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Instruction IS-12, of 28th February 2007, of the Nuclear Safety Council, defining the qualification and training requirements of non-licensed staff and non-licensed off-site personnel of nuclear power plants.

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The operator or licensee of the facility is responsible for nuclear safety and radiological protection and, therefore, for the definition, performance and results of work carried out on safety-related components, equipment and systems, regardless of who might perform them, and should prevent the occurrence and mitigate consequences of incidents and accidents that might give rise to an undue risk for the health and safety of the public, the workers and the environment.

One of the fundamental requirements for the operation and maintenance of nuclear power plants is the availability of sufficient competent and qualified personnel for the work to be performed. Experience has shown that in order to achieve safety and reliability it is not only essential the quality in the design of the equipment, systems and components, but also the competence and training of the personnel responsible for their use and maintenance.

Title I of Royal Decree 1836/1999, of December 3rd, which approves the Regulation on Nuclear and Radioactive Facilities, dedicated to «General provisions», includes article 8, which refers to the responsibility of the licensee of such facilities as regards operating under safe conditions. Article 20.b) of Title II, dedicated to nuclear facilities, includes the responsibility of the licensee to have available a list of positions entailing nuclear responsibility and also to specify the organisation and functions of the personnel attached to the installation under both operational and emergency conditions, as well as to define the basic initial and on-going training programmes for licensed and non-licensed personnel and establish the technical competence required for each specific mission and the re-training programmes considered adequate. Title V of the aforementioned Regulation, entitled «On the personnel of nuclear and radioactive facilities», addresses, among other things, the requirements applicable for the acquisition, use and renewal of nuclear power plant personnel licences, along with the functions and obligations of personnel issued with operator licence and any other person working at a nuclear power plant.

The development of the aspects applying to the licensed personnel of nuclear power plants will be dealt with in the future Nuclear Safety Council Instruction on «Nuclear power plant operating personnel licences», which will be of legal rank. This new Instruction will be complemented with a new revision of CSN Safety Guide (GS-1.1) «Qualifications for the acquisition and use of operating personnel Licences at Nuclear Power Plants», which is recommendatory in nature.

Article 67 of the Regulation on Nuclear and Radioactive Facilities, relating to non-licensed personnel, either belonging to the staff or to external organisations, indicates that «All persons that, not needing a licence, work at a nuclear or radioactive facility shall be aware of and comply with the regulations on protection against ionising radiations and their actions in the event of an emergency. In this respect, the licensee of the facility shall clearly define the necessary knowledge and specialisation. The training programmes shall be previously approved by the Nuclear Safety Council. Such persons shall act under the specific responsibility of the licensee and under the supervision of the licensed personnel.» Likewise, Article 73 of the Regulation on Nuclear and Radioactive Facilities currently in force, which refers to the reports to be submitted to the Nuclear Safety Council by the holder of an authorisation, indicates that an annual report shall be submitted on «the activities established in the programme for basic initial and on-going training».

Other provisions in force on qualification or training in relation to radiological protection are the following:

Royal Decree 413/1997, of March 21st, on the Occupational Radiological Protection of External Workers with Risk of Exposure to Ionising Radiations due to their Intervention in Radiological Controlled Zone. This Royal Decree includes, on the one hand, the obligation of the external company to provide its workers with information and training on the basic radiological protection required for the performance of their work and, on the other, the obligation of the licensee of the nuclear facility to ensure that the workers have received basic training on radiological protection and to provide them with the specific training required in view of the specifics of the plant and of the work in question.

Instruction IS-03, of November 6th 2002, of the Nuclear Safety Council, on the Qualifications Required to Obtain Recognition as an Expert in Protection against Ionising Radiations, as they relate to those responsible for the Radiological Protection Technical Unit or Service and to those members of the technical personnel under their charge.

Instruction IS-06, of April 9th 2003, of the Nuclear Safety Council, which develops the previous Royal Decree and defines the basic and specific training programmes on radiological protection applicable to nuclear and radioactive facilities involved in the nuclear fuel cycle. Consideration is given to the occupational risk prevention act, Law 31/1995, of November 8th, which in its Article 7: Actions of the public Administrations responsible for the workplace, refers to the use of nuclear energy.

Consideration has been given also to the «Safety Fundamentals» of the IAEA and to the «Requirements» included in the document «Safety of Nuclear Power Plants: Operation» of that same organisation, as they apply directly to the qualification of non-licensed personnel.

