



## JRC TECHNICAL REPORTS

# Nuclear Job Taxonomy Final Report

*A competence-oriented  
classification of jobs in  
nuclear power plants*

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## **Abstract**

The various European initiatives for the modernisation of the education and training (E&T) can become effective tools to face the potential shortage of human resources in the nuclear energy sector. The implementation of these initiatives facilitates the mobility of learners and professionals and the recognition of informal learning. They also support flexible customised lifelong learning and qualifications focused in an integral competence concept. Incorporating these components into the nuclear E&T contribute to ensure the availability of nuclear professionals in sufficient numbers and holding the required competences.

The Nuclear Job Taxonomy (NJT) is a classification of jobs in nuclear power plants. It sets the focus in the requirements for each position defined in terms of knowledge, skills and competence (attitudes). It aims to facilitate the design of modular, work-oriented and customised qualifications in the nuclear energy sector.

# 1 Introduction

The European Human Resources Observatory for the Nuclear Sector (EHRO-N) was established in 2009 to analyse the situation of the human resources of the nuclear energy sector in Europe. The uncertainties of the political decisions as well as the always controversial views of the public were considered risk factors for the availability of a competent labour force to operate the nuclear facilities, especially after the Fukushima accident. Initiating a career in the nuclear industry had become less appealing for young engineers and students. But, in contrast, some member states are still undertaking the construction of new facilities, and the operation and decommissioning of the existing ones will require a considerable labour force for decades in any possible scenario.

The offer of higher education studies in nuclear engineering in Europe is somehow fragmented and the coverage of the different areas of knowledge, irregular. Moreover, bachelor and undergraduate programs leading to technician level careers are virtually non-existent in most countries. Therefore the training of nuclear professionals relies strongly on company-based programs, in-the-job learning and postgraduate courses. And often the adaptation of professionals coming from other sectors and disciplines becomes essential to ensure an appropriate number of nuclear professionals. Furthermore, the increasing safety and security demands require the addition of key attitudes and personal abilities to the technical capability of the staff.

In this context, the incorporation of the new methods in education and training is particularly necessary for the nuclear energy sector. Flexible, cumulative and customised learning pathways and cross-border recognition of qualifications are valuable assets to build up a sufficient workforce equipped with the appropriate competence and ensure the safe operation of the nuclear facilities in the future.

The preparation of a Nuclear Job Taxonomy was undertaken in 2011. It is a classification of the job profiles present in the three life-cycle phases of the nuclear power plants (NPP). They are described by their relevant functions and job requirements, providing a concise snapshot of each position that is applicable in most contexts and easily understandable for any potential user. Those job requirements are meant to be the basic component for the design of learning processes tailored for the specific positions and employees.

This report presents the finished version of the Nuclear Job Taxonomy (NJT) and a description of the methodology and definitions concerning its preparation.

## 2 Objectives and scope

Since the early 2000's, several institutions warned about the risk of missing the necessary competence needed to safely operate the nuclear power facilities in Europe. The report *Nuclear Education and Training: From Concern to Capability* (OECD-NEA, 2012), while setting the spotlight in the aforementioned risk of scarcity of human resources, offered a first example of nuclear job taxonomy as base to define qualifications. Taking this classification as starting point, the Joint Research Centre (JRC), upon request of DG RTD, initiated in 2011 the preparation of a comprehensive job taxonomy that could support the different undertakings across Europe related to nuclear education and training. This classification should identify the typical job positions in nuclear power plants as well as describe the competence requirements for each of them.

The job taxonomy covers the typical job positions in a nuclear power plant during its three life cycle phases: design and construction; operation; and decommissioning. It does not include related areas not carried out in NPP premises such as research, regulatory activities and fuel and waste treatment or nuclear occupations not related with electricity production.

The NJT has been aligned with the recent European initiatives in education and training. Specifically, it has the purpose of helping to integrate into the nuclear qualifications the European Credit System for Vocational Education and Training (ECVET) (EUROPEAN PARLIAMENT. COUNCIL, 2009) and the European Qualifications Framework (EQF) (EUROPEAN PARLIAMENT. COUNCIL, 2008)<sup>1 2</sup>.

Incorporating these recommendations into the NJT implies several potential benefits for the nuclear education and training and, consequently, for the appropriate staffing of nuclear facilities:

- Establishes a common framework with profiles and job requirements that can be identified and understood across borders and in different organizational contexts.
- Provides an objective and measurable gradation for the competence level by means of the EQF descriptors.
- Supports the creation of individualised learning pathways, particularly useful for the *nuclearization*<sup>3</sup> of professionals.
- Proposes tools for the accumulation and recognition of learning achievements among different organizations and countries, thus fostering mobility of learners and workers.
- Incorporates modern pedagogical approaches, adding to the conceptual learning, functional competence and attitude<sup>4</sup>.

The main target users of the taxonomy are the Euratom projects (indirect actions) and industry and academia platforms involved in the design of qualifications and training programs. The identification of typical jobs and their corresponding competence requirements makes the comparison and recognition of educational and professional credentials easier; and it also promotes a harmonised approach to the definition, content and assessment of qualification for NPP occupations.

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<sup>1</sup> Although ECVET and EQF have been the most influential in the preparation of the taxonomy, the NJT is also aligned with other initiatives and recommendations such as The Europass documents (Cedefop, 2017), the recommendation on the validation of non-formal and informal learning (COUNCIL, 2012), the EQAVET (EUROPEAN PARLIAMENT. COUNCIL, 2009), as well as the principles of the Bologna Process.

<sup>2</sup> On April 2017 a new version of the EQF Recommendation was released (COUNCIL, 2017).

<sup>3</sup> The term *nuclearization* it has become relatively common to refer the adaptation, by means of specific training, of professionals coming from other sectors to qualify them for nuclear jobs.

<sup>4</sup> See 4.3 *Competence typology*

### 3 Methodology

#### 3.1 The Job Taxonomy Workshops

The NJT was prepared mainly by means of the organization of six dedicated technical workshops, organised and coordinated by the JRC. The participants were experts selected considering their background in nuclear E&T and/or experience in nuclear power plant operations, as well as seeking a balanced representation of countries and types of organization. The figures below depict the origin of the experts that contributed to the workshops regarding country and main field of activity of their home organizations.

Figure 1. Participation per type of organization

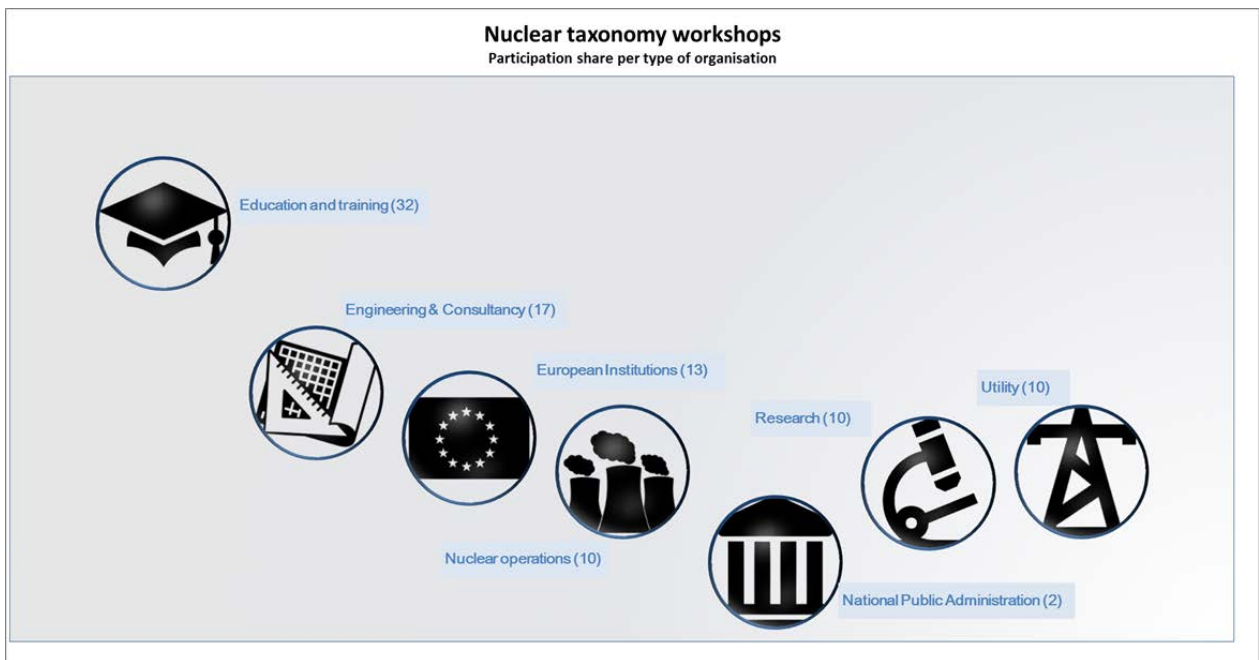
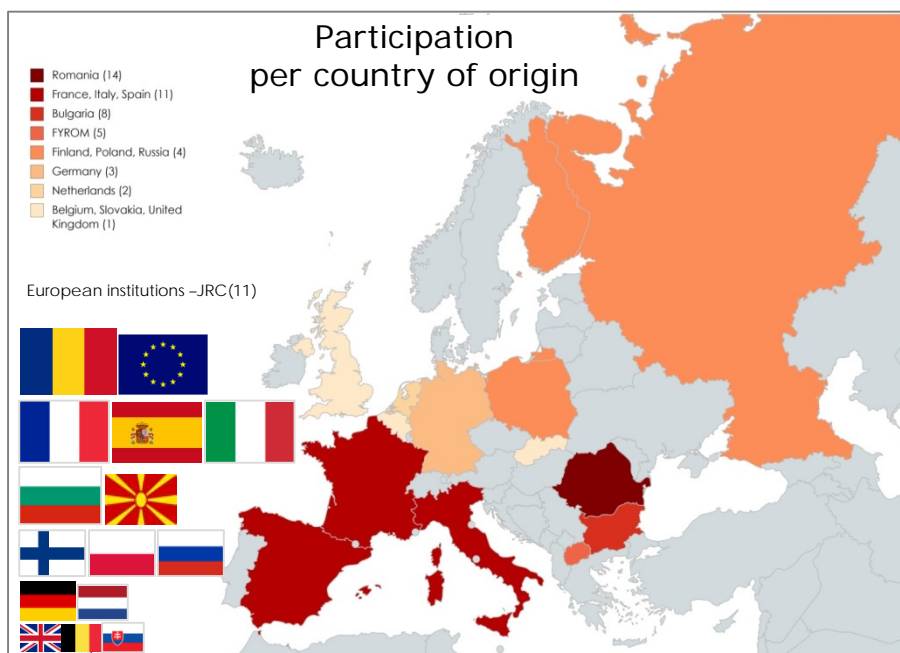


Figure 2. Participation at the NJT workshops per country of origin





During the initial workshops the focus was set mostly in defining concepts, definitions, and methodology, and in drafting a first sketch of the main work documents. As those basic aspects became gradually consolidated, the preparation of the job profiles increased its share in the discussions. Nonetheless, general principles, as well as the list of jobs and the documentation, were reviewed in every workshop, mostly during the plenary sessions that usually took place on the last and first days.

The rate of recurrence in the participation for successive workshops allowed consolidating the progress, while letting regular new input from first-time contributors.

The activities, discussions and conclusions of each workshop were reported and published in the EHRO-N website <sup>5</sup>.

### **3.2 Workflow for the preparation of the job profiles**

The preparation of the job profiles was structured as a three-step process, consisting of individual draft and review –made by two different experts– followed by group review. This work pattern entailed the accomplishment of nearly four hundred and fifty single tasks, for which the time available during the workshops became insufficient.

In order to speed up the progress, starting from the third workshop the experts were divided into two or three groups working in parallel sessions. Additionally, they were requested to carry out some preliminary individual tasks. This preparatory work, together with tasks assigned to external consultants, allowed the workshops to be devoted only to group review of the profiles, in addition to other subjects such as the revision of the list of jobs, the standardization of the terminology and the discussion on future evolvments.

Finally, when the group review was completed for all the profiles an overall homogenization was carried out. The jobs were grouped in "clusters" by functional similarity and each job was attributed a set of competence items relevant to the cluster (see 4.3).

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<sup>5</sup> <http://ehron.jrc.ec.europa.eu/job-taxonomy>

## 4 Concepts and principles

### 4.1 Sources and related classifications

Among the diverse sources used as input for the preparation of the taxonomy, some can be mentioned as the most significant examples of classification and definition of jobs and indexes for fields of competence:

- The taxonomy in the Appendix 4 of the already mentioned report Nuclear Education and Training: From Concern to Capability (OECD-NEA, 2012)
- The Cogent functional areas and job contexts in decommissioning<sup>6</sup>
- The European Skills, Competences, Qualifications and Occupations (ESCO) <sup>7</sup>
- International Standard Classification of Occupations (ISCO-08) (International Labour Organization (ILO), 2016)
- The UNESCO nomenclature for fields of science and technology (United Nations Educational, Scientific and Cultural Organization (United Nations Educational, Scientific and Cultural Organization (UNESCO), 1988)<sup>8</sup>
- The European Dictionary of Skills and Competences (DISCO) (3s Unternehmensberatung GmbH, 2012)

Although the division of jobs by life-cycle phase was maintained, the Cogent job contexts showed the convenience of overlaying a functional classification to facilitate the creation of a workable number of qualifications to cover all the jobs.

The indexation of the UNESCO nomenclature was applied and extended for the progressive development of the catalogue of competences (see 4.5).

### 4.2 Description of the job profiles

The primary purpose of the taxonomy is helping in the design of job-oriented qualifications. For that reason, the detailed definition of the job requirements, derived from the identification of the main functions of each job, was the central part of the preparation of the profiles.

The process is represented in the figure below.

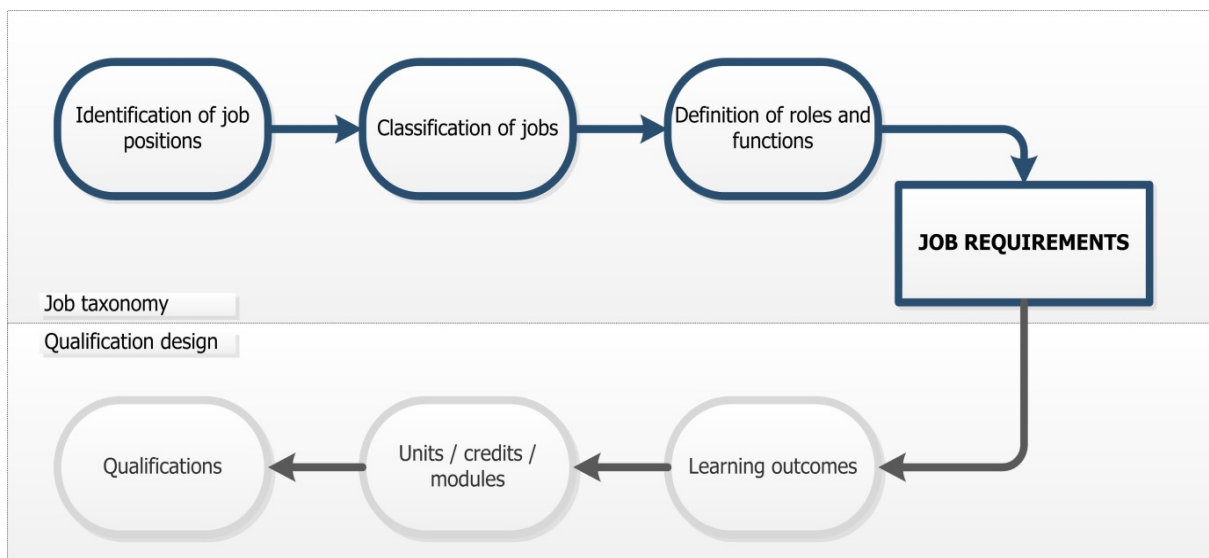
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<sup>6</sup> The Cogent job profiles, which were retrieved from <http://www.cogent-ssc.com/>, are not available online at the moment of writing this report.

<sup>7</sup> <https://ec.europa.eu/esco/portal/home>

<sup>8</sup> A digital version of the UNESCO nomenclature was retrieved from <http://skos.um.es/unesco6/>

**Figure 3.** From jobs to qualifications



The way to define the job requirements was developed in parallel with the first stages of the preparation of the taxonomy. The structure of the profiles was adapted following the conclusions of the discussions during the workshops, seeking descriptions as concise, simple and unambiguous as possible. Additionally, some brief guidelines were added to each field to facilitate a convergence in the approach of all the contributors. The final form is reflected in the guided template below, which is self-descriptive regarding the elements contained in a job profile.

**Table 1.** Job profile guided template

Ref.	Job Title	Occupational Cat.
<b>0.00.00</b>	<b>Job Title (as in the list of jobs)</b>	Professional Technician Craft
Phase / Area	Alternate job title(s) – specialisations	Functional Cat.
NPP D / O / D	Other denominations of the same job. Specializations.	Management Specialist Executive
XXXXX		
Role / Functions		
Areas of responsibility, scope of competences (1-2 sentences)		
<ul style="list-style-type: none"> <li>List of tasks/functions</li> </ul>		
<b>JOB REQUIREMENTS</b>		
<p>The items under "job requirements" (KSCs) should not include description of the degree of expertise or proficiency, since this is given by the <b>EQF level</b> on the right column, which is assigned in accordance with the descriptors –Terms as <i>Basic, Advanced, Good command of</i> should not be present.</p> <p>To improve clarity and facilitate the progress, some items of knowledge and skills can be grouped, provided they belong to the same field and the EQF level applicable is the same for all of them.</p> <p>Example:</p> <p>- <i>General management: budget management, business improvement, financial management, human resources , QSE, planning, monitoring and evaluation, risk assessment</i></p> <p>The goal is keeping the definitions as <b>concise</b> as possible. It is advised to <b>avoid words redundant</b> with the nature of the items, such as "understanding" –for knowledge- or "ability" –for skill.</p>		

KNOWLEDGE (Cognitive competence)		EQF level (1-8)
<p>Items (included or not in the KSC catalogue) referring to <b>concepts and facts</b> that should be <b>distinguished, identified and/or understood</b>; similar to the contents of an academic syllabus. Examples:</p> <ul style="list-style-type: none"> <li>- <i>Sensors, measurement and signal processing</i></li> <li>- <i>Finance and administration – budget management</i></li> <li>- <i>Physics – material science – mechanical vibrations</i></li> </ul>		
SKILLS (Technical and functional competence)		EQF level (1-8)
<p>Items (included or not in the KSC catalogue) referred to the <b>ability to carry out tasks – physical or intellectual-</b> resulting in a <b>concrete outcome</b>. Examples:</p> <ul style="list-style-type: none"> <li>- <i>Monitor and report construction costs status during construction period.</i></li> <li>- <i>Specify non-destructive testing instructions for metallic samples.</i></li> <li>- <i>Check and calibrate dose measurement instruments.</i></li> </ul> <p>The skills are typically formulated by a <b>verb</b> (or <b>action word</b>) followed by an object, and may also explicitly mention the resources or tools to employ and the purpose or expected result. Examples:</p> <ul style="list-style-type: none"> <li>- <i>Produce engineering drawings using computer aided techniques.</i></li> <li>- <i>Draft technical specifications for the design of mechanical components.</i></li> </ul> <p>Tip: The list of verbs included in the excel KSC file may help to define skills, by instance, with their combination with knowledge items.</p>		
COMPETENCE (Attitude; behavioural and personal competence)		EQF level (1-8)
<p><b>Personal and interpersonal attributes</b> (included or not in the KSC catalogue) required for the function, but which could be also applied in diverse work or social situations. Examples:</p> <ul style="list-style-type: none"> <li>- <i>Negotiation skills</i></li> <li>- <i>Team working</i></li> </ul> <p>Most of the items in the list "competence" are in general desirable attributes for every individual; nevertheless those that are crucial for the performance in the concerned position should be identified and inserted up to a limited number for each profile (suggested not more than <b>5 – 8 items</b>).</p>		
NOTES		
Optional, when necessary to clarify some part of the content.		
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The entry qualification level, present in the first versions of the template, was replaced by the functional and occupational categorization, considered more factual and adaptable to different national and organisational contexts.

Nonetheless, the job positions are indirectly related to academic level by means of the EQF levels. Following the descriptors in the EQF Recommendation, each competence item in the profiles is marked with the corresponding figure. This is not related with the level of the qualification associated to that job position, but with the actual level of proficiency for that specific requirement necessary to perform the functions associated to the job.

### 4.3 The job titles and its categorization

The discussions on the list of jobs and job titles and the definition of the profiles showed very soon the differences in the naming of positions for different countries and organizations. At the same time, levels and scopes of responsibility were found to be distributed differently in each context. The list of jobs therefore had to find a compromise for being intelligible for a wide and diverse scope of users. The jobs in the taxonomy, without replicating any specific NPP structure, should be recognisable when compared against real life organisations.

For this purpose, the contributing experts developed a simple meta-classification to establish a dual labelling for the jobs based in their occupational and functional categories, together with a standardised table for job titles, based in this labelling.

This categories and names are shown in the tables below.

**Table 2.** Fuctional and occupational categories

<b>Functional Categories</b>		
MANAGEMENT		Administrative or organisational functions.
SPECIALIST		Technical specialised functions.
EXECUTIVE		Support functions of clerical or technical nature.
<b>Occupational Categories</b>		
ADMINISTRATOR	<i>ISCED 6-8</i>	Leadership of multidisciplinary units or organisations, directive functions.
PROFESSIONAL	<i>ISCED 5-8</i>	Highly specialised qualification and/or leadership of departments of sectors.
TECHNICIAN	<i>ISCED 3-5</i>	Specialised qualification; possible leadership of reduced teams.
CRAFT	<i>ISCED 2-3</i>	Semi-skilled or non-skilled.

**Table 3.** Categories and job titles

Occupational Cat.↓	Management	Specialist	Executive	←Functional Cat.
<b>Professional</b>	Manager Supervisor	Engineer Expert	Operator	<b>Job titles</b>
<b>Technician</b>	Officer Foremen	Technician Specialist	Operator Fitter	
<b>Craft</b>		Welder Craftsman	Operative Worker	

The category *Administrator* is not used in the taxonomy. Although this category can be distinctly recognised within an NPP organigram, the difference with respect to the professional category was considered to be based mainly on hierarchical and organizational criteria, rather than on a higher level of qualification or distinct skills.

An organization structure model was prepared too, but its implementation into a generic NJT was found unfeasible, although it might be useful to link the taxonomy to specific entities.

Although the levels of the International Standard Classification of Education (ISCED) (UNESCO Institute for Statistics, 2012) appear next to the occupational categories, they are merely informative. As explained in 4.2 they are not part of the job profiles. The equivalent EQF levels are however an essential part of the taxonomy, but they qualify each specific competence and not the job profile.

The functional/occupational categorization was used for the final tasks of the taxonomy. From these categories, the jobs were grouped in "clusters" sharing a similar set of requirements. The allocation of these common requirements provided consistency in content as well as homogenization in the vocabulary among the job descriptions.

#### 4.4 Competence typology

At a very early stage, the way to articulate the job requirements was ascertained as the main distinctive feature of the nuclear taxonomy. In order to make them helpful for the subsequent production of learning outcomes, the formulation of the job requirements should bear in mind a comprehensive idea of competence, what meant encompassing aspects beyond the demonstration of knowledge in certain subjects.

However, "competence" is a concept subject to different interpretations, which can in turn be verbalized in diverse ways. For the job taxonomy, the competence descriptors in the European Qualifications Framework were a primary reference. Furthermore, a more thorough and comprehensive understanding of the notion and the relevant terminology was achieved from complementary sources. Especially relevant for this purpose was the applicable documentation issued by Cedefop (J. Winterton, 2006), (Cedefop, 2014) and by the International Atomic Energy Agency (IAEA) (IAEA, 2013), (IAEA, 2006).

The competence typology described in these sources is equivalent to certain extend and mostly compatible. There are slight differences in terminology and some significant variants in the interpretation and reach of the behavioural and personal aspects, and the scope of the term "competence" itself.

The definitions below can illustrate those variations in the definition of competence and its components:

- (a) *Competence is the combination of knowledge, skills and attitudes (KSAs) needed by a person to perform a particular job. All three are important and interrelate.*
- (b) *Knowledge is familiarity with something and can include facts, descriptions and information acquired through experience or education. It can refer to both the theoretical and the practical understanding of a subject.*
- (c) *Skill is the learned capacity to perform a task to a specified standard.*
- (d) *Attitude is the feelings, opinions, ways of thinking, perceptions, values, behaviour and interests of an individual which allow a job or task to be undertaken to the best ability of that individual. Attitudes cannot wholly be taught directly and are partly a consequence of the organizational culture.*

(IAEA, 2013)

*Competence: ability to apply learning outcomes adequately in a defined context (education, work, personal or professional development).*

*or*

*ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development.*

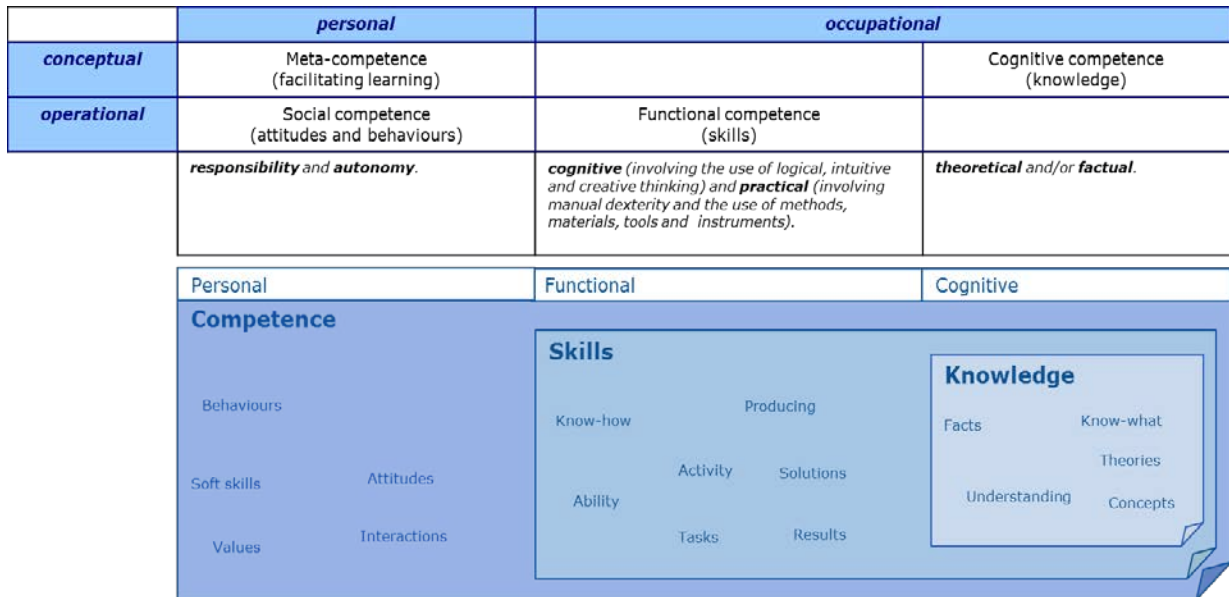
(Cedefop, 2014)

- (g) *'knowledge' means the outcome of the assimilation of information through learning. Knowledge is the body of facts, principles, theories and practices that is related to a field of work or study. In the context of the European Qualifications Framework, knowledge is described as theoretical and/or factual;*
- (h) *'skills' means the ability to apply knowledge and use know-how to complete tasks and solve problems. In the context of the European Qualifications Framework, skills are described as cognitive (involving the use of logical, intuitive and creative thinking) or practical (involving manual dexterity and the use of methods, materials, tools and instruments);*
- (i) *'competence' means the proven ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development. In the context of the European Qualifications Framework, competence is described in terms of responsibility and autonomy.*

(EUROPEAN PARLIAMENT. COUNCIL, 2008)

These definitions inherit to some extent the cognitive, psychomotor and affective domains envisaged by the Bloom's taxonomy and its subsequent evolvments, with a more functional dimension introduced to highlight applied and practical skills. From this, "competence" stands out as a holistic notion overlying capabilities of different nature as cognitive, functional and personal, as reflected in the figure below:

**Figure 4.** Competence typology



Those cognitive, functional and personal domains cannot actually work separately in real-life educational and professional environments and learning processes. However a separate notation of knowledge, skills and attitude is more descriptive and can help better to identify and formulate learning outcomes.

In May 2017 a new Recommendation of the Council on the EQF (COUNCIL, 2017) has modified the level descriptors. The term "competence" is replaced by "responsibility and autonomy", setting the focus of the behavioural component in aspects more directly linked with professional performance. This modification can facilitate somehow the use of the EQF descriptors. During the process of preparing the taxonomy and in the testing of qualification design, personal competence (attitude) has proved hard to define, measure and assess. On the other hand, the new definition of the descriptors can bring the EQF less in line with the recent approaches in nuclear training, where the attitude component has increased its weight.

#### 4.5 The competence catalogue

In the first workshop for the preparation of the taxonomy a sample list of competence items was provided among the work documents to support the work of the experts. From this point on, and following the recommendations resulting from this and successive workshops, the list was enlarged and structured, adding also action verbs that could be helpful to articulate skills and functions. By the end of the taxonomy the competence catalogue contains tables with nearly three thousand entries. In the case of the knowledge and skills tables, they are classified following fields of science and technology of the UNESCO nomenclature, with the addition of some registers and cascaded down to one more level of sub-categories.

Although the competence catalogue can be considered as a "by-product" created to help in the preparation of the job taxonomy, it can also be useful as a tool for assembling qualifications, learning pathways and job profiles.



## 4.6 Use of the EQF level descriptors

The Recommendation on the European Qualifications Framework (EUROPEAN PARLIAMENT. COUNCIL, 2008)<sup>9</sup> proposed a common framework to make the qualifications transparent, comparable and transferable throughout the European national systems. It provides the principles guiding the articulation between competence, learning outcomes and qualifications.

The definitions of the key concepts and namely the EQF level descriptors have been the cornerstone for the preparation of the NJT. By means of the descriptors, the job requirements –and by inference the job positions- receive the necessary reference to make them explicit and measurable. Furthermore, they also help to keep the expression of competence items brief and concise: the same wording can be used throughout a wide range of proficiency echelons. The definition of the competence does not need any additional qualifier related to the level of proficiency, since this is provided by the EQF level.

From the perspective of the taxonomy users, the descriptors provide information that facilitates the translation of the job requirements into learning outcomes, and they allow correspondence between lifelong learning achievements and the qualifications of the higher education common framework<sup>10</sup>.

As mentioned above, the EQF levels in the NJT were used to rate each single job requirement. This can seem conflicting with the fact that, in most education systems, EQF levels –or equivalent marks- are allocated to qualifications rather than to units or modules. However, the job profiles have the primary goal of supplying the components for the preparation of learning outcomes used in diverse different contexts: individual learning pathways, recognition of non-formal learning, design of ad-hoc training, etc. For this purpose, the allocation of levels per single competence item is more helpful and more realistic in targeting the actual demands of a job.

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<sup>9</sup> The Recommendation of 2008 has been repealed by a new one in June 2017 (COUNCIL, 2017). The implementation of the new EQF recommendation would require a modification in the definition of the job requirements, given the substantial difference in the definition of competence and the introduction of autonomy and responsibility in the descriptors.

<sup>10</sup> The EQF level descriptors are compatible and consistent for those established for the Bologna qualifications (Bologna Working Group on Qualifications Frameworks, 2005).

## 5 Conclusions

The nuclear job taxonomy was undertaken to provide a tool for organizations and consortia developing activities on nuclear education and training. It aims to facilitate the integration of the European recommendations, which incorporate the recent learning approaches while providing a framework to promote transboundary transparency.

The NJT was consequently devised as a set of data that, being exhaustive and detailed, was built based on simple straightforward and understandable elements which can be picked up in a flexible way to formulate learning outcomes. Zooming out the view, jobs and job categories can help in defining the scope of nuclear qualifications.

Initial exercises to apply the NJT to the design of qualifications have been already carried out during two seminars organised by the JRC. The progress in this direction could be more effective with the help of some guidelines giving orientation on the creation of competence-based qualifications, with special attention to the way of formulating learning outcomes closely connected with realistic job requirements.

The NJT has been strongly influenced by the principles of the ECVET, and it has been quite singular in the attempt to apply those principles to higher levels of the EQF. The *skills* concept, more often used to refer the ability to carry out tasks involving some type of manual dexterity, had to be related also with capacity to achieve mostly intellectual production; and the design of qualifications based on learning outcomes becomes particularly arduous when it concerns more complex and extensive contents.

The recently issued new Recommendation on the European Qualifications Framework (COUNCIL, 2017) makes highly advisable the realignment in the job requirements and the competence formulation. Additionally, structuring the nuclear job taxonomy and the competence catalogue in digital databases might make them much more user friendly for potential users.

## References

- 3s Unternehmensberatung GmbH, 2012. Retrieved 10 01, 2017, from European Dictionary of Skills and Competences (DISCO): [http://disco-tools.eu/disco2\\_portal/](http://disco-tools.eu/disco2_portal/)
- Bologna Working Group on Qualifications Frameworks, 2005, February. A Framework for Qualifications of the European Higher Education Area. Copenhagen: Ministry of Science, Technology and Innovation.
- Cedefop, 2014. *Terminology of European education and training policy (Second Edition)*. Luxembourg: Publications office of the European Union.
- Cedefop, 2017. Retrieved from Europass: <http://europass.cedefop.europa.eu/>
- COUNCIL, 2012, December 20. Council Recommendation on the validation of non formal and informal training (2012/C 398/01). Official Journal of the European Union.
- COUNCIL, 2017, June 15. Council Recommendation of 22 May 2017 on the European Qualifications Framework (2017/C 189/03). Official Journal of the European Union.
- European Commission, Cedefop, 2014, 08 06. *ESCO*. Retrieved June 2017, from <https://ec.europa.eu/esco/>
- EUROPEAN PARLIAMENT. COUNCIL, 2008, May 6. Recommendation of the European Parliament and of the Council of 23 April 2008 on the establishment of the European Qualifications Framework for lifelong learning (2008/C 111/01). Official Journal of the European Union.
- EUROPEAN PARLIAMENT. COUNCIL, 2009, July 8. Recommendation of the European Parliament and the Council on the establishment of a European Quality Assurance Reference Framework for Vocational Education and Training (2009/C 155/01). Official Journal of the European Union.
- EUROPEAN PARLIAMENT. COUNCIL, 2009, July 8. Recommendation of the European Parliament and of the Council on the establishment of a European Credit System for Vocational Education and Training (ECVET) (2009/C 155/02). Official Journal of the European Union.
- IAEA, 2006. *Competency Assessments for Nuclear Industry Personnel*. Vienna: International Atomic Energy Agency.
- IAEA, 2013. *Managing Regulatory Body Competence*. Vienna: INTERNATIONAL ATOMIC ENERGY AGENCY.
- International Labour Organization (ILO), 2016, 06 21. *ISCO - International Standards Classification of Occupations*. Retrieved June 2017, from ILO: <http://www.ilo.org/public/english/bureau/stat/isco/isco08/>
- J. Winterton, F. D.-L., 2006. *Typology of knowledge, skills and competences: clarification of the concept and prototype*. Luxembourg: Office for Official Publications of the European Communities.
- OECD-NEA, 2012. *Nuclear Education and Training: From Concern to Capability*. Paris: OECD.
- Pastor Sánchez, J. (n.d.). *UNESCO nomenclature for fields of science and technology*. Retrieved Septiembre 2017, from Simple Knowledge Organization System (SKOS): <http://skos.um.es/unesco6/>
- UNESCO Institute for Statistics, 2012. *International Standard Classification of Education ISCED 2011*. Montreal: UNESCO Institute for Statistics (United Nations).

United Nations Educational, Scientific and Cultural Organization (UNESCO), 1988,  
December 5. *Unesco Archives*. Retrieved from  
<http://unesdoc.unesco.org/images/0008/000829/082946eb.pdf>

## List of abbreviations and definitions

Cedefop	Centre Européen pour le Développement de la Formation Professionnelle
DG RTD	Directorate-General for Research & Innovation (European Commission)
DISCO	European Dictionary of Skills and Competences
E&T	Education and training
ECVET	European Credit System for Vocational Education and Training
EHRO-N	European Human Resources Observatory for the Nuclear Energy Sector
EQAVET	European quality assurance in vocational education and training
EQF	European Qualifications Framework
ESCO	European Skills, Competences, Qualifications and Occupations
IAEA	International Atomic Energy Agency
ILO	International Labour Organization
ISCED	International Standard Classification of Education
DG JRC	Directorate-General Joint Research Centre
KSC	Knowledge, skills and competence
NJT	Nuclear Job Taxonomy
NPP	Nuclear power plant
OECD-NEA	Organisation for Economic Cooperation and Development – Nuclear Energy Agency
UNESCO	United Nations Educational, Scientific and Cultural Organization

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## **Annexes**

### **Annex 1. Nuclear Job Taxonomy**



## 1. NEW BUILD

1.0. SAFETY ASSESSMENT	1.0.01	Nuclear Safety Manager
	1.0.02	Safety Assessment Specialist
	1.0.10.	Safety Design Engineer
1.1. SITE LOCATION	1.1.01.	Site Characterisation Manager
	1.1.02.	Licensing Manager
	1.1.05	Geological Expert
	1.1.06	Environmental Expert
1.2 DESIGN	1.2.01.	Design Manager
	1.2.02	Civil Technical Draughtsman
	1.2.03	Electrical Technical Draughtsman
	1.2.04	Mechanical Technical Draughtsman
	1.2.05.	Mechanical Design Engineer
	1.2.06.	Civil Design Engineer
	1.2.07.	Electrical Design Engineer
	1.2.08	I&C Design Engineer
	1.2.09	System Design Engineer
	1.2.12	HVAC Design Engineer
1.3. CONSTRUCTION	1.2.13	HVAC Technical Draughtsman
	1.2.18	I&C Technical Draughtsman
	1.3.01.	Construction Project manager
	1.3.02.	Transverse Engineer
	1.3.03.	Mechanical Discipline Engineer
	1.3.04.	Mechanical Construction Engineer
	1.3.05.	Civil Construction Engineer
	1.3.06.	Electrical Discipline Engineer
	1.3.07.	Electrical Construction Engineer
	1.3.08.	I&C Discipline Engineer
	1.3.09.	I&C Construction Engineer
	1.3.10.	Mechanical Construction Technician
	1.3.11.	Civil Construction Technician
	1.3.12.	Electrical Construction Technician
	1.3.13.	I&C Construction Technician
	1.3.14.	Mechanical Construction Worker
	1.3.15.	Civil Construction Worker
	1.3.16.	Electrical Construction Worker
1.3.17.	I&C Construction Worker	
1.3.18.	Occupational Safety Manager	
1.3.19.	Quality Manager	
1.3.20.	Quality Control Technician	
1.3.21.	Environmental Manager	
1.3.22.	Welder	
1.3.25	HVAC Construction Engineer	
1.3.26	HVAC Construction Technician	
1.4. COMMISSIONING	1.4.01.	Electrical Commissioning Engineer
	1.4.02.	Mechanical Commissioning Engineer
	1.4.03.	Civil Commissioning Engineer
	1.4.04.	I&C Commissioning Engineer
	1.4.05.	NI System Commissioning Engineer
	1.4.06.	Commissioning Manager
	1.4.07.	Licensing Manager

Ref	Job Title	Occupational Cat
<b>1.0.01</b>	<b>Nuclear Safety Manager</b>	Professional
Phase / Area	Alternate job title(s) – specializations	Functional Cat
NPP N	Manager for preparation and approving Safety Analysis Reports	Management
Safety Assessment		
Role / Functions		
Responsible for preparation, implementation and approving safety concept during design, construction, commissioning and operational activities in full compliance with international and national regulatory requirements		
Responsible for nuclear safety management in the areas: <ul style="list-style-type: none"> <li>Performing and approving probabilistic and deterministic safety analyses</li> <li>Definition and identification of safety requirements</li> <li>Analyzing and interpreting nuclear safety testing and control</li> <li>Collaborating with the managers in other disciplines (presentation and communication)</li> <li>Nuclear safety project management</li> <li>Producing and approving nuclear safety documentation</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Nuclear safety and nuclear safety principles		7
Industrial safety		7
National and international legal framework and licensing		7
Safety culture principles		7
Safety and security management		7
Risk assessment		7
Nuclear power plant: reactor fundamentals, plant systems description		7
Deterministic and probabilistic safety analysis		7
Nuclear safety models and methods		6
General management: budget, human resources, defining organisational objectives and strategies, business improvement, planning, monitoring, evaluating		5
Integrated management system: quality, health & safety, environment, information security		5
Emergency preparedness and emergency response		5
Project management software		4
Technical fundamentals: mechanical, electrical, I&C engineering principles		4
ICT literacy		4
Communication techniques: negotiation, presentation, writing		4
Radiation protection		3
Operating experience		3
Human error prevention techniques		3
Performance improvement methods		3
Computerized environment contamination modeling		3
Engineering data and documentation		3

SKILLS (Technical and functional competence)	EQF level (1-8)
Manage activities to the highest standards of safety, security, quality, reliability and efficiency.	7
Monitor and maintain a safe working environment.	7
Coordinate response to non-conformities and to unexpected events.	7
Perform Probabilistic safety analysis.	7
Perform Deterministic safety analysis.	7
Identification of safety requirements.	7
Analyze and interpret the results of safety tests.	7
Analyze and interpret the results of stress control.	7
Deliver authoritative advice across the range of Nuclear Safety issues, including the nuclear steam supply system.	7
Manage relationships with Regulators and Responsible Designers on Nuclear Safety matters to enable acceptance of the plant design.	7
Set design requirements for nuclear safety and environmental protection and ensure that the Basis of Design for the site correctly addresses nuclear safety and environment protection requirements.	7
Specify codes and standards to deliver nuclear safety and environmental protection.	7
Approve specifications which have significant nuclear safety and environmental protection consequences if they are inadequately conceived or executed.	7
Review and adopt the site Reference Design and, subsequently, review and accept design changes from the Reference Design, to assure that nuclear safety and environmental protection requirements have been met.	7
Support the development of the site nuclear safety and best available techniques cases.	7
Set the commissioning requirements and accept the results of commissioning tests from a nuclear safety and environmental protection perspective.	7
Retain overall responsibility for the integrity of the Nuclear Safety aspects of the design and understand why the design is as it is.	7
Compile and analyse legal requirements to ensure and promote compliance with statutory regulations.	6
Lead and enforce safety culture.	6
Plan, schedule and monitor activities by using suitable management tools to ensure timely completion within budget.	6
Interface with managers from other disciplines and/or from external organisations.	6
Support the development of quality plans and monitor and maintain quality compliance.	6
Use computer tools for safety analysis.	6
Management of producing of nuclear safety documentation.	6
Develop business plans and forecast needed resources such as materials and manpower utilization.	5
Organize and manage teams: keep track of personnel professional development, identify training needs, select new employees, monitor performance of each team, evaluate and report suitability and availability of those within the allocated teams, allocate professional roles, mentor and coach employees, establish duties and responsibilities, ensure proper levels of guidance and direction.	5

Classify information according to security criteria.	5
Inspection and control of works.	5
Communicate effectively with other project members and stakeholders.	5
Use and interpret engineering data and documentation.	5
Stay updated on changes on the market, regulations and new operating experience to identify market trends, best practices and/or emerging regulatory issues.	4
Create and participate in professional contact networks.	4
Promote and implement continuous improvement tools.	4
Negotiate contract conditions covering all possible contingencies.	4
Conduct commercial follow-up of contracts.	4
Review the implications of operating experience on the design.	4
Prepare bid and tender enquiries.	3
<b>COMPETENCE (Attitude; behavioral and personal competence)</b>	<b>EQF level (1-8)</b>
Accountability	7
Analytical thinking	7
Communication skills	6
Conflict resolution	6
Stress resistance	6
Organizational skills	6
Multitasking and priority setting	6
Leadership	5

<b>NOTES</b>
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17.05.2013	07.11.2013	19.01.2015

Ref	Job Title	Occupational Cat.
<b>1.0.02</b>	<b>Safety Assessment Specialist</b>	Technician
Phase / Area	Alternate job title(s) – specialisations	Functional Cat.
NPP N	Deterministic & Probabilistic Safety Assessment Specialist	Specialist
Safety Assessment		
Role / Functions		
<p>Responsible for the implementation of both the Deterministic Safety Analysis (DSA) for design and the Probabilistic Safety Assessment (PSA)** in the areas of NPP design, operation, maintenance, and accident mitigation and management</p> <p>The Safety Assessment Specialist analyses with specialised mathematical methods by means of validated extended computer codes the risks associated with operating the NPP</p> <p>Applying either the deterministic approach by defining Anticipated Operating Conditions (AOC) and calculating the response of the plant to the transient evolution, and/or* the probabilistic approach by means of PSA expressed in terms of various metrics related to the different levels of damage to the plant (PSA levels), the core damage frequency (Level 1 PSA), the risk of radioactive release (Level 2 PSA), and the risk on environment -societal or individual risk- (Level 3 PSA)</p>		
<ul style="list-style-type: none"> <li>• Applying the deterministic approach to the design of new built nuclear power plants</li> <li>• Applying the probabilistic approach to the evaluation of nuclear safety assessment for existing and new built plants</li> <li>• Different uses of PSA to support NPP testing and maintenance planning and optimisation</li> <li>• Performing plant specific PSA to support the safety upgrading programmes of plants built to earlier standards</li> <li>• Applying advanced engineering techniques and analysis methods for nuclear accident analyses and radiological evaluations</li> <li>• Applying deterministic and load case methods to assess the common industrial risks</li> <li>• Support in determination of methods and solutions for safety related engineering problems</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Regulation, codes, standards, policies and procedures in the nuclear field		7
Operating experience		7
Mathematics: probability calculus, analysis, group theory – permutation groups		7
Nuclear physics: nuclear fission process, nuclear conversion, nuclear activation		7
Frequency distribution of fission products, fission nuclides, nuclide decay chains		7
Core fission product inventory, key radio-nuclide groups for PSA		7
Thermodynamics and fluid mechanics		7
Conservative Deterministic Safety Analysis: nodalization and plant modelling		7
Probabilistic Approach and PSA phases (Levels)		7
Nuclear operation simulator training: learning simulator, full-scope simulator		7
Computer simulation tools for modelling industrial processes and transient/accident scenarios		7
Nuclear safety principles: Defence-in-Depth concept, Protective Barrier concept, redundancy, diversity, fail safe, spatial separation, self-monitoring and single failure criterion, safety classification of systems and components.		6
ICT literacy		6
Levels of defence according to IAEA document INSAG-10		6
Deterministic Safety Analysis for NPPs and acceptance criteria		6
PSA concepts and techniques, and the role of PSA in NPP design		6
Interrelation of deterministic domain with probabilistic domain in plant design		6

Postulated Initiating Events (PIE), Event Trees and Fault Trees	6
HAZOP and HAZID methodologies	6
Industrial and occupational safety	5
Engineering data and documentation	5
Safety culture	5
Radiation protection	5
Error prevention techniques and human performance tools	5
Human factors assessment	5
Knowledge of nuclear power plant systems and components, with a focus on their safety functions	5
Lessons learnt from major nuclear accidents (TMI-2, Chernobyl, Fukushima)	5
NPP systems and components	4
Quality assurance	4
International organisations in the nuclear field and their relationship between themselves and with countries and operators	4
<b>SKILLS (Technical and functional competence)</b>	<b>EQF level (1-8)</b>
Implement deterministic methods in safety analyses of NPPs with a focus on the complementation of the overall safety assessment by probabilistic methods.	7
Identify safety functional requirements.	6
Communicate with other disciplines groups as needed to solve issues.	6
Define 4 Anticipated Operating Conditions (AOC) for respective plant design according to IAEA INSAG-documents and to the regulatory body of the country.	6
Define general acceptance criteria for the AOC.	6
Perform transient calculations (DSA) with validated neutronic-thermalhydraulic codes to evaluate the plant response to Postulated Initiating Events (PIEs).	6
Implement PSA methods according to the latest state of scientific results.	6
Perform PSA calculations with internationally qualified safety analysis codes.	6
Draft Safety Functional Requirements and ALARA arguments.	6
Examine risk benefits from different plant design options.	6
Write specific safety reports with results from PSA application and contributing to NPP Safety Analysis Reports (SAR) to be provided to the licensing authorities.	6
Consider lessons learnt from operating experience while performing safety assessments.	6
Provide technical support for the design and licensing activities.	6
Analyse and interpret technical data and documentation.	5
Monitor and maintain a safe work environment.	5
Prepare reports using technical writing.	5
Promote and ensure compliance with statutory regulations, technical specifications and project requirements.	5
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	5
Optimise NPP systems and components for safety and availability of plant.	5
Balance between preventive and mitigation measures.	5
Identify accident scenarios and operator actions with a high sensitivity to human error	5

Monitor and maintain the quality of processes.	4
Identify radiation protection requirements and apply radiation protection measures.	4
Supervise working activities.	4
Give clear instructions and guidance to the rest of members of the team.	4
Compile and report information for management control and task assignment.	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Conscientiousness	6
Problem solving	6
Stress resistance	6
Accountability	6
Analytical thinking	6
Questioning attitude	6
Team working	5
Communication	5
Decisiveness	5

#### NOTES

\*Depending on the AOC-category: Design Basis Categories always by DSA, Generation III+ by DSA+PSA, Design Extension Categories (Severe Accidents) by PSA, Industrial Risks by DSA and additional methods, eg Load Case approach

\*\*In the United States and some other countries PSA is referred to as PRA (Probabilistic Risk Assessment)

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08.01.2015	03.02.2015	12.02.2016

Ref	Job Title	Occupational Category
<b>1.0.10</b>	<b>Safety Design Engineer</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	-----	Specialist
Safety Assessment		
Role / Functions		
Responsible for ensuring that the safety and operational systems of the NPP are designed according to the safety standards and regulatory requirements.		
<ul style="list-style-type: none"> <li>• Performs and report safety analysis during design, construction and commissioning activities.</li> <li>• Elaborate the regulatory application tender taking into account all risks.</li> <li>• Identification and assessment of risks and safety impacts.</li> <li>• Recommendation related to safety functions, operations and environment.</li> <li>• Preparation of safety studies in the design phase, including modifications.</li> <li>• Analysis of incident and accident situations.</li> <li>• Ensuring compliance with statutory regulations and organisational safety requirements.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		7
Nuclear safety principles and requirements		7
National and international codes and standards		7
Nuclear safety analysis and assessment methods, incident and accident analysis		7
Safety architecture, prevention and mitigation methods		7
Technical writing		6
Physical metallurgy, effects of radiation on matter		6
Safety Culture		5
Engineering graphics, drawings and diagrams		5
Operating experience		5
Human Error Prevention Techniques		5
Environmental hazards		5
Deterministic and probabilistic safety analysis		5
Radiation Protection		4
ICT literacy		4
Industrial Safety		3
Occupational Safety and personal protective equipment		3
Quality assurance and control		3
Project management, planning methods and tools		3
SKILLS (Technical and functional competence)		EQF level (1-8)
Identification of safety requirements.		7
Ensure the implementation of engineering codes and standards.		7
Use computer tools for safety analysis.		7



Analyse and interpret the results of safety tests.	7
Produce nuclear safety documentation.	7
Ensure compliance with statutory regulations and organisational OSE requirements.	6
Identify possible impacts and interactions with other related disciplines.	6
Identify safety hazards.	6
Assess and validate fulfilment of defence in depth concept.	6
Interpret and apply results from probabilistic and deterministic safety analysis.	5
Use and interpret engineering data and technical documentation.	4
Producing and communicate requirement specifications, technical specifications, procedures and reports.	4
Assess performance and identify measures and indicators to improve or correct performance.	4
Define actions to improve safety culture based on operational feedback.	4
Planning, coordinating, implementing and monitoring project activities.	3
Retrieve technical information by using computer aided techniques.	3
Monitor and maintain a safe working environment.	3
Perform work analysis, breakdown of activities and allocate tasks.	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Accountability	7
Accuracy	7
Analytical thinking	6
Independence	6
Stress tolerance	6
Communication –oral and written expression	6
Problem solving	5
Conscientiousness	5
Team working	4
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	4
Decisiveness	4
Planning, organising, allocating and prioritising tasks	3

<b>NOTES</b>
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24.10.2012	17.05.2013	19.02.2015

Ref	Job Title	Occupational Category
<b>1.1.01</b>	<b>Site Characterisation Manager</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	-----	Management
Site Location		
Role / Functions		
Responsible for site qualification of the selected site(s) for construction of a Nuclear Power Plant (NPP) and support necessary permits and license applications for construction and operation of the NPP		
<ul style="list-style-type: none"> <li>Acquisition, maintenance and modification of the necessary permits and environmental approvals for construction and operation of NPP.</li> <li>Provide leadership and supervision for project site qualification and permitting activities.</li> <li>Oversee field activities, analysis, and document production activities for and other supporting documents and national applications (the Nature Survey Report, Environmental Impact Assessment (EIA), Subsequent Environmental EIA, Location Report, Characterization Chapter of the Pre-Construction Safety Analysis Report, etc.)</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Integrated management system: quality, health & safety, environment, information security		6
National and international legal framework and licensing		6
Project management software		5
General management: budget, human resources, defining organisational objectives and strategies, business improvement, planning, monitoring, evaluating		5
Nuclear safety and nuclear safety principles		4
Industrial safety		4
Safety culture principles		4
Safety and security management		4
Risk assessment		4
Human error prevention techniques		4
ICT literacy		4
Communication techniques: negotiation, presentation, writing		4
Financial accountancy		4
Technical fundamentals: mechanical, electrical, I&C engineering principles		3
Nuclear power plant: reactor fundamentals, plant systems description		3
Operating experience		3
Performance improvement methods		3
Building construction		3
Engineering data and documentation		3
Radiation protection		2
Emergency preparedness and emergency response		2
SKILLS (Technical and functional competence)		EQF level (1-8)

Compile and analyze legal requirements to ensure and promote compliance with statutory regulations.	6
Stay updated on changes on the market, regulations and new operating experience to identify market trends, best practices and/or emerging regulatory issues.	6
Monitor and maintain a safe working environment.	5
Interface with managers from other disciplines and/or from external organizations.	5
Develop business plans and forecast needed resources such as materials and manpower utilization.	5
Organize and manage teams: keep track of personnel professional development, identify training needs, select new employees, monitor performance of each team, evaluate and report suitability and availability of those within the allocated teams, allocate professional roles, mentor and coach employees, establish duties and responsibilities, ensure proper levels of guidance and direction.	5
Dealing with national and local authorities regarding the legal requirements, specifications, technical specifications, and reports.	5
Ability to communicate with local community about site characterization process to get public acceptance for the NPP.	5
Manage activities to the highest standards of safety, security, quality, reliability and efficiency.	4
Plan, schedule and monitor activities by using suitable management tools to ensure timely completion within budget.	4
Create and participate in professional contact networks.	4
Support the development of quality plans and monitor and maintain quality compliance.	4
Negotiate contract conditions covering all possible contingencies.	4
Conduct commercial follow-up of contracts.	4
Classify information according to security criteria.	4
Monitor and maintain the quality of the site characterisation processes.	4
Using and interpreting engineering drawings and documents.	4
Provide technical information for engineering activities.	4
Lead and enforce safety culture.	3
Promote and implement continuous improvement tools.	3
Prepare bid and tender enquiries.	3
Coordinate response to non-conformities and to unexpected events.	3
Use technical writing, presentation and communication.	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Communication skills	5
Accountability	5
Stress resistance	5
Leadership	5
Organizational skills	5
Multitasking and priority setting	5
Flexibility	5
Conflict resolution	4

Drive for achievement	4
Analytical thinking	3

NOTES
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I. KULPA	5 <sup>TH</sup> ECVET WORKSHOP	5 <sup>TH</sup> NJT WORKSHOP
10.04.2013	14.11.2013	14.11.2013

Ref	Job Title	Occupational Category
<b>1.1.02</b>	<b>Licensing Manager</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	Permitting Manager	Management
Site Location		
Role / Functions		
Managing all aspects of the licensing process		
<ul style="list-style-type: none"> <li>Ensuring that licensing documents are in compliance with the regulations.</li> <li>Interfacing with the regulatory authorities and stakeholders.</li> <li>Control the implementation of licensing requirements.</li> <li>Assist the departments for compliance with requirements from the regulators.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Project management software		6
General management: budget, human resources, defining organisational objectives and strategies, business improvement, planning, monitoring, evaluating		6
Integrated management system: quality, health & safety, environment, information security		6
National and international legal framework and licensing		6
Nuclear safety and nuclear safety principles		5
Safety culture principles		5
Safety and security management		5
Risk assessment		5
Nuclear power plant: reactor fundamentals, plant systems description		5
Communication techniques: negotiation, presentation, writing		5
Emergency preparedness and emergency response		5
Operating experience		4
Industrial safety		3
Technical fundamentals: mechanical, electrical, I&C engineering principles		3
Radiation protection		3
ICT literacy		3
Finance and administration		3
Human error prevention techniques		2
Performance improvement methods		2
SKILLS (Technical and functional competence)		EQF level (1-8)
Stay updated on changes on the market, regulations and new operating experience to identify market trends, best practices and/or emerging regulatory issues.		6
Interface with managers from other disciplines and/or from external organisations.		6
Conduct commercial follow-up of contracts.		6
Classify information according to security criteria.		6
Dealing with regulatory bodies national and local authorities regarding the legal requirements, specifications, technical specifications, and reports		6

Compile and analyze legal requirements to ensure and promote compliance with statutory regulations.	5
Plan, schedule and monitor activities by using suitable management tools to ensure timely completion within budget.	5
Support the development of quality plans and monitor and maintain quality compliance.	5
Overseeing the preparation of the licensing documentation	5
Arguing safety in front of political instances, regulators, technical experts	5
Manage activities to the highest standards of safety, security, quality, reliability and efficiency.	4
Create and participate in professional contact networks.	4
Promote and implement continuous improvement tools.	4
Prepare bid and tender enquiries.	4
Negotiate contract conditions covering all possible contingencies.	4
Coordinate response to non-conformities and to unexpected events.	4
Develop business plans and forecast needed resources such as materials and manpower utilization.	4
Organize and manage teams: keep track of personnel professional development, identify training needs, select new employees, monitor performance of each team, evaluate and report suitability and availability of those within the allocated teams, allocate professional roles, mentor and coach employees, establish duties and responsibilities, ensure proper levels of guidance and direction.	4
Monitor and maintain a safe working environment.	3
Lead and enforce safety culture.	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Communication skills	5
Accountability	5
Stress resistance	5
Organisational skills	5
Multitasking and priority setting	5
Pragmatism and Initiative	5
Practice and promote trust and transparent share of information.	5
Conflict resolution	4
Analytical thinking	4
Leadership	3

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
2 <sup>ND</sup> NJD WORKSHOP	5 <sup>TH</sup> NJD WORKSHOP	5 <sup>TH</sup> NJD WORKSHOP
24.03.2012	12.11.2013	12.11.2013

Ref	Job Title	Occupational Category
<b>1.1.05</b>	<b>Geological Expert</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	Hydrogeological and Seismic Expert	Specialist
Site Location		
Role / Functions		
<p>The Geological Expert researches, prepares and conducts geological, geochemical and geophysical field studies and surveys, utilizing drilling and testing programs to collect data for research and application.</p> <ul style="list-style-type: none"> <li>• Exploration of soil conditions for foundation work of the NPP.</li> <li>• Assessment of seismic risks at NPP site conditions.</li> <li>• Hydrogeological inspection to ensure groundwater protection and to explore water reservoirs.</li> <li>• Provides asset teams with advice and consultation in Geologic studies/assessment activities</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Geosciences: geology, mineralogy, geochemistry, engineering geology		6
Physical geography: geomorphology, soil study, hydrology		6
Hydrogeology: dealing with occurrence, distribution, and effect of groundwater		6
Theory and principles of earth resistivity and refraction seismology		6
Earthquake-Tsunami superposition impact on NPPs (Fukushima 2011)		6
Seismic standards		6
Seismic computer codes		6
Nuclear safety principles and requirements		5
National and international codes and standards		5
Technical writing		5
Geophysics: tectonic and seismic activity of the lithosphere (Earth's crust)		5
Earthquake frequency and magnitudes worldwide during the last 3 decades		5
Tsunami Theory: building-up mechanisms induced by undersea earthquakes		5
Pedological soils classification system (foundation of buildings)		5
Distribution of geologic systems particularly in the country of NPP erection		5
International, European and country-specific laws and regulations on natural groundwater and seismic activities in particular in relation to NPP erection		5
ICT literacy		4
Safety Culture		3
Engineering graphics, drawings and diagrams		3
Industrial Safety		3
Occupational Safety and personal protective equipment		3
Project management, planning methods and tools		3
Operating experience		3
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		2
Radiation Protection		2

Quality assurance and control	2
<b>SKILLS (Technical and functional competence)</b>	<b>EQF level (1-8)</b>
Ensure compliance with statutory regulations and organisational QSE requirements.	6
Planning, coordinating, implementing and monitoring project activities.	6
Ensure the implementation of engineering codes and standards.	6
Perform work analysis, breakdown of activities and allocate tasks.	6
Sample and report geological and seismic data.	6
Use seismographs and magnetometers to measure characteristics of the earth.	6
Perform and document geochemical laboratory experiments related with the NPP site conditions.	6
Contribute with geological data to seismic design.	6
Lay out geological maps.	5
Use and interpret engineering data and technical documentation.	4
Produce and communicate requirement specifications, technical specifications, procedures and reports.	4
Retrieve technical information by using computer aided techniques.	4
Monitor and maintain a safe working environment.	4
Identify possible impacts and interactions with other related disciplines.	4
Identification of safety requirements.	3
Assess performance and identify measures and indicators to improve or correct performance.	3
Define actions to improve safety culture based on operational feedback.	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Analytical thinking	6
Accountability	6
Planning, organizing, allocating and prioritizing tasks	6
Decisiveness	6
Team working	5
Problem solving	5
Comprehension skills	5
Technical and specialised communication	5
Conscientiousness	4
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	3

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
M. BURKHARD - TRAINWARE C.	P. SOTOLA - AF CONSULT CZ	6 <sup>TH</sup> ECVET WORKSHOP
07.01.2015	03.02.2015	17.02.2015



Ref	Job Title	Occupational Category
<b>1.1.06</b>	<b>Environmental Expert</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	-----	Specialist
Site Location		
Role / Functions		
Responsible for environmental supervision of releases at site location.		
<ul style="list-style-type: none"> <li>• Performs environmental-related work activities.</li> <li>• Provides high-level expertise and technical support for multi-discipline areas of complex environmental studies for clearance of transportation activities.</li> <li>• Controlling the quality of water source provided to the plant before commissioning.</li> <li>• Controlling the waste waters of the plant in particular with respect to radioactive releases.</li> <li>• Controlling the cooling water temperature at ultimate heat sink of the plant.</li> <li>• Supervising the clean air quality provided to the HVAC-systems of the plant.</li> <li>• Controlling waste air through the stack with respect to radioactive release limits.</li> <li>• Analysis and optimisation of the wider infrastructure of BOP and beyond site boundary with respect to long term environmental impact.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Safety Culture		6
Quality assurance and control		6
National and international codes and standards		5
Radiation Protection		5
Technical writing		5
Nuclear and non-nuclear waste processing at plant site and for disposal		5
Emissions from potential industrial risks (e.g. fire)		5
Water management and water monitoring processes		5
Site-specific life forms on land and in surface waters used for demineralised water production and for the cooling water cycle		5
Ecological dependencies between NPP erection, operation, and site boundaries		5
Earthquake zone, estimated magnitudes and frequencies at plant site		5
ICT literacy		4
Operating experience		4
Nuclear physics, fission products yields as well as other radioactive substances (e.g. Plutonium, Tritium etc.) depending on the type of reactor		4
Radiotoxicity: effects radio-elements for human health and environment		4
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		3
Nuclear safety principles and requirements		3
Engineering graphics, drawings and diagrams		3
Occupational Safety and personal protective equipment		3
Project management, planning methods and tools		3
Industrial Safety		2

SKILLS (Technical and functional competence)	EQF level (1-8)
Ensure compliance with statutory regulations and organisational QSE requirements.	6
Carry out environmental evaluation on site and site boundary.	6
Judge the environmental impact and risks connected to the NPP erection.	6
Conduct field surveys.	6
Evaluate environmental impact of transportation activities including noise/air and water quality/wetlands/hazardous material/socioeconomic/environmental justice/biological, geological, cultural or historic resources.	6
Provide guidance on environmental rules, regulations and public involvement procedures.	6
Review, evaluate, monitor and approve consultant work, research programs or special studies.	6
Ensure the implementation of engineering codes and standards.	5
Monitor and maintain a safe working environment.	5
Ability to implement environmental regulations and procedures.	5
Implement environmental management system.	5
Monitor the overall water quality.	5
Monitor the fouling organisms in condenser tubes and cooling water pumps.	5
Monitor exhaust air quality released through the plant stack, bookkeeping of radioactivity level with respect to allowed limits	5
Producing and communicate requirement specifications, technical specifications, procedures and reports.	4
Identify possible impacts and interactions with other related disciplines.	4
Define actions to improve safety culture based on operational feedback.	4
Apply water savings methods in plant processes.	4
Use and interpret engineering data and technical documentation.	3
Identification of safety requirements.	3
Planning, coordinating, implementing and monitoring project activities.	3
Retrieve technical information by using computer aided techniques.	3
Perform work analysis, breakdown of activities and allocate tasks.	3
Assess performance and identify measures and indicators to improve or correct performance.	3
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Accountability	6
Analytical thinking	5
Problem solving	5
Communication aptitudes	5
Team working	4
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	4
Conscientiousness	4
Planning, organising, allocating and prioritising tasks	4

Decisiveness	4
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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
M. BURKHARD - TRAINWARE C.	P. SOTOLA – AF CONSULT CZ	6 <sup>TH</sup> ECVET WORKSHOP
02.01.2015	03.02.2015	17.02.2015

Ref	Job Title	Occupational Category
<b>1.2.01</b>	<b>Design Manager</b>	Professional
Phase / Area	Alternate job title(s) – specializations	Functional Category
NPP N	Design Project Manager	Management
Design		
Role / Functions		
<p>Responsible for managing the design of NPP according site specification and safety requirements and taking into account available technologies in nuclear and non-nuclear facilities Identify and collaboration with stakeholders for project involving as well as vendors and providers for nuclear and non-nuclear equipment.</p>		
<ul style="list-style-type: none"> <li>• Interfacing with the design engineers from different disciplines (nuclear, civil, mechanical and electrical, I&amp;C experts) and coordinate engineering project planning following safety and regulatory requirements.</li> <li>• Leading the assessment process in which design documents (including drawings and specifications) are reviewed and assessed.</li> <li>• Providing technical information for the NPP design and correlate with team leaders for further stages of engineering details and construction phase.</li> <li>• Controlling the implementation of systems solutions in project design.</li> <li>• Making the financial planning, planning the technical activities and human resources for future stages of construction, commissioning and operation of NPP.</li> <li>• Monitoring and maintain the quality of processes with engineering teams during design stage.</li> <li>• Developing bid evaluation criteria and contracting strategy.</li> <li>• Managing with the process of bid specification and evaluation for the equipment according technical design solution.</li> <li>• Qualifying technology to be applied and conducting audits (quality assessments) at suppliers.</li> <li>• Obtaining the relevant licenses</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Project management software		7
General management: budget, human resources, defining organisational objectives and strategies, business improvement, planning, monitoring, evaluating		7
Integrated management system: quality, health & safety, environment, information security		7
Nuclear safety and nuclear safety principles		7
Safety and security management		7
Nuclear power plant: reactor fundamentals, plant systems description		7
Business Continuity Planning and design technical strategies		7
Computer-aided design		7
Computer simulation tools for industrial processes		7
Strength of materials		7
Nuclear simulator training: learning simulator, full-scope simulator		7
Sensors, measurements and signal processing		7
Operating experience		7
Safety culture principles		6
Human factors engineering		6
National and international legal framework and licensing		5

Technical fundamentals: mechanical, electrical, I&C engineering principles	5
ICT literacy	5
Communication techniques: negotiation, presentation, writing	5
Industrial safety	4
Risk assessment	4
Radiation protection	4
Human error prevention techniques	4
Performance improvement methods	4
Emergency preparedness and emergency response	3
<b>SKILLS (Technical and functional competence)</b>	<b>EQF level (1-8)</b>
Review of the proposed procedures based on the reference plants and the management of the development of specific procedures.	7
Support the NPP in the area of design engineering, which includes maintenance of the design basis, configuration control of design documentation, responding to plant requests related to system and design function, performance of plant modifications.	7
Interpret factory tests, commissioning tests and on-site assembly results.	7
Stay updated on changes on the market, regulations and new operating experience to identify market trends, best practices and/or emerging regulatory issues.	6
Plan, schedule and monitor activities by using suitable management tools to ensure timely completion within budget.	6
Promote and implement continuous improvement tools.	6
Conduct commercial follow-up of contracts.	6
Organize and manage teams: keep track of personnel professional development, identify training needs, select new employees, monitor performance of each team, evaluate and report suitability and availability of those within the allocated teams, allocate professional roles, mentor and coach employees, establish duties and responsibilities, ensure proper levels of guidance and direction.	6
Identify safety (nuclear and operational) requirements.	6
Design large scale systems and document design solutions.	6
Use computer engineering tools.	6
Manage activities to the highest standards of safety, security, quality, reliability and efficiency.	5
Interface with managers from other disciplines and/or from external organisations.	5
Create and participate in professional contact networks.	5
Support the development of quality plans and monitor and maintain quality compliance.	5
Prepare bid and tender enquiries.	5
Coordinate response to non-conformities and to unexpected events.	5
Develop business plans and forecast needed resources such as materials and manpower utilization.	5
Classify information according to security criteria.	5
Compile and analyse legal requirements to ensure and promote compliance with statutory regulations.	4

Lead and enforce safety culture.	4
Negotiate contract conditions covering all possible contingencies.	4
Monitor and maintain a safe working environment.	3
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Stress resistance	7
Decision making	7
Communication skills	6
Conflict resolution	6
Organisational skills	6
Drive for Achievement	6
Teamwork	6
Accountability	5
Leadership	5
Analytical thinking	5

NOTES
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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
4 <sup>TH</sup> NJT WORKSHOP	P. SOTOLA - AF CONSULT CZ	TECNATOM
14.05.2013	19.01.2015	12.03.2017

Ref	Job Title	Occupational Category
<b>1.2.02</b>	<b>Civil Technical Draughtsman</b>	Technician
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	Civil Design Drafter	Specialist
Design		
Role / Functions		
Responsible for the drawing of Civil structures, within specified rules and guidelines		
<ul style="list-style-type: none"> <li>Carrying out conceptual/detailed drawings of NPP Civil structures, ensuring compliance with technical specifications, regulatory and quality standards, preparing the necessary documentation and reports.</li> <li>Ensuring compliance with applicable codes, standards, licenses, permits governing the design, engineering, construction and operation of nuclear power plant.</li> <li>Interfacing with other disciplines as required.</li> <li>Printing and copying documents in electronic and hard copy formats.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Computer Aided Design tools and techniques		5
Engineering Drawings		5
Configuration Management		4
Civil engineering and standards		4
Nuclear safety principles: Defence-in-Depth concept, Protective Barrier concept, redundancy, diversity, fail safe, spatial separation, self-monitoring and single failure criterion, safety classification of systems and components.		3
Regulation, codes, standards, policies and procedures in the nuclear field		3
ICT literacy		3
Engineering data and documentation		3
Safety culture		3
NPP systems and components		3
Quality assurance		2
SKILLS (Technical and functional competence)		EQF level (1-8)
Develop drawings, and sketches by using Computer Aided Techniques (CAD, PDMS).		6
Implement technical specifications into drawings.		6
Prepare reports using technical writing.		5
Promote and ensure compliance with statutory regulations, technical specifications and project requirements.		5
Monitor and maintain the quality of processes.		2
COMPETENCE (Attitude; behavioural and personal competence)		EQF level (1-8)
Conscientiousness		4
Problem solving		4
Perseverance		4
Team working		3

## NOTES

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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
M. BURKHARD - TRAINWARE C.	P. SOTOLA - AF CONSULT CZ	6 <sup>TH</sup> ECVET WORKSHOP
06.01.2015	03.02.2015	18.02.2015



Ref	Job Title	Occupational Category
<b>1.2.03</b>	<b>Electrical Technical Draughtsman</b>	Technician
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	Civil Design Drafter	Specialist
Design		
Role / Functions		
Responsible for the drawing of electrical schemes, within specified rules and guidelines		
<ul style="list-style-type: none"> <li>Carry out conceptual/detailed drawings of NPP electrical systems and components, ensuring compliance with technical specifications, regulatory and quality standards, preparing the necessary documentation and reporting</li> <li>Ensure compliance with applicable codes, standards, licenses, permits, and permissions governing the design, engineering, construction and operation of nuclear power plant</li> <li>Interface with other disciplines as required</li> <li>Printing and copying documents in electronic and hard copy formats</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Computer Aided Design tools and techniques		5
Engineering Drawings		5
Configuration Management		4
Electrical systems and equipment installations		4
Electrical and electronic circuits		4
Nuclear safety principles: Defence-in-Depth concept, Protective Barrier concept, redundancy, diversity, fail safe, spatial separation, self-monitoring and single failure criterion, safety classification of systems and components.		3
Regulation, codes, standards, policies and procedures in the nuclear field		3
ICT literacy		3
Engineering data and documentation		3
Safety culture		3
NPP systems and components		3
Electrical engineering		3
Electrical safety		3
Electric power generation		3
Electric power system protection		3
Electrical instrumentation		3
High voltage engineering		3
Quality assurance		2
General mechanical engineering		2
SKILLS (Technical and functional competence)		EQF level (1-8)
Develop electrical drawings, and sketches by using Computer Aided Techniques (CAD, PDMS).		6
Implement technical specifications into drawings.		6
Prepare reports using technical writing.		5

Promote and ensure compliance with statutory regulations, technical specifications and project requirements.	5
Draw and review electrical schemes	5
Comply with technical specifications, statutory regulations and project requirements including international national codes and standards.	5
Monitor and maintain the quality of processes.	2
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Conscientiousness	4
Problem solving	4
Perseverance	4
Team working	3

<b>NOTES</b>
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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
F. PASQUALONI	O. DERUELLE	6 <sup>TH</sup> ECVET WORKSHOP
15.05.2013	16.05.2013	18.02.2015

Ref	Job Title	Occupational Category
<b>1.2.04</b>	<b>Mechanical Technical Draughtsman</b>	Technician
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	Mechanical Design Junior Engineer	Specialist
Design		
Role / Functions		
Responsible for the drawings of mechanical systems and components, within specified rules and guidelines		
<ul style="list-style-type: none"> <li>Carry out detailed drawings of NPP mechanical systems and components, ensuring compliance with technical specifications, regulatory and quality standards, preparing the necessary documentation and reports</li> <li>Ensure compliance with applicable codes, standards, licenses and permits governing the design, engineering, construction and operation of NPP</li> <li>Interface with the other disciplines as required</li> <li>Printing and copying documents in electronic and hard copy formats</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Computer Aided Design tools and techniques		5
Engineering Drawings		5
Configuration Management		4
Mechanical engineering and standards		4
Nuclear safety principles: Defence-in-Depth concept, Protective Barrier concept, redundancy, diversity, fail safe, spatial separation, self-monitoring and single failure criterion, safety classification of systems and components.		3
Regulation, codes, standards, policies and procedures in the nuclear field		3
ICT literacy		3
Engineering data and documentation		3
Safety culture		3
NPP systems and components		3
Quality assurance		2
SKILLS (Technical and functional competence)		EQF level (1-8)
Develop mechanical drawings, and sketches by using Computer Aided Techniques (CAD, PDMS).		6
Implement technical specifications into drawings.		6
Prepare reports using technical writing.		5
Promote and ensure compliance with statutory regulations, technical specifications and project requirements.		5
Monitor and maintain the quality of processes.		2
COMPETENCE (Attitude; behavioural and personal competence)		EQF level (1-8)
Conscientiousness		4
Problem solving		4
Perseverance		4
Team working		3

NOTES
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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
3 <sup>RD</sup> ECVET WORKSHOP	F. PASQUALONI	6 <sup>TH</sup> ECVET WORKSHOP
23.10.2012	16.05.2013	18.02.2015

Ref	Job Title	Occupational Category
<b>1.2.05</b>	<b>Mechanical Design Engineer</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	-----	Specialist
Design		
Role / Functions		
Responsible for design assessment, customization and surveillance of specific mechanical systems design within specified rules and guidelines.		
<ul style="list-style-type: none"> <li>Carry out and/or coordinate the conceptual/detailed design assessment of NPP components, ensuring compliance with regulatory and quality standards, preparing the necessary documentation and reporting.</li> <li>Ensure compliance with applicable codes, standards, licenses, permits, and permissions governing the design, engineering, construction and operation of nuclear power plant.</li> <li>Coordinating and interfacing with suppliers and vendors for specific materials in nuclear application under the requirements and NPP needs.</li> <li>Ensure the quality of engineering and technical support services in conformance with established Programs, Policies, Processes, Regulations and appropriate contractual requirements.</li> <li>Provide the documentation, drawings and reports for the mechanical systems and thermal hydraulic systems with the components.</li> <li>Interfacing with the design engineers from different parts (nuclear, civil and electrical, I&amp;C experts)</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Engineering graphics, drawings and diagrams		6
Mechanical Engineering		6
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		5
National and international codes and standards		5
Quality assurance and control		5
Technical writing		5
Operating experience		5
Thermal hydraulic processes		5
Safety Culture		4
Industrial Safety		4
Project management, planning methods and tools		4
ICT literacy		4
Materials for Nuclear Applications		4
Nuclear safety principles and requirements		3
Radiation Protection		3
Occupational Safety and personal protective equipment		3
Computer Aided Design and Engineering		3
Material Science and Physical Metallurgy		3

SKILLS (Technical and functional competence)	EQF level (1-8)
Use and interpret engineering data and technical documentation.	6
Specify design requirements.	6
Evaluate existing designs.	6
Interpret technical specifications to translate them into design.	6
Producing and communicate requirement specifications, technical specifications, procedures and reports.	5
Oversee the design documentation of mechanical systems.	5
Ensure compliance with statutory regulations and organizational QSE requirements.	4
Identification of safety requirements.	4
Planning, coordinating, implementing and monitoring project activities.	4
Retrieve technical information by using computer aided techniques.	4
Ensure the implementation of engineering codes and standards.	4
Perform work analysis, breakdown of activities and allocate tasks.	4
Assess performance and identify measures and indicators to improve or correct performance.	4
Identify possible impacts and interactions with other related disciplines.	4
Intellectual / Problem solving and judgement skills	4
Monitor and maintain a safe working environment.	3
Define actions to improve safety culture based on operational feedback.	3
Monitor and maintain the quality of the design process.	3
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Analytical thinking	5
Team working	5
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	5
Problem solving	5
Conscientiousness	5
Accountability	4
Planning, organising, allocating and prioritising tasks	4
Decisiveness	4

NOTES
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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
1 <sup>ST</sup> ECVET WORKSHOP	O. COMSA	5 <sup>TH</sup> NJD WORKSHOP
14.10.2011	5.11.2013	12.11.2013

Ref.	Job Title	Occupational Category
<b>1.2.06</b>	<b>Civil Design Engineer</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	-----	Specialist
Design		
Role / Functions		
Responsible for design assessment, customization and surveillance of specific civil works design within specified rules and guidelines		
<ul style="list-style-type: none"> <li>Carry out and/or coordinate the conceptual/detailed design assessment for structures, architecture and civil engineering design, ensuring compliance with regulatory and quality standards, preparing the necessary documentation and reporting.</li> <li>Coordinate and interface with suppliers and vendors for specific materials in nuclear application under the requirements and NPP needs.</li> <li>Ensure the quality of engineering and technical support services in conformance with established Programs, Policies, Processes, Regulations and appropriate contractual requirements.</li> <li>Ensure compliance with applicable codes, standards, licenses, permits, and permissions governing the design, engineering, construction and operation of nuclear power plant.</li> <li>Interfacing with the design engineers from different parts (nuclear, mechanical and electrical, I&amp;C experts)</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Civil engineering (including Building construction, Structural engineering, metal and concrete construction ...)		6
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		5
National and international codes and standards		5
Engineering graphics, drawings and diagrams		5
Quality assurance and control		5
Technical writing		5
Design standards and regulatory requirements		5
Safety Culture		4
Occupational Safety and personal protective equipment		4
Project management, planning methods and tools		4
ICT literacy		4
Operating experience		4
Nuclear safety principles and requirements		3
Radiation Protection		3
Industrial Safety		3
Material science		3
Behaviour of structure in seismic conditions		3
Computer aided design and engineering		3

SKILLS (Technical and functional competence)	EQF level (1-8)
Use and interpret engineering data and technical documentation.	6
Specify design requirements.	6
Evaluate existing designs.	6
Interpret technical specifications to translate them into design.	6
Producing and communicate requirement specifications, technical specifications, procedures and reports.	5
Appraise of concrete, steel and masonry structures and materials.	5
Identification of safety requirements.	4
Planning, coordinating, implementing and monitoring project activities.	4
Retrieve technical information by using computer aided techniques.	4
Ensure the implementation of engineering codes and standards.	4
Monitor and maintain a safe working environment.	4
Perform work analysis, breakdown of activities and allocate tasks.	4
Assess performance and identify measures and indicators to improve or correct performance.	4
Identify possible impacts and interactions with other related disciplines.	4
Analyse long-term behaviour (including radiation) and calculations of building structure and concrete.	4
Ensure compliance with statutory regulations and organisational OSE requirements.	3
Define actions to improve safety culture based on operational feedback.	3
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Analytical thinking	5
Team working	5
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	5
Conscientiousness	5
Accountability	4
Problem solving	4
Planning, organising, allocating and prioritising tasks	4
Decisiveness	4

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1 <sup>ST</sup> ECVET WORKSHOP	5 <sup>TH</sup> ECVET WORKSHOP	5 <sup>TH</sup> ECVET WORKSHOP
14.10.2011	13.11.2013	13.11.2013



Ref.	Job Title	Occupational Category
<b>1.2.07</b>	<b>Electrical Design Engineer</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	---	Specialist
Design		
Role / Functions		
Responsible for design assessment, customization and surveillance of specific electrical systems design within specified rules and guidelines Coordination of the engineering team for the design of the electrical system and power supply systems (main and auxiliary) following the safety requirements		
<ul style="list-style-type: none"> <li>Carry out and/or coordinate the conceptual/detailed design assessment of the design of the electrical system and power supply systems (main and auxiliary) following the safety requirements.</li> <li>Provide the documentation, drawings and reports for the electrical systems and power support of the components.</li> <li>Ensure the quality of engineering and technical support services in conformance with established Programs, Policies, Processes, Regulations and appropriate contractual requirements.</li> <li>Ensure compliance with applicable codes, standards, licenses, permits, and permissions governing the design, engineering, construction and operation of nuclear power plant.</li> <li>Interfacing with the design engineers from different parts (nuclear, civil, mechanical and I&amp;C experts)</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Engineering graphics, drawings and diagrams		6
Electrical Engineering (including Electrical systems and equipment installations, High Voltage Engineering ...)		6
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		5
National and international codes and standards		5
Quality assurance and control		5
Technical writing		5
Cabling Design in specific safety and nuclear environment		5
Electricity supply for safety critical power systems		5
NPP electrical protection from the grid		5
Safety Culture		4
Industrial Safety		4
Project management, planning methods and tools		4
ICT literacy		4
Operating experience		4
Nuclear safety principles and requirements		3
Radiation Protection		3
Occupational Safety and personal protective equipment		3
Control and Automation Systems		3
Computer Aided Design and Engineering		3

SKILLS (Technical and functional competence)	EQF level (1-8)
Use and interpret engineering data and technical documentation.	6
Specify design requirements.	6
Evaluate existing designs.	6
Interpret technical specifications to translate them into design.	6
Producing and communicate requirement specifications, technical specifications, procedures and reports.	5
Ensure the implementation of engineering codes and standards.	5
Oversee the design documentation of electrical systems.	5
Identification of safety requirements.	4
Planning, coordinating, implementing and monitoring project activities.	4
Retrieve technical information by using computer aided techniques.	4
Monitor and maintain a safe working environment.	4
Perform work analysis, breakdown of activities and allocate tasks.	4
Assess performance and identify measures and indicators to improve or correct performance.	4
Identify possible impacts and interactions with other related disciplines.	4
Evaluate electrical system response during internal and external events.	4
Ensure compliance with statutory regulations and organisational QSE requirements.	3
Define actions to improve safety culture based on operational feedback.	3
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Analytical thinking	5
Team working	5
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	5
Problem solving	5
Conscientiousness	5
Accountability	4
Planning, organising, allocating and prioritising tasks	4
Decisiveness	4

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1 <sup>ST</sup> ECVET WORKSHOP	4 <sup>TH</sup> ECVET WORKSHOP	5 <sup>TH</sup> ECVET WORKSHOP
14.10.2011	15.05.2013	13.11.2013

Ref	Job Title	Occupational Category
<b>1.2.08</b>	<b>I&amp;C Design Engineer</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	Computer System Design Engineer	Specialist
Design	Control System Design Engineer	
Role / Functions		
<p>Responsible for the design of specific I&amp;C systems as well as computer networking and layouts within specific rules and guidelines. Developing the control, communication and instrumentation systems and installation of components accordance to general design specifications and safety requirements.</p>		
<ul style="list-style-type: none"> <li>Carry out and/or coordinate the conceptual/detailed design assessment of the I&amp;C system, computer system and networking the facilities in NPP following the safety requirements.</li> <li>Provide the documentation, drawings and reports for the I&amp;C systems and power support of the components.</li> <li>Ensure the quality of engineering and technical support services in conformance with established Programs, Policies, Processes, Regulations and appropriate contractual requirements.</li> <li>Ensure compliance with applicable codes, standards, licenses, permits, and permissions governing the design, engineering, construction and operation of nuclear power plant.</li> <li>Maintain configuration management control of nuclear power plant design information for the assigned discipline.</li> <li>Interfacing with the design engineers from different parts (nuclear, civil, mechanical and electrical experts)</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Engineering graphics, drawings and diagrams		6
Computer science and programming (Hardware components and software tools)		6
Nuclear instrumentation		6
Analogue and digital I&C engineering		6
Sensors, measurements and signal processing		6
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		5
National and international codes and standards		5
Quality assurance and control		5
ICT literacy		5
Technical writing		5
LAN engineering and computer networking		5
I&C Cabling Design in specific safety and nuclear environment		5
Electricity supply for safety critical power systems		5
Control and Automation Systems		5
Cyber security		5
Nuclear safety principles and requirements		4
Safety Culture		4
Project management, planning methods and tools		4
Operating experience		4

Radiation Protection	3
Industrial Safety	3
Occupational Safety and personal protective equipment	3
Computer Aided Design and Engineering	3
SKILLS (Technical and functional competence)	EQF level (1-8)
Use and interpret engineering data and technical documentation.	6
Perform conceptual design of I&C systems architecture.	6
Design safety related I&C systems.	6
Design operational I&C systems.	6
Validate and verify I&C systems and architecture (hardware and software).	6
Design I&C software and hardware within specified requirements.	6
Interpret technical specifications to translate them into design.	6
Producing and communicate requirement specifications, technical specifications, procedures and reports.	5
Retrieve technical information by using computer aided techniques.	5
Ensure compliance with statutory regulations and organisational QSE requirements.	4
Identification of safety requirements.	4
Planning, coordinating, implementing and monitoring project activities.	4
Ensure the implementation of engineering codes and standards.	4
Perform work analysis, breakdown of activities and allocate tasks.	4
Assess performance and identify measures and indicators to improve or correct performance.	4
Identify possible impacts and interactions with other related disciplines.	4
Monitor and maintain a safe working environment.	3
Define actions to improve safety culture based on operational feedback.	3
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Analytical thinking	5
Team working	5
Problem solving	5
Conscientiousness	5
Accountability	4
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	4
Planning, organising, allocating and prioritising tasks	4
Decisiveness	4
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1 <sup>ST</sup> ECVET WORKSHOP	4 <sup>TH</sup> ECVET WORKSHOP	5 <sup>TH</sup> ECVET WORKSHOP
14.10.2011	15.05.2013	14.11.2013

Ref	Job Title	Occupational Category
<b>1.2.09</b>	<b>System Design Engineer</b>	Professional
Phase / Area	Alternate job title(s) – specializations	Functional Category
NPP N	Technology Systems of Nuclear Island Design Engineer	Specialist
Design		
Role / Functions		
Responsible for the design of systems and main components of the NPP nuclear island within specified rules and guidelines		
<ul style="list-style-type: none"> <li>• Elaboration of design documentation in full compliance with international and national regulatory requirements</li> <li>• Ensure compliance between different project stages and their implementation into the site</li> <li>• Participate in the development of acceptance test procedures and programs</li> <li>• Monitor factory acceptance tests and attend site acceptance tests</li> <li>• Interfacing with other technical discipline and teams</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
National and international codes and standards		7
Engineering graphics, drawings and diagrams		7
Thermo-hydraulics		7
Computer aided design, engineering and verification and validation		7
Design standards and regulatory requirements		7
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		6
Process system reliability and safety		6
Configuration management		6
Nuclear safety principles and requirements		5
Quality assurance and control		5
ICT literacy		5
Operating experience		5
Nuclear Physics: radioactive decay, neutron-matter interaction		5
Operation of the principal components		5
Deterministic and probabilistic risk assessments		5
Nuclear instrumentation		5
Safety Culture		4
Radiation Protection		4
Industrial Safety		4
Technical writing		4
Human factors engineering		4
Sensors, measurements and signal processing		4
Commissioning procedures for nuclear installations		4

Materials and welding requirements	4
Occupational Safety and personal protective equipment	3
Project management, planning methods and tools	3
SKILLS (Technical and functional competence)	EQF level (1-8)
Prepare conceptual design of the specific system of the NPP nuclear island.	7
Design the specific system and components of the NPP nuclear island in different operation modes: normal, failure, emergency.	7
Use of specific design software tools –thermal hydraulics, reactor physics codes.	7
Implement corrective modifications based on feedback from design implementation.	7
Use and interpret engineering data and technical documentation.	6
Ensure the implementation of engineering codes and standards.	6
Identify possible impacts and interactions with other related disciplines.	6
Design document control system according to configuration management requirements.	6
Ensure compliance with statutory regulations and organisational OSE requirements.	5
Producing and communicate requirement specifications, technical specifications, procedures and reports.	4
Identification of safety requirements.	4
Retrieve technical information by using computer aided techniques.	4
Perform work analysis, breakdown of activities and allocate tasks.	4
Assess performance and identify measures and indicators to improve or correct performance.	4
Planning, coordinating, implementing and monitoring project activities.	3
Monitor and maintain a safe working environment.	3
Define actions to improve safety culture based on operational feedback.	3
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Problem solving	7
Analytical thinking	5
Conscientiousness	5
Stress resistance	5
Accountability	4
Team working	4
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	4
Planning, organising, allocating and prioritising tasks	4
Decisiveness	4

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1 <sup>ST</sup> ECVET WORKSHOP	P. SOTOLA – AF CONSULT CZ	6 <sup>TH</sup> ECVET WORKSHOP
14.10.2011	19.01.2015	18.02.2015



Ref	Job Title	Occupational Category
<b>1.2.12</b>	<b>HVAC Design Engineer</b>	Professional
Phase / Area	Alternate job title(s) – specializations	Functional Category
NPP N	Heating, Ventilation and Air Conditioning (HVAC) Engineer	Specialist
Design		
Role / Functions		
Responsible for the design of HVAC systems, within specified rules and guidelines		
<ul style="list-style-type: none"> <li>Carry out and/or coordinate the conceptual/detailed design of NPP HVAC, ensuring compliance with regulatory and quality standards, preparing the necessary documentation and reporting</li> <li>Defining size and selecting HVAC systems and equipment</li> <li>Ensuring compliance with applicable codes, standards, licenses and permits governing the design, engineering, construction and operation of nuclear power plant</li> <li>Interfacing with other disciplines as required</li> <li>Monitor factory acceptance tests and attend site acceptance tests</li> <li>Participate in the development of acceptance test procedures and programs</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
HVAC engineering, design and standards		7
HVAC systems and components (blowers, fans, valves, heaters, coolers, filters)		7
National and international codes and standards		6
Engineering graphics, drawings and diagrams		6
Engineering data and documentation		6
Safety Culture		5
Radiation Protection		5
Occupational Safety and personal protective equipment		5
Project management, planning methods and tools		5
ICT literacy		5
Technical writing		5
Configuration management		5
Thermo hydraulics, heat transfer		5
HVAC control systems		5
HVAC systems design criteria and specifications		5
HVAC ductwork and piping systems		5
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		4
Nuclear safety principles and requirements		4
Industrial Safety		4
Quality assurance and control		4
Operating experience		4
Human Error Prevention Techniques		3

SKILLS (Technical and functional competence)	EQF level (1-8)
Use and interpret engineering data and technical documentation.	7
Ensure the implementation of engineering codes and standards.	7
Implement design modifications according to corrective feedback received from design implementation.	7
Design the specific system and components of the NPP HVAC in different operation modes: normal, failure, emergency.	7
Use of specific software tools for design of HVAC systems (CAD, PDMS).	7
Inspect and test HVAC systems.	5
Review customer specifications and develop solutions and cost estimates in support of new proposals.	5
Ensure compliance with statutory regulations and organisational OSE requirements.	4
Producing and communicate requirement specifications, technical specifications, procedures and reports.	4
Identify safety requirements.	4
Planning, coordinating, implementing and monitoring project activities.	4
Retrieve technical information by using computer aided techniques.	4
Monitor and maintain a safe working environment.	4
Assess performance and identify measures and indicators to improve or correct performance.	4
Identify possible impacts and interactions with other related disciplines.	4
Perform work analysis, breakdown of activities and allocate tasks.	3
Define actions to improve safety culture based on operational feedback.	3
Participate in safety analysis.	3
COMPETENCE (Attitude; behavioral and personal competence)	EQF level (1-8)
Analytical thinking	5
Accountability	5
Problem solving	5
Conscientiousness	5
Planning, organising, allocating and prioritising tasks	5
Priority setting	5
Team working	4
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	4
Decisiveness	4

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O. DERUELLE/C . D'AGOSTINO	J.JAMBOR – AF CONSULT CZ	6 <sup>TH</sup> ECVET WORKSHOP
15.05.2013	16.01.2015	18.02.2015

Ref	Job Title	Occupational Category
<b>1.2.13</b>	<b>HVAC Technical Draughtsman</b>	Technician
Phase / Area	Alternate job title(s) – specializations	Functional Category
NPP N	Heating, Ventilation and Air Conditioning (HVAC)	Specialist
Design	HVAC Technical Drafter	
Role / Functions		
Responsible for the drawing of HVAC systems, within specified rules and guidelines		
<ul style="list-style-type: none"> <li>Carrying out conceptual/detailed drawings of NPP HVAC, ensuring compliance with technical specifications, regulatory and quality standards, preparing the necessary documentation and reports</li> <li>Ensuring compliance with applicable codes, standards, licenses, permits governing the design, engineering, construction and operation of nuclear power plant</li> <li>Interfacing with other disciplines as required</li> <li>Printing and copying documents in electronic and hard copy formats</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Computer Aided Design tools and techniques		5
Engineering Drawings		5
Configuration Management		4
HVAC engineering documentation and standards		4
Nuclear safety principles: Defense-in-Depth concept, Protective Barrier concept, redundancy, diversity, fail safe, spatial separation, self-monitoring and single failure criterion, safety classification of systems and components.		3
Regulation, codes, standards, policies and procedures in the nuclear field		3
ICT literacy		3
Engineering data and documentation		3
Safety culture		3
NPP systems and components		3
Quality assurance		2
SKILLS (Technical and functional competence)		EQF level (1-8)
Develop drawings, and sketches by using Computer Aided Techniques (CAD, PDMS).		6
Implement technical specifications (HVAC) into drawings.		6
Prepare reports using technical writing.		5
Promote and ensure compliance with statutory regulations, technical specifications and project requirements.		5
Monitor and maintain the quality of processes.		2
COMPETENCE (Attitude; behavioral and personal competence)		EQF level (1-8)
Conscientiousness		4
Problem solving		4
Perseverance		4
Team working		3
Communication skills		

Stress resistance	
Accountability	
Analytical thinking	

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O. DERUELLE / C. D'AGOSTINO	J. JAMBOR – AF CONSULT CZ	6 <sup>TH</sup> ECVET WORKSHOP
16.05.2013	19.01.2015	18.02.2015

Ref	Job Title	Occupational Category
<b>1.2.18</b>	<b>I&amp;C Technical Draughtsman</b>	Technician
Phase / Area	Alternate job title(s) – specializations	Functional Category
NPP N	Instrumentation and Control / I&C Technical Drafter	Specialist
Design		
Role / Functions		
Responsible for the drawings of I&C systems and components, within specified rules and guidelines		
<ul style="list-style-type: none"> <li>Carrying out conceptual/ detailed drawings of NPP I&amp;C systems and components, ensuring compliance with technical specifications, regulatory and quality standards, preparing the necessary documentation and reports</li> <li>Ensuring compliance with applicable codes, standards, licenses and permits governing the design, engineering, construction and operation of NPP</li> <li>Interfacing with the other disciplines as required</li> <li>Printing and copying documents in electronic and hard copy formats</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Computer Aided Design tools and techniques		5
Engineering Drawings		5
Configuration Management		4
Nuclear safety principles: Defence-in-Depth concept, Protective Barrier concept, redundancy, diversity, fail safe, spatial separation, self-monitoring and single failure criterion, safety classification of systems and components.		3
Regulation, codes, standards, policies and procedures in the nuclear field		3
ICT literacy		3
Engineering data and documentation		3
Safety culture		3
NPP systems and components		3
Quality assurance		2
I&C engineering codes and standards		
SKILLS (Technical and functional competence)		EQF level (1-8)
Develop I&C drawings, and sketches by using Computer Aided Techniques (CAD, PDMS).		6
Implement technical specifications into drawings.		6
Prepare reports using technical writing.		5
Promote and ensure compliance with statutory regulations, technical specifications and project requirements.		5
Monitor and maintain the quality of processes.		2
(Attitude; behavioral and personal competence)		EQF level (1-8)
Conscientiousness		4
Problem solving		4
Perseverance		4
Team working		3

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F. PASQUALONI	J. JAMBOR - AF CONSULT CZ	6 <sup>TH</sup> ECVET WORKSHOP
15.05.2013	19.01.2015	18.02.2015

Ref	Job Title	Occupational Category
<b>1.3.01</b>	<b>Construction Project Manager</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	-----	Management
Construction		
Role / Functions		
Supervises and directs the construction of the NPP according to the design requirements.		
<ul style="list-style-type: none"> <li>• Management of all aspects related to the construction of the NPP.</li> <li>• Integration of contractors and subcontractors in the overall time schedule.</li> <li>• Interface between contractor and designer.</li> <li>• Ensure safe development and implementation of the construction activities and the production of the required safety and engineering documentation.</li> <li>• Ensure quality assurance construction activities.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Civil engineering: building construction, Construction engineering Management,		7
General management: budget, human resources, defining organizational objectives and strategies, business improvement, planning, monitoring, evaluating		6
Logistics and supply of needed resources, materials, consumables and components		6
National and international legal framework and licensing		5
Project management software		4
Integrated management system: quality, health & safety, environment, information security		4
Nuclear safety and nuclear safety principles		4
Industrial safety		4
Safety culture principles		4
Safety and security management		4
Technical fundamentals: mechanical, electrical, I&C engineering principles		4
Nuclear power plant: reactor fundamentals, plant systems description		4
Testing and inspection, quality assurance in construction		4
Communication techniques		4
Risk assessment		3
Radiation protection		3
Operating experience		3
Human error prevention techniques		3
Performance improvement methods		3
ICT literacy		3
Communication techniques: negotiation, presentation, writing		3
Emergency preparedness and emergency response		2
SKILLS (Technical and functional competence)		EQF level (1-8)
Compile and analyse legal requirements to ensure and promote compliance with statutory regulations.		6

Manage activities to the highest standards of safety, security, quality, reliability and efficiency.	6
Monitor and maintain a safe working environment.	6
Lead and enforce safety culture.	6
Plan, schedule and monitor activities by using suitable management tools to ensure timely completion within budget.	6
Interface with managers from other disciplines and/or from external organizations.	6
Coordinate response to non-conformities and to unexpected events.	6
Use and interpret technical documentation.	6
Manage, negotiate, direct, control subcontractors.	6
Support the development of quality plans and monitor and maintain quality compliance.	5
Promote and implement continuous improvement tools.	4
Negotiate contract conditions covering all possible contingencies.	4
Develop business plans and forecast needed resources such as materials and manpower utilization.	4
Organize and manage teams: keep track of personnel professional development, identify training needs, select new employees, monitor performance of each team, evaluate and report suitability and availability of those within the allocated teams, allocate professional roles, mentor and coach employees, establish duties and responsibilities, ensure proper levels of guidance and direction.	4
Stay updated on changes on the market, regulations and new operating experience to identify market trends, best practices and/or emerging regulatory issues.	3
Prepare bid and tender enquiries.	3
Conduct commercial follow-up of contracts.	3
Classify information according to security criteria.	3
Create and participate in professional contact networks.	2
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Conflict resolution	7
Leadership	7
Stress resistance	6
Analytical thinking	6
Organizational skills	6
Decisiveness	6
Communication skills	5
Accountability	5

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
2 <sup>ND</sup> ECVET WORKSHOP	2 <sup>ND</sup> ECVET WORKSHOP	6 <sup>TH</sup> ECVET WORKSHOP
24.02.2012	24.02.2012	19.02.2015



Ref	Job Title	Occupational Category
<b>1.3.02</b>	<b>Transverse Engineer</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	<b>Engineering Controller</b> <b>Construction Manager Assistant</b>	Specialist
Construction		
Role / Functions		
Responsible for timely completion of activities during the construction phase of the NPP		
<ul style="list-style-type: none"> <li>Scheduling, planning and overseeing construction activities taking into account critical path activities</li> <li>Verifying critical path and interfaces between design, construction and commissioning</li> <li>Tracking, monitoring and forecasting progress of both construction and commissioning activities</li> <li>Monitoring progress periodically and compare it with the baseline planning</li> <li>Updating the schedule based on inputs received from construction and commissioning engineers</li> <li>Scheduling surveillance procedures according to Regulator Requirements, Technical Specifications and Quality Assurance</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Project management, planning methods and tools		7
Specialized planning and scheduling software		7
Occupational safety and personal protective equipment		6
Technical writing		6
Construction activities monitoring		6
Construction and commissioning procedures		5
Safety Culture		4
Engineering graphics, drawings and diagrams		4
ICT literacy		4
Project risk analysis		4
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		3
Nuclear safety principles and requirements		3
National and international codes and standards		3
Radiation Protection		3
Quality assurance and control		3
Operating experience		3
Technical specifications and regulatory requirements		3
Human error prevention techniques		3
Industrial Safety		2
SKILLS (Technical and functional competence)		EQF level (1-8)
Planning, coordinating, implementing and monitoring project activities.		7
Identify critical path.		7

Ensure compliance with statutory regulations and organizational QSE requirements.	6
Perform work analysis, breakdown of activities and allocate tasks.	6
Producing and communicate requirement specifications, technical specifications, procedures and reports.	5
Analyse and interpret business requirements and end-user feedback and apply analysis to the construction process.	5
Plan, develop, document and implement construction works based on technical specifications and requirements.	5
Carry out project risk assessment and management.	5
Troubleshoot and analyse issue root causes and collaborate with the design and construction teams to resolve.	5
Use and interpret engineering data and technical documentation.	4
Identification of safety requirements.	4
Retrieve technical information by using computer aided techniques.	4
Ensure the implementation of engineering codes and standards.	4
Monitor and maintain a safe working environment.	4
Assess performance and identify measures and indicators to improve or correct performance.	4
Identify possible impacts and interactions with other related disciplines.	4
Define actions to improve safety culture based on operational feedback.	4
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Team working	6
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	6
Problem solving	6
Planning, organizing, allocating and prioritizing tasks	6
Decisiveness	6
Analytical thinking	5
Conscientiousness	5
Flexibility	5
Stress resistance	5
Communication	5
Accountability	4

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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
J. IGLESIAS MORÁN	J.JAMBOR - AFCONSULT CZ	6 <sup>TH</sup> ECVET WORKSHOP
16.05.2013	19.01.2014	19.02.2015

Ref	Job Title	Occupational Category
<b>1.3.03</b>	<b>Mechanical Discipline Engineer</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	Mechanical Discipline Leader	Specialist
Construction		
Role / Functions		
<p>Responsible for the integration of all the activities related to the basic design, detail design, technical documentation and support for project management concerning the mechanical discipline in a NPP, and reporting to the transverse engineer and/or construction project manager.</p> <ul style="list-style-type: none"> <li>• Lead the mechanical engineering discipline related to plant design, construction, and commissioning.</li> <li>• Oversee the correct production of documents and technical specifications also for procurement purpose.</li> <li>• Support construction engineering during components fabrication and system installation, commissioning and operation.</li> <li>• Oversee the interface between the detailed design and the construction of the mechanical systems and components and installation of components.</li> <li>• Manage the performance and development of assigned mechanical engineering personnel relative to site and corporate objectives.</li> <li>• Review and approval of provided documentation, drawings, reports and detailed equipment specifications.</li> <li>• Ensure the quality of engineering and technical support services in compliance with established Programs, Policies, Processes, Regulations and appropriate contractual requirements</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Engineering graphics, drawings and diagrams		7
National and international codes and standards		6
Mechanical Engineering (Mechanical systems and equipment installations)		6
Strategic and operation management		6
Design, construction and commissioning of NPP		6
Mechanical inspection, testing and commissioning		6
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		5
Occupational Safety and personal protective equipment		5
Project management, planning methods and tools		5
Contract management and understanding of main constraints		5
Nuclear safety principles and requirements		4
Safety Culture		4
Radiation Protection		4
Industrial Safety		4
Quality assurance and control		4
ICT literacy		4
Technical writing		4
Operating experience		4

Interdisciplinary engineering (Electrical Engineering, Nuclear Engineering, I&C)	3
Contract management and understanding of main constraints	3
<b>SKILLS (Technical and functional competence)</b>	<b>EQF level (1-8)</b>
Use and interpret engineering data and technical documentation.	6
Ensure compliance with statutory regulations and organisational QSE requirements.	6
Identification of safety requirements.	6
Identify possible impacts and interactions with other related disciplines.	6
Manage engineering project/design related to mechanical systems and equipment.	6
Producing and communicate requirement specifications, technical specifications, procedures and reports.	5
Planning, coordinating, implementing and monitoring project activities.	5
Ensure the implementation of engineering codes and standards.	5
Monitor and maintain a safe working environment.	5
Perform work analysis, breakdown of activities and allocate tasks.	5
Oversee installation, testing and commissioning of mechanical systems and equipment.	5
Retrieve technical information by using computer aided techniques.	4
Assess performance and identify measures and indicators to improve or correct performance.	4
Define actions to improve safety culture based on operational feedback.	4
Monitor and approve proposals for technical modifications and documentation.	4
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Analytical thinking	5
Accountability	5
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	5
Problem solving	5
Decisiveness	5
Team working	4
Conscientiousness	4
Pragmatism and Initiative	4

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
F. PASQUALONI	E.K. PUSKA	5 <sup>TH</sup> ECVET WORKSHOP
15.05.2013	8.11.2013	14.11.2013

Ref	Job Title	Occupational Category
<b>1.3.04</b>	<b>Mechanical Construction Engineer</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	----	Specialist
Construction		
Role / Functions		
Oversee the construction of the mechanical systems and installation of components in a time schedule to support the construction and commissioning of the NPP in accordance to design specifications.		
<ul style="list-style-type: none"> <li>• Provide management of the mechanical engineering discipline with respect to plant design, construction, and commissioning needs.</li> <li>• Monitoring the subcontractors during installation of mechanical equipment-and systems.</li> <li>• Contribute to the quality of engineering and technical support services in compliance with established Programs, Policies, Processes, Regulations and appropriate contractual requirements.</li> <li>• Provide documentation, drawings, reports and detailed equipment specifications for responsible engineering discipline, including acceptance process and resolution of non-conformances.</li> <li>• Provide plant construction and commissioning support</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Project management, planning methods and tools		6
Mechanical systems and equipment installations		6
Mechanical Engineering		6
Mechanical inspection, testing and commissioning		6
National and international codes and standards		5
Engineering graphics, drawings and diagrams		5
Occupational Safety and personal protective equipment		5
Mechanical design standards		5
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		4
Safety Culture		4
Radiation Protection		4
Industrial Safety		4
ICT literacy		4
Technical writing		4
Nuclear safety principles and requirements		3
Quality assurance and control		3
Operating experience		3
Interdisciplinary engineering (Electrical Engineering, Nuclear Engineering, I&C)		3
SKILLS (Technical and functional competence)		EQF level (1-8)
Use and interpret engineering data and technical documentation.		6
Planning, coordinating, implementing and monitoring project activities.		6

Inspect and test mechanical equipment.	6
Ensure compliance with statutory regulations and organisational QSE requirements.	5
Identification of safety requirements.	5
Ensure the implementation of engineering codes and standards.	5
Perform work analysis, breakdown of activities and allocate tasks.	5
Assess performance and identify measures and indicators to improve or correct performance.	5
Prepare proposals for technical modifications.	5
Producing and communicate requirement specifications, technical specifications, procedures and reports.	4
Retrieve technical information by using computer aided techniques.	4
Monitor and maintain a safe working environment.	4
Identify possible impacts and interactions with other related disciplines.	4
Define actions to improve safety culture based on operational feedback.	4
Implement regulations and procedures.	4
Manage sub-contractors.	4
Manage contracts and understand main constraints.	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Analytical thinking	5
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	5
Capability to meet deadlines	5
Accountability	4
Team working	4
Problem solving	4
Conscientiousness	4
Decisiveness	4

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
O. DERUELLE / C. DUPRE	F. PASQUALONI	5 <sup>TH</sup> ECVET WORKSHOP
14.05.2013	15.05.2013	14.11.2013

Ref	Job Title	Occupational Category
<b>1.3.05</b>	<b>Civil Construction Engineer</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	----	Specialist
Construction		
Role / Functions		
Oversee the construction of the plant building and the structure in a time schedule to support the construction and commissioning of the NPP in accordance to design specifications.		
<ul style="list-style-type: none"> <li>• Provide management of the civil engineering project with respect to plant design, construction, commissioning needs.</li> <li>• Provide documentation, drawings, reports and detailed equipment specifications for responsible engineering discipline, including acceptance process and resolution of non-conformances.</li> <li>• Contribute to the quality of engineering and technical support services in compliance with established Programs, Policies, Processes, Regulations and appropriate contractual requirements.</li> <li>• Monitoring the subcontractors during civil construction works.</li> <li>• Provide plant construction and commissioning support</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Project management, planning methods and tools		6
Civil engineering (including Building construction, Structural engineering, metal and concrete construction ...)		6
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		5
National and international codes and standards		5
Engineering graphics, drawings and diagrams		5
Quality assurance and control		5
Civil design standards		5
Safety Culture		4
Industrial Safety		4
Occupational Safety and personal protective equipment		4
ICT literacy		4
Technical writing		4
Nuclear safety principles and requirements		3
Radiation Protection		3
Operating experience		3
Material science		3
Behaviour of structure in seismic conditions		3
Interdisciplinary engineering (Electrical, Mechanical, Nuclear, I&C, etc. )		3
SKILLS (Technical and functional competence)		EQF level (1-8)
Ensure the implementation of engineering codes and standards.		6
Identify, evaluate and develop construction methodologies and solutions.		6

Use and interpret engineering data and technical documentation.	5
Ensure compliance with statutory regulations and organisational QSE requirements.	5
Identification of safety requirements.	5
Planning, coordinating, implementing and monitoring project activities.	5
Monitor and maintain a safe working environment.	5
Perform work analysis, breakdown of activities and allocate tasks.	5
Monitor and control construction from ground level to completion of structure.	5
Appraise of concrete, steel and masonry structures and materials.	5
Producing and communicate requirement specifications, technical specifications, procedures and reports.	4
Retrieve technical information by using computer aided techniques.	4
Assess performance and identify measures and indicators to improve or correct performance.	4
Identify possible impacts and interactions with other related disciplines.	4
Define actions to improve safety culture based on operational feedback.	4
Evaluate risks for site construction operations.	4
Design and validate structural modifications.	4
Manage sub-contractors.	4
Inspect and test building elements, structures and materials.	4
Manage contracts and understand main constraints.	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Planning, organising, allocating and prioritising tasks	6
Analytical thinking	5
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	5
Decisiveness	5
Capability to meet deadlines	5
Accountability	4
Team working	4
Problem solving	4
Conscientiousness	4

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
C. CHENEL	E.K. PUSKA	5 <sup>TH</sup> ECVET WORKSHOP
14.05.2013	8.11.2013	14.11.2013



Ref	Job Title	Occupational Category
<b>1.3.06</b>	<b>Electrical Discipline Engineer</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	Electrical Discipline Leader	Specialist
Construction		
Role / Functions		
Responsible for the integration of all the activities related to the basic design, detail design, technical documentation and support for project management concerning the electrical discipline in a NPP, and reporting to the transverse engineer and/or construction project manager.		
<ul style="list-style-type: none"> <li>• Lead the electrical engineering discipline related to plant design, construction, and commissioning.</li> <li>• Oversee the correct production of documents and technical specifications also for procurement purpose.</li> <li>• Support construction engineering during components fabrication and system installation, commissioning and operation.</li> <li>• Oversee the interface between the detailed design and the construction of the electrical systems and installation of components.</li> <li>• Review and approval of provided documentation, drawings, reports and detailed equipment specifications.</li> <li>• Ensure the quality of engineering and technical support services in compliance with established Programs, Policies, Processes, Regulations and appropriate contractual requirements</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Engineering graphics, drawings and diagrams		6
Strategic and operation management		6
Electrical Engineering (including Electrical systems and equipment installations, High Voltage Engineering)		6
Electrical design standards		6
Electrical inspection, testing and commissioning		6
Electrical Safety		6
Quality assurance and control		5
Project management, planning methods and tools		5
Electricity supply for safety critical power systems		5
NPP electrical protection from the grid		5
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		4
Nuclear safety principles and requirements		4
National and international codes and standards		4
Safety Culture		4
Radiation Protection		4
Industrial Safety		4
Occupational Safety and personal protective equipment		4
ICT literacy		4

Technical writing	4
Operating experience	3
Design, construction and commissioning of NPP	3
Interdisciplinary engineering (Mechanical Engineering, Nuclear Engineering, I&C)	3
Control and Automation Systems	3
<b>SKILLS (Technical and functional competence)</b>	<b>EQF level (1-8)</b>
Use and interpret engineering data and technical documentation.	6
Ensure compliance with statutory regulations and organisational OSE requirements.	6
Producing and communicate requirement specifications, technical specifications, procedures and reports.	6
Identification of safety requirements.	6
Ensure the implementation of engineering codes and standards.	6
Identify possible impacts and interactions with other related disciplines.	6
Manage engineering project/design related to electrical systems and equipment	6
Planning, coordinating, implementing and monitoring project activities.	5
Perform work analysis, breakdown of activities and allocate tasks.	5
Validate / Approve technical writing and electrical schemes.	5
Install, test and commission electrical systems and equipment.	5
Retrieve technical information by using computer aided techniques.	4
Monitor and maintain a safe working environment.	4
Assess performance and identify measures and indicators to improve or correct performance.	4
Monitor and approve proposals for technical modifications and documentation.	4
Define actions to improve safety culture based on operational feedback.	3
Manage contracts and understand main constraints.	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Analytical thinking	5
Accountability	5
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	5
Problem solving	5
Decisiveness	5
Team working	4
Conscientiousness	4

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
2ND ECVET WORKSHOP	F. PASQUALONI	5 <sup>TH</sup> ECVET WORKSHOP
24.03.2012	10.05.2013	13.11.2013

Ref	Job Title	Occupational Category
<b>1.3.07</b>	<b>Electrical Construction Engineer</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	-----	Specialist
Construction		
Role / Functions		
Support and oversee the construction of the electrical systems and installation of components in a time schedule on a group level to support the construction and commissioning of the NPP in accordance to design specifications		
<ul style="list-style-type: none"> <li>• Provide management of the electrical engineering discipline with respect to plant design, construction, and commissioning needs.</li> <li>• Manage the performance and development of assigned electrical engineering personnel relative to site and corporate objectives and provide focus on the attainment of high-quality and compliant engineering results.</li> <li>• Monitoring the subcontractors during construction activities.</li> <li>• Provide documentation, drawings, reports and detailed equipment specifications for responsible engineering discipline, including acceptance process and resolution of non-conformances.</li> <li>• Contribute to the quality of engineering and technical support services in compliance with established Programs, Policies, Processes, Regulations and appropriate contractual requirements.</li> <li>• Check the configuration management of nuclear power plant design information for the assigned discipline (<i>electrical discipline engineer/leader</i>).</li> <li>• Ensure compliance with applicable codes, standards, licenses, permits, and permissions governing the design, engineering, construction and operation of nuclear power plant.</li> <li>• Provide plant construction and commissioning support</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Project management, planning methods and tools		6
Electrical systems, circuits and equipment installations		6
Electrical Engineering		6
Electrical Safety		6
Electrical inspection, testing and commissioning		6
National and international codes and standards		5
Engineering graphics, drawings and diagrams		5
Quality assurance and control		5
Cabling and Electrical Supply		5
Electric Power Generation		5
Electrical design standards		5
Electricity supply for safety critical power systems		5
NPP electrical protection from the grid		5
Nuclear safety principles and requirements		4
Safety Culture		4
Radiation Protection		4
Occupational Safety and personal protective equipment		4
ICT literacy		4

Technical writing	4
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems	3
Industrial Safety	3
Operating experience	3
Control and Automation Systems	3
Interdisciplinary engineering (Mechanical Engineering, Nuclear Engineering, I&C)	3
Contract management and understanding of main constraints	3
<b>SKILLS (Technical and functional competence)</b>	<b>EQF level (1-8)</b>
Use and interpret engineering data and technical documentation.	6
Ensure compliance with statutory regulations and organisational OSE requirements.	6
Ensure the implementation of engineering codes and standards.	6
Inspect and test electrical equipment.	6
Identify safety requirements.	5
Planning, coordinating, implementing and monitoring project activities.	5
Retrieve technical information by using computer aided techniques.	5
Monitor and maintain a safe working environment.	5
Perform work analysis, breakdown of activities and allocate tasks.	5
Assess performance and identify measures and indicators to improve or correct performance.	5
Producing and communicate requirement specifications, technical specifications, procedures and reports.	4
Identify possible impacts and interactions with other related disciplines.	4
Define actions to improve safety culture based on operational feedback.	4
Manage sub-contractors.	4
Manage contracts and understand main constraints.	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Analytical thinking	5
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	5
Capability to meet deadlines	5
Accountability	4
Team working	4
Problem solving	4
Conscientiousness	4
Decisiveness	4

<b>NOTES</b>
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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
2ND ECVET WORKSHOP	F. PASQUALONI	5 <sup>TH</sup> ECVET WORKSHOP
24.03.2012	15.05.2013	13.11.2013

Ref	Job Title	Occupational Category
<b>1.3.08</b>	<b>I&amp;C Discipline Engineer</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	Instrumentation & Control (I&C) Discipline Leader	Specialist
Construction		
Role / Functions		
<p>Responsible for the integration of all the activities related to the basic design, detail design, technical documentation and support for project management concerning the I&amp;C discipline in a NPP, and reporting to the transverse engineer and/or construction project manager</p>		
<ul style="list-style-type: none"> <li>• Lead the I&amp;C engineering discipline related to plant design, construction, and commissioning.</li> <li>• Oversee the correct production of documents and technical specifications also for procurement purpose.</li> <li>• Support construction engineering during components and system fabrication, installation, commissioning and operation.</li> <li>• Oversee the interface between the detailed design and the construction of the I&amp;C systems and installation of components.</li> <li>• Review and approval of provided documentation, drawings, reports and detailed equipment specifications.</li> <li>• Ensure the quality of engineering and technical support services in compliance with established Programs, Policies, Processes, Regulations and appropriate contractual requirements.</li> <li>• Maintain configuration management control of nuclear power plant design information for the I&amp;C discipline</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Engineering graphics, drawings and diagrams		6
Strategic and operation management		6
I&C design standards		6
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		5
National and international codes and standards		5
Quality assurance and control		5
Project management, planning methods and tools		5
Computer science and programming (Hardware components and software tools)		5
Nuclear instrumentation		5
Analogue and digital I&C engineering		5
Sensors, measurements and signal processing		5
LAN engineering and computer networking		5
I&C Cabling in specific safety and nuclear environment		5
Electricity supply for safety critical power systems		5
Control and Automation Systems		5
Nuclear safety principles and requirements		4
Safety Culture		4
Industrial Safety		4
Occupational Safety and personal protective equipment		4

ICT literacy	4
Technical writing	4
Radiation Protection	3
Operating experience	3
Design, construction and commissioning of NPP	3
Interdisciplinary engineering (mechanical, nuclear, electrical, etc... )	3
<b>SKILLS (Technical and functional competence)</b>	<b>EQF level (1-8)</b>
Use and interpret engineering data and technical documentation.	6
Ensure compliance with statutory regulations and organisational OSE requirements.	6
Producing and communicate requirement specifications, technical specifications, procedures and reports.	6
Identification of safety requirements.	6
Ensure the implementation of engineering codes and standards.	6
Identify possible impacts and interactions with other related disciplines.	6
Manage engineering project/design related to I&C systems and equipment.	6
Validate and verify I&C systems and architecture (hardware and software).	6
Planning, coordinating, implementing and monitoring project activities.	5
Perform work analysis, breakdown of activities and allocate tasks.	5
Install, test and commission I&C systems and equipment.	5
Retrieve technical information by using computer aided techniques.	4
Monitor and maintain a safe working environment.	4
Assess performance and identify measures and indicators to improve or correct performance.	4
Monitor and approve proposals for technical modifications and documentation.	4
Define actions to improve safety culture based on operational feedback.	3
Manage contracts and understand main constraints.	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Analytical thinking	5
Accountability	5
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	5
Problem solving	5
Decisiveness	5
Team working	4
Conscientiousness	4
<b>NOTES</b>	
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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
2ND ECVET WORKSHOP	F. PASQUALONI	5 <sup>TH</sup> ECVET WORKSHOP
24.03.2012	15.05.2013	14.11.2013



Ref	Job Title	Occupational Category
<b>1.3.09</b>	<b>I&amp;C Construction Engineer</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	Instrumentation & Control (I&C) Construction Engineer	Specialist
Construction		
Role / Functions		
Oversee the installation of I&C components and systems in a time schedule to support the construction and commissioning of the NPP in accordance to design specifications.		
<ul style="list-style-type: none"> <li>• Provide management of the I&amp;C discipline with respect to plant design, construction, and commissioning needs.</li> <li>• Provide documentation, drawings, reports and detailed equipment specifications for responsible engineering discipline, including acceptance process and resolution of non-conformances.</li> <li>• Contribute to the quality of engineering and technical support services in compliance with established Programs, Policies, Processes, Regulations and appropriate contractual requirements.</li> <li>• Maintain configuration management control of nuclear power plant design information for the assigned discipline.</li> <li>• Provide plant construction and commissioning support.</li> <li>• Monitoring the subcontractors during installation of electrical equipment-and systems</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Engineering graphics, drawings and diagrams		6
Project management, planning methods and tools		6
I&C design standards		6
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		5
National and international codes and standards		5
Quality assurance and control		5
Computer science and programming (Hardware components and software tools)		5
Nuclear instrumentation		5
Analogue and digital I&C engineering		5
Sensors, measurements and signal processing		5
LAN engineering and computer networking		5
I&C Cabling in specific safety and nuclear environment		5
Electricity supply for safety critical power systems		5
Control and Automation Systems		5
Cyber security		5
Nuclear safety principles and requirements		4
Safety Culture		4
Industrial Safety		4
Occupational Safety and personal protective equipment		4
ICT literacy		4
Technical writing		4

Radiation Protection	3
Operating experience	3
Design, construction and commissioning of NPP	3
Interdisciplinary engineering (mechanical, nuclear, electrical)	3
<b>SKILLS (Technical and functional competence)</b>	<b>EQF level (1-8)</b>
Use and interpret engineering data and technical documentation.	6
Ensure the implementation of engineering codes and standards.	6
Inspect, test and verify equipment in I&C systems.	6
Ensure compliance with statutory regulations and organisational OSE requirements.	5
Planning, coordinating, implementing and monitoring project activities.	5
Retrieve technical information by using computer aided techniques.	5
Perform work analysis, breakdown of activities and allocate tasks.	5
Identify safety requirements.	5
Producing and communicate requirement specifications, technical specifications, procedures and reports.	4
Identification of safety requirements.	4
Monitor and maintain a safe working environment.	4
Assess performance and identify measures and indicators to improve or correct performance.	4
Identify possible impacts and interactions with other related disciplines.	4
Define actions to improve safety culture based on operational feedback.	4
Manage sub-contractors.	4
Manage contracts and understand main constraints.	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Analytical thinking	5
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	5
Capability to meet deadlines	5
Accountability	4
Team working	4
Problem solving	4
Conscientiousness	4
Decisiveness	4

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
4 <sup>TH</sup> ECVET WORKSHOP	E.K. PUSKA	5 <sup>TH</sup> ECVET WORKSHOP
14.05.2013	8.11.2013	14.11.2013

Ref	Job Title	Occupational Category
<b>1.3.10</b>	<b>Mechanical Construction Technician</b>	Technician
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	-----	Specialist
Construction		
Role / Functions		
<p>In charge of construction of mechanical systems and installing components in a time schedule in accordance to design specifications.</p> <ul style="list-style-type: none"> <li>• Perform mechanical construction work/installation on plant equipment and systems in compliance with technical specifications and with drawings in order that due dates and completions standards are met.</li> <li>• Collaborate to the quality of engineering and technical support services in compliance with established Programs, Policies, Processes, Regulations and appropriate contractual requirements.</li> <li>• Contribute to monitoring subcontractors activities.</li> <li>• Carry out and manage good practices, techniques, safety methods.</li> <li>• Check that workers are properly trained and qualified to perform assigned activities.</li> <li>• Interface with other discipline groups (like electrical, civil or I&amp;C) to resolve issues.</li> <li>• Promptly investigate and settle grievances</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Engineering data and documentation		5
Mechanical systems and equipment installations		5
Industrial and occupational safety		4
Safety culture		4
Mechanical Engineering		4
Nuclear safety principles: Defence-in-Depth concept, Protective Barrier concept, redundancy, diversity, fail safe, spatial separation, self-monitoring and single failure criterion, safety classification of systems and components.		3
ICT literacy		3
NPP systems and components		3
Quality assurance		3
Error prevention techniques and human performance tools		3
Material Science		3
Fluids mechanics		3
Thermodynamics		3
Regulation, codes, standards, policies and procedures in the nuclear field		2
Operating experience		2
Radiation protection		2
Electrical, civil, I&C Engineering		2
SKILLS (Technical and functional competence)		EQF level (1-8)
Analyse and interpret technical data and documentation.		5
Supervise working activities.		5
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.		5

Give clear instructions and guidance to the rest of members of the team.	5
Mechanical equipment, inspection, testing and commissioning	5
Monitor and maintain a safe work environment.	4
Identify safety functional requirements.	3
Prepare reports using technical writing.	3
Monitor and maintain the quality of processes.	3
Communicate with other disciplines groups as needed to solve issues.	3
Compile and report information for management control and task assignment.	3
Participate to the assessment of risks in the workplace	3
Rigging (moving loads)	3
Promote and ensure compliance with statutory regulations, technical specifications and project requirements.	2
Identify radiation protection requirements and apply radiation protection measures.	2
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Team working	5
Accountability	5
Task allocation and work organisation	5
Conscientiousness	4
Problem solving	4
Communication skills	4
Analytical thinking	3
Multitasking	3
Stress resistance	2

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
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14.05.2013	15.05.2013	14.11.2013

Ref	Job Title	Occupational Category
<b>1.3.11</b>	<b>Civil Construction Technician</b>	Technician
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	-----	Specialist
Construction		
Role / Functions		
In charge of construction of civil works in a time schedule in accordance to design specifications		
<ul style="list-style-type: none"> <li>• Perform civil construction works in compliance with technical specifications and with drawings in order that due dates and completions standards are met</li> <li>• Collaborate to the quality of engineering and technical support services in compliance with established Programs, Policies, Processes, Regulations and appropriate contractual requirements.</li> <li>• Contribute to monitoring subcontractors activities</li> <li>• Carry out and manage good practices, techniques, safety methods</li> <li>• Check that workers are properly trained and qualified to perform assigned activities</li> <li>• Interface with other discipline groups (like electrical, mechanical or I&amp;C) to resolve issues.</li> <li>• Promptly investigate and settle grievances</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Industrial and occupational safety		4
Engineering data and documentation		4
Safety culture		4
Quality assurance		4
Civil engineering (including Building construction, Structural engineering, metal and concrete construction)		4
Civil works inspection		4
Nuclear safety principles: Defence-in-Depth concept, Protective Barrier concept, redundancy, diversity, fail safe, spatial separation, self-monitoring and single failure criterion, safety classification of systems and components.		3
ICT literacy		3
NPP systems and components		3
Error prevention techniques and human performance tools		3
Behaviour of structure in seismic conditions		3
Programs, Policies, Processes, Regulations (civil design standards)		3
Regulation, codes, standards, policies and procedures in the nuclear field		2
Operating experience		2
Radiation protection		2
Material science		2
Interdisciplinary engineering (Electrical, Mechanical, Nuclear, I&C)		2
Heating and ventilation systems		2
SKILLS (Technical and functional competence)		EQF level (1-8)
Analyse and interpret technical data and documentation.		5
Supervise working activities.		5
Lead by example: consistently demonstrating positive behaviours in relation to		5

environment, health and safety, security and quality.	
Give clear instructions and guidance to the rest of members of the team.	5
Monitor and maintain a safe work environment.	4
Inspection and testing of building elements, structures and materials.	4
Appraisal of concrete, steel and masonry structures and materials	4
Identify safety functional requirements.	3
Prepare reports using technical writing.	3
Monitor and maintain the quality of processes.	3
Communicate with other disciplines groups as needed to solve issues.	3
Compile and report information for management control and task assignment.	3
Participate to the assessment of risks in the workplace	3
Rigging (moving loads)	3
Promote and ensure compliance with statutory regulations, technical specifications and project requirements.	2
Identify radiation protection requirements and apply radiation protection measures.	2
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Conscientiousness	5
Team working	5
Accountability	5
Task allocation and work organisation	5
Problem solving	4
Communication skills	4
Analytical thinking	3
Multitasking	3
Stress resistance	2

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
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15.05.2013	8.11.2013	14.11.2013

Ref	Job Title	Occupational Category
<b>1.3.12</b>	<b>Electrical Construction Technician</b>	Technician
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	-----	Specialist
Construction		
Role / Functions		
In charge of construction of electrical systems and installing components in a time schedule in accordance to design specifications		
<ul style="list-style-type: none"> <li>• Perform installation of electrical systems and components in compliance with technical specifications and with drawings in order to meet due dates and completions standards</li> <li>• Collaborate to the quality of engineering and technical support services in compliance with established Programs, Policies, Processes, Regulations and appropriate contractual requirements.</li> <li>• Contribute to monitoring subcontractors activities</li> <li>• Carry out and manage good practices, techniques, safety methods</li> <li>• Check that workers are properly trained and qualified to perform assigned activities</li> <li>• Interface with other discipline groups (like mechanical, civil or I&amp;C) to resolve issues.</li> <li>• Promptly investigate and settle grievances</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Engineering data and documentation		5
Electrical systems and equipment installations		5
Electrical Safety		5
Industrial and occupational safety		4
Safety culture		4
Electrical and Electronic Circuits		4
Nuclear safety principles: Defence-in-Depth concept, Protective Barrier concept, redundancy, diversity, fail safe, spatial separation, self-monitoring and single failure criterion, safety classification of systems and components.		3
ICT literacy		3
NPP systems and components		3
Quality assurance		3
Error prevention techniques and human performance tools		3
Electric Power Generation		3
Electric Power System Analysis and operation		3
Electric Power System Protection		3
Electrical instrumentation		3
Regulation, codes, standards, policies and procedures in the nuclear field		2
Operating experience		2
Radiation protection		2
Mechanical, civil, I&C Engineering		2
SKILLS (Technical and functional competence)		EQF level (1-8)
Analyse and interpret technical data and documentation.		5

Supervise working activities.	5
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	5
Give clear instructions and guidance to the rest of members of the team.	5
Electrical equipment inspection, testing and commissioning	5
Monitor and maintain a safe work environment.	4
Identify safety functional requirements.	3
Prepare reports using technical writing.	3
Monitor and maintain the quality of processes.	3
Communicate with other disciplines groups as needed to solve issues.	3
Compile and report information for management control and task assignment.	3
Participate to the assessment of risks in the workplace	3
Promote and ensure compliance with statutory regulations, technical specifications and project requirements.	2
Identify radiation protection requirements and apply radiation protection measures.	2
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Conscientiousness	5
Team working	5
Accountability	5
Task allocation and work organisation	5
Problem solving	4
Communication skills	4
Analytical thinking	3
Multitasking	3
Stress resistance	2

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
F. PASQUALONI	E.K. PUSKA	5 <sup>TH</sup> ECVET WORKSHOP
15.05.2013	8.11.2013	13.11.2013



Ref	Job Title	Occupational Category
<b>1.3.13</b>	<b>I&amp;C Construction Technician</b>	Technician
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	-----	Specialist
Construction		
Role / Functions		
In charge of installing I&C systems and components in a time schedule in accordance to design specifications		
<ul style="list-style-type: none"> <li>• Perform installation of I&amp;C systems and components in compliance with technical specifications and with drawings in order that due dates and completions standards are met</li> <li>• Collaborate to the quality of engineering and technical support services in compliance with established Programs, Policies, Processes, Regulations and appropriate contractual requirements.</li> <li>• Contribute to monitoring subcontractors activities</li> <li>• Carry out and manage good practices, techniques, safety methods</li> <li>• Check that workers are properly trained and qualified to perform assigned activities</li> <li>• Interface with other discipline groups (like mechanical, civil or electrical) to resolve issues.</li> <li>• Promptly investigate and settle grievances</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Engineering data and documentation		5
Computer science and programming (Hardware components and software tools)		5
Nuclear instrumentation		5
Analogue and digital I&C engineering		5
Sensors, measurements and signal processing		5
LAN engineering and computer networking		5
I&C Cabling in specific safety and nuclear environment		5
Industrial and occupational safety		4
Safety culture		4
Control and Automation Systems		4
Cyber security		4
Nuclear safety principles: Defence-in-Depth concept, Protective Barrier concept, redundancy, diversity, fail safe, spatial separation, self-monitoring and single failure criterion, safety classification of systems and components.		3
ICT literacy		3
NPP systems and components		3
Quality assurance		3
Error prevention techniques and human performance tools		3
Electricity supply for safety critical power systems		3
Regulation, codes, standards, policies and procedures in the nuclear field		2
Operating experience		2
Radiation protection		2
Interdisciplinary engineering (mechanical, nuclear, electrical)		2
SKILLS (Technical and functional competence)		EQF level (1-8)

Analyse and interpret technical data and documentation.	5
Supervise working activities.	5
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	5
Give clear instructions and guidance to the rest of members of the team.	5
I&C components inspection, testing and commissioning.	5
Monitor and maintain a safe work environment.	4
Identify safety functional requirements.	3
Prepare reports using technical writing.	3
Monitor and maintain the quality of processes.	3
Communicate with other disciplines groups as needed to solve issues.	3
Compile and report information for management control and task assignment.	3
Participate to the assessment of risks in the workplace.	3
Promote and ensure compliance with statutory regulations, technical specifications and project requirements.	2
Identify radiation protection requirements and apply radiation protection measures.	2
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Conscientiousness	5
Team working	5
Accountability	5
Task allocation and work organisation	5
Problem solving	4
Communication skills	4
Analytical thinking	3
Multitasking	3
Stress resistance	2

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
F. PASQUALONI	E.K. PUSKA	5 <sup>TH</sup> ECVET WORKSHOP
15.05.2013	8.11.2013	15.11.2013

Ref	Job Title	Occupational Category
<b>1.3.14</b>	<b>Mechanical Construction Worker</b>	Craft
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	Worker for Mechanical Construction Activities	Executive
Construction		
Role / Functions		
Responsible for the mechanical construction activities according to Detailed Design documentation		
<ul style="list-style-type: none"> <li>Performing mechanical construction work on plant equipment and systems consistent with standardized plant fleet practices, policies and procedures.</li> <li>Complying with the procedures applicable in each case, indicating the possible deviations from their supervisors, and suggesting improvements to them.</li> <li>Interfacing with other discipline groups (like electrical, civil or I&amp;C workers)</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Foreign material exclusion		4
Conservation and maintenance of equipment and tools		3
Mechanical systems and equipment installations		3
Mechanical Engineering		3
Reading and interpreting technical writing		3
Engineering Graphics and technical drawing		3
Radiation Protection		2
Occupational and industrial safety		2
Statutory and regulatory requirements, codes, standards, procedures and practices		2
Safety culture		2
Nuclear Power Plant Systems and components		2
Quality assurance		2
Material Science		2
SKILLS (Technical and functional competence)		EQF level (1-8)
Apply foreign material exclusion.		4
Maintain tools, equipment and materials in a proper condition.		3
Identify equipment malfunction.		3
Produce brief technical reports on tasks performed and fill in checklists.		3
Maintain a safe working environment.		3
Understand and follow instructions and procedures.		3
Use Personal Protective Equipment (PPEs).		3
Rig and lift loads.		3
Select and use equipment/tools for a specific job.		2
Comply with statutory requirements, codes and standards.		2
Interpret mechanical schemes.		2
COMPETENCE (Attitude; behavioural and personal competence)		EQF level (1-8)

Manual dexterity	4
Accuracy / Eye for detail	3
Safety attitude	3
Team working	3
Discipline	3
Accountability	3
Stress resistance	2
Communication skills – ability to understand and to be understood	2

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15.05.2013	20.01.2014	17.02.2015

Ref	Job Title	Occupational Category
<b>1.3.15</b>	<b>Civil Construction Worker</b>	Craft
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	Worker for Civil Construction Activities	Executive
Construction		
Role / Functions		
Responsible for the civil and erection activities according to Detailed Design documentation.		
<ul style="list-style-type: none"> <li>Performing civil construction activities on plant construction consistent with standardized plant fleet practices, policies and procedures</li> <li>Complying with the procedures applicable in each case, indicating the possible deviations from their supervisors, and suggesting improvements to them</li> <li>Interfacing with other discipline groups (like electrical, mechanical or I&amp;C worker)</li> <li>Recording of activities performed</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Occupational and industrial safety		3
Safety culture		3
Conservation and maintenance of equipment and tools		3
Building construction		3
Using and interpreting technical writing		3
Quality assurance		3
Engineering Graphics and technical drawing		3
Preservation of building structures		3
Radiation Protection		2
Statutory and regulatory requirements, codes, standards, procedures and practices		2
Civil engineering (concrete, steel, masonry structure)		2
Nuclear Power Plant Systems and components		2
Nuclear safety		2
SKILLS (Technical and functional competence)		EQF level (1-8)
Prepare mortar and concrete according to design and product specifications.		4
Select and use equipment/tools for a specific job.		3
Maintain tools, equipment and materials in a proper condition.		3
Identify equipment malfunction.		3
Produce brief technical reports on tasks performed and fill in checklists.		3
Maintain a safe working environment.		3
Read and interpret civil drawings.		3
Interpret and apply design engineering data and work instructions.		3
Rig and lift loads.		3
Erect and use scaffolds.		3
Install support elements.		3
Fill in records to allow traceability of materials.		3

Understand and follow instructions and procedures.	2
Comply with statutory requirements, codes and standards.	2
Use Personal Protective Equipment (PPEs).	2
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Manual dexterity	3
Accuracy / Eye for detail	3
Safety attitude	3
Team working	3
Stress resistance	3
Accountability	3
Communication skills – ability to understand and to be understood	3
Adaptability	3
Discipline	2

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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
O. DERUELLE / C. DUPRE	P. SOTOLA/J. JAMBOR – AF CONSULT CZ	6 <sup>TH</sup> ECVET WORKSHOP
15.05.2013	21.01.2015	17.02.2015

Ref	Job Title	Occupational Category
<b>1.3.16</b>	<b>Electrical Construction Worker</b>	Craft
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	-----	Executive
Construction		
Role / Functions		
Perform under supervision electrical works, installation of electrical equipment, connecting cables and electrical systems.		
<ul style="list-style-type: none"> <li>• Check the technical characteristics of the electrical equipment from manufacturers according ordered specifications.</li> <li>• Follow existing procedures regarding roles to take over, make testing, commissioning and hand over of electrical equipment.</li> <li>• Connect and put into operation the electrical systems and power supply systems, according to the technical description and under supervisor</li> <li>• Carry out good practices, techniques, safety methods</li> <li>• Interface with other discipline groups (like mechanical, civil or I&amp;C)</li> <li>• Provide information about identified deficiencies and failures of electrical equipment to line management</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Occupational and industrial safety		3
Safety culture		3
Conservation and maintenance of equipment and tools		3
Interpreting electrical schemes		3
Electrical Equipment		3
Electrical installations and cabling		3
Electrical machines and drives, switchyard elements		3
Electrical safety		3
Quality assurance		3
Radiation Protection		2
Statutory and regulatory requirements, codes, standards, procedures and practices		2
NPP Systems and components		2
SKILLS (Technical and functional competence)		EQF level (1-8)
Inspect, test and commission electrical machines and equipment.		4
Check electrical components and systems.		4
Wire electrical circuits.		4
Perform cable layout, sizing and insulation.		4
Select and use equipment/tools for a specific job.		3
Maintain tools, equipment and materials in a proper condition.		3
Identify equipment malfunction.		3
Produce brief technical reports on tasks performed and fill in checklists.		3
Understand and follow instructions and procedures.		3
Use Personal Protective Equipment (PPEs).		3

Use of technical electrical schemes.	3
Evaluate the electrical system response.	3
Maintain a safe working environment.	2
Comply with statutory requirements, codes and standards.	2
Perform electrical and electronic measurement.	2
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Manual dexterity	4
Accountability	4
Accuracy / Eye for detail	3
Safety attitude	3
Team working	3
Discipline	3
Effectiveness	3
Stress resistance	2
Communication skills – ability to understand and to be understood	2
Priority setting	2

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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
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15.05.2013	13.11.2013	13.11.2013



Ref	Job Title	Occupational Category
<b>1.3.17</b>	<b>I&amp;C Construction Worker</b>	Craft
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	Instrumentation and Control Construction Worker	Executive
Construction		
Role / Functions		
Responsible for I&C construction activities according to Detailed Design documentation.		
<ul style="list-style-type: none"> <li>• Making under supervision installation of equipment for instrumentation and control systems with wiring and networking of the I&amp;C and IT systems</li> <li>• Check the equipment supplied by equipment manufacturers to technical description and purchasing specifications</li> <li>• Following existing procedures for installation, verification and take-over of I&amp;C equipment</li> <li>• Providing records about installed and tested equipment</li> <li>• Labelling of I&amp;C equipment and components</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Using and interpreting electrical schemes		5
Electronic Circuits		5
Electrical installations and cabling		5
Electronics, Signals, and Measurement		5
Electrical safety and hazards		5
Radiation Protection		3
Occupational and industrial safety		3
Conservation and maintenance of equipment and tools		3
Labelling standards for electronic equipment		3
Statutory and regulatory requirements, codes, standards, procedures and practices		2
Safety culture		2
Computer systems and networking		2
Evaluation of response of the electrical system		2
NPP Systems and components		2
SKILLS (Technical and functional competence)		EQF level (1-8)
Select and use equipment/tools for a specific job.		3
Maintain tools, equipment and materials in a proper condition.		3
Identify equipment malfunction.		3
Produce brief technical reports on tasks performed and fill in checklists.		3
Maintain a safe working environment.		3
Understand and follow instructions and procedures.		3
Understand and use technical electrical schemes and cabling layouts.		3
Perform instrumentation and control equipment verification.		3
Install and check components for I&C systems.		3
Wire and connect electrical circuits.		3

Comply with statutory requirements, codes and standards.	2
Use Personal Protective Equipment (PPEs).	2
Perform electrical and electronic measurement.	2
Operate drilling and cutting tools.	2
Use scaffolds and ladders.	2
Perform electrical soldering.	2
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Accountability	4
Accuracy / Eye for detail	3
Safety attitude	3
Team working	3
Discipline	3
Stress resistance	3
Problem solving	3
Manual dexterity	2
Communication skills – ability to understand and to be understood	2

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
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15.05.2013	21.01.2015	17.02.2015

Ref	Job Title	Occupational Category
<b>1.3.18</b>	<b>Occupational Safety manager</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N Construction	Manager for Safety and Security Department during the construction	Management
Role / Functions		
Responsible for managing the safety and security department according to the regulatory authorities and plant procedures during construction. It means:		
<ul style="list-style-type: none"> <li>• Performing the procedures of the Safety and Security department.</li> <li>• Ensuring safety and security documents are in accordance with both national and international regulations.</li> <li>• Responsible for communication with personnel and contractors in order to respect the safety regulations.</li> <li>• Managing the technical specification for contract as well as relationship with the security external company.</li> <li>• Managing the relationships with the local, regional and national security forces.</li> <li>• Developing the Safety and Security Department in accordance with plant and company policies along with public expectations.</li> <li>• Supervising the operability of the security systems during construction</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Security Systems and safeguards. Applications and Concepts		7
Project management software		6
General management: budget, human resources, defining organizational objectives and strategies, business improvement, planning, monitoring, evaluating		6
National and international legal framework and licensing		6
Safety and security management		6
Risk assessment		6
Communication techniques: negotiation, presentation, writing		6
Occupational Safety		6
Integrated management system: quality, health & safety, environment, information security		5
Industrial safety		5
Safety culture principles		5
Nuclear power plant: reactor fundamentals, plant systems description		5
Radiation protection		5
Nuclear safety and nuclear safety principles		4
Technical fundamentals: mechanical, electrical, I&C engineering principles		4
Operating experience		4
Human error prevention techniques		4
Performance improvement methods		4
ICT literacy		4
Emergency preparedness and emergency response		4
Process System Reliability and Safety		4

SKILLS (Technical and functional competence)	EQF level (1-8)
Compile and analyse legal requirements to ensure and promote compliance with statutory regulations.	6
Stay updated on changes on the market, regulations and new operating experience to identify market trends, best practices and/or emerging regulatory issues.	6
Manage activities to the highest standards of safety, security, quality, reliability and efficiency.	6
Monitor and maintain a safe working environment.	6
Lead and enforce safety culture.	6
Plan, schedule and monitor activities by using suitable management tools to ensure timely completion within budget.	6
Interface with managers from other disciplines and/or from external organisations.	6
Create and participate in professional contact networks.	6
Support the development of quality plans and monitor and maintain quality compliance.	6
Coordinate response to non-conformities and to unexpected events.	6
Specify Safety and Security procedures content.	6
Conduct assessment of risks in the workplace.	6
Management of producing of Safety and Security documentation.	6
Support the development of the site Safety and Security and best available techniques cases.	6
Classify information according to security criteria.	5
Promote and implement continuous improvement tools.	4
Develop business plans and forecast needed resources such as materials and manpower utilization.	4
Organize and manage teams: keep track of personnel professional development, identify training needs, select new employees, monitor performance of each team, evaluate and report suitability and availability of those within the allocated teams, allocate professional roles, mentor and coach employees, establish duties and responsibilities, ensure proper levels of guidance and direction.	4
Prepare bid and tender enquiries.	3
Negotiate contract conditions covering all possible contingencies.	3
Conduct commercial follow-up of contracts.	3
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Accountability	7
Conflict resolution	7
Analytical thinking	7
Organizational skills	7
Decisiveness	7
Communication skills	6
Conscientiousness	6
Stress resistance	4
Leadership	4

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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
4 <sup>TH</sup> ECVET WORKSHOP	D. CIURCHEA	P. SOTOLA – AF CONSULT CZ
17.05.2013	07.11.13	20.01.2014

Ref	Job Title	Occupational Category
<b>1.3.19</b>	<b>Quality manager</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	-----	Management
Construction		
Role / Functions		
<p>Responsible for development and implementation of quality management system/QMS in compliance with international and national standards</p> <p>Manage the development, implementation, and continuous improvement of quality management activities at the NPP</p>		
<ul style="list-style-type: none"> <li>Review, check, approve and maintain QA/QC program and procedures in compliance with applicable and quality standards requirements, and ensure that these are implemented effectively</li> <li>Hold point approval, monitoring, surveillance, and audit of activities for compliance with program and quality requirements</li> <li>Audit subcontractors and ensure that their level of quality management corresponds to what is required (management of the process for qualification of subcontractors)</li> <li>Plan, direct and perform QA/QC audits of internal and external organizations that are executing program functions</li> <li>Identify and report quality issues and trends based on data from a variety of sources.</li> <li>Recommend and ensure implementation of appropriate corrective action to quality issues, in coordination with management</li> <li>Provide input to management on organization performance metrics, and process or procedural system improvements</li> <li>Act as liaison with contractors and/or internal departments on quality related matters. Serves as the primary point of contact for external audits/assessments.</li> <li>Recommend related training actions and assist in training employees on quality awareness and improvement</li> <li>Planning, implementing and monitoring activities and projects relevant for QMS</li> <li>Promote and ensure compliance with statutory regulations and organizational quality requirements.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Integrated management system: quality, health & safety, environment, information security		6
National and International Quality standards		6
Specific standards for quality management in nuclear installations		6
Quality audit techniques		6
Quality management Company's policies and procedures		6
Quality plans and quality assurance		6
Nuclear safety and nuclear safety principles		5
Root cause analysis		5
Project management software		4
General management: budget, human resources, defining organisational objectives and strategies, business improvement, planning, monitoring, evaluating		4
Industrial safety		4
Safety culture principles		4
Safety and security management		4

Nuclear power plant: reactor fundamentals, plant systems description	4
Radiation protection	4
Operating experience	4
Performance improvement methods	4
ICT literacy	4
Communication techniques: negotiation, presentation, writing	4
Emergency preparedness and emergency response	4
Risk assessment	3
Technical fundamentals: mechanical, electrical, I&C engineering principles	3
Human error prevention techniques	3
<b>SKILLS (Technical and functional competence)</b>	<b>EQF level (1-8)</b>
Compile and analyse legal requirements to ensure and promote compliance with statutory regulations.	6
Interface with managers from other disciplines and/or from external organizations.	6
Support the development of quality plans and monitor and maintain quality compliance.	6
Coordinate response to non-conformities and to unexpected events.	6
Coordinate change management of processes.	6
Audit, manage, negotiate and direct subcontractors.	6
Use of software for business process modelling.	6
Perform root cause analysis of non-conformities.	6
Manage activities to the highest standards of safety, security, quality, reliability and efficiency.	5
Lead and enforce safety culture.	5
Promote and implement continuous improvement tools.	5
Use and interpret data, documentation, diagrams and drawings.	5
Review and approve quality management processes.	5
Develop and implement corrective action program.	5
Stay updated on changes on the market, regulations and new operating experience to identify market trends, best practices and/or emerging regulatory issues.	4
Monitor and maintain a safe working environment.	4
Plan, schedule and monitor activities by using suitable management tools to ensure timely completion within budget.	4
Create and participate in professional contact networks.	4
Negotiate contract conditions covering all possible contingencies.	4
Conduct commercial follow-up of contracts.	4
Organize and manage teams: keep track of personnel professional development, identify training needs, select new employees, monitor performance of each team, evaluate and report suitability and availability of those within the allocated teams, allocate professional roles, mentor and coach employees, establish duties and responsibilities, ensure proper levels of guidance and direction.	4
Classify information according to security criteria.	4

Prepare bid and tender enquiries.	3
Develop business plans and forecast needed resources such as materials and manpower utilization.	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Communication skills	6
Team Working	6
Accountability	5
Conflict resolution	5
Stress resistance	5
Analytical thinking	5
Organisational skills	5
Drive for achievement	4

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
I. KULPA	F. PASQUALONI	6 <sup>TH</sup> ECVET WORKSHOP
10.04.2013	15.05.2013	19.02.2015



Ref	Job Title	Occupational Category
<b>1.3.20</b>	<b>Quality Control Technician</b>	Technician
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	-----	Specialist
Construction		
Role / Functions		
<p>Responsible for implementation of quality management system/QMS in compliance with international and national standards.</p> <p>Contribute to the development, implementation, and continuous improvement of quality management activities at the NPP.</p>		
<ul style="list-style-type: none"> <li>Review and check Quality Program/Plans and Procedures in compliance with applicable and quality standards requirements, and ensure that these are implemented and observed effectively.</li> <li>Reviews subcontractors' quality programs to assure they are in compliance with contract requirements.</li> <li>Carry out Quality audits of internal and external organizations that are executing functions in the scope of QMS. Ensure quality requirements are met, documented and recorded.</li> <li>Identify and report quality issues or trends based on data from a variety of sources, recommending the appropriate corrective actions to resolve the finding in coordination with program management.</li> <li>Manage the response to external audits.</li> <li>Control the Corrective Action Program and analyse its data to determine trends and effectiveness of corrective actions</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Quality assurance		6
National and International Quality standards		6
Specific standards for quality management in nuclear installations		6
Nuclear safety principles: Defence-in-Depth concept, Protective Barrier concept, redundancy, diversity, fail safe, spatial separation, self-monitoring and single failure criterion, safety classification of systems and components.		5
Safety culture		5
Auditing techniques		5
Non-Conformities treatment		5
Root cause analysis		5
IT business modelling and office applications		5
Quality management Company's policies and procedures		5
Quality plans and quality assurance		5
Regulation, codes, standards, policies and procedures in the nuclear field		4
Operating experience		4
ICT literacy		4
Product control and verification		4
Software quality assurance: verification & acceptance		4
Control measurement and test equipment		4
Develop and implement corrective action program		4
Industrial and occupational safety		3

NPP systems and components	3
Radiation protection	3
Error prevention techniques and human performance tools	3
Statistical methods	3
Emergency Preparedness and Emergency Response	3
Engineering data and documentation	2
<b>SKILLS (Technical and functional competence)</b>	<b>EQF level (1-8)</b>
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	5
Identify safety functional requirements.	4
Monitor and maintain a safe work environment.	4
Prepare reports using technical writing.	4
Monitor and maintain the quality of processes.	4
Promote and ensure compliance with statutory regulations, technical specifications and project requirements.	4
Communicate with other disciplines groups as needed to solve issues.	4
Give clear instructions and guidance to the rest of members of the team.	4
Manage, negotiate, control subcontractors	4
Review description of quality management processes	4
Analyse and interpret technical data and documentation.	2
Identify radiation protection requirements and apply radiation protection measures.	2
Compile and report information for management control and task assignment.	2
Supervise working activities.	2
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Conscientiousness	4
Problem solving	4
Communication skills	4
Accountability	4
Analytical thinking	4
Team working	3
Stress resistance	3
Task allocation and work organisation	3

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
J. IGLESIAS MORÁN	F. PASQUALONI	6 <sup>TH</sup> ECVET WORKSHOP
16.04.2013	17.05.2013	19.02.2015

Ref	Job Title	Occupational Category
<b>1.3.21</b>	<b>Environmental Manager</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	Manager for Approval, Monitoring, Surveillance Activities for compliance with environmental requirements during the construction	Management
Construction		
Role / Functions		
Responsible for hold point approval, monitoring, surveillance activities for compliance with environmental requirements.		
<ul style="list-style-type: none"> <li>Review and approval and monitoring of all the processes and procedures with possible impact on environment concerning the NPP activities</li> <li>Reviewing, checking, approving and maintaining QA/QC program and procedures in compliance with applicable requirements and standards, and ensuring these are implemented and observed effectively</li> <li>Reviewing subcontractors' quality programs to assure they are in compliance with environmental requirements</li> <li>Supervising QC programs and certification of QC inspectors</li> <li>Performing audits of internal and external organizations that are executing functions related to environmental issues</li> <li>Assuring environmental protection requirements are met, documented, and recorded. Identifying and reporting environmental issues or trends based on data from a variety of sources. Recommending and ensure implementation of appropriate corrective action to environmental issues, in coordination with the plant management</li> <li>Providing input to plant management on organization performance metrics, and process or procedural system improvements in relationship with environment protection measures</li> <li>Acting as a cohesive factor with contractors and/or internal departments on environment related matters.</li> <li>Assisting Project Managers with corrective actions plans/reports that address deficiencies, gaps and inconsistencies with specific projects. Assisting with internal project audits and project closeout</li> <li>Recommending related training needs and assisting in training employees on environment protection awareness and improvement.</li> <li>Managing of the Corrective Action Program and analysing data from the Corrective Action Program to determine trends and effectiveness of corrective actions</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Integrated management system: quality, health & safety, environment, information security		6
National and international legal framework and licensing		6
National and International environmental regulators and related documentation		6
National and International Environmental Requirements		6
Special requirements for quality assurance in Nuclear filed		6
Radioprotection and radiological impact on environment and population		6
Company's policies and procedures about environment and related processes		6
Emergency preparedness and emergency response		5
Root cause analysis		5
Corrective action program		5
General operational techniques and control methods		5
Occupational Safety		5

Project management software	4
General management: budget, human resources, defining organisational objectives and strategies, business improvement, planning, monitoring, evaluating	4
Nuclear safety and nuclear safety principles	4
Safety culture principles	4
Nuclear power plant: reactor fundamentals, plant systems description	4
Operating experience	4
ICT literacy	4
Communication techniques: negotiation, presentation, writing	4
Chemistry bases	4
Hydrogeology, topography, meteorological bases	4
Local social life, behaviour and culture, included alimentation	4
Industrial safety	3
Safety and security management	3
Risk assessment	3
Human error prevention techniques	3
Performance improvement methods	3
Technical fundamentals: mechanical, electrical, I&C engineering principles	2
<b>SKILLS (Technical and functional competence)</b>	<b>EQF level (1-8)</b>
Manage activities to the highest standards of safety, security, quality, reliability and efficiency.	7
Review and approve environmental management processes.	7
Compile and analyse legal requirements to ensure and promote compliance with statutory regulations.	6
Stay updated on changes on the market, regulations and new operating experience to identify market trends, best practices and/or emerging regulatory issues.	6
Lead and enforce safety culture.	6
Plan, schedule and monitor activities by using suitable management tools to ensure timely completion within budget.	6
Interface with managers from other disciplines and/or from external organizations.	6
Support the development of quality plans and monitor and maintain quality compliance.	6
Coordinate response to non-conformities and to unexpected events.	6
Monitor subcontractors environmental and program implementation.	6
Monitor and maintain a safe working environment.	5
Promote and implement continuous improvement tools.	5
Organize and manage teams: keep track of personnel professional development, identify training needs, select new employees, monitor performance of each team, evaluate and report suitability and availability of those within the allocated teams, allocate professional roles, mentor and coach employees, establish duties and responsibilities, ensure proper levels of guidance and direction.	5
Using and interpreting data, documentation, diagrams and drawings.	5

Develop the operations environmental management documentation within the management system to create a systematic, structured and results based approach towards environmental management.	5
Support other functions within the organisation by providing Environmental Compliance input to ensure that environmental requirements are integrated across the organization.	5
Create and participate in professional contact networks.	4
Conduct assessment of environmental risks inside and outside the plant.	4
Identification of environment related requirements and solutions.	4
Develop and maintain systems to ensure compliance with environmental regulator requirements, commitments, and obligations.	4
Prepare bid and tender enquiries.	3
Develop business plans and forecast needed resources such as materials and manpower utilization.	3
Classify information according to security criteria.	3
Negotiate contract conditions covering all possible contingencies.	2
Conduct commercial follow-up of contracts.	
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Communication skills	7
Conflict resolution	7
Accountability	6
Analytical thinking	6
Team Working	6
Organizational skills	5
Multitasking and priority setting	5
Conscientiousness	5

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
F. PASQUALONI	D. CIURCHEA	P. SOTOLA – AF CONSULT CZ
15.04.2013	07.11.2013	20.01.2014

Ref	Job Title	Occupational Category
<b>1.3.22</b>	<b>Welder</b>	Craft
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	Welding Technique Specialist	Specialist
Construction		
Role / Functions		
Manufacture of connections and joints of different materials by means of various welding techniques.		
<ul style="list-style-type: none"> <li>• Preparation of surfaces for welding</li> <li>• On-site welding of piping, components and structures</li> <li>• Post-welding preparation for inspection</li> <li>• Check and repair of welding flaws</li> <li>• Preparing records on welding activities</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Industrial welding techniques, resistance spot welding, pressure welding (*)		6
Narrow gap orbital TIG (Tungsten Inert Gas) welding (NGOT)		6
Steel qualities and their behaviour relating with radioactive radiation exposure		6
Bimetallic welds between low-alloy ferritic steel and austenitic stainless steel		6
Conservation and maintenance of equipment and tools		4
Material science and metallurgy		4
Understand and interpret technical drawings		4
Inductive bend method		4
Occupational and industrial safety		3
Statutory and regulatory requirements, codes, standards, procedures and practices		3
Safety culture		3
Radiation Protection		2
SKILLS (Technical and functional competence)		EQF level (1-8)
Execute continuous welding seams at a large variety of ducts, structures and components in the plant.		6
Control and supervise the fully automated advanced welding machinery, e.g. NGOT-welding.		6
Apply quenching and extended cool-down processes to the welds of welded components in the post-welding phase.		6
Maintain tools, equipment and materials in a proper condition.		4
Record tasks performed including steps of welding progress.		4
Select and use equipment/tools for a specific job.		3
Identify equipment malfunction.		3
Maintain a safe working environment.		3
Understand and follow instructions and procedures.		3
Comply with statutory requirements, codes and standards.		3
Use Personal Protective Equipment (PPEs).		3
Prepare surfaces for required weld inspection: ultrasonic, x-ray, visual, penetrating liquid.		3

Operate grinding and cutting hand and electrical tools.	3
Produce brief technical reports on tasks performed and fill in checklists.	2
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Manual dexterity	4
Accountability	4
Accuracy / Eye for detail	3
Safety attitude	3
Team working	3
Discipline	3
Stress resistance	3
Communication skills – ability to understand and to be understood	2

NOTES

\*other welding methods described in profile 2.7.11

DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
M. BURKHARD - TRAINWARE C.	P. SOTOLA - AF CONSULT CZ	6TH ECVET WORKSHOP
03.01.2015	03.02.2015	17.02.2015

Ref	Job Title	Occupational Category
<b>1.3.25</b>	<b>HVAC Construction Engineer</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	Heating, Ventilation and Air Conditioning (HVAC)	Specialist
Construction	Construction Engineer	
Role / Functions		
Responsible for the HVAC erection activities according to Detailed Design documentation.		
<ul style="list-style-type: none"> <li>• Support and oversee the HVAC installation in a time schedule on a group level to support the construction and commissioning of the NPP in accordance to design specifications.</li> <li>• Providing management of the HVAC engineering discipline with respect to plant design, construction, and commissioning needs.</li> <li>• Managing the performance and development of assigned HVAC engineering personnel relative to site and corporate objectives and provide focus on the attainment of high-quality and compliant engineering results.</li> <li>• Monitoring the subcontractors during construction activities.</li> <li>• Ensuring the quality of engineering and technical support services in conformance with established Programs, Policies, Processes, Regulations and appropriate contractual requirements.</li> <li>• Ensuring compliance with applicable codes, standards, licenses, permits, and permissions governing the design, engineering, construction and operation of nuclear power plant</li> <li>• Updating or ensure the update of documentation according to site evolutions during the construction.</li> <li>• Overseeing provided documentation, drawings, reports and detailed equipment specifications for HVAC engineering, including acceptance process and resolution of non-conformances.</li> <li>• Providing plant construction and commissioning support.</li> <li>• Interface with other technical disciplines and teams</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Conceptual design of the specific system of the NPP HVAC		5
Engineering graphics, drawings and diagrams		6
Fluids mechanics		4
Human Error Prevention Techniques		4
HVAC engineering and standards		6
HVAC systems and equipment installations		7
ICT literacy		3
Industrial Safety		4
National and international codes and standards		6
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		3
Nuclear safety principles and requirements		4
Occupational Safety and personal protective equipment		4
Operating experience		3
Operating Experience		3
Project management, planning methods and tools		6
Quality assurance and control		3



Radiation Protection	3
Safety Culture	4
Technical writing	5
Thermo hydraulics, heat transfer	4
Welding and duct connection	4
<b>SKILLS (Technical and functional competence)</b>	<b>EQF level (1-8)</b>
Assess performance and identify measures and indicators to improve or correct performance.	5
Define actions to improve safety culture based on operational feedback.	4
Ensure the implementation of engineering codes and standards.	5
Identification of safety requirements.	4
Identify possible impacts and interactions with other related disciplines.	6
Implement the specific system and components of the NPP HVAC in different operation modes: normal, failure, emergency.	6
Install, inspect and test HVAC equipment.	6
Monitor and maintain a safe working environment.	4
Perform work analysis, breakdown of activities and allocate tasks.	6
Planning, coordinating, implementing and monitoring project activities.	6
Producing and communicate requirement specifications, technical specifications, procedures and reports.	5
Retrieve technical information by using computer aided techniques.	3
Use and interpret engineering data and technical documentation.	5
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Accountability	4
Analytical thinking	4
Communication	5
Conscientiousness	5
Decisiveness	5
Leadership	4
Problem solving	5
Team working	4

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
O. DERUELLE	P. SOTOLA - AF CONSULT CZ	6 <sup>TH</sup> ECVET WORKSHOP
17.05.2013	20.01.2014	19.02.2015

Ref	Job Title	Occupational Category
<b>1.3.26</b>	<b>HVAC Construction Technician</b>	Technician
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	Heating, Ventilation and Air Conditioning (HVAC)	Specialist
Construction	Construction Technician	
Role / Functions		
Responsible for supervising the execution of HVAC construction activities according to the design documentation.		
<ul style="list-style-type: none"> <li>Performing HVAC installation and testing consistent with standardized plant fleet practices, policies and procedures.</li> <li>Assigning tasks to his team members.</li> <li>Carrying out his job in order that due dates and completions standards are met.</li> <li>Carrying out and manage good practices, techniques, safety methods, organization.</li> <li>Detect defects and execution flaws, settle or report as required according to the safety implications</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Regulation, codes, standards, policies and procedures in the nuclear field		5
HVAC systems and equipment installations		5
HVAC engineering		5
Industrial and occupational safety		4
Welding, duct , pipe and component connections		4
HVAC equipment inspection, testing and commissioning		4
Nuclear safety principles: Defence-in-Depth concept, Protective Barrier concept, redundancy, diversity, fail safe, spatial separation, self-monitoring and single failure criterion, safety classification of systems and components.		3
Operating experience		3
ICT literacy		3
Engineering data and documentation		3
NPP systems and components		3
Fluids mechanics		3
Thermohydraulics		3
Safety culture		2
Quality assurance		2
Radiation protection		2
Error prevention techniques and human performance tools		2
SKILLS (Technical and functional competence)		EQF level (1-8)
Analyse and interpret technical data and documentation.		5
Supervise working activities.		5
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality		5
Give clear instructions and guidance to the rest of members of the team.		5
Installation of heating, ventilation and air conditioning equipment, components, lines, pipes, filters and ducts		5

Using and interpreting HVAC schemes, data and documentation	4
Troubleshooting HVAC systems	4
Use of electrical, pressure, temperature and flow measuring instruments	4
Identify safety functional requirements.	3
Monitor and maintain a safe work environment.	3
Prepare reports using technical writing.	3
Communicate with other disciplines groups as needed to solve issues.	3
Compile and report information for management control and task assignment.	3
Allocate tasks and organize/plan work	3
Preparing proposals for technical modifications, reports	3
Rigging and lifting, operating cranes (moving loads)	3
Use of electro-mechanical and hand tools	3
Monitor and maintain the quality of processes	2
Promote and ensure compliance with statutory regulations, technical specifications and project requirements.	2
Identify radiation protection requirements and apply radiation protection measures	2
Participation in assessment of risks at the workplace	2
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Accountability	5
Task allocation and work organisation	5
Conscientiousness	4
Team working	4
Problem solving	4
Communication skills	3
Stress resistance	3
Analytical thinking	3
Leadership	3
Coaching	3

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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
O. DERUELLE	P. SOTOLA - AF CONSULT CZ	6 <sup>TH</sup> ECVET WORKSHOP
17.05.2013	20.01.2014	19.02.2015

Ref	Job Title	Occupational Category
<b>1.4.01</b>	<b>Electrical Commissioning Engineer</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	-----	Specialist
Commissioning		
Role / Functions		
Commission the electrical systems of the NPP according to released and approved procedures and instructions		
<ul style="list-style-type: none"> <li>• Develop Commissioning Procedures and Instructions taking into account the observations during construction phase.</li> <li>• Supervise and coordinate commissioning activities related to the electrical systems.</li> <li>• Perform first start-up of the temporary and final installed electrical systems and prepare the interface with operation and maintenance.</li> <li>• Document all commissioning activities.</li> <li>• Report to the discipline manager.</li> <li>• Mentor future maintenance and operational personnel of the systems</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Electrical Engineering (including Electrical systems and equipment installations, High Voltage Engineering)		6
Electrical inspection, testing and commissioning		6
Electrical Safety		6
Engineering graphics, drawings and diagrams		6
Programs, Policies, Processes, Regulations (electrical design standards)		6
Electrical Equipment (Machines, Drives, Transformer, Switchgear)		5
Electricity supply for safety critical power systems		5
Interdisciplinary engineering (Mechanical Engineering, Nuclear Engineering, I&C)		5
National and international codes and standards		5
NPP electrical protection from the grid		5
Project management, planning methods and tools		5
Quality assurance and control		5
Safety Culture		5
Control and Automation Systems		4
Design, construction and commissioning of NPP		4
ICT literacy		4
Industrial Safety		4
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		4
Nuclear safety principles and requirements		4
Occupational Safety and personal protective equipment		4
Operating experience		4
Radiation Protection		4

Strategic and operation management	4
Technical writing	4
<b>SKILLS (Technical and functional competence)</b>	<b>EQF level (1-8)</b>
Define actions to improve safety culture based on operational feedback.	6
Ensure compliance with statutory regulations and organisational QSE requirements.	6
Ensure the implementation of engineering codes and standards.	6
Identification of safety requirements.	6
Identify possible impacts and interactions with other related disciplines.	6
Producing and communicate requirement specifications, technical specifications, procedures and reports.	6
Use and interpret engineering data and technical documentation.	6
Identify and rectify faults in electrical equipment.	5
Perform work analysis, breakdown of activities and allocate tasks.	5
Planning, coordinating, implementing and monitoring project activities.	5
Test and commission electrical systems and equipment.	5
Assess performance and identify measures and indicators to improve or correct performance.	4
Monitor and approve proposals for technical modifications and documentation.	4
Monitor and maintain a safe working environment.	4
Retrieve technical information by using computer aided techniques.	4
Validate / Approve technical writing and electrical schemes.	4
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Ability to work in proactive and autonomous way	5
Accountability	5
Analytical thinking	5
Decisiveness	5
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	5
Problem solving	5
Conscientiousness	4
Effective Interactive Communication	4
Team working	4

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
B. BUHAI	2 <sup>ND</sup> ECVET WORKSHOP	5 <sup>TH</sup> ECVET WORKSHOP
24.03.2012	24.03.2012	14.11.2013

Ref	Job Title	Occupational Category
<b>1.4.02</b>	<b>Mechanical Commissioning Engineer</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	-----	Specialist
Commissioning		
Role / Functions		
Commission mechanical components of the NPP according to released and approved procedures and instructions		
<ul style="list-style-type: none"> <li>• Design Commissioning Procedures and Instructions for mechanical components according to QAP</li> <li>• Supervise and coordinate commissioning activities related to the mechanical components</li> <li>• Document commissioning take-over activities</li> <li>• Support other Commissioning Areas (Electrical, I&amp;C, civil engineering, and Plant Systems)</li> <li>• Mentor future maintenance and operational personnel of the mechanical components</li> <li>• Communication with national authorities and/or with vendors</li> <li>• Adapt the design to final plant layout</li> <li>• Plan and integrate the mechanical commissioning activities with the general commissioning plan</li> <li>• Verifying that the mechanical components are in accordance with the design requirements and meet the design criteria</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Hydraulic and pneumatic systems and components		6
Pipe systems, pumps and turbines; steam turbines; turbine technology		6
Dynamics and mechanical vibrations		5
Material science: properties, welding, and extreme environments		5
Operating experience		5
Quality assurance and control		5
Technical writing		5
Troubleshooting electromechanical systems		5
Computer aided engineering		4
Heat and mass exchange in equipment units of NPPs		4
National and international codes and standards		4
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		4
Nuclear safety principles and requirements		4
Occupational Safety and personal protective equipment		4
Process system reliability and safety		4
Radiation Protection		4
Safety Culture		4
Thermo-mechanical behaviour		4
Computers and engineering problem solving		3
Control and automation systems		3

Electrical, electronic circuits and electrical motors	3
Engineering graphics, drawings and diagrams	3
Flaw assessment and fracture mechanics	3
Fundamentals of flow, heat and mass transfer	3
ICT literacy	3
Measurement of operating parameters	3
Project management, planning methods and tools	3
Sensors, measurement and signal processing	3
Steam generation plant and ancillary systems	3
Industrial Safety	2
<b>SKILLS (Technical and functional competence)</b>	<b>EQF level (1-8)</b>
Draw I&C schemes.	5
Identification of safety requirements.	5
Monitor and maintain a safe working environment.	5
Assess performance and identify measures and indicators to improve or correct performance.	4
Define actions to improve safety culture based on operational feedback.	4
Ensure the implementation of engineering codes and standards.	4
Identify possible impacts and interactions with other related disciplines.	4
Perform NDA and judge the results.	4
Perform work analysis, breakdown of activities and allocate tasks.	4
Planning, coordinating, implementing and monitoring project activities.	4
Producing and communicate requirement specifications, technical specifications, procedures and reports.	4
Read illustrated part catalogue.	4
Specify non-destructive testing instructions.	4
Use and interpret engineering data and technical documentation.	4
Use engineering representation computer-aided tools.	4
Use technical information to review detailed drawings.	4
Check and calibrate mechanical inspection equipment.	3
Coordinate the response to contingency.	3
Ensure compliance with statutory regulations and organisational OSE requirements.	3
Inspect mechanical products, fabricated components and structures.	3
Retrieve technical information by using computer aided techniques.	3
Revise and update the components maintenance manuals.	3
Take dimensional measurements.	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	5
Team working	5

Accountability	4
Analytical thinking	4
Conscientiousness	4
Decisiveness	4
Problem solving	4

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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
B. BUHAI	2 <sup>ND</sup> ECVET WORKSHOP	6 <sup>TH</sup> ECVET WORKSHOP
24.03.2012	24.03.2012	17.02.2015



Ref	Job Title	Occupational Category
<b>1.4.03</b>	<b>Civil Commissioning Engineer</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	Civil Structural Commissioning Engineer	Specialist
Commissioning		
Role / Functions		
Responsible for commissioning civil engineering components of the NPP according to released and approved procedures and instructions:		
<ul style="list-style-type: none"> <li>• Commissioning and testing of civil infrastructures and buildings of the NPP according to released and approved procedures, instructions in order to complete regulatory requirements</li> <li>• Design Commissioning Procedures and Instructions for civil engineering components according to QAP</li> <li>• Document commissioning take-over activities</li> <li>• Supervise and coordinate commissioning activities related to the civil engineering components</li> <li>• Support other Commissioning Areas (Electrical, I&amp;C, mechanical, and Plant Systems)</li> <li>• Mentor future maintenance and operational personnel of the civil engineering components</li> <li>• Communication with national authorities</li> <li>• Adapt the design to final plant layout</li> <li>• Plan and integrate the civil engineering commissioning activities with the general commissioning plan</li> <li>• Verifying that the civil engineering components are in accordance with the design requirements and meet the design criteria</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Building construction		6
Construction methods and building materials (concrete, steel, etc.)		6
Containment Integrity		6
Dynamics and mechanical vibrations		6
Structural Assembly		6
Engineering graphics, drawings and diagrams		5
Geotechnical engineering		5
National and international codes and standards		5
Occupational Safety and personal protective equipment		5
Pipeline construction		5
Project management, planning methods and tools		5
Quality assurance and control		5
Technical writing		5
Computer aided engineering		4
ICT literacy		4
Industrial Safety		4
Materials for nuclear and non-nuclear island		4
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		4
Nuclear safety principles and requirements		4

Radiation Protection	4
Radiations effects on materials / Radiation damage	4
Safety Culture	4
Structure of Auxiliary Systems	4
Waste disposal and storage options Hazardous	4
Interpret mechanical and electrical schemes	3
Operating experience	3
<b>SKILLS (Technical and functional competence)</b>	<b>EQF level (1-8)</b>
Conduct containment integrity inspection.	6
Ensure compliance with statutory regulations and organizational QSE requirements.	6
Use and interpret engineering data and technical documentation.	6
Carry out inspection of structures.	5
Collect and accept all tests in relation to commissioning documentation.	5
Conduct the tests and keep an up to date punch list.	5
Define actions to improve safety culture based on operational feedback.	5
Ensure the implementation of engineering codes and standards.	5
Implement the general commissioning procedure and interface plan.	5
Integrate nuclear safety and operational requirements.	5
Monitor and maintain a safe working environment.	5
Perform and judge the results of NDA.	5
Specify non-destructive testing instructions.	5
Use engineering representation computer-aided tools.	5
Assess performance and identify measures and indicators to improve or correct performance.	4
Identify possible impacts and interactions with other related disciplines.	4
Perform work analysis, breakdown of activities and allocate tasks.	4
Planning, coordinating, implementing and monitoring project activities.	4
Producing and communicate requirement specifications, technical specifications, procedures and reports.	4
Retrieve technical information by using computer aided techniques.	4
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	5
Team working	5
Accountability	4
Analytical thinking	4
Conscientiousness	4
Decisiveness	4
Priority setting	4
Problem solving	4

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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
J. IGLESIAS MORÁN	J.JAMBOR - AF CONSULT CZ	6 <sup>TH</sup> ECVET WORKSHOP
14.05.2013	20.01.2015	17.02.2015

Ref	Job Title	Occupational Category
<b>1.4.04</b>	<b>I&amp;C Commissioning Engineer</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	Instrumentation and Control Commissioning Engineer	Specialist
Commissioning		
Role / Functions		
Commission and oversee I&C Components and Systems of the NPP according to released and approved procedures and instructions and Technical Specifications		
<ul style="list-style-type: none"> <li>• Develop Commissioning Procedures and Instructions for I&amp;C Components and Systems according to QAP</li> <li>• Supervise and coordinate commissioning activities related to the I&amp;C Systems and Components</li> <li>• Document commissioning take-over activities</li> <li>• Support other Commissioning Areas (Electrical, Mechanical and Plant Systems)</li> <li>• Mentor future maintenance and operational personnel of the I&amp;C Components and Systems</li> <li>• Communication with national authorities and/or with vendors</li> <li>• Adapt the design to final plant layout</li> <li>• Plan and integrate the I&amp;C Components and Systems commissioning activities with the general commissioning plan</li> <li>• Verifying that the I&amp;C Components and Systems components are in accordance with the design requirements and meet the design criteria</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Control and automation systems		6
Digital electronics		6
Sensors, digital signal processing and measurement		6
Engineering graphics, drawings and diagrams		5
National and international codes and standards		5
Nuclear and non-nuclear instrumentation, applications and control Measurement of operating parameters		5
Project management, planning methods and tools		5
Quality assurance and control		5
Technical writing		5
Computer control programs		4
Electrical and electronic circuits		4
Electronic analogue and digital engineering		4
ICT literacy		4
Industrial Safety		4
Nuclear safety principles and requirements		4
Occupational Safety and personal protective equipment		4
Safety Culture		4
Cabling		3
Computer aided engineering		3
Data reduction and error analysis		3
Human error prevention techniques		3
Interpret mechanical and electrical schemes		3

Measurement uncertainty	3
NPP system dynamics and control	3
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems	3
Operating experience	3
Process system reliability and safety	3
Radiation Protection	3
Regulation and licensing	3
SKILLS (Technical and functional competence)	EQF level (1-8)
Check and calibrate process control instrumentation.	5
Define actions to improve safety culture based on operational feedback.	5
Ensure the implementation of engineering codes and standards.	5
Implement nuclear safety and operational requirements.	5
Assess performance and identify measures and indicators to improve or correct performance.	4
Identification of safety requirements.	4
Identify possible impacts and interactions with other related disciplines.	4
Monitor and maintain a safe working environment.	4
Perform work analysis, breakdown of activities and allocate tasks.	4
Produce off-line programs for PLC equipment.	4
Producing and communicate requirement specifications, technical specifications, procedures and reports.	4
Retrieve technical information by using computer aided techniques.	4
Use and interpret engineering data and technical documentation.	4
Apply nuclear safety methods and procedures for commissioning.	3
Check and calibrate electrical / electronic test equipment.	3
Ensure compliance with statutory regulations and organisational QSE requirements.	3
Implement radiation protection requirements.	3
Specify non-destructive testing instructions for planning and conducting electrical and electronic testing.	3
Use engineering representation computer aided tools.	3
Planning, coordinating, implementing and monitoring project activities.	2
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Team working	5
Accountability	4
Analytical thinking	4
Conscientiousness	4
Problem solving	4
Decisiveness	
Lead by example: consistently demonstrating positive behaviours in relation to	

environment, health and safety, security and quality.	
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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
B. BUHAI	J. IGLESIAS MORÁN	6 <sup>TH</sup> ECVET WORKSHOP
24.02.2012	15.05.2013	17.02.2015

Ref	Job Title	Occupational Category
<b>1.4.05</b>	<b>NI Systems Commissioning Engineer</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	Nuclear Island Systems Commissioning Engineer	Specialist
Commissioning		
Role / Functions		
Responsible for commissioning and overseeing the installation of NI systems and equipment in order to make them operable according to the Technical Specifications		
<ul style="list-style-type: none"> <li>• Design Commissioning Procedures and Instructions</li> <li>• Document commissioning take-over activities</li> <li>• Coordination with training department to define training programmes for operation staff</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		7
Nuclear safety principles and requirements		6
National and international codes and standards		6
Safety Culture		6
Engineering graphics, drawings and diagrams		6
Nuclear and non-nuclear instrumentation, applications and control Measurement of operating parameters		6
Sensors, measurements and signal processing		6
Radiation Protection		5
Quality assurance and control		5
Project management, planning methods and tools		5
Operating experience		5
Mechanical, Electrical and I&C Engineering		5
Use and interpret mechanical, electrical and I&C schemes		5
Industrial Safety		4
Occupational Safety and personal protective equipment		4
ICT literacy		4
Human error prevention techniques		4
Technical writing		3
Transient and incident reports		3
SKILLS (Technical and functional competence)		EQF level (1-8)
Collect and validate all test results in relation to commissioning documentation.		7
Plan commissioning tests programmes for mechanical and electrical equipment.		7
Producing and communicate requirement specifications, technical specifications, procedures and reports.		6
Ensure the implementation of engineering codes and standards.		6

Identify safety nuclear and operational requirements.	6
Use and interpret engineering data and technical documentation.	5
Ensure compliance with statutory regulations and organisational QSE requirements.	5
Planning, coordinating, implementing and monitoring project activities.	5
Retrieve technical information by using computer aided techniques.	5
Monitor and maintain a safe working environment.	5
Perform work analysis, breakdown of activities and allocate tasks.	5
Assess performance and identify measures and indicators to improve or correct performance.	5
Identify possible impacts and interactions with other related disciplines.	5
Define actions to improve safety culture based on operational feedback.	5
Rectify faults in electro-mechanical equipment.	5
Check and calibrate process control instrumentation.	5
Plan and conduct electrical and electronic testing.	5
Supervise and manage sub-contractors.	5
Apply human error prevention techniques in commissioning activities.	5
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Analytical thinking	7
Accountability	7
Problem solving	7
Conscientiousness	7
Team working	5
Decisiveness	5
Leadership	5

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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
J. IGLESIAS MORÁN	P. SOTOLA - AF CONSULT CZ	6 <sup>TH</sup> ECVET WORKSHOP
15.05.2013	20.01.2015	18.02.2015



Ref	Job Title	Occupational Category
<b>1.4.06</b>	<b>Commissioning Manager</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	Manager of NPP Commissioning Activities	Management
Commissioning		
Role / Functions		
Managing all aspects of the commissioning activities		
<ul style="list-style-type: none"> <li>Commissioning and overseeing the whole plant in order to make it operable according to the Technical Specifications</li> <li>Approving Commissioning Procedures and Instructions</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Nuclear power plant: reactor fundamentals, plant systems description		8
Project management software		7
General management: budget, human resources, defining organizational objectives and strategies, business improvement, planning, monitoring, evaluating		7
Integrated management system: quality, health & safety, environment, information security		7
Nuclear safety and nuclear safety principles		7
Operating experience		7
Emergency preparedness and emergency response		7
Commissioning procedures		7
Nuclear simulator training: learning simulator, full-scope simulator		7
Industrial safety		6
National and international legal framework and licensing		6
Safety culture principles		6
Technical fundamentals: mechanical, electrical, I&C engineering principles		6
Inspection of construction methods and materials		6
Sensors, measurements and signal processing		6
Safety and security management		5
Radiation protection		5
Human error prevention techniques		5
Performance improvement methods		5
Risk assessment		4
ICT literacy		4
Communication techniques: negotiation, presentation, writing		4
Engineering data and documentation		4
SKILLS (Technical and functional competence)		EQF level (1-8)
Manage activities to the highest standards of safety, security, quality, reliability and efficiency.		7
Monitor and maintain a safe working environment.		7
Plan, schedule and monitor activities by using suitable management tools to ensure timely completion within budget.		7

Interface with managers from other disciplines and/or from external organisations.	7
Support the development of quality plans and monitor and maintain quality compliance.	7
Develop business plans and forecast needed resources such as materials and manpower utilization.	7
Organize and manage teams: keep track of personnel professional development, identify training needs, select new employees, monitor performance of each team, evaluate and report suitability and availability of those within the allocated teams, allocate professional roles, mentor and coach employees, establish duties and responsibilities, ensure proper levels of guidance and direction.	7
Analyse and interpret the results of tests of facilities.	7
Review Factory Acceptance Tests requirements for new plant and equipment.	7
Review reports of near misses and accidents and implements corrective and preventive actions.	7
Reviews and approves risk assessments for routine and non-routine activities.	7
Develop project specific commissioning procedures inspection and test records to keep track of all the results.	7
Approves engineering solutions for projects.	7
Coordinate response to non-conformities and to unexpected events.	6
Oversees the compilation, implementation and transfer of lessons learned during all the commissioning activities.	6
Lead and enforce safety culture.	5
Compile and analyse legal requirements to ensure and promote compliance with statutory regulations.	4
Stay updated on changes on the market, regulations and new operating experience to identify market trends, best practices and/or emerging regulatory issues.	4
Promote and implement continuous improvement tools.	4
Negotiate contract conditions covering all possible contingencies.	4
Conduct commercial follow-up of contracts.	4
Classify information according to security criteria.	4
Create and participate in professional contact networks.	3
Prepare bid and tender enquiries.	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Communication skills	7
Accountability	7
Conflict resolution	7
Analytical thinking	7
Organizational skills	7
Decision making	7
Stress resistance	6
Multitasking and priority setting	6
Team working, team build, team leadership	6
Conscientiousness	6
Drive for achievement	6
Flexible and adaptable to changes	6

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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
J. IGLESIAS MORÁN	P. SOTOLA - AF CONSULT CZ	TECNATOM
15.05.2013	20.01.2015	12.12.2016

Ref	Job Title	Occupational Category
<b>1.4.07</b>	<b>Licensing Manager</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP N	Manager for NPP Licensing Process	Management
Commissioning		
Role / Functions		
Responsible for managing all aspects of the licensing process and interfacing with the regulatory authorities		
<ul style="list-style-type: none"> <li>• Ensuring that licensing documents are in compliance with the regulations</li> <li>• Interfacing with the regulatory authorities and stakeholders</li> <li>• Controlling the implementation of licensing requirements</li> <li>• Assisting the departments for compliance with requirements from the regulators</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Integrated management system: quality, health & safety, environment, information security		7
Nuclear safety and nuclear safety principles		7
National and international legal framework and licensing		7
Safety and security management		7
Operating experience		7
Project management software		6
General management: budget, human resources, defining organisational objectives and strategies, business improvement, planning, monitoring, evaluating		6
Nuclear power plant: reactor fundamentals, plant systems description		6
ICT literacy		6
Communication techniques: negotiation, presentation, writing		5
Safety culture principles		4
Technical fundamentals: mechanical, electrical, I&C engineering principles		4
Radiation protection		4
Finance and administration		4
Industrial safety		3
Risk assessment		3
Human error prevention techniques		3
Performance improvement methods		3
Emergency preparedness and emergency response		3
SKILLS (Technical and functional competence)		EQF level (1-8)
Compile and analyse legal requirements to ensure and promote compliance with statutory regulations.		7
Plan, schedule and monitor activities by using suitable management tools to ensure timely completion within budget.		7
Interface with managers from other disciplines and/or from external organisations.		7
Prepare bid and tender enquiries.		7
Organize and manage teams: keep track of personnel professional development, identify training needs, select new employees, monitor performance of each team,		7

evaluate and report suitability and availability of those within the allocated teams, allocate professional roles, mentor and coach employees, establish duties and responsibilities, ensure proper levels of guidance and direction.	
Compile and analyse the licensing requirements.	7
Argue safety in front of political instances, regulators, technical experts.	7
Understand, review and correct licensing documents prior to a submittal to regulatory agencies.	7
Responsible for the development of nuclear site licence application.	7
Provide support to partners developing designs that will be licensable by the different international regulator bodies.	7
Stay updated on changes on the market, regulations and new operating experience to identify market trends, best practices and/or emerging regulatory issues.	6
Manage activities to the highest standards of safety, security, quality, reliability and efficiency.	6
Support the development of quality plans and monitor and maintain quality compliance.	6
Negotiate contract conditions covering all possible contingencies.	6
Conduct commercial follow-up of contracts.	6
Classify information according to security criteria.	5
Lead and enforce safety culture.	4
Create and participate in professional contact networks.	4
Promote and implement continuous improvement tools.	4
Coordinate response to non-conformities and to unexpected events.	4
Monitor and maintain a safe working environment.	3
Develop business plans and forecast needed resources such as materials and manpower utilization.	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Communication skills	7
Analytical thinking	7
Organizational skills	7
Conflict resolution	6
Team working, team build, team leadership	6
Conscientiousness	6
Drive for achievement	6
Accountability	5

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
2 <sup>ND</sup> ECVET WORKSHOP	J.JAMBOR/P. SOTOLA - AF CONSULT CZ	TECNATOM
24.02.2012	20.01.2015	12.12.2016

## 2. OPERATION

	2.0.01.	Plant Manager	
2.1. NUCLEAR OPERATIONS AND WASTE MANAGEMENT	2.1.02.	Licensing Officer	
	2.1.03.	Production Manager	
	2.1.04.	Training Officer	
	2.1.05.	Quality Assurance Officer	
	2.1.06.	Engineering Manager	
	2.1.07.	Operation Manager	
	2.2. OPERATORS IN CONTROL ROOM	2.2.01.	Shift Engineer
2.2.02.		Senior Reactor Operator	
2.2.05.		Turbine Operator	
2.3. OPERATORS IN THE FIELD	2.3.01.	Field Operator Technician	
	2.3.02.	Field Operator Worker	
2.4. WASTE MANAGEMENT & RP	2.4.01.	WM&RP Manager	
	2.4.02.	Radiation Protection Officer	
	2.4.03.	Radiation Protection Worker	
2.5. CHEMISTRY	2.5.01.	Chemistry Manager	
	2.5.02.	Chemistry Supervisor	
	2.5.03.	Chemistry Technician	
2.6. SAFETY AND SECURITY	2.6.01.	Safety and Security Manager	
	2.6.02.	Industrial Safety Technician	
	2.6.04.	Fire Protection Worker	
	2.6.05.	Fire Protection Supervisor	
	2.7. MAINTENANCE	2.7.01.	Electrical Technician
2.7.02.		Electronic-I&C Technician	
2.7.03.		Mechanical Maintenance Technician	
2.7.04.		Electrical Worker	
2.7.05.		Electronic-I&C Worker	
2.7.06.		Mechanical Worker	
2.7.07.		Electrical Supervisor	
2.7.08.		Electronic-I&C Supervisor	
2.7.09.		Mechanical Supervisor	
2.7.11.		Welder	
2.7.13.		Maintenance Manager	
2.7.14.		Maintenance Planning Officer	
2.7.15.		Civil Engineering Technician	
2.8. ENGINEERING		2.8.01.	Mechanical Design Engineer
		2.8.02.	Civil Design Engineer
	2.8.03.	Electrical Design Engineer	
	2.8.04.	I&C Design Engineer	
	2.8.07.	Reactor Physicist	
2.9. CANDU	2.9.01	Fuel Machine Operator for CANDU	
	2.9.02	System Responsible Engineer	

Ref	Job Title	Occupational Category
<b>2.0.01</b>	<b>Plant Manager</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	-----	Management
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Role / Functions		
Prepare strategic programs in the medium and long term and ensures implementation Ultimate responsible of all the activities in the NPP.		
<ul style="list-style-type: none"> <li>• Manage the NPP activities to the highest standards of safety, security, reliability and operational efficiency, and compliant with the in-force regulations and licenses.</li> <li>• Ensure the availability and manage all types of needed the resources (human, financial) of the NPP.</li> <li>• Ensure that the plant is operating in accordance with the technical specifications.</li> <li>• Outline and approve the organisation of the Nuclear Power Plant.</li> <li>• Interface with the regulatory body and civil authorities, social stakeholders.</li> <li>• Head of the emergency response team and overall responsible for safety</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Emergency preparedness and emergency response		7
Project management software		6
General management: budget, human resources, defining organizational objectives and strategies, business improvement, planning, monitoring, evaluating		6
Nuclear safety and nuclear safety principles		6
Nuclear power plant: reactor fundamentals, plant systems description		6
Operating experience		6
Administrative requirements		6
Industrial safety		5
National and international legal framework and licensing		5
Technical fundamentals: mechanical, electrical, I&C engineering principles		5
Radiation protection		5
Safety and security management		5
Integrated management system: quality, health & safety, environment, information security		4
Safety culture principles		4
Risk assessment		4
Human error prevention techniques		4
Performance improvement methods		4
ICT literacy		4
Communication techniques: negotiation, presentation, writing		4
Plant modifications, design changes		4
SKILLS (Technical and functional competence)		EQF level (1-8)
Monitor and maintain a safe working environment.		7
Lead and enforce safety culture.		7
Coordinate response to non-conformities and to unexpected events.		7

Classify information according to security criteria.	7
Compile and analyse legal requirements to ensure and promote compliance with statutory regulations.	6
Stay updated on changes on the market, regulations and new operating experience to identify market trends, best practices and/or emerging regulatory issues.	6
Manage activities to the highest standards of safety, security, quality, reliability and efficiency.	6
Interface with managers from other disciplines and/or from external organizations.	6
Promote and implement continuous improvement tools.	6
Support the development of quality plans and monitor and maintain quality compliance.	6
Negotiate contract conditions covering all possible contingencies.	6
Develop business plans and forecast needed resources such as materials and manpower utilization.	6
Organize and manage teams: keep track of personnel professional development, identify training needs, select new employees, monitor performance of each team, evaluate and report suitability and availability of those within the allocated teams, allocate professional roles, mentor and coach employees, establish duties and responsibilities, ensure proper levels of guidance and direction.	6
Conduct commercial follow-up of contracts.	5
Plan, schedule and monitor activities by using suitable management tools to ensure timely completion within budget.	4
Create and participate in professional contact networks.	4
Prepare bid and tender enquiries.	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Stress resistance	7
Leadership	7
Accountability	6
Analytical thinking	6
Organisational skills	5
Communication skills	6-7
Conflict resolution	6-7
Multitasking and priority setting	6-7
Negotiation skills	6-7
Team building	6-7
Corporate culture	6-7
Decisiveness	6-7
Global vision (360°)	6-7

<b>NOTES</b>
Proposed for suppression (4 <sup>th</sup> WS)

<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
F. PASQUALONI	F. PASQUALONI	4 <sup>TH</sup> ECVET WORKSHOP
18.10.2012	26.10.2012	16.05.2013



Ref	Job Title	Occupational Category
<b>2.1.02</b>	<b>Licensing Officer</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	-----	Management
Nuclear Operation & Waste Management		
Role / Functions		
Expert in nuclear licensing and nuclear regulatory affairs, including applying for, maintaining and updating the documentation for the licenses and permits necessary to operate the NPP.		
<ul style="list-style-type: none"> <li>• Apply for, maintain and update the necessary licenses and approvals for operation of nuclear power plant.</li> <li>• Verify compliance with applicable license conditions, standards, monitoring and reporting requirements during the operational phases of the program.</li> <li>• Integrate NPP management, plant vendor and other subcontractors permitting and licensing activities to successfully develop applications required for licenses and permits.</li> <li>• Manage the plant license documentation.</li> <li>• Interact with the relevant regulatory authorities in all licensing aspects (submitting/updating applications, inspections, etc)</li> <li>• Establish and develop effective relationships and cooperation with stakeholders both nationally and internationally</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
National and international legal framework and licensing		6
Nuclear safety and nuclear safety principles		5
Industrial safety		5
Safety and security management		5
Nuclear power plant: reactor fundamentals, plant systems description		5
Radiation protection		5
Project management software		4
General management: budget, human resources, defining organizational objectives and strategies, business improvement, planning, monitoring, evaluating		4
Integrated management system: quality, health & safety, environment, information security		4
Safety culture principles		4
Technical fundamentals: mechanical, electrical, I&C engineering principles		4
Operating experience		4
Performance improvement methods		4
ICT literacy		4
Communication techniques: negotiation, presentation, writing		4
Risk assessment		3
Human error prevention techniques		3
Emergency preparedness and emergency response		3
SKILLS (Technical and functional competence)		EQF level (1-8)
Compile and analyse legal requirements to ensure and promote compliance with statutory regulations.		6
Stay updated on changes on the market, regulations and new operating experience		6

to identify market trends, best practices and/or emerging regulatory issues.	
Support the development of quality plans and monitor and maintain quality compliance.	6
Classify information according to security criteria.	6
Compiling and analysing the licensing requirements.	6
Interacting with regulatory bodies and technical experts as appropriate.	6
Plan, schedule and monitor activities by using suitable management tools to ensure timely completion within budget.	5
Create and participate in professional contact networks.	5
Manage activities to the highest standards of safety, security, quality, reliability and efficiency.	4
Lead and enforce safety culture.	4
Prepare bid and tender enquiries.	4
Negotiate contract conditions covering all possible contingencies.	4
Conduct commercial follow-up of contracts.	4
Develop business plans and forecast needed resources such as materials and manpower utilization.	4
Monitor and maintain a safe working environment.	3
Promote and implement continuous improvement tools.	3
Coordinate response to non-conformities and to unexpected events.	3
Organize and manage teams: keep track of personnel professional development, identify training needs, select new employees, monitor performance of each team, evaluate and report suitability and availability of those within the allocated teams, allocate professional roles, mentor and coach employees, establish duties and responsibilities, ensure proper levels of guidance and direction.	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Communication skills	6
Organizational skills	6
Accountability	5
Multitasking and priority setting	5
Critical analysis	5
Team working	5
Conflict resolution	4
Analytical thinking	4
Conscientiousness	4
Problem solving	4

<b>NOTES</b>
It is proposed to have a single job profile for the licensing officer in CONSTRUCTION / OPERATION / DECOMMISSIONING

<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
I KULPA	4TH ECVET WORKSHOP	4TH ECVET WORKSHOP
24.10.2012	15.05.2013	16.05.2013

Ref	Job Title	Occupational Category
<b>2.1.03</b>	<b>Production Manager</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	-----	Management
Nuclear Operation & Waste Management		
Role / Functions		
<p>Responsible for keeping in operable condition entire set of assigned installations including nuclear island, turbine island and auxiliary technical facilities and ensuring technical, financial and human resources for safe, efficient and reliable functioning of nuclear power plant.</p> <ul style="list-style-type: none"> <li>Managing the overall technological process of power generation, including supporting technical activities and safety related activities.</li> <li>Providing an adequate technical response in case of extreme or emergency situations.</li> <li>Supervising the full range (normal, transient, emergency) of daily operation activities in accordance with applicable regulations, policies and procedures.</li> <li>Supervise the daily maintenance activities in accordance with applicable regulations, policies and procedures.</li> <li>Provide leadership and supervise the daily technical support and safety related activities in accordance with applicable regulations, policies and procedures.</li> <li>Provide leadership and supervise the daily activities of technological radiation monitoring and emergency preparedness in accordance with applicable regulations, policies and procedures.</li> <li>Approve and supervise the planning and implementation of plant modifications and design changes.</li> <li>Approve and supervise the implementation of Training Programs for the Production Department.</li> <li>Ensure strict adherence to technical specifications requirements.</li> <li>Control and allocate the budget of the Production department.</li> <li>Plan and control daily production activities according to plant expectations providing in-field oversight.</li> <li>Establish high levels of performance through, monitoring and control of Production department performance indicators, and reinforcing/correcting behaviour as necessary within Production department.</li> <li>Monitor and control accurate logistic planning and supply of necessary deliverables.</li> <li>Support Plant Manager to establish site standards and expectations with the work force by providing oversight, mentoring and coaching for organized work team.</li> <li>Responsible, in absence of the Plant Manager, for managing all plant activities, also in case of site emergency</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Nuclear safety and nuclear safety principles		6
National and international legal framework and licensing		6
Safety culture principles		6
Safety and security management		6
Operating experience		6
Emergency preparedness and emergency response		6
Plant modifications (for the specific NPP)		6
Project management software		5
General management: budget, human resources, defining organizational objectives and strategies, business improvement, planning, monitoring, evaluating		5
Technical fundamentals: mechanical, electrical, I&C engineering principles		5
Nuclear power plant: reactor fundamentals, plant systems description		5

Radiation protection	5
Performance improvement methods	5
Communication techniques: negotiation, presentation, writing	5
Industrial safety	4
Risk assessment	4
Human error prevention techniques	4
ICT literacy	4
General chemistry, radiochemistry and physics	4
Integrated management system: quality, health & safety, environment, information security	3
Administrative requirements	3
Nuclear computer codes and standards	3
Training and qualification of personnel, including Main Control Room Training Programmes	3
Logistics and Supply	3
<b>SKILLS (Technical and functional competence)</b>	<b>EQF level (1-8)</b>
Manage activities to the highest standards of safety, security, quality, reliability and efficiency.	7
Compile and analyse legal requirements to ensure and promote compliance with statutory regulations.	6
Stay updated on changes on the market, regulations and new operating experience to identify market trends, best practices and/or emerging regulatory issues.	6
Lead and enforce safety culture.	6
Interface with managers from other disciplines and/or from external organisations.	6
Promote and implement continuous improvement tools.	6
Develop business plans and forecast needed resources such as materials and manpower utilization.	6
Organize and manage teams: keep track of personnel professional development, identify training needs, select new employees, monitor performance of each team, evaluate and report suitability and availability of those within the allocated teams, allocate professional roles, mentor and coach employees, establish duties and responsibilities, ensure proper levels of guidance and direction.	6
Classify information according to security criteria.	6
Support the development of quality plans and monitor and maintain quality compliance.	5
Coordinate response to non-conformities and to unexpected events.	5
Identify safety requirements.	5
Plan, schedule and monitor activities by using suitable management tools to ensure timely completion within budget.	4
Prepare bid and tender enquiries.	4
Negotiate contract conditions covering all possible contingencies.	4
Conduct commercial follow-up of contracts.	4
Ensure foreign material exclusion control.	4
Monitor and maintain a safe working environment.	3
Create and participate in professional contact networks.	3

COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Stress resistance	7
Accountability	6
Analytical thinking	6
Organizational skills	6
Multitasking and priority setting	6
Communication skills	5
Conflict resolution	5
Leadership	5
Decisiveness	5

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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
J. IGLESIAS / F. PASQUALONI	L. PIRONKOV	5 <sup>TH</sup> ECVET WORKSHOP
24.10.2012	15.04.2013	12.11.2013

Ref	Job Title	Occupational Category
<b>2.1.04</b>	<b>Training Officer</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	Methodological Expert	Management
Nuclear Operation & Waste Management		
Role / Functions		
Responsible for performance of training need analysis; design the requested training components; evaluation of training effectiveness.		
<ul style="list-style-type: none"> <li>• Lead the process for identification of training needs for specified field of work.</li> <li>• Develop and schedule specified training programmes.</li> <li>• Contribute to development of training materials.</li> <li>• Managing the resources allocated to training activities.</li> <li>• Organize and oversee the conducting of training.</li> <li>• Evaluate the training performance and training effectiveness.</li> <li>• Provide recommendations regarding improvement of training quality.</li> <li>• Maintain interface between training department and serviced plant departments.</li> <li>• Update training process related procedures</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Communication techniques: negotiation, presentation, writing		7
National and international legal framework and licensing		6
Operating experience		6
Training methodologies and tools		6
Implementation of Systematic Approach to Training		6
General management: budget, human resources, defining organizational objectives and strategies, business improvement, planning, monitoring, evaluating		5
Emergency preparedness and emergency response		5
Training facilities and training aids		5
General aspects of simulator training		5
Human factor fundamentals and reliability		5
Project management software		4
Nuclear safety and nuclear safety principles		4
Industrial safety		4
Safety culture principles		4
Safety and security management		4
Risk assessment		4
Technical fundamentals: mechanical, electrical, I&C engineering principles		4
Nuclear power plant: reactor fundamentals, plant systems description		4
Radiation protection		4
Human error prevention techniques		4
Performance improvement methods		4
ICT literacy		4
Training of adults – specifics, applicable approaches		4

Occupational safety	4
Integrated management system: quality, health & safety, environment, information security	3
SKILLS (Technical and functional competence)	EQF level (1-8)
Lead and enforce safety culture.	6
Interface with managers from other disciplines and/or from external organizations.	6
Create and participate in professional contact networks.	6
Support the development of quality plans and monitor and maintain quality compliance.	6
Develop business plans and forecast needed resources such as materials and manpower utilization.	6
Organize and manage teams: keep track of personnel professional development, identify training needs, select new employees, monitor performance of each team, evaluate and report suitability and availability of those within the allocated teams, allocate professional roles, mentor and coach employees, establish duties and responsibilities, ensure proper levels of guidance and direction.	6
Prepare reports, surveys, reviews and other supporting documents.	6
Develop training programmes for initial and continuous training.	6
Compile and analyse legal requirements to ensure and promote compliance with statutory regulations.	5
Stay updated on changes on the market, regulations and new operating experience to identify market trends, best practices and/or emerging regulatory issues.	5
Manage activities to the highest standards of safety, security, quality, reliability and efficiency.	5
Monitor and maintain a safe working environment.	5
Plan, schedule and monitor activities by using suitable management tools to ensure timely completion within budget.	5
Prepare bid and tender enquiries.	5
Negotiate contract conditions covering all possible contingencies.	5
Coordinate response to non-conformities and to unexpected events.	5
Conduct commercial follow-up of contracts.	5
Draft working instructions and procedures related to training and qualification.	5
Control and assessment of the training process.	5
Supervise the development of training materials.	5
Supervise training activities.	5
Promote and implement continuous improvement tools.	4
Classify information according to security criteria.	4
Operating technical training means using specific software.	4
Make technical presentations.	4
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Communication skills	6
Team working	6
Conflict resolution	5
Leadership	5

Analytical thinking	5
Organizational skills	5
Accountability	4
Stress resistance	4
Multitasking and priority setting	4
Impact and influence	4
Didactic skills	3

<b>NOTES</b>
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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
L. PIRONKOV	CICE&T	5 <sup>TH</sup> ECVET WORKSHOP
24.10.2012	15.05.2013	12.11.2013



Ref	Job Title	Occupational Category
<b>2.1.05</b>	<b>Quality Assurance Officer</b>	Technician
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	Quality Officer	Management
Nuclear Operation & Waste Management		
Role / Functions		
Management of the development, implementation, and maintenance of quality assurance systems and activities for NPP:		
<ul style="list-style-type: none"> <li>• Development, implementation and maintenance of the NPP Quality Assurance Program.</li> <li>• Ensure compliance with applicable nuclear regulatory quality assurance standards; quality assurance related contract requirements and verify internal compliance with NPP programs, policies and processes.</li> <li>• Ensure subcontractor activities are conducted in accordance with approved quality plans.</li> <li>• Establish and maintain quality assurance audit and surveillance program.</li> <li>• Oversee QC/NDE programs and certification of QC inspectors.</li> <li>• Recommending related training needs and assisting in training other employees on quality improvement.</li> <li>• Management of the Corrective Action Program and analysing data from the Corrective Action Program to determine trends and effectiveness of corrective actions.</li> <li>• Interfacing with regulatory body and certification entities</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Quality assurance and integrated management systems		6
Process management		6
General management: budget management, business improvement, financial management, human resources , QSE, planning, monitoring and evaluation, risk assessment		5
Auditing – management systems		5
Occupational Safety		4
Quality control		4
Emergency Preparedness		4
Emergency Response Planning		4
Environmental compliance		4
Environmental Monitoring		4
SKILLS (Technical and functional competence)		EQF level (1-8)
Planning, implementing and monitoring activities and projects		6
Using and interpreting data, documentation, diagrams and drawings		6
Coordinating response to contingency		6
Communicating effectively		6
Costs controlling		6
Manage, negotiate, direct, control subcontractors		6
Promoting and ensuring compliance with statutory regulations and organizational safety requirements.		6
Lead and enforce safety culture		6
Providing information for management control		6

Review quality management processes	6
Quality & Process Management abilities	6
Auditing	6
Preparing reports and presentations	5
Complying with statutory regulations and organisational QSE requirements	5
Conduct assessment of risks in the workplace	5
Maintenance of a healthy, safe workplace	5
Monitor and maintain a safe working environment	5
Monitor and maintain the quality of processes	5
Overseeing and applying complex regulations and procedures	5
Identification of safety requirements	5
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Team Working	6
Accountability	6
Analytical thinking	6
Corporate Culture	6
Dealing with Difficult Situations	5
Capacity to act upon problems	5
Conscientiousness	5
Planning and evaluation	5
Priority setting	5

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
I. KULPA	L. PIRONKOV	5 <sup>TH</sup> ECVET WORKSHOP
12.10.2012	18.04.2013	12.11.2013

Ref	Job Title	Occupational Category
<b>2.1.06</b>	<b>Engineering Manager</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	Chief Engineer	Management
Nuclear Operation & Waste Management		
Role / Functions		
Managing and coordinating all technical support activities, related to safe, efficient and reliable operation of nuclear plant		
<ul style="list-style-type: none"> <li>• Manage and coordinate the work of subordinated staff</li> <li>• Manage and coordinate the development of analysis for technical condition and effectiveness of technological process, installations, systems and components</li> <li>• Ensure collection, processing and analysis of information related to mode of operation of installations, systems and components, malfunctions, failures and events;</li> <li>• Ensure strict adherence of the requirements regarding nuclear safety and radiation protection during implementation of technical support activities</li> <li>• Coordinate the development of the documents related to functional, post-maintenance or post-outage testing of systems and installations; start-up and shutdown of the plant;</li> <li>• Assess and approve the technical specifications for plant modifications, designed to the improvement of nuclear safety and optimization of technological process</li> <li>• Monitor and control the implementation of plant modifications with compliance to approved specifications</li> <li>• Follow the license requirements and prescriptions of regulatory body related to nuclear safety and radiation protection</li> <li>• Monitor and control the activities of plant designer and contractors, related to engineering, modification implementation and R&amp;D activities related to optimization of plant operation</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Nuclear safety and nuclear safety principles		7
Industrial safety		7
Safety culture principles		7
Safety and security management		7
Technical fundamentals: mechanical, electrical, I&C engineering principles		7
Radiation protection		7
Event analysis		7
Project management software		6
Risk assessment		6
Nuclear power plant: reactor fundamentals, plant systems description		6
Operating experience		6
Design bases and design requirements		6
General management: budget, human resources, defining organizational objectives and strategies, business improvement, planning, monitoring, evaluating		5
Integrated management system: quality, health & safety, environment, information security		5
National and international legal framework and licensing		5
Emergency preparedness and emergency response		5
Nuclear chemistry and fuel cycle		5
Lifetime analysis		5

Human error prevention techniques	4
Performance improvement methods	4
ICT literacy	4
Communication techniques: negotiation, presentation, writing	4
Computer codes	4
Nuclear reactor operations	4
Economic aspects of nuclear energy and industry knowledge	3
<b>SKILLS (Technical and functional competence)</b>	<b>EQF level (1-8)</b>
Compile and analyse legal requirements to ensure and promote compliance with statutory regulations.	7
Manage activities to the highest standards of safety, security, quality, reliability and efficiency.	7
Monitor and maintain a safe working environment.	7
Plan, schedule and monitor activities by using suitable management tools to ensure timely completion within budget.	7
Coordinate response to non-conformities and to unexpected events.	7
Identification of safety requirements.	7
Stay updated on changes on the market, regulations and new operating experience to identify market trends, best practices and/or emerging regulatory issues.	6
Lead and enforce safety culture.	6
Interface with managers from other disciplines and/or from external organizations.	6
Develop business plans and forecast needed resources such as materials and manpower utilization.	6
Organize and manage teams: keep track of personnel professional development, identify training needs, select new employees, monitor performance of each team, evaluate and report suitability and availability of those within the allocated teams, allocate professional roles, mentor and coach employees, establish duties and responsibilities, ensure proper levels of guidance and direction.	6
Review technical information for engineering activities.	6
Using and interpreting data, documentation, diagrams and drawings to prepare reports and presentations.	6
Manage, negotiate, control subcontractors.	6
Promote and implement continuous improvement tools.	5
Negotiate contract conditions covering all possible contingencies.	5
Classify information according to security criteria.	5
Supplying information for management control.	5
Support the development of quality plans and monitor and maintain quality compliance.	4
Conduct commercial follow-up of contracts.	4
Create and participate in professional contact networks.	3
Prepare bid and tender enquiries.	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Accountability	6
Stress resistance	6

Analytical thinking	6
Decisiveness	6
Problem solving	6
Communication skills	5
Leadership	5
Organizational skills	5
Multitasking and priority setting	5
Flexibility and adaptability	5

<b>NOTES</b>
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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
L. PIRONKOV	2 <sup>ND</sup> ECVET WORKSHOP	5 <sup>TH</sup> ECVET WORKSHOP
24.03.2012	24.03.2012	12.11.2013

Ref	Job Title	Occupational Category
<b>2.1.07</b>	<b>Operations Manager</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	-----	Management
Nuclear Operation & Waste Management		
Role / Functions		
Management of all processes related to operation in coordination with other departments.		
<ul style="list-style-type: none"> <li>• Ensure all Shift Operations activities are performed in accordance with the safety requirements, the requirements of electrical grid, and European and national regulations.</li> <li>• Coordinates Operation Section activities according to the corporate strategy.</li> <li>• Ensure operation personnel are properly trained and qualified.</li> <li>• Ensure related activities like technical review of operation procedures, technical specifications, changes and fire protection operation are conducted in accordance with plant procedures.</li> <li>• Control and coordination of operation related activities along with other departments (maintenance, operational support...), to ensure safe and error free operation and to meet operational targets.</li> <li>• Reviews and updates the condition reports and ensures the implementation of the corrective actions related to operations.</li> <li>• Provides leadership and strategic focus for staff.</li> <li>• Establishes performance expectations, monitors performance and reinforces/corrects behaviour as required to achieve desired performance.</li> <li>• Manages the operating crews during normal, abnormal and emergency site operations.</li> <li>• Introduces and implements best nuclear industry practices in operation processes.</li> <li>• Enhance the operation practices in order minimize radioactive waste and reduce inefficiencies.</li> <li>• Recommending related training needs and assisting in training other employees</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Nuclear unit systems operation: reactor start-up, normal, transient, emergency.		7
Nuclear safety and nuclear safety principles		6
Industrial safety		6
Safety culture principles		6
Safety and security management		6
Risk assessment		6
Nuclear power plant: reactor fundamentals, plant systems description		6
Operating experience		6
Human error prevention techniques		6
Performance improvement methods		6
Emergency preparedness and emergency response		6
Occupational safety and personal protective equipment		6
Plant Chemistry		6
Licensing and technical documentation of the NPP		6
National and international legal framework and licensing		5
Technical fundamentals: mechanical, electrical, I&C engineering principles		5
Radiation protection		5
Sensors, Measurements, and Signal Processing; Instrumentation and control		5

Events analysis methodology	5
Fire protection	5
Engineering drawings and diagrams	5
Project management software	4
General management: budget, human resources, defining organisational objectives and strategies, business improvement, planning, monitoring, evaluating	4
Integrated management system: quality, health & safety, environment, information security	4
ICT literacy	4
Communication techniques: negotiation, presentation, writing	4
Administrative policies and procedures	4
Mechanical Vibrations	4
Material Science	3
SKILLS (Technical and functional competence)	EQF level (1-8)
Manage activities to the highest standards of safety, security, quality, reliability and efficiency.	7
Monitor and maintain a safe working environment.	7
Compile and analyse legal requirements to ensure and promote compliance with statutory regulations.	6
Lead and enforce safety culture.	6
Plan, schedule and monitor activities by using suitable management tools to ensure timely completion within budget.	6
Interface with managers from other disciplines and/or from external organisations.	6
Support the development of quality plans and monitor and maintain quality compliance.	6
Coordinate response to non-conformities and to unexpected events.	6
Implement and monitor operation activities: start-up, shut-down, refuelling, power control.	6
Use and interpret data, documentation, diagrams and drawings.	6
Produce technical information for engineering activities.	6
Promote and ensure compliance with statutory regulations and organizational safety requirements.	6
Check facility pre-startup.	6
Stay updated on changes on the market, regulations and new operating experience to identify market trends, best practices and/or emerging regulatory issues.	5
Promote and implement continuous improvement tools.	5
Develop business plans and forecast needed resources such as materials and manpower utilization.	5
Organize and manage teams: keep track of personnel professional development, identify training needs, select new employees, monitor performance of each team, evaluate and report suitability and availability of those within the allocated teams, allocate professional roles, mentor and coach employees, establish duties and responsibilities, ensure proper levels of guidance and direction.	5
Classify information according to security criteria.	5
Identify safety requirements.	5
Supplying information for management control.	5

Negotiate contract conditions covering all possible contingencies.	4
Conduct commercial follow-up of contracts.	4
Monitor and maintain compliance with procedures.	4
Create and participate in professional contact networks.	3
Prepare bid and tender enquiries.	3
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Accountability	6
Analytical thinking	6
Multitasking and priority setting	6
Communication skills	5
Conflict resolution	5
Stress resistance	5
Leadership	5
Organizational skills	5
Problem solving and judgement	5
Decisiveness	5

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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
1 <sup>ST</sup> ECVET WORKSHOP	C. CHENEL RAMOS	5 <sup>TH</sup> ECVET WORKSHOP
14.10.2011	21.06.2012	14.11.2013



Ref	Job Title	Occupational Category
<b>2.2.01</b>	<b>Shift Engineer</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	Shift Supervisor Shift manager	Specialist
Operations in Control Room		
Role / Functions		
Responsible for the safe and error-free operation of the nuclear unit, including access to the power grid, and coordination of the activities of the shift personnel.		
<ul style="list-style-type: none"> <li>Supervises control and monitoring of the nuclear unit according to the technical specifications: (radiation situation, chemical regime, limits and conditions).</li> <li>Provides team and technical supervision.</li> <li>Supervise the continuous update of operation records.</li> <li>Interfacing with other departments of the organization.</li> <li>Assisting in the preparation of continuous training programmes for control room crew (SM).</li> <li>Assesses incidents, determining the degree of the event, manages operations in accordance with the emergency plan and comply with the reporting obligations.</li> <li>Coordinates/approves maintenance interventions.</li> <li>Directs shift personnel in emergency situations, in accordance with emergency operating procedures</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Nuclear engineering: reactor physics, thermal limits in nuclear fuels, nuclear power plant systems, reactor heat transfer and fluid flow		6
National and international regulations, codes and procedures related to safe operation		6
Physics and Chemistry theory: thermodynamics, fluid mechanics		5
Applied Techniques and engineering: electric power generation, energy conversion, mechanical, electrical engineering, electric power system operation, electrical, energy conversion, sensors, measurements, signal processing, instrumentation and control, pipe systems, pumps and turbine, hydraulic and pneumatic installations		5
Plant Chemistry		5
Radiation Protection		5
Nuclear Safety Culture		5
Human error prevention techniques		5
Emergency preparedness		5
Sensors, Measurements, and Signal Processing including their design, use, M&R; Instrumentation and control		5
Mechanical Vibrations		4
Engineering drawings and diagrams		3
Occupational safety and personal protective equipment		3
Operating experience		3
Application and sharing of emergency situation experience		3
Transient and accident reports understanding		3
SKILLS (Technical and functional competence)		EQF level (1-8)
Recognise abnormal situations of plant status and inform about it.		7

Predict the results of actions over systems and components and conduct possible corrective actions required.	7
Transmit instructions by using safe and effective communication techniques.	7
Maintain power equipment in conditions of safe and economical operation in accordance with the technical specifications and procedures.	6
Monitor the condition of the equipment and technical systems.	6
Maintain and update repair logs, tracking and reporting systems.	6
Identify measures or indicators of system performance and predict how changes in conditions or operation will affect outcomes.	6
Assess and communicate the nature and level of emergency.	6
Provide first response to events and coordinate application of the emergency plan.	6
Monitor and maintain a safe working environment.	5
Read and interpret engineering drawings and diagrams.	4
Provide input for preparing nuclear safety documentation.	4
Prepare technical reports and operation records.	4
Check the progress of the works on refuelling.	4
Issues admission of M&R personnel to work on equipment and systems.	4
Check the progress of M&R activities.	4
Acceptance of equipment after M&R.	4
Conduct tests and inspections of services and processes to evaluate their quality or performance.	4
Assess system performance and how changes in conditions or operation will affect outcomes.	3
Prepare technical reports and operation records.	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Situational awareness	6
Team working	5
Stress resistance	5
Analytical thinking	5
Decisiveness	5
Conservative approach	5
Communication – Ability to understand and be understood	4
Problem solving	4

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
1 <sup>ST</sup> ECVET WORKSHOP	N. SHULEPOVA	5 <sup>TH</sup> ECVET WORKSHOP
14.10.2011	10.11.2013	13.11.2013

Ref	Job Title	Occupational Category
<b>2.2.02</b>	<b>Senior Reactor Operator</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	Head of Reactor Unit Senior Reactor Operator	Executive
Operations in Control Room		
Role / Functions		
Responsible for all aspects of safe operation of reactor facility		
<ul style="list-style-type: none"> <li>Ensures and controls the safe and trouble-free operation of reactor facility according to the requirements of technical specifications: (radiation situation, chemical regime, technological limits and conditions)</li> <li>Provides overall supervision of all activities in the operation of the reactor installation and its auxiliary systems and directly manipulate the controls of the equipment and systems</li> <li>Monitors and controls the core, the reactivity and the systems, which can influence the reactivity</li> <li>Ensures and controls the strict adherence to the requirements of nuclear safety and radiation protection in all activities related to the operation of the reactor installation</li> <li>Reports to the Unit shift supervisor the operational condition of reactor facility or/and incidents occurred</li> <li>Coordination of maintenance and testing activities and for a start-up of the equipment after maintenance</li> <li>Monitors parameters of assigned equipment during operations and ensure the response to system or unit abnormalities, diagnoses the cause, and recommends or applies corrective action and reports incidents</li> <li>Responsible for recording and continuous update of operating registers</li> <li>During the outage for refuelling, coordinates and monitors activities in the controlled area</li> <li>In case of abnormal or emergency situation strictly adheres the instructions of the Unit Shift Supervisor in accordance with the Emergency Operating Procedures and the internal emergency plan</li> <li>Interfacing with other departments of the organization in framework of his duties</li> <li>Responsible for implementation of operational procedures such as those controlling start-up and shut-down activities, including periodic testing of relevant equipment</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Nuclear engineering: reactor physics, thermal limits in nuclear fuels, nuclear power plant systems, reactor heat transfer and fluid flow		6
Occupational safety and personal protective equipment		6
Operating experience		6
Nuclear operation: Nuclear unit systems operation: reactor start-up, normal, transient, emergency, Measurement of operating parameters, Power plant dynamics and control, Reactor core operation, Instrumentation and applications		6
Nuclear safety		6
Physics and Chemistry theory: thermodynamics, fluid mechanics		5
Applied Techniques and engineering: electric power generation, energy conversion, mechanical, electrical engineering, electric power system operation, electrical, energy conversion, sensors, measurements, signal processing, instrumentation and control, pipe systems, pumps and turbine, hydraulic and pneumatic installations		5
Engineering drawings and diagrams		5
Nuclear Safety Culture		5
Emergency preparedness		5
Nuclear Science		5

Understanding of complex regulations and procedures	5
Plant Chemistry	4
National and international regulations, codes and procedures related to safe operation	4
Radiation Protection	4
Human error prevention techniques	4
Corporate procedures	4
Accident analysis and accident modelling	4
Risk assessment	3
Material Science	3
<b>SKILLS (Technical and functional competence)</b>	<b>EQF level (1-8)</b>
Maintain power equipment in conditions of safe and economical operation in accordance with the technical specifications and procedures.	6
Recognise abnormal situations of plant status and inform about it.	6
Monitor the condition of the equipment and technical systems.	6
Predict the results of actions over systems and components and conduct possible corrective actions required.	6
Identify measures or indicators of system performance and predict how changes in conditions or operation will affect outcomes.	6
Transmit instructions by using safe and effective communication techniques.	6
Perform operational and emergency plans and procedures.	6
Operate and monitor computer-controlled equipment.	6
Regulate working parameters using the information of recorders and displays.	6
Read and interpret engineering drawings and diagrams.	5
Prepare technical reports and operation records.	5
Verify condition of equipment using testing and measurement instrumentation.	5
Execute correction of abnormal conditions according to standard practice and instructions received.	5
Maintain and update repair logs, tracking and reporting systems.	4
Provide input for preparing nuclear safety documentation.	4
Monitor and maintain a safe working environment.	4
Carry out visual inspection.	4
Comply with statutory regulations and organizational safety requirements.	4
Provide input for the draft of requirements specifications.	4
Operate computers using specific software.	4
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Communication – Ability to understand and be understood	6
Team working	6
Conservative approach	6
Stress resistance	5
Situational awareness	5
Decisiveness	5

Accountability	5
Multitasking	5
Analytical thinking	4
Problem solving	4

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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
1 <sup>ST</sup> ECVET WORKSHOP	L. PIRONKOV	4 <sup>TH</sup> ECVET WORKSHOP
14.10.2011	19.04.2013	17.05.2013

Ref	Job Title	Occupational Category
<b>2.2.05</b>	<b>Turbine Operator</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	-----	Executive
Operations in Control Room		
Role / Functions		
Responsible for the manipulation of plant controls, monitoring plant performance and hands-on operations of equipment and systems related to the turbine in NPP, during normal, accidental and emergency situations as well as in special configurations		
<ul style="list-style-type: none"> <li>• Monitor all the controls and data related to the operation of turbine, during the normal operation as well as during all the other situations occurring on the NPP according to plant procedures.</li> <li>• Monitor, analyse information derived from operating data</li> <li>• Manipulate all the plant controls related to the turbine in NPP.</li> <li>• Perform the record and reporting at the shift change-over.</li> <li>• Assure the correct implementation of operating procedures of turbine in NPP, under monitoring of the shift supervisor, during the normal operation</li> <li>• Assure the correct implementation of operating procedures of turbine in NPP, under direct control of the shift supervisor, in case of emergency, in accidental conditions and in case of special configurations.</li> <li>• Dispatch orders and instructions to personnel to coordinate auxiliary equipment operation.</li> <li>• Monitor the plant performance for turbine related aspects.</li> <li>• Analyses the operation of equipment in the NPP and perform corrective actions for normal and abnormal conditions of equipment according with the plant procedures and the available information</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Operating experience		6
Procedures related to the turbine during the normal operation of the plant		6
Procedures related to the turbine in case of emergency, accident and in case of special configuration		6
Physics and Chemistry theory: thermodynamics, fluid mechanics		5
Applied Techniques and engineering: electric power generation, energy conversion, mechanical, electrical engineering, electric power system operation, electrical, energy conversion, sensors, measurements, signal processing, instrumentation and control, pipe systems, pumps and turbine, hydraulic and pneumatic installations		5
National and international regulations, codes and procedures related to safe operation		5
Emergency preparedness		5
Turbine equipment		5
Alarm, test and measurement equipment, power equipment related to turbine		5
Safe conditions of the plant in and after every kind of transients		5
Interconnections and relationship between the conventional island and the nuclear island of the plant		5
Nuclear engineering: reactor physics, thermal limits in nuclear fuels, nuclear power plant systems, reactor heat transfer and fluid flow		4
Plant Chemistry		4
Radiation Protection		4

Nuclear Safety Culture	4
Engineering drawings and diagrams	3
Human error prevention techniques	3
Occupational safety and personal protective equipment	3
<b>SKILLS (Technical and functional competence)</b>	<b>EQF level (1-8)</b>
Maintain power equipment in conditions of safe and economical operation in accordance with the technical specifications and procedures.	6
Identify measures or indicators of system performance and predict how changes in conditions or operation will affect outcomes.	6
Transmit instructions by using safe and effective communication techniques.	6
Manipulate plant controls in accordance with plant procedures.	6
Implement the procedure related to turbine during the normal operation as well as during the emergency, accidents or special configuration of the plant.	6
Control of the data related to systems and components related to conventional island.	6
Reading and interpreting engineering drawings and diagrams.	5
Recognise abnormal situations of plant status and inform about it.	5
Predict the results of actions over systems and components and conduct possible corrective actions required.	4
Maintain and update repair logs, tracking and reporting systems.	4
Provide input for preparing nuclear safety documentation.	4
Monitor and maintain a safe working environment.	4
Regulate working parameters according to the information of recorders and displays.	4
Monitor the condition of the equipment and technical systems.	3
Prepare technical reports and operation records.	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Team working	5
Stress resistance	5
Situational awareness	5
Analytical thinking	5
Problem solving	4
Decisiveness	4
Conservative approach	4
Accountability	4
Communication – Ability to understand and be understood	3

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
J. IGLESIAS / F. PASQUALONI	N. SHULEPOVA	5 <sup>TH</sup> ECVET WORKSHOP
24.10.2012	10.11.2013	13.11.2013

Ref	Job Title	Occupational Category
<b>2.3.01</b>	<b>Field Operation Technician</b>	Technician
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	Field Operator I	Executive
Operations on the Field		
Role / Functions		
Responsible for ensuring error-free operation and maintenance of equipment and systems within specified rules and guidelines		
<ul style="list-style-type: none"> <li>• Operation of equipment and systems to ensure safe and error-free operation, adhering to required parameters and limits and operational and safety regulations</li> <li>• Active participation in fulfilment of all environmental and health &amp; safety requirements.</li> <li>• Ensuring error-free operation, responding to equipment abnormalities, diagnosing causes and recommending or taking corrective actions.</li> <li>• Assisting in the preparation of occupational training programmes for field operators.</li> <li>• Supervision of field operator workers</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Industrial and occupational safety		5
Safety culture		5
Radiation protection		5
Error prevention techniques and human performance tools		5
Nuclear safety principles: Defence-in-Depth concept, Protective Barrier concept, redundancy, diversity, fail safe, spatial separation, self-monitoring and single failure criterion, safety classification of systems and components.		4
Regulation, codes, standards, policies and procedures in the nuclear field		4
Operating experience		4
Engineering data and documentation		4
Engineering – general: electrical engineering, electric power generation, energy conversion, mechanical engineering (can vary with specialisation)		4
Operational/Maintenance/Safety Procedures or Instructions		4
Technical drawings		4
Cooling systems and heat exchangers		4
Hydraulic installations and components: pumps, valves, actuators		4
HVAC installations		4
Electrical machines and components: transformers, engines,		4
Gas systems		4
Pneumatic systems		4
ICT literacy		3
NPP systems and components		3
Quality assurance		3
Nuclear science		3
Heat transfer		3
Plant chemistry		2



SKILLS (Technical and functional competence)	EQF level (1-8)
Analyse and interpret technical data and documentation.	4
Identify safety functional requirements.	4
Monitor and maintain the quality of processes.	4
Promote and ensure compliance with statutory regulations, technical specifications and project requirements.	4
Identify radiation protection requirements and apply radiation protection measures.	4
Communicate with other disciplines groups as needed to solve issues.	4
Compile and report information for management control and task assignment.	4
Supervise working activities.	4
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	4
Give clear instructions and guidance to the rest of members of the team.	4
Identify exactly systems and components.	4
Identify components status.	4
Operate equipment independently according to operational/maintenance/safety procedures or instructions.	4
Identify events and/or situations not compliant with H&S standards.	4
Diagnose equipment malfunction.	4
Monitor and maintain a safe work environment.	3
Prepare reports using technical writing.	3
Test mechanical/electrical equipment.	3
Fill forms on technical checklists.	3
Implement human error prevention tools.	3
Check instrumentation.	2
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Conscientiousness	4
Team working	4
Problem solving	4
Communication skills	4
Stress resistance	4
Accountability	4
Task allocation and work organisation	4
Analytical thinking	4
Pragmatism	3
Capacity to mobilise people	3
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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
1 <sup>ST</sup> ECVET WORKSHOP	F. PASQUALONI	5 <sup>TH</sup> ECVET WORKSHOP
14.10.2012	04.04.2013	13.11.2013

Ref	Job Title	Occupational Category
<b>2.3.02</b>	<b>Field Operation Worker</b>	Craft
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	Operator on the Field Field Operator – Craft Field Operator II Field Operator – Electrical/Mechanical/I&C	Executive
Operations on the Field		
Role / Functions		
<p>Ensure safe and proper operation of serviced electrical equipment in accordance with the technical specifications, operating procedures, instructions and other subject related corporative documents;</p> <ul style="list-style-type: none"> <li>Assist in ensuring normal working conditions of equipment in the turbine hall and reactor compartment, work, backup and emergency lighting, portable fire-fighting equipment.</li> <li>Operate equipment to ensure safe and error-free operation, adhering to required parameters and limits and operational and safety regulations</li> <li>Ensuring error-free operation, responding to equipment abnormalities, diagnosing causes and supporting the corrective actions.</li> <li>Regularly perform walks-through and inspections of the serviced equipment, while maintaining the necessary housekeeping and cleanliness.</li> <li>Inform the line manager about identified malfunctions and mark them in accordance with approved rules.</li> <li>Assist staff of main control room in the monitoring and operation of assigned equipment and systems.</li> <li>Prepare assigned equipment for maintenance activities.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Conservation and maintenance of equipment and tools		4
Radiation Protection		3
Occupational and industrial safety		3
Statutory and regulatory requirements, codes, standards, procedures and practices		3
Safety culture		3
Electrical installations		3
Electrical/mechanical/I&C measurement instrumentation		3
Electrical equipment: machines, generators, transformers.		3
Electricity - general		3
Engineering – general: electrical engineering, electric power generation, energy conversion,		3
Nuclear power plant systems and main components		3
Nuclear safety-general		3
Electrical safety		3
Human error prevention techniques		3
I&C		3
Mechanical engineering, pumps, valves, heat exchangers, piping,		3
SKILLS (Technical and functional competence)		EQF level (1-8)
Maintain tools, equipment and materials in a proper condition.		4
Select and use equipment/tools for a specific job.		3
Identify equipment malfunction.		3

Produce brief technical reports on tasks performed and fill in checklists.	3
Maintain a safe working environment.	3
Understand and follow instructions and procedures.	3
Use Personal Protective Equipment (PPEs).	3
Operate electrical/mechanical/I&C equipment and installations.	3
Report any malfunction of equipment, controls and instruments.	3
Correct abnormal conditions according to procedures.	3
Perform electrical and electronic measurement.	3
Inspect and test electrical equipment according to procedures.	3
Report information on electrical/mechanical/I&C equipment operating condition.	3
Comply with statutory requirements, codes and standards.	2
Support installation, testing and maintenance of electrical systems and equipment.	2
Observe radiation protection dose control procedures.	2
Start-up and shut-down of specific equipment items.	2
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Manual dexterity	4
Accuracy / Eye for detail	3
Safety attitude	3
Team working	3
Discipline	3
Accountability	3
Stress resistance	2
Communication skills – ability to understand and to be understood	2

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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
1 <sup>ST</sup> ECVET WORKSHOP	L. PIRONKOV	5 <sup>TH</sup> ECVET WORKSHOP
14.10.2012	22.04.2013	14.11.2013

Ref	Job Title	Occupational Category
<b>2.4.01</b>	<b>WM &amp; RP Manager</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	Waste Management and Radioprotection Manager	Specialist
WM & RP	Radioprotection Expert	
Role / Functions		
<p>Responsible for direct supervision of RP Officer to assure that the environmental health, radiation protection, and radioactive waste program is implemented in full compliance with international and national regulatory requirements.</p> <p>Responsible for the management and safe treatment, storage and handling of radioactive waste, related to NPP-Operation and other activities. Assist the NPP / Unit Manager to build the nuclear safety (waste management and RP) policy and license requirements.</p>		
<ul style="list-style-type: none"> <li>Assures the radiological safety of the staff at the workplace and guides the implementation of process improvements or corrective actions to resolve identified deficiencies in WM and RP activities.</li> <li>Collaborate with the managers of other sections to minimize radioactive waste and inefficiencies.</li> <li>Validate the limits of safe radiation exposure times for NPP personnel and prescribed safe levels of radiation as set forth by industry and governmental standards for NPP.</li> <li>Review and Approve the decontamination procedures (proposed by RPO), and recommends to the unit manager their inclusion in working plan of the unit.</li> <li>Monitors and records the retention process after accidental release of radioactive substances. Ensure the implementation of ALARA principles regarding the preparation and adequacy of personnel exposure, by means of monitoring records and carrying out contamination surveys</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Nuclear safety principles and requirements		6
Safety Culture		6
Radiation Protection		6
Accident & Emergency issues, radiological incidents evaluation and control.		6
Radioactive waste management		6
Regulation and techniques on fuel and waste transport		6
Public / environmental, ethical and social aspects of nuclear installations		6
Dosimetry: RP and external doses; protection against external exposures, protection against internal contamination; natural & artificial sources		6
Dose Monitoring - regulatory Framework		6
Protective measurements, corrective actions		6
Biological Effects and risks associated to exposure to ionizing radiation		6
Airborne radioactivity control		6
Environmental monitoring		6
Decontamination		6
Radioactive Material transport (diffusion) and contamination		6
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		5
National and international codes and standards		5

Quality assurance and control	5
Operating experience	5
Dose of workers, Dose of population, Radioactivity, Interactions of radiation with matter, quantities and units	5
Fuel Cycle	5
Engineering graphics, drawings and diagrams	4
Industrial Safety	4
Occupational Safety and personal protective equipment	4
Project management, planning methods and tools	4
ICT literacy	4
Technical writing	4
Physical principles of detection – Applications of Ionizing Radiation	4
Nuclear engineering	4
Calibration of sources and equipment	4
<b>SKILLS (Technical and functional competence)</b>	<b>EQF level (1-8)</b>
Validate shielding procedures for radiation protection.	5
Use and interpret engineering data and technical documentation.	4
Retrieve technical information by using computer aided techniques.	4
Producing and communicate requirement specifications, technical specifications, procedures and reports.	4
Planning, coordinating, implementing and monitoring project activities.	5
Perform work analysis, breakdown of activities and allocate tasks.	5
Monitor implementation of W&M and RP procedures.	4
Monitor and maintain a safe working environment.	4
Maintain dedicated databases for RP records, waste and sources inventory.	4
Implement radioactive waste reduction procedures.	5
Identify safety (nuclear and operational) requirements.	5
Identify possible impacts and interactions with other related disciplines.	4
Ensure the implementation of engineering codes and standards.	5
Ensure compliance with statutory regulations and organisational QSE requirements.	5
Define actions to improve safety culture based on operational feedback.	5
Coordinate the response to a contingency.	5
Conduct assessment of radiological risks in the workplace.	5
Classify radiological health risks of the personnel.	4
Assess performance and identify measures and indicators to improve or correct performance.	4
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Team working	6
Leadership	6
Independence	6

Decisiveness	6
Conscientiousness	6
Communication	6
Analytical thinking	6
Accountability	6
Problem solving	4

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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
1 <sup>ST</sup> ECVET WORKSHOP	M. CECLAN	5 <sup>TH</sup> ECVET WORKSHOP
14.10.2012	19.04.2013	14.11.2013

Ref	Job Title	Occupational Category
<b>2.4.02</b>	<b>Radio Protection Officer</b>	Technician
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	-----	Specialist
WM & RP		
Role / Functions		
Responsible for monitoring and recording radiation level in all operation modes to determine potential contamination of humans, facilities, and environment He will be also in charge for the definition of the personal protective equipment of the workers.		
<ul style="list-style-type: none"> <li>• Inform workers about the radiological condition of the NNP areas according to the internal rules.</li> <li>• Propose the RP measures at any intervention into a potential contaminated area in both during production and outage.</li> <li>• Update radiological maps.</li> <li>• Inform the hierarchy of any undue doses taken by workers.</li> <li>• Provide the initial response to any abnormal events and to any alarms generated by their radiation monitoring equipment.</li> <li>• Monitor the time/intensity of exposure of personnel working in higher risk sections.</li> <li>• Prepare reports on contamination tests, material and equipment decontaminated, and defines the methods for the decontamination process.</li> <li>• Demonstrate and verify the use of personal protection equipment (PPE)</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Operating experience		5
Safety culture		5
Radiation protection		5
Accident & Emergency issues, radiological incidents evaluation and control		5
Biological Effects and risks associated to exposure to ionizing radiation		5
Radioactivity, Interactions of radiation with matter, Quantities and Units		5
Dosimetry: RP and external doses; protection against external exposures, protection against internal exposure; natural & artificial sources		5
Regulation, codes, standards, policies and procedures in the nuclear field		4
Industrial and occupational safety		4
ICT literacy		4
Engineering data and documentation		4
Error prevention techniques and human performance tools		4
Decontamination		4
Physical principles of Ionizing Radiation		4
Physics-general		4
Nuclear safety principles: Defence-in-Depth concept, Protective Barrier concept, redundancy, diversity, fail safe, spatial separation, self-monitoring and single failure criterion, safety classification of systems and components.		3
NPP systems and components		3
Quality assurance		3
SKILLS (Technical and functional competence)		EQF level (1-8)
Identify radiation protection requirements and apply radiation protection measures		6



Monitor dose and contamination.	6
Collect samples.	6
Select radioprotection protective equipment.	6
Identify safety functional requirements.	5
Monitor and maintain a safe work environment.	5
Prepare reports using technical writing.	5
Communicate with other disciplines groups as needed to solve issues.	5
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	5
Give clear instructions and guidance to the rest of members of the team.	5
Perform radiological mapping.	5
Analyse and interpret technical data and documentation.	4
Monitor and maintain the quality of processes.	4
Promote and ensure compliance with statutory regulations, technical specifications and project requirements.	4
Supervise working activities.	4
Calibrate equipment.	4
Compile and report information for management control and task assignment.	2
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Conscientiousness	5
Team working	5
Communication skills	5
Stress resistance	5
Accountability	5
Ability to work in a proactive and autonomous way	5
Problem solving	4
Analytical thinking	4
Task allocation and work organisation	3

<b>NOTES</b>
Proposal to move RP profiles to Safety and Security area

<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
1 <sup>ST</sup> ECVET WORKSHOP	4 <sup>TH</sup> ECVET WORKSHOP	4 <sup>TH</sup> ECVET WORKSHOP
14.10.2012	15.05.2013	16.05.2013

Ref	Job Title	Occupational Category
<b>2.4.03</b>	<b>Radio Protection Worker</b>	Technician
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	-----	Executive
WM & RP		
Role / Functions		
Accomplish Radiation Protection tasks in all operation modes and for keeping a safe environment in all work places, under the supervision of a Radiation Protection Officer.		
<ul style="list-style-type: none"> <li>• Implement the RP measures at work places and in potential contaminated area in both production and outage.</li> <li>• Collect and analyse the readings of personal monitoring equipment (dosimeters) used by plant personnel and measure individual exposure to radiation.</li> <li>• Implement the initial response to any abnormal events and to any alarms generated by radiation monitoring equipment.</li> <li>• Decontamination of materials, premises and persons by the appropriate methods</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Safety culture		4
Radiation protection		4
Radiological decontamination		4
Dosimetry: natural & artificial sources, quantities and units, dose limits for professional exposure and for population, RP external doses; protection against internal exposures and external exposure		4
Working suits and personal protective equipment		4
Nuclear safety principles: Defence-in-Depth concept, Protective Barrier concept, redundancy, diversity, fail safe, spatial separation, self-monitoring and single failure criterion, safety classification of systems and components.		3
Regulation, codes, standards, policies and procedures in the nuclear field		3
Industrial and occupational safety		3
Operating experience		3
ICT literacy		3
Quality assurance		3
Dose Monitoring-regulatory Framework		3
Fuel Cycle, Radioactive Waste handling, Interactions of radiation with matter and Plant systems and components		3
Nuclear ventilation HVAC		3
Sample collection equipment		3
Airborne radioactivity control		3
Environmental monitoring		3
Surface contamination levels and air contamination		3
Engineering data and documentation		2
NPP systems and components		2
Error prevention techniques and human performance tools		2
Fuel and waste transport		2
Accident & Emergency issues		2

Physical principles of detection – Applications of Ionizing Radiation	2
<b>SKILLS (Technical and functional competence)</b>	<b>EQF level (1-8)</b>
Identify safety functional requirements.	3
Monitor and maintain a safe work environment.	3
Promote and ensure compliance with statutory regulations, technical specifications and project requirements.	3
Identify radiation protection requirements and apply radiation protection measures.	3
Communicate with other disciplines groups as needed to solve issues.	3
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	3
Report changes in radiological conditions.	3
Identify and quantify radiation hazards and implements radiation protection monitoring activities.	3
Deliver a radiation protection monitoring service to defined standards.	3
Make radiological measurements and maps at the site.	3
Implement Protective measures and corrective actions and appropriate shielding.	3
Analyse and interpret technical data and documentation.	2
Prepare reports using technical writing.	2
Monitor and maintain the quality of processes.	2
Compile and report information for management control and task assignment.	2
Supervise working activities.	2
Give clear instructions and guidance to the rest of members of the team.	2
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Conscientiousness	3
Team working	3
Problem solving	3
Communication skills	3
Stress resistance	3
Accountability	3
Adaptability	3
Discipline	3
Task allocation and work organisation	2
Analytical thinking	2

#### NOTES

Proposal to move RP profiles to Safety and Security area

DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
1 <sup>ST</sup> ECVET WORKSHOP	M CECLAN	5 <sup>TH</sup> ECVET WORKSHOP
14.10.2012	13.05.2013	14.11.2014

Ref	Job Title	Occupational Category
<b>2.5.01</b>	<b>Chemistry Manager</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	Chemistry and Radiochemistry Manager	Management
Chemistry		
Role / Functions		
<p>Responsible for all aspects of the Chemistry program relating to analytical and radio analytical data. This encompasses coaching and training, procedures, scheduling, budgeting, laboratory and in-line analysis, quality control, regulatory interface and regulatory requirements.</p>		
<ul style="list-style-type: none"> <li>• Ensure optimal operation and sustainability of chemistry installations, systems and equipment.</li> <li>• Ensure safety and efficient use of chemical reagents according to requirements of technical specification and operating procedures.</li> <li>• Coordinate and supervise all type of tests specified in plant technical specifications and operating instructions.</li> <li>• Supervise the safe reception, storage and disposal of fresh and used chemical reagents.</li> <li>• Ensure strict adherence of the requirements regarding nuclear safety and radiation protection during implementation of chemistry activities.</li> <li>• Coordinate the development, update and correction of the documents procedures related to functioning, maintenance and modification of chemistry equipment and related to the chemistry regime</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Nuclear safety and nuclear safety principles		6
Safety culture principles		6
Radiation protection		6
Communication techniques: negotiation, presentation, writing		6
Chemical engineering		6
Chemical Laboratory techniques		6
National and international legal framework and licensing		5
Safety and security management		5
Performance improvement methods		5
Corrosion and Environmental Degradation of Materials		5
Radiochemical engineering and waste management		5
Integrated management system: quality, health & safety, environment, information security		4
Industrial safety		4
Risk assessment		4
Nuclear power plant: reactor fundamentals, plant systems description		4
Human error prevention techniques		4
ICT literacy		4
Process system reliability and safety		4
Data processing tools		4
Radioisotopes measurement applications		4
Project management software		3
General management: budget, human resources, defining organizational objectives		3

and strategies, business improvement, planning, monitoring, evaluating	
Operating experience	3
Emergency preparedness and emergency response	3
Cost effective management related to the acquisition of chemicals	3
Technical fundamentals: mechanical, electrical, I&C engineering principles	2
<b>SKILLS (Technical and functional competence)</b>	<b>EQF level (1-8)</b>
Monitor and maintain a safe working environment.	7
Compile and analyse legal requirements to ensure and promote compliance with statutory regulations.	6
Manage activities to the highest standards of safety, security, quality, reliability and efficiency.	6
Lead and enforce safety culture.	6
Coordinate response to non-conformities and to unexpected events.	6
Organize and manage teams: keep track of personnel professional development, identify training needs, select new employees, monitor performance of each team, evaluate and report suitability and availability of those within the allocated teams, allocate professional roles, mentor and coach employees, establish duties and responsibilities, ensure proper levels of guidance and direction.	6
Identify safety requirements.	6
Analyse and interpret the results of analytical measurements.	6
Produce technical information for engineering activities.	6
Review and approve standard and experimental analytical procedures.	6
Plan, schedule and monitor activities by using suitable management tools to ensure timely completion within budget.	5
Interface with managers from other disciplines and/or from external organisations.	5
Promote and implement continuous improvement tools.	5
Classify information according to security criteria.	5
Stay updated on changes on the market, regulations and new operating experience to identify market trends, best practices and/or emerging regulatory issues.	4
Support the development of quality plans and monitor and maintain quality compliance.	4
Negotiate contract conditions covering all possible contingencies.	4
Develop business plans and forecast needed resources such as materials and manpower utilization.	4
Use and interpret data, documentation, diagrams and drawings.	4
Supply information for management control.	4
Create and participate in professional contact networks.	3
Prepare bid and tender enquiries.	3
Conduct commercial follow-up of contracts.	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Accountability	6
Analytical thinking	6
Decisiveness	6
Problem solving	6

Communication skills	5
Organizational skills	5
Multitasking and priority setting	5
Team working	5
Conflict resolution	4
Stress resistance	4
Leadership	4

NOTES

DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
L. PIRONKOV	2 <sup>ND</sup> ECVET WORKSHOP	5 <sup>TH</sup> ECVET WORKSHOP
24.03.2012	24.03.2012	14.11.2013

Ref	Job Title	Occupational Category
<b>2.5.02</b>	<b>Chemical Supervisor</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	-----	Specialist
Chemistry		
Role / Functions		
Control and optimization of NPP fluids chemical regime, Control of nuclear equipment corrosion and tests and analysis of applied chemical reagents and consumables.		
<ul style="list-style-type: none"> <li>Organize and lead the analysis and control of chemical conditions/regime of the coolant and other technological flows/fluids during operation and maintenance.</li> <li>Monitor and control solid residuals and liquid and gaseous releases during operation.</li> <li>Prepare and supervise the implementation of programs or/and procedures for chemical control, chemical testing, chemical rinse-out and other subject matter technological activities.</li> <li>Monitoring and assessment of NPP fluids chemical regime.</li> <li>Monitoring and assessment of nuclear equipment corrosion.</li> <li>Organize and lead the process of decontamination and conservation of the equipment during outage or long-term layover.</li> <li>Supervise the validation of methods for analytical testing and calibration.</li> <li>Review event analysis report on events related to chemical equipment or metal corrosion conditions.</li> <li>Training programmes for chemistry workers.</li> <li>Team and technical supervision</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Radiochemistry		6
Management of chemical and radiochemical laboratories		6
Chemical Engineering		5
General Chemistry		5
Analytical Chemistry		5
Corrosion and Environmental Degradation of Materials		5
Methods and tools for sampling and laboratory analysis		5
Methods for analytical control and preparing decontamination		5
Chemical hazards		5
Nuclear safety principles and requirements		4
Safety Culture		4
Engineering graphics, drawings and diagrams		4
Radiation Protection		4
Occupational Safety and personal protective equipment		4
ICT literacy		4
Technical writing		4
Operating experience		4
Chemical and radiochemical instrumentation		4
Waste management		4
Decontamination and remediation		4
Metrology and uncertainty calculation		4

Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems	3
National and international codes and standards	3
Industrial Safety	3
Quality assurance and control	3
Project management, planning methods and tools	3
Radiation effects on materials / radiation damage	3
<b>SKILLS (Technical and functional competence)</b>	<b>EQF level (1-8)</b>
Ensure compliance with statutory regulations and organizational QSE requirements.	5
Identification of safety requirements.	5
Define actions to improve safety culture based on operational feedback.	5
Manage hazardous chemical and radioactive wastes.	5
Adapt and apply laboratory techniques and procedures.	5
Oversee sampling and chemical analysis activities.	5
Producing and communicate requirement specifications, technical specifications, procedures and reports.	4
Planning, coordinating, implementing and monitoring project activities.	4
Retrieve technical information by using computer aided techniques.	4
Ensure the implementation of engineering codes and standards.	4
Monitor and maintain a safe working environment.	4
Perform work analysis, breakdown of activities and allocate tasks.	4
Assess performance and identify measures and indicators to improve or correct performance.	4
Calibrate measurement instruments and tools.	4
Participate in waste management process.	4
Organise and maintain stock and control of laboratory chemical inventory.	4
Prepare calibration and maintenance plan for laboratory equipment.	4
Validate and report test an analysis results.	4
Use and interpret engineering data and technical documentation.	3
Identify possible impacts and interactions with other related disciplines.	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	5
Conscientiousness	5
Communication	5
Analytical thinking	4
Accountability	4
Team working	4
Problem solving	4



Decisiveness	4
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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
L. PIRONKOV	M. CECLAN	6 <sup>TH</sup> ECVET WORKSHOP
08.04.2013	9.02.2015	18.02.2015

Ref	Job Title	Occupational Category
<b>2.5.03</b>	<b>Chemistry Technician</b>	Technician
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	Chemistry Operator II	Specialist
Chemistry		
Role / Functions		
Responsible for performing analysis of water, gases and other chemical substances in primary side, secondary side and auxiliary systems with the purpose to verify compliance with the specifications.		
<ul style="list-style-type: none"> <li>• Take over and control the samples from technological systems.</li> <li>• Perform pre-treatment of samples.</li> <li>• Perform chemistry analysis using commonly accepted methods and techniques.</li> <li>• Operate specific instruments and tools for chemistry analysis – pH meters, spectrometers, chromatograph, ion analyser, titrators, etc.</li> <li>• Perform verification and calibration of chemical laboratory equipment.</li> <li>• Check and control the consumption of chemical reagents.</li> <li>• Keep up to date the plant chemistry data bases.</li> <li>• Perform inter-laboratory comparisons.</li> <li>• Timely report the evaluation results to management at the responsible level and to other users of such results (operators, maintenance staff, the system engineering group, technical support organizations, etc.)</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Radioisotopes Measurement techniques		5
Analytical Chemistry		5
Laboratory Techniques		5
Nuclear safety principles: Defence-in-Depth concept, Protective Barrier concept, redundancy, diversity, fail safe, spatial separation, self-monitoring and single failure criterion, safety classification of systems and components.		4
Industrial and occupational safety		4
Operating experience		4
ICT literacy		4
Safety culture		4
Radiation protection		4
Error prevention techniques and human performance tools		4
Radiochemistry and rad-waste management		4
Corrosion and Environmental Degradation of Materials		4
Computerized data processing techniques		4
Metrology and calibration techniques		4
Regulation, codes, standards, policies and procedures in the nuclear field		3
Engineering data and documentation		3
NPP systems and components		3
Quality assurance		3
Hazardous chemical waste management (packaging, storage, treatment and disposal –handling)		3
Communication techniques		3

SKILLS (Technical and functional competence)	EQF level (1-8)
Monitor and maintain a safe work environment.	4
Promote and ensure compliance with statutory regulations, technical specifications and project requirements.	4
Calibrate and verify analytical control instrumentation.	4
Perform chemical analysis.	4
Manage hazardous chemical and radioactive waste.	4
Test inorganic chemical characteristics.	4
Analyse and interpret technical data and documentation.	3
Identify safety functional requirements.	3
Prepare reports using technical writing.	3
Monitor and maintain the quality of processes.	3
Identify radiation protection requirements and apply radiation protection measures.	3
Communicate with other disciplines groups as needed to solve issues.	3
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	3
Conduct assessment of risk in the workplace.	3
Reinstate the work area on completion of activities.	3
Operate computers using specific software.	3
Compile and report information for management control and task assignment.	2
Supervise working activities.	2
Give clear instructions and guidance to the rest of members of the team.	2
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Conscientiousness	5
Analytical thinking	5
Accountability	4
Manual dexterity	4
Team working	3
Problem solving	3
Communication skills	3
Stress resistance	3
Task allocation and work organisation	2

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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
L. PIRONKOV	5 <sup>TH</sup> ECVET WORKSHOP	5 <sup>TH</sup> ECVET WORKSHOP
25.10.2012	12.11.2013	12.11.2013

Ref	Job Title	Occupational Category
<b>2.6.01</b>	<b>Safety and Security Manager</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	S(S)&E Manager	Management
Safety and Security		
Role / Functions		
Managing the safety and security department according to the regulatory authorities and plant procedures		
<ul style="list-style-type: none"> <li>• Ensure that documents of safety and security department are in accordance with both national and international regulations.</li> <li>• Manage the technical specification for contract as well as relationship with the security external company.</li> <li>• Manage the relationships with the local, regional and national security forces.</li> <li>• Develop the Safety and Security Department expectations in accordance with plant and company expectations</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Safety and security management		7
Nuclear safety and nuclear safety principles		6
Radiation protection		6
Physical security and safeguards		6
Security and safeguards		6
Integrated management system: quality, health & safety, environment, information security		5
Industrial safety		5
National and international legal framework and licensing		5
Safety culture principles		5
Risk assessment		5
Operating experience		5
Emergency preparedness and emergency response		5
Security systems, applications and concepts		5
Occupational Safety		5
National and international regulation, policies and procedures in the field of safety and security in NPPs		5
Probability and Statistics		5
Project management software		4
General management: budget, human resources, defining organizational objectives and strategies, business improvement, planning, monitoring, evaluating		4
Nuclear power plant: reactor fundamentals, plant systems description		4
Human error prevention techniques		4
Performance improvement methods		4
ICT literacy		4
Communication techniques: negotiation, presentation, writing		4
Technical fundamentals: mechanical, electrical, I&C engineering principles		

SKILLS (Technical and functional competence)	EQF level (1-8)
Classify information according to security criteria.	7
Specify safety and security procedures content.	7
Approve technical specifications for outsourced activities.	7
Revise and approve event analysis.	7
Identify security threats.	7
Identify safety hazards.	7
Revise and approve corrective action plan.	7
Compile and analyse legal requirements to ensure and promote compliance with statutory regulations.	6
Stay updated on changes on the market, regulations and new operating experience to identify market trends, best practices and/or emerging regulatory issues.	6
Manage activities to the highest standards of safety, security, quality, reliability and efficiency.	6
Lead and enforce safety culture.	6
Support the development of quality plans and monitor and maintain quality compliance.	6
Conduct commercial follow-up of contracts.	6
Organize and manage teams: keep track of personnel professional development, identify training needs, select new employees, monitor performance of each team, evaluate and report suitability and availability of those within the allocated teams, allocate professional roles, mentor and coach employees, establish duties and responsibilities, ensure proper levels of guidance and direction.	6
Assess and select contractors.	6
Revise and approve updates of procedures concerning plant modifications.	6
Monitor and maintain a safe working environment.	5
Interface with managers from other disciplines and/or from external organisations.	5
Promote and implement continuous improvement tools.	5
Prepare bid and tender enquiries.	5
Negotiate contract conditions covering all possible contingencies.	5
Coordinate response to non-conformities and to unexpected events.	5
Plan, schedule and monitor activities by using suitable management tools to ensure timely completion within budget.	4
Create and participate in professional contact networks.	4
Develop business plans and forecast needed resources such as materials and manpower utilization.	4
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Analytical thinking	6
Discretion and Confidentiality	6
Communication skills	5
Accountability	5
Conflict resolution	5
Stress resistance	5
Leadership	5

Multitasking and priority setting	5
Organizational skills	4

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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
J. IGLESIAS MORÁN	F. PASQUALONI	6 <sup>TH</sup> ECVET WORKSHOP
12.10.2012	04.04.2013	17.02.2015

Ref	Job Title	Occupational Category
<b>2.6.02</b>	<b>Industrial Safety Technician</b>	Technician
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	Industrial Safety Officer	Executive
Safety and Security		
Role / Functions		
Implement and communicate the occupational health codes and standards.		
<ul style="list-style-type: none"> <li>• Report deficiencies identified during daily activities.</li> <li>• Reinforce the occupational safety expectations.</li> <li>• Perform and implement the procedure modifications of the industrial safety.</li> <li>• Perform walk-downs and regular monitoring of serviced equipment.</li> <li>• Provide line manager with feedback regarding industrial safety conditions.</li> <li>• Ensure appropriate use of PPEs</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Nuclear safety principles: Defence-in-Depth concept, Protective Barrier concept, redundancy, diversity, fail safe, spatial separation, self-monitoring and single failure criterion, safety classification of systems and components.		5
Regulation, codes, standards, policies and procedures in the nuclear field		5
Operating experience		5
Safety culture		5
Radiation protection		5
Error prevention techniques and human performance tools		5
Safety systems, Applications and Concepts		5
Risk Assessment		5
National regulation / All legislation, policies and procedures on industrial safety		5
Security and safeguards		5
Industrial and occupational safety		4
ICT literacy		4
Engineering data and documentation		4
NPP systems and components		4
Quality assurance		4
Radiation protection		4
Electrical safety		4
Machine structural integrity		4
Chemical hazards		4
Automation and control		3
SKILLS (Technical and functional competence)		EQF level (1-8)
Monitor and maintain a safe work environment.		5
Monitor and maintain the quality of processes.		5
Identify radiation protection requirements and apply radiation protection measures.		5
Communicate with other disciplines groups as needed to solve issues.		5

Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	5
Verify and enforce the application of Safety rules by crafts.	5
Conduct assessment of risks in the workplace.	5
Prepare action plan for mitigation of risks.	5
Apply safety culture concepts	5
Perform visual inspection of installations, equipment and workplaces.	5
Analyse and interpret technical data and documentation.	4
Identify safety functional requirements.	4
Prepare reports using technical writing.	4
Promote and ensure compliance with statutory regulations, technical specifications and project requirements.	4
Supervise working activities.	4
Give clear instructions and guidance to the rest of members of the team.	4
Apply industrial safety procedures.	4
React to a contingency according to procedures.	4
Compile and report information for management control and task assignment.	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Conscientiousness	4
Team working	4
Problem solving	4
Communication skills	4
Stress resistance	4
Accountability	4
Analytical thinking	4
Priority setting	4
Task allocation and work organisation	2

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
S. VAN WINCKEL / P. LIVOLSI	L. PIRONKOV	6 <sup>TH</sup> ECVET WORKSHOP
14.05.2013	15.05.2013	17.02.2015



Ref	Job Title	Occupational Category
<b>2.6.04</b>	<b>Fire Protection Worker</b>	Craft
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	-----	Executive
Safety and Security		
Role / Functions		
Responsible for availability and operability of serviced fire-protection systems and equipment.		
<ul style="list-style-type: none"> <li>Carry out regular check-out of fire protection systems and equipment.</li> <li>Carry out fire protection related tasks, which are pre-defined in relevant procedures.</li> <li>Fulfil prescriptions and recommendation provided by fire protection supervisor.</li> <li>Provide line manager with information about identified deficiencies and failures of serviced fire protection equipment.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Radiation Protection		4
Conservation and maintenance of equipment and tools		4
Fire protection and firefighting fundamentals		4
Fire protection technology: Fire detection systems, Fire suppression systems; Fire water system; Portable fire extinguishers		4
Fire protection regulations		4
Occupational and industrial safety		3
Statutory and regulatory requirements, codes, standards, procedures and practices		3
Safety culture		3
Plant ventilation systems		3
Fire grading and classification of plant areas		3
Emergency preparedness		3
Types of fire and combustibles		3
Electrical safety		3
NPP systems and principal components		2
Hazardous materials awareness		2
SKILLS (Technical and functional competence)		EQF level (1-8)
Select and use equipment/tools for a specific job.		4
Use Personal Protective Equipment (PPEs