Content

Title：	Regulations on the Scope of Inspection and on the Certification of Authorized Inspection Agencies for Nuclear Reactor Facilities Ch
Date：	2014.01.13
Legislative：	1. All 15 articles promulgated by Decree Hueih-Her-Tze No. 0930019465, of the Atomic Energy Council, Executive Yuan, on the 23rd day of June, 2004; and being effective henceforth. 2. Article 2 through Article 4 revised and promulgated by Decree Hueih-Her-Tze No. 0980002770 of the Atomic Energy Council, Executive Yuan, on the 11th day of February, 2009. 3. All 15 articles revised and promulgated by Decree Hueih-Her-Tze No. 1030000322, of the Atomic Energy Council, Executive Yuan, on the 13th day of January, 2014; and being effective henceforth.
Content：	**Article 1** The Regulations are enacted pursuant to Paragraph 15.2 of the Nuclear Reactor Facilities Regulation Act. **Article 2** The terminology used in the Regulations shall be respectively defined as follows: 1. Examination: Non-destructive testing performed by qualified personnel to examine material and welds in order to detect flaw(s). An examination normally involves one or more of the following non-destructive testing methods: Ultrasonic, Liquid Penetrate, Magnetic Particle, Eddy Current, Radiographic and Visual. 2. Testing: Specific functional and pressure testing performed by qualified personnel to determine whether or not the structure, system and component meet the required physical, chemical, environmental and operating conditions. 3. Inspection: Activities performed to assure that the design, installation, examination and testing do comply with the cognizant requirements. 4. Verification: The use of documentation review, personal interview, on-the-spot observation, etc. to determine whether or not the process of design, installation, examination and testing meet the applicable laws, regulations, codes and quality assurance program requirements. 5. Authorized Inspection Agency: The agency certified by the respective government authority and authorized thereof to independently conduct inspection on nuclear reactor facilities under construction or in operation. **Article 3** The Regulations apply to the inspection activities on the design, manufacture, installation, examination and testing during the

construction and operation phases of a nuclear reactor facility's safety related structures, systems, and components. The Regulations also apply to the certification and regulation of the inspection agencies.

Article 4

The scope of inspection activities during the construction phase shall include the following:

1. Reviewing a licensee's quality assurance program and verifying the implementation of such program.
2. Reviewing certified material documentation.
3. Witnessing or verifying the construction and installation processes, welding, heat treatment and non-destructive testing activities.
4. Witnessing the final pressure testing.
5. Assuring the construction report of the primary containment structure be reviewed and signed off by the designer liable and be approved by the licensee.
6. Witnessing selected examinations.
7. Assuring the applicable technical specifications and the design report be certified by a relevant licensed professional engineer.
8. Ensuring code data reports of the pressure safety/relief valve and vacuum breaker be certified by the party liable.
9. Verifying materials specified for non-destructive testing and qualification of the personnel.
10. Issuing the licensee with certification on owners' code data reports.

Article 5

The scope of inspection activities in operational phase shall include the following:

1. Reviewing a licensee's quality assurance program and verifying the implementation of such program.
2. Verifying materials specified for non-destructive testing and qualification of the personnel.
3. Reviewing the inspection plan for both the pre-service and in-service periods and the testing plan for the in-service period.
4. Verifying examination and system pressure testing operations.
5. Verifying repair and replacement operations and the corresponding quality assurance program.
6. Reviewing visual examination reports and verifying visual examination results.
7. Verifying activities of operational testing on pumps, valves and supports or reviewing the test reports.
8. Assuring and signing a licensee's documentation of operational examinations, testing, repair and parts replacement.

Article 6

The applicant for the Certificate of Authorized Inspection Agency (hereinafter referred to as the Applicant) shall be one of the following:

1. A government agency or organization.

2. A Company Limited by Shares established in accordance with the Company Act with a minimum of NTD 5 million paid in full as share capital.
3. A government accredited university, college or research institute.
4. A non-profit juridical person/organization.

Article 7

The Authorized Inspection Agency shall be staffed with personnel with the following qualifications:

1. One or more Authorized Nuclear Inspector Supervisors and one or more Authorized Nuclear Inspectors.
2. One or more Radiation Protection Personnel approved by AEC.
3. Two or more Level III Non-destructive Testing Personnel reviewed and accepted by government authorities.

The personnel mentioned above in Item 3, Article 7, shall possess the testing ability by volumetric and surface methods.

Article 8

The applicant shall complete the application form, and attach the inspection quality assurance program, inspection procedures, the proof of Authorized Nuclear Inspector qualifications and related evidence of training, and submit them to AEC for certification. A certificate will be issued when the review is completed and the application is approved.

Besides being compatible with the rules set forth by the Quality Assurance Criteria for Nuclear Power Plants or authorized nuclear quality assurance guidelines, the aforementioned quality assurance program should state the following, with supporting documents:

1. Purpose(s) and the applicable rules.
2. Organization and hierarchy, duty and responsibility, and personnel qualifications and positions held.
3. Inspection procedures, personnel training and documents management and access control.
4. Management of inspection personnel.
5. Independence of inspection operation and reinforcement for recusal of conflicts of interest.
6. Control and management on nonconforming items.
7. Document control, quality assurance program and related operational procedures.
8. Miscellaneous items.

Pertaining to Item 1 above, Article 8, the Certificate is valid for 3 years; and, 3 to 6 months prior to its expiration, the Authorized Inspection Agency may complete the application form, attach the above-mentioned documents plus
records documenting inspections completed and personnel training and submit them to AEC for extension application.

The courses and contents of the training mentioned above should, at least, include the professional and/or technical areas referred to in Items 4 through 7 of Article 11 and Item 2 and Item 3 of Article 12; and, the total time of

training every 3 years should exceed half of the hours set in respective items.

Article 9

The rights and duties of the Authorized Inspection Agency for the nuclear reactor facilities are as follows:

1. Accept commission from the licensee, and comply with the Regulations to engage Authorized Nuclear Inspector Supervisor(s) and Authorized Nuclear Inspector(s) to carry out inspection activities.
2. Establish inspection activities procedures, quality assurance program and perform inspector personnel management.

Article 10

The Authorized Nuclear Inspector Supervisor for the nuclear reactor facilities during the construction phase or operation phase shall have the following qualifications:

1. Bearing the Level III non-destructive testing qualification reviewed and accepted by AEC.
2. At least one year experience as an Authorized Nuclear Inspector for the nuclear reactor facilities under construction or as an Authorized Nuclear In-service Inspector for the nuclear reactor facilities in operation.
3. Bearing at least 5 years of experience in nuclear-reactor related quality assurance work.

Article 11

The Authorized Nuclear Inspector for the nuclear reactor facilities during the construction phase shall have the following qualifications:

1. A graduate of the 2-year or 4-year accredited university or college with a major in engineering or science.
2. Bearing the Level II non-destructive testing qualification reviewed and accepted by AEC.
3. Bearing training in radiation protection with evidence of training reviewed and accepted by AEC.
4. Completion of at least 60 hours of training in nuclear reactor facilities systems.
5. Completion of at least 30 hours of training in welding technique and at least 30 hours of training in quality assurance.
6. Completion of a total of at least 60 hours of training in code requirements for nuclear reactor facilities related design, construction, installation, examination, testing, etc.
7. Completion of a total of at least 100 hours of training in code requirements for nuclear reactor facility related material, examination, welding, testing during operation phase, etc.
8. Completion of at least one-year on-the-job training in nuclear reactor facilities construction phase inspection work, or at least one-year experience in power boiler or pressure vessel related design, fabrication, installation, examination and testing work.

Article 12

The Authorized Nuclear Inspector for the nuclear reactor facilities during the operation phase shall have the following qualifications:

1. The qualifications of Items 1 through 4 of Article 11.
2. Completion of a total of at least 60 hours of training in code requirements for operation phase related examination and testing.
3. Completion of a total of at least 100 hours of training in code requirements for nuclear reactor facilities related design, construction, installation, examination, testing, welding, etc.
4. Completion of at least one-year on-the-job training in operation phase examination and, testing inspection work, or at least one year experience in related nuclear reactor design, installation, welding, examination or testing work.

The training, which was mentioned above in Item 2 and Item 3, Article 12, and previously from Item 4 through Item 7 of Article 11, shall be professional training courses organized by government authorities or government
authorized/accepted organizations; and, the courses lectured by the qualified personnel set forth by Article 7 previously, or the equivalent, and issuing certificates to trainees upon course completion.

Article 13

The Authorized Inspection Agency shall report to AEC within 15 days of its personnel change involving Authorized Nuclear Inspector Supervisor(s) and/or Authorized Nuclear Inspector(s).

The Authorized Inspection Agency shall submit its quarterly work reports before the 10th day of January, April, July and October, respectively, each year to the AEC.

Article 14

AEC will design and issue the application form and certificate form mentioned in these Regulations.

Article 15

These Regulations shall become effective as of the date of promulgation.