At present, for the treatment of the qualification of non-licensed nuclear power plant personnel, the nuclear sector has Guideline CEX-37: «Guideline on the Qualification, Initial and On-Going Training and Experience of NPP Personnel», drawn up by UNESA using ANSI 3.1/87, the INPO guidelines and the training programmes of the Spanish nuclear power plants as a reference. This guideline was revised by the CSN-UNESA Training Task Force, which reports to the Mixed Group on Operation/Safety and which

included the participation of the Training Managers of all the nuclear power plants and a representation of the CSN Technical Division. This guideline was accepted by both UNESA and the TD of the CSN as a reference document including the minimum requirements for the initial and on-going training programmes of the non-licensed personnel of the Spanish Nuclear Power Plants (letter from the TD of the CSN dated February 5th 1999, reference: CSN-CDT/ 99/107m and letter from UNESA dated March 22nd 1999). The passage of time and the evolution of the state-of-the-art make it recommendable to improve and update the minimum recommendations established in CEX-37, adapting it to the requirements of the present Instruction and bringing it closer to current regulatory practice and to the recommendations of ANSI-3.1-1993 «Selection, Qualification, and Training of Personnel for Nuclear Power Plants» and to NRC Regulatory Guide 1.8, «Qualification and Training of Personnel for Nuclear Power Plants», rev. 3 of May 2000, which endorses the contents of the ANSI document with certain modifications.

Article 2.a) of Law 15/1980, of April 22nd, Establishing the Nuclear Safety Council, following the modification introduced by the first additional provision of Law 14/1999, of May 4th, on Public Prices and Fees for Services Rendered by the Nuclear Safety Council, attributes to this public entity the faculty of «drawing up and approving Instructions, Circulars and Guidelines of a technical nature relating to nuclear and radioactive facilities and to activities relating to nuclear safety and radiological protection», in order to guarantee the safe operation of nuclear and radioactive facilities, that is to say without undue risk for persons or the environment.

Pursuant to the above, following consultations with the affected sectors and after having issued all appropriate technical reports,

This Nuclear Safety Council in its meeting on February 28th 2007, has agreed upon the following provisions:

TITLE I

General provisions

One. *Object and scope of application*.

Object: The object of the present Nuclear Safety Council Instruction is to define the qualification requirements for non-licensed personnel working at nuclear power plants (NPP's) whose functions are related to the safe operation of the plant, through the efficient and safe performance of the tasks assigned to each position. The term qualification includes: academic qualification, experience and initial and on-going training.

Scope of application: The present Nuclear Safety Council Instruction is applicable to the licensees of nuclear power plants as those responsible for the necessary qualification of the personnel that, in the performance of their functions, might directly or indirectly affect the nuclear safety and radiological protection of the plant. The personnel affected by this Instruction shall be both the plant staff and those external workers whose functions might affect the safe operation of the plant, including explicitly the personnel of subsidiary,

contracted or sub-contracted companies. Excluded from the scope of the present Instruction shall be the holders of personnel licences granted by the CSN and rendering their services at the NPP. The provisions of this Instruction are understood to be without prejudice to any others that might be applicable due to their speciality or realm of regulation, such as Law 31/1995, of November 8th, on the prevention of occupational risks or those applicable to the Physical Protection personnel, who are required to hold an express authorisation from the Ministry of the Interior for the exercising of this profession, which is obtained following a period of training and specific and regulated tests.

Two. *Definitions*.–The definitions of the terms and concepts used in the present Instruction coincide generally with those contained in the standards in force. The following specific definitions are considered within the scope of the present Instruction:

Job positions analysis: Systematic process of analysis aimed at determining the competences required for the performance of each job position, as well as the behaviour and results expected in competent performance, the scope of which may range from an analysis of competences to the analysis of complete tasks.

Analysis of competences: Systematic process aimed at determining the knowledge, capabilities and skills required to perform a position, based on the functional analysis of the said position, as well as the behaviour and results expected in competent performance.

Task analysis: Systematic process aimed at determining the tasks involved in a job position, the knowledge, capabilities and skills required for their performance and the behaviour and results expected in competent performance. Depending on the positions to which it refers, task analysis may vary in its complexity and scope; however, the result should include at least a list of tasks for each defined position, assigning to them the set of necessary knowledge, capabilities and skills and the behaviour or result expected following their performance.

Certification: Documentary confirmation issued by a recognised company or organisation in relation to an individual who has met one or several qualification requirements.

Competences: Combination of knowledge, capabilities and skills required for satisfactory performance in a position.

Qualification: Combination of academic qualification, experience and training required for performance in a position. This includes the certifications required by the Spanish regulation.

Collective qualification: Sum of individual qualifications of the members of an NPP organisational level or group.

Systematic training design: Systematic process aimed at determining: the learning objectives in accordance with the results obtained from a previous analysis of the position; the design of the initial and on-going training programme and its implementation based on these learning objectives; the tools and human resources required for satisfactory

performance; assessment of the degree of personal compliance with the learning objectives contemplated; and finally the evaluation and revision of the initial and on-going training programme based on the performance of the personnel in their respective positions. The job position analysis may include a wide spectrum of methodologies ranging from the lower degree of complexity of a detailed analysis of competences to the analysis of complete tasks.

External company: Legal entity that, through a contract with the licensee of a nuclear power plant, performs material work or provides a service for the facility in question.

To escort: To accompany at all times a person within the perimeter of a nuclear power plant. The person escorting another shall be responsible for ensuring that the latter accesses only authorised areas and that the nuclear power plant standards are complied with at all times: site emergency plan, safety and hygiene at work and industrial safety, security, work order, etc.

Personal assessment: Estimation of the knowledge, aptitudes and performance of trainees in order to guarantee that a degree of assimilation adequate for the training action performed is achieved. Depending on the type of training action, the assessment may consist of a written examination or test, an oral examination, continuous evaluation by the instructor, evaluation on the simulator, etc. which shall be documented and include the minimum levels required to consider that an adequate degree of performance has been reached and the punctuation achieved by each trainee.

Experience: Work or activities carried out with professional responsibility in the industry, in the areas of design, construction, operation, testing or maintenance, as well as any activity performed at a nuclear power plant or assigned to its off-site technical services. Mere observation is not considered as constituting experience.

Previous training: Set of certified courses that accredit a person prior to his incorporation to a specific position.

Initial training: Set of scheduled courses for workers who are to occupy a position, as the condition required to achieve the qualification required for its performance.

Basic training: The part of initial training that addresses the general aspects to be possessed by anybody performing any activity carried out at a nuclear power plant or assigned to its off-site technical services.

Specific training: The part of initial training that addresses the specific aspects of the position that need to be known by anybody accessing the said position.

On-going training: Set of scheduled courses for personnel rendering services at an NPP or its off-site technical services, the aim of which is to maintain and update the competences of such personnel.

Compensatory measures: Set of actions to be contemplated and applied by the licensee of a nuclear power plant to ensure that the tasks assigned to a position, and that temporarily cannot be carried out by the person occupying the said position, may be performed satisfactorily and safely by persons possibly not possessing all the competences foreseen for performance.

External personnel: All the personnel working for a nuclear power plant or for its off-site technical services and not belonging to the plant staff.

Staff: All employed workers occupying a job position in the organisation through a contractual relationship with the licensee of a nuclear power plant.

Supervise: The action of exercising surveillance to ensure the correct performance of a task carried out by another person.

Three. *General requirements*.–As may be gathered from the provisions of Article 20.b of the Regulation on Nuclear and Radioactive Facilities, the licensee of an NPP is obliged to define its organisational structure and the responsibilities of all the units of which it is comprised, both on and off site, in relation to nuclear safety. Although full and ultimate responsibility for safety is to the licensee, the latter may assign functions and tasks, clearly establishing the successive levels of responsibility and lines of communication, developing permanent strategies for supervision of the functions delegated.

Anybody performing functions that may directly or indirectly affect plant safety shall be obliged to undergo a medical check-up for declaration as suitable for the performance of the functions and responsibilities of his job position.

Compliance with the present Instruction shall not in any case exempt the individual from compliance with whatever other legal standards might apply in each case.

TITLE II

Plant staff personnel

Four. *Qualifications*.–The qualification of the staff of a nuclear power plant includes the minimum requirements relating to the academic qualification, experience and initial and on-going training of each worker for the performance of a job position at the nuclear power plant, on or off site.

The licensee of a nuclear power plant shall define the qualifications necessary for personnel that, in the performance of their functions, may directly or indirectly affect plant safety. These qualifications defined for each job position shall guarantee the efficient and safe performance of the functions assigned, shall be adequately documented, shall be periodically updated and shall remain available to the CSN for inspection.

The responsibility for defining the different levels of qualification for each job position includes the following:

The systematic analysis of the corresponding needs for qualification, using detailed task or competences analysis methodologies for each job position, in order to determine the knowledge, capabilities and skills required and define the behaviour and results expected in competent performance.

Provision of the means required to achieve such qualification.

The establishment of mechanisms to periodically verify the maintenance of the competences of all the personnel.

The information obtained shall serve as input for the systematic design of training, which shall include the following:

1. Determination of the learning objectives, in accordance with the results obtained from the job position analysis.

2. Design of the initial and on-going training programme and its implementation based on the learning objectives.

3. The tools and human resources required for its satisfactory achievement.

4. Assessment of the degree of personal compliance with the learning objectives mapped out.

5. Evaluation and revision of the initial and on-going training programme, based on the performance of the personnel in their respective job positions.

One of the results of this systematic process is determination of the minimum qualification to be owned by each person who is to be selected as an NPP worker to occupy a position. Another of the expected results is determination of the initial and on-going training requirements assigned to each position in order to guarantee maintenance of the competences required for the performance of tasks of importance for the safety of the plant and, therefore, its safe operation. Likewise, the minimum initial and on-going training times required for each job position shall be determined, and those shall be included in procedures.

The personnel of an NPP must possess a degree of competence according with their responsibilities. Nevertheless, exceptions may be established based fundamentally on the validation of experience, as long as such validation does not involve more than one academic level.

Personnel may be attached temporarily to a given job position without meeting all the training requirements necessary for its performance, as long as the following additional requirements are met:

That the person assigned to the job position is in one of the following situations:

It is foreseen that he will occupy the job position permanently and the delivery of the training programme necessary to guarantee his efficient and safe performance of all the assigned functions is planned.

It is foreseen that he will occupy the job position temporarily in the absence of the person assigned to it permanently, the re-incorporation of the latter being foreseen. This absence may be due to sick leave, training or other causes.

That an analysis is made of the impact of training shortcomings on performance of the tasks assigned, especially those affecting nuclear safety or radiological protection, and on the satisfactory achievement of its objectives, such that tasks for which not all the necessary competences are possessed are assigned without the corresponding compensatory measures guaranteeing their safe performance.

That the set of compensatory measures for the performance of each of the tasks associated with the job position and for which not all the competences necessary for performance are possessed is established. These measures may include direct supervision for tasks important from the point of view of nuclear safety or radiological importance.

That the tasks that may be performed by the person assigned temporarily without the need for compensatory measures are specified, along with those that require the adoption of compensatory measures and those that cannot be carried out by the aforementioned person and that are to be assigned to other persons possessing the necessary competences.

That the temporary assignment does not exceed three consecutive months, although such temporary assignment to a job position may be extended in exceptional and duly justified cases that it has not been possible to plan beforehand and when no personnel are available meeting all the training requirements for the job position in question. Such extensions shall be for the minimum time necessary to guarantee that the person who will occupy a job position permanently receives all the training inherent to the said position, and in any case the compensatory measures required to guarantee the safe performance of all the functions assigned shall be taken.

That the said temporary assignment and compliance with the foregoing requirements are justified and documented such that they may be inspected by the CSN.

In the case of replacement of personnel, the licensee shall provide adequate overlap time to guarantee a practical transmission of knowledge in keeping with the level of competence required for the job position in question. This overlap time shall be documented.

In the case of the assignment to personnel belonging to external companies of activities relating to structures, systems, components or calculations affecting safety, the said personnel shall be supervised by personnel of the NPP organisation possessing the competences required for such activities, who shall be responsible for them. Such activities shall be adequately specified in writing. In the same context, the licensee shall be responsible for guaranteeing the qualification necessary for the exercising of the

supervision and for having available procedures establishing the functions, responsibilities, assignment limits and tasks associated with such supervision.

Five. *Selection of Personnel*.–The licensee of an NPP shall be obliged to select qualified personnel and provide them with the training required for them to be able to carry out their functions adequately during all plant operating conditions and in the event of incidents or accidents.

In accordance with the above, and the previous section, the licensee of an NPP must determine the minimum qualification necessary for access to each position, either through entry access or as a result of internal job changes. This information shall be used in the process of selecting staff, in order to guarantee that each job position is performed efficiently and safely.

In addition, the selection process shall contemplate a series of factors for assessment of the aptitude and attitude required for the job position, among which shall be included initiative, motivation, emotional stability, capability and skill for the tasks associated.

Six. *Training Programmes*.–The licensee of an NPP shall be obliged to implement a training programme for the plant personnel that he shall keep duly updated prior to assigning the functions pertaining to their job functions. This programme shall fulfil the objective of ensuring that the said personnel acquire and maintain the competence required for the efficient and safe performance of their job positions. The programme shall emphasise the extreme importance of safety in all aspects relating to plant operation, over and above all other considerations. The relevant documentation on this training programme shall be available to the CSN.

Likewise, the licensee of an NPP shall ensure that all the personnel required to perform functions affecting safety have sufficient knowledge and skills regarding the plant and its safety functions, as well as other relevant competences, among them the management and supervision of their own obligations, with due importance given to safety. This shall be achieved by checking that the personnel have successfully performed all the phases of the training plan or that the parts not performed have been adequately validated, and that they have adequately passed all the evaluation tests.

The training programme for nuclear power plant personnel shall consist of initial and on-going training programmes and shall promote attitudes favouring priority attention to safety. The programme shall be drawn up on the basis of initial and on-going training requirements, identified within the context of application of a systematic training design methodology.

This training programme must necessarily include operating experience on incidents occurring at the plant and those occurring at other plants and relevant and applicable to it. Likewise, the training on operating experience shall be oriented towards identifying the root causes of incidents and implementing of appropriate corrective actions in order to prevent them from being repeated.

All the plant personnel with upper or line management responsibilities and, according to the NPP operating manual, having responsibilities in the organisation of the response to severe accidents shall, in addition to the training pertaining to their job positions, receive training on accident management beyond the design basis.

The training programme must be continuously evaluated and improved, as contemplated in the systematic training design. Any modifications to it (changes in the regulations or standards, NPP modifications, lessons learned from the experience of the industry, etc.) should be anticipated in order to achieve to the extent possible that the training centres and materials used in performing the function accurately reflect the current status of the plant.

Compliance with the programme requires the implementation of a system for the notification of attendance, the control of absences and recoveries, which should be supervised by the personnel responsible for training and by the immediate superior of the persons called to each training session. Absences should be justified and their repetition will imply corrective measures to prevent recurrence. Recoveries shall be made preferably by way of consecutive scheduled sessions and only in exceptional and duly justified cases will tutor led studies be used, performance in which shall receive special attention, with the advantage taken of the training being controlled in all cases by means of at least written evaluation tests. Tutor led studies shall be carried out assigning the time required for the achievement of the training objectives and shall not be scheduled simultaneously with any other task.

A system shall be established for the control of performance and personal assessment, which shall consist of the theoretical and/or practical tests considered necessary to check the acquisition or maintenance of the knowledge, capabilities and skills deduced from the systematic training design and foreseen by the objectives of the course delivered. This system shall establish the minimum punctuation required for the results obtained to be considered acceptable and shall leave auditable records of these results. The minimum punctuations will depend on the type of training action (classroom session, simulator, practical exercise) and shall be established in NPP procedures. Nevertheless, the licensee may schedule informative seminars that, given their contents, would not require the subsequent performance of performance tests. The number of hours dedicated to these seminars shall not in any case reduce compliance with the training objectives determined for each job position.

In order to maintain the training programme updated, mechanisms shall be included for the periodic checking of the knowledge, capabilities and skills acquired or maintained, which shall allow updates and corrective measures to be adopted in this programme when analysis of the results suggests that this is advisable. In this respect, the organisational units shall incorporate in their processes the systematic revision of the initial and on-going training programmes, considering the results of the assessment of their effectiveness.

The licensee of an NPP has to determine the needs for adequate performance of the training programme, and shall possess a training organisation provided with the necessary resources and facilities. Likewise, the management personnel of an NPP must guarantee that production needs do not interfere with the application of the plant training programme.

Seven. *Training*.–As has been pointed out in previous sections, the training programme of a nuclear power plant must differentiate between initial and on-going training, with the characteristics and requirements specified below.

7.1 Initial training: The licensee shall be responsible for ensuring that all persons selected to occupy a job position, either through entry incorporation or internal transfer, fulfils, prior to effectively occupying the said position, the initial training requirements identified in the systematic training design phase.

The initial training shall be applied to all those persons that are to undertake a given job position for the first time, and shall be aimed at guaranteeing their autonomy at the NPP for performance in the said position efficiently and safely and with the necessary competences. Persons not possessing such competences may not take any decisions or participate in actions or tasks affecting safety; nevertheless, they may carry out specific tasks in the job position as long as the necessary compensatory measures are foreseen and applied, in accordance with the fourth section of the present title.

The initial training programme will be made up of two fundamental parts:

a) Basic training: This will contain at least the following sections:

General description of the plant and its installations.

Security.

Health and hygiene at work and industrial safety.

Quality assurance.

Protection against fires.

Site emergency plan.

Basic and plant specific radiological protection.

Safety culture.

All of these subjects will be adapted and will be dealt with at a level of detail in keeping with the specific responsibilities and tasks assigned to each person.

The advantage taken of this general basic training shall be assessed by way of written and practical tests, and shall be documented for subsequent review. The degree of difficulty of these tests shall be adequate to guarantee the autonomy of the worker as regards safe compliance with the standards and procedures and his mobility in the areas of the NPP assigned to him.

Workers who do not pass the tests included in this general basic training may not move within the perimeter of the NPP without a qualified escort.

b) Specific training: The specific initial and on-going training delivered prior to incorporation in a job position shall be deduced directly from the results of the systematic training design, following revision and acceptance thereof by the organisational units responsible for the tasks assigned.

Specific training should be aimed at guaranteeing the competence required and specific to the job position analysed, and should include, along with the relevant technical aspects, familiarisation with the applicable procedures and regulations, quality assurance and the results of operating experience.

As regards the personnel having responsibilities and command established in the organisation of the NPP, the specific training programme shall in addition include the following subjects associated with their position in the organisation:

Leadership.

Communication.

Limits and responsibilities of command.

Motivation of personnel.

Troubleshooting and decision-making.

Applicable administrative procedures.

Safety culture and perception of risk.

7.2 On-going training: On-going training shall be applied to all persons occupying a job position in the organisation of a nuclear power plant, the aim being to maintain or improve competence in the position. The on-going training programme shall be in keeping with the specific needs of each job position, determined on the basis of the systematic training design, and shall include at least the following:

Periodical review of knowledge of the significant NPP systems relating to the job position and their design modifications.

Periodical review of the procedures applicable to the job position, including annually the changes affecting these procedures.

Review of the operating experience applicable to the job position.

Review of the theoretical fundamentals applicable to the job position.

Any subject required to ensure correct and safe performance in the job position.

Novelties and changes in any of the sections referred to in the basic training of the NPP.

The on-going training programme shall be supervised specifically by those responsible for training and by the immediate superior responsible for the job positions at which it is aimed, who shall also be responsible for supervising the degree of success and attendance of the personnel under their charge.

TITLE III

External personnel

Eight. *Qualifications*.–The licensee of an NPP must ensure that the external personnel affected by this Instruction possess qualifications adequate for the functions to be assigned to them.

The qualification of the personnel external to a nuclear power plant includes the minimum academic qualification, experience and training requirements of each worker for the performance of a job at the plant, on or off site.

The licensee of an NPP shall define the qualifications necessary for those external personnel that in the performance of their functions may directly or indirectly affect plant safety. These qualifications shall guarantee the efficient and safe performance of the functions assigned, shall be adequately documented and periodically updated and shall remain available to the CSN for inspection.

When the personnel belonging to an external company perform the functions of a job position defined in the organisation of the NPP or functions supporting the said job position, permanently or with some continuity, they shall have the same qualification requirements as the plant personnel for that same job position, or for the safety-related functions performed, respectively.

In the case of personnel belonging to an external company that are to perform a job or provide a service sporadically, the licensee shall ensure that they are duly qualified, fulfilling the same requirements and criteria as applied to the plant personnel and with the contents of the training adjusted to the functions to be performed by such sporadic personnel. If the tasks to be performed are not contemplated in the systematic training design, the necessary qualification shall be defined using as a reference the requirements and criteria applied to the plant personnel. Workers from external companies that have previously carried out sporadic work at the nuclear power plant shall have undergone the corresponding update of their capabilities prior to providing new services at the facility, the verification thereof being the responsibility of the licensee.

In the case of replacement of personnel in job positions that are permanent or entail some continuity, the licensee shall provide adequate overlap time to guarantee a practical transmission of knowledge in keeping with the level of competence required for the job

position in question. This overlap time shall be documented. In the case of replacement of a worker for a sporadic task, the licensee shall guarantee that the new worker has the qualifications necessary for the safe performance of the said task, this guarantee being documented.

Nine. *Selection of External Companies or Personnel*.–The licensee of an NPP shall be obliged to select qualified external companies or personnel and to require from them or provide to them the complementary training necessary for them to be able to perform their functions adequately during all the operating states in which the plant will be during the performance of the work to be carried out, as well as in the case of those incidents or accidents that might occur during such operational situations.

The licensee of an NPP must determine the minimum qualifications necessary for the performance of the functions of a job position in his organisation and for the performance of any task for the NPP. This information should be used in the process of selecting external companies or personnel, in order to guarantee that each job position and task assigned is performed efficiently and safely.

As the party responsible for the activities contracted and for all those carried out for the plant, the licensee must provide a duly justified guarantee that the selection of the external company or personnel has been carried out adequately, that the capability to perform the works and services contracted safely has been demonstrated and that the staff or personnel subcontracted by the external company fulfil the qualifications required by the NPP licensee. One of the necessary aspects to be taken into account by the licensee for the homologation of external companies performing work or services permanently or with some continuity is that their personnel meet the qualification requirements corresponding to the NPP staff for equivalent job positions.

In order to guarantee the adequate selection of the external company from the point of view of training, and without forgetting other necessary aspects for the homologation of external companies, the licensee shall adopt the necessary measures prior to the active incorporation of the personnel. These measures shall include at least the following:

1. Verification that the quality system of the external company contemplates adequate measures to ensure the competence of its personnel, including the initial and on-going training programmes and records necessary to demonstrate qualification.

2. Verification, prior to the beginning of activities, that the personnel assigned by the external company for the performance of the contracted activities have the necessary qualification.

3. Satisfactory completion of the segments of the basic training programme (except tasks performed under escort) and the plant specific training programme (except in the case of permanent escort by the NPP personnel) applicable for the performance of the tasks allocated to the personnel asigned by the external company, prior to the beginning of the activities.

These three measures correspond to different phases of the contracting of external personnel, the first referring to the overall assessment of the capability of the contracted company and the second and third to the qualification and training to be possessed by the workers of the external company who are to carry out the works contracted.

Ten. *Training Programmes.*–The licensee of an NPP must ensure that all the external personnel included within the scope of application of this Instruction have sufficient knowledge and skills regarding the plant and its safety functions, as well as other relevant competences, among them the management and supervision of their own obligations, with due importance given to safety.

In keeping with the above and with the previous sections, the training programme developed for the NPP staff shall be applicable to external personnel performing the functions of a job position defined in the organisation of the NPP or providing support to such functions permanently or with some continuity, including those aspects referring to initial, basic and specific training for the performance of a task or job position.

As regards sporadic external personnel, the basic initial training part of the programme shall be applicable completely, plus the specific initial training considered to be necessary for the efficient and safe performance of the tasks assigned. In this respect, the licensee shall include in his contracting clauses guaranteeing that, prior to their incorporation in the job position assigned, the workers will receive the necessary basic and specific training and that they will have sufficient experience to be able to meet the qualifications foreseen in the organisation of the NPP, the licensee being responsible for ensuring that the training received by these workers is adequate. The training process will serve as a reference in the process of verifying the qualifications of these workers. Alternatively or as a complement, the licensee may deliver those modules of the training programme that are necessary in order to guarantee compliance with all the initial training requirements, including mechanisms for the checking of the knowledge and skills acquired. An exception to the contents of this paragraph is basic training on radiological protection, for which the external company is responsible in all cases.

The on-going training programme shall be applicable to personnel performing the functions of a job position defined in the organisation of the NPP or providing support to this position permanently or with some continuity, and in the following cases:

As from the moment in which the work is expected to last more than one year.

As from one year of the rendering of the service at the NPP.

As from the moment in which the work is expected to be performed over accumulated periods of more than six months in each year for a period of three years.

As from 18 accumulated months of work, when the work is performed over accumulated periods of more than six months in each year for a period of three years.

The treatment of the on-going training programme shall be the same as in the case of the plant personnel, including training on applicable operating experience, procedural changes and design modifications. In this case, the system of notifications of attendance, control of absences and recoveries, along with the mechanisms for the periodic checking of the know-how and skills acquired or maintained, including the success and assessment control system, shall be the same as for the NPP personnel.

Measures shall be adopted to check that the workers to whom a course is delivered know and use the language to be used, directly or via audiovisual resources, with sufficient fluency. In any case, the licensee shall assign tasks in keeping with the degree of written and verbal understanding of the official languages used at the NPP.

Eleven. *Training*.–As has been defined in previous sections, the training programme of a nuclear power plant must differentiate between initial and on-going training, with the characteristics and requirements specified below.

11.1 Initial training: The licensee shall be responsible for ensuring that all persons selected for the performance of tasks at the facility meet the initial training requirements prior to their effective incorporation.

The initial training shall be applied to all those persons that are to undertake a given job position or perform an assigned task for the first time, and shall be aimed at guaranteeing their autonomy at the NPP for performance in the said position efficiently and safely and with the necessary competences. Persons not possessing such competences may not participate in actions or tasks affecting safety; nevertheless, they may, under supervision, carry out specific tasks for which they are qualified, in accordance with the definition of qualification adopted by the licensee.

The initial training programme will be made up of two parts:

a) Basic training: This will contain at least the following sections:

General description of the plant and its installations.

Physical Protection.

Health and hygiene at work and industrial safety.

Quality assurance.

Protection against fires.

Site emergency plan.

Basic and plant specific radiological protection.

Safety culture.

All of these subjects will be adapted and will be dealt with at a level of detail in keeping with the specific responsibilities and tasks assigned to each person.

In this respect, the external personnel shall receive the same treatment as the plant personnel, except as regards radiological protection, which shall in all cases be the responsibility of the external company. Nevertheless, this basic initial training, not specific to the facility, may be validated in whole or in part, as long as certificates of successful performance in the validated subjects are submitted to the licensee and the necessary modules specific to the plant for which access is requested are delivered.

Workers who do not pass the tests included in this general basic training may not move within the perimeter of the NPP without a qualified escort.

b) Specific training: The specific initial and on-going training delivered prior to incorporation in a job position or performance of a task shall be deduced directly from the results of the systematic training design, to the extent applicable to the tasks to be performed, following revision and acceptance thereof by the organisational units responsible for the tasks assigned.

Specific training should be aimed at guaranteeing the competence required and specific to the job position or task assigned, and should include, along with the relevant technical aspects, familiarisation with the applicable procedures and regulations, quality assurance and the results of operating experience, in all cases proportional to the functions and responsibilities assigned.

External personnel who are to carry out the functions of a job position defined in the organisation of the NPP or to provide support for such position permanently or with some continuity shall be subject to this part of the training programme in the same way as the plant personnel, when at the moment of their contracting it is foreseen that their work will last longer than one year or will be carried out over accumulated periods of more than six months per year over a period of three years. Nevertheless, this training may be validated in whole or in part, as long as certificates of successful performance in the validated subjects are submitted to the licensee.

External personnel who are to render services sporadically shall have specific training covering all the safety-related aspects of the tasks to be performed and guaranteeing the efficient and safe performance of the tasks and responsibilities assigned. The specific training programme shall constitute a reference for the verification of their capabilities.

11.2 On-going training: On-going training shall be applied to all persons performing the functions corresponding to a job position in the organisation of a nuclear power plant, or providing support for such position permanently or with some continuity, the aim being to maintain or improve competence in the position. The on-going training programme shall be in keeping with the specific needs of each job position or each permanent task assigned, determined on the basis of the systematic training design, and shall include at least the following:

Periodical review of knowledge of the significant NPP systems relating to the job position.

Periodical review of the procedures applicable to the job position, including annually the changes affecting these procedures.

Review of the operating experience applicable to the job position.

Review of the fundamentals applicable to the job position.

Any other subject required to ensure correct and safe performance in the job position.

Novelties and changes in any of the sections referred to in the basic training of the NPP.

The on-going training programme shall be supervised specifically by those responsible for training and by the immediate superior responsible for the job positions or tasks assigned, who shall also be responsible for supervising the degree of success and attendance of the personnel under their charge.

The personnel of external companies that render services at the NPP permanently or with some continuity shall be subject to the on-going training programme under the same conditions as the plant personnel.

In the case of external personnel who have previously provided sporadic services at the NPP, the licensee shall ensure that they have received the updates necessary to guarantee the maintenance of their capabilities.

TITLE IV

Other requirements

Twelve. *Training Staff and Facilities Requirements*.–Training instructors shall be technically competent and possess the necessary teaching skills in the areas of knowledge for which they are responsible.

Specifically, the training staff delivering the training courses shall fulfil at least the following requirements:

Holding of academic qualifications in keeping with the speciality taught and the groups at which the training is aimed.

Accreditation of having attended teacher training courses or capability to accredit teaching or professional experience in the field for which training is to be delivered.

Accreditation of recognition as a theoretical and/or practical expert in the subject to be delivered, and periodic updating.

The part of qualification corresponding to on-the-job training shall in all cases be supervised by personnel highly experienced in the job position in question, which shall be accredited by way of the pertinent documentation.

The licensee of an NPP is responsible for providing the facilities necessary and adequate for the delivery of the classes (classroom and practical) and for tutor led study. Likewise, he shall be responsible for providing the training material necessary and appropriate for better understanding of the plant and its systems. These functions may be delegated in an external company.

Thirteen. *Documentation and Archives*.–The licensee of an NPP shall have appropriate documentation for compliance with the present Instruction and shall draw up and keep the records required to provide evidence of such compliance, including at least the following aspects:

Analysis of the job positions affected by this Instruction and systematic design of the training to the extent required for its efficient application to the NPP organisation.

Definition of the qualifications required for each job position affected by this Instruction.

On-going improvement and control mechanisms to ensure that the qualifications defined are those that best suit the personnel at which they are aimed.

Qualifications of current personnel and medical aptitude certificates.

Evaluations of the qualifications of external companies and personnel.

Identification, at job position level, of deviations occurring with respect to the definition of the necessary qualifications. Noting down of the exceptions accepted and their justification, along with the corrective measures adopted (tasks under supervision, training courses, training activities, etc.).

Control of replacements and overlaps in the different job positions.

Detailed programme of initial and on-going training.

Controls required regarding delivery of the training programmes: courses, course schedule, location, dates, associated texts, teaching staff and their qualification, rate of success evaluations and tests with pass marks, control of attendance and recoveries, even when the subjects have been delivered by means of tutor led study.

Fourteen. *Exemptions to this Instruction*.–The licensees of activities regulated by this Instruction who accredit the impossibility of meeting any of its requirements shall justify this adequately before the Nuclear Safety Council, incorporating the safety analyses and relevant documents on which their allegations are based and the alternative manner in which the criteria of nuclear safety and radiological protection will be respected in each case.

Fifteen. *Infringements and Sanctions*.– This Instruction is binding in accordance with the provisions of Article 2 a) of the Law 15/1980, dated 22 April, Establishing the Nuclear Safety Council. The failure to comply with the provisions of this Instruction on security shall suppose a infraction of a regulatory requirement and shall therefore give rise to what is established in Articles 91 to 95, both inclusive, of Law 25/1964 on Nuclear Energy.

Sixteen. *Transitory provision*.–The licensees of the NPP's shall have twelve months as from publication in the «Official State Gazette» to adapt their practices and procedures to the requirements of the present Instruction, with the exception of the obligation that all the plant or external personnel have the competences defined, which shall enter into force after twenty-four months.

Seventeen. *Derogatory provision*.–All provisions of equal or lower rank opposing the provisions of the present Instruction are hereby left null and void.

Eighteen. *Single final provision*.–The present Instruction shall enter into force on the day following its publication in the Official State Gazette.

Madrid, February 28th 2007.–The President of the Nuclear Safety Council, Carmen Martínez Ten.