### **Evaluation of the application**

**ARTICLE 15** -(1) The application is evaluated within thirty working days with regard to adequacy of the organizations to perform inspection activity for which application has been made considering the information in the application documents required. If necessary, this period may be extended by the Authority and this extension is notified to the applicant organization in written form. In the stage of evaluation of the application, the Authority, if deemed necessary, may conduct audits or inspections at offices and similar places where the nuclear construction inspection organization operates. When any deficiency, non-compliance or inadequacy is found as a result of evaluation or inspection, the applicant organization is demanded to resolve the issue within a given time specified by the Authority. If the issue is not resolved at the end of this period, an extension may be granted for once upon the written request of the applicant organization and endorsement of the Authority. At the end of this process, if the issue is not resolved, the application is denied and the application fee is not returned.

## **Nuclear construction inspection organization authorization certificate**

**ARTICLE 16** -(1) After review and assessment carried out by the Authority, nuclear construction inspection organization authorization certificate is provided to the nuclear construction inspection organization whose application is found to be adequate for authorization.

(2) Nuclear construction inspection organization authorization is granted for a five year term.

(3) Authorization conditions is given to the applicant organization as complementary attachment to the nuclear construction inspection organization authorization certificate.

## **Renewal of authorization certificate**

**ARTICLE 17** -(1) Authorized organizations willing to renew of their authorization certificate at the end of authorization period shall apply to the Authority with petition and bank receipt for proof of service charge payment that is located in the goods and service production type fee list determined within the scope of “Regulation on Production of Goods and Services and Revenue of Publications of the Turkish Atomic Energy Authority” which has been entered into force by publication in Official Gazette no: 24766, dated 26/05/2002, at least two months before the end of the authorization period. In case of changes in the documents submitted with the authorization application, the organization also shall attach the current status of these documents to its petition.

(2) Nuclear construction inspection organization authorization certificate’s validity is renewed for five years if the application has been found to be adequate. Applications, which are found to be inadequate are denied and the authorization certificate renewal fee is not returned.

(3) Nuclear construction inspection organizations, which did not apply for renewal before the end of validity period, lose their right for renewal and may reapply in accordance with the provisions of this Regulation.

(4) Nuclear construction inspection organization may not perform construction inspection if its authorization certificate is not renewed at the end of validity period.

## **Extension of the scope of the authorization**

**ARTICLE 18** -(1) Nuclear construction inspection organizations that seek to make a change in the extent of their authorization, apply to the Authority with the following documents attached to their letter of application:

a) For the inspection works that are sought to be included in the scope of the authorization, of the documents specified in article 14, those that need to be renewed or added.

b) Bank receipt for proof of service charge payment for scope extension that is located in the goods and service production type fee list determined within the scope of “Regulation on Production of Goods and Services and Revenue of Publications of the Turkish Atomic Energy Authority” which has been entered into force by publication in Official Gazette no: 24766, dated 26/05/2002.

(2) Scope extension application can not be made for authorization certificates with a period of validity remaining less than six months.

(3) Scope extension application is evaluated by the Authority in thirty days. This period of time may be extended by the Authority if need be, and this extension is notified to the applicant with an official letter.

(4) If upon evaluation and inspection the application is not deemed suitable or if the authorization certificate loses its validity for any reason during the evaluation of the scope extension application, the application is rejected and the scope extension service charge is not refunded.



(5) Authorization scope is extended for those applications deemed suitable upon evaluation and inspection.

### **Conditions of authorization**

**ARTICLE 19** - (1) Nuclear construction inspection organization shall comply with the conditions of authorization during the validity period of authorization.

(2) Nuclear construction inspection organizations are subject to nuclear safety inspections of the Authority during validity period of the authorization certificate.

(3) Nuclear construction inspection organizations shall notify the Authority about all changes on organizational structure and technical capacity that may require amendment to the conditions of authorization.

### **Inspections**

**ARTICLE 20** - (1) The Authority performs nuclear safety inspections directed at the applicant organizations and/or nuclear construction inspection organizations under the provisions of “The Regulation of Nuclear Safety Inspections and Enforcement” published in Official Gazette no: 26642, dated 13/09/2007.

(2) Nuclear construction inspection organizations shall take all measures to ensure Authority’s inspections to be conducted as it was planned without a delay in the related facilities. The applicant organization and/or nuclear construction inspection organization shall open its offices, the documents and records to access of the Authority and shall submit to the Authority when requested.

(3) To perform nuclear safety inspections, an English or a Turkish copy of the required documents shall be made available at the inspection point by the applicant organization and/or nuclear construction inspection organization.

(4) To perform inspections without delay and to provide required communication, the applicant organization and/or nuclear construction inspection organization shall provide during the inspections an interpreter or staff having the ability to interpret spoken language to English or Turkish.

### **Sanctions**

**ARTICLE 21** - (1) In the frame of violations of provisions of this Regulation, the Authority takes into consideration importance, urgency and severity of the violation in terms of nuclear safety to decide sanctions.

(2) During implementation of activities within the scope of this Regulation by the nuclear construction inspection organization;

a) If it is understood that the nuclear construction inspection organization no longer meets at least one condition of the Regulation,

b) If non-compliances are found in evaluations and inspections performed by the Authority,

a specified time period is given to the nuclear construction inspection organization to resolve the non-compliance. If the non-compliance is not resolved with corrective and preventive actions within this time period determined by the Authority, authorization given to the nuclear construction inspection organization may be revoked.

(3) During regulatory inspections, if the nuclear construction inspection organization does not cooperate, does not give information and documents demanded or if it is found that the nuclear construction inspection organization falsify documents or gives wrong information, the Authority revokes the authorization.

## **FIFTH SECTION**

### **Contract of Service**

#### **Terms of contract of service**

**ARTICLE 22** - (1) The construction inspection of nuclear plants are carried out with the contract of service which is signed between the Owner and nuclear construction inspection organization. The Owner may sign the contract with one or more nuclear construction inspection organization, in this case limits of the authority and inspection of every nuclear construction inspection organization must be clearly stated in the contract.

#### **Scope of contract of service**

**ARTICLE 23** - (1) The provisions related the following issues are available in the contract of service which is signed between the Owner and nuclear construction inspection organization.

a) The distribution of the limits of authority and inspection within the framework of the principles and responsibilities which are regulated under this Regulation.

b) The relation and communication mechanism between construction inspection organization, Owner and Owner's sub-contractors.

c) Duration of service.

ç) Charge of service and issues related to payments.

d) Issues related to information security.

e) Issues related to recording and reporting of the inspection service.

f) In the framework of the inspection services, provisions on construction inspection organization's stopping and continuing authorizations for related activities.

g) Issues related to Owner's controls regarding to the inspection services.

ğ) The conditions concerning modifications in the contract and in the annexes of the contract including the staff list.

h) Issues related to expiration and termination of the contract.

ı) Issues related to dispute resolution.

i) Other issues that are required by service.

(2) The following information and documents are included in the annex of the contract of service as a minimum.

a) Technical specification of the service.

b) Work program in the scope of the service.

c) The workfare providing qualified and sufficient number of personnel related to employment in nuclear construction inspection organization which is compatible with the work program.

ç) The list of the personnel which will be used for service by nuclear construction inspection organization.

d) The list of the legislation, standards and guidelines which will be used for the inspection service.

(3) If nuclear construction inspection organization loses its authorization, the contract of service which is signed between the organization and Owner is terminated.

## **SIXTH SECTION**

### **Miscellaneous and Final Provisions**

#### **Construction permit and occupancy permit**

**ARTICLE 24** -(1) In accordance with the Zoning Law dated 9/5/1985 and numbered 3194, and the pertinent legislations, Owner signs the related sections of the construction permit, occupancy permit and other relevant documents.

(2) The format and contents of construction permit and occupancy permit forms for nuclear power plants are determined by the Ministry of Environment and Urbanization considering the views of the Authority.

(3) In case of a change in the information contained in the construction permit and occupancy permit, The Owner shall notify the administration who gives this permit.

#### **Transitory provisions**

**TEMPORARY ARTICLE 1** - (1) Concerning ongoing construction inspection works on the date that this Regulation enters into force for the nuclear power plants being founded;

(a) The contracts signed before the entry into force of this Regulation shall be notified to the Authority by the Owner together with the contract texts within thirty days from the date of entry into force of this Regulation.

(b) The inspection organizations which have signed the contract shall obtain authorization from the Authority within one year after the entry into force of this Regulation in accordance with the provisions of the Regulation.

(c) These contracts shall be made compliant with the provisions of this Regulation within six months following the date of authorization from the Authority.

(2) Construction inspection services may be obtained from the organizations that have not been authorized by the Authority for the works to be started within six months from the date of entry into force of this Regulation for the nuclear power plants under construction, if the Owner requests and the Authority endorses. In this case, the provisions of paragraph one of this article is applied for the process of compliance with the provisions of this Regulation.

#### **Enactment**

**ARTICLE 25** -(1) This regulation will be enacted on the date of its publication.

#### **Implementation**

**ARTICLE 26** -(1) Provisions of this regulation will be implemented by the President of Turkish Atomic Energy Authority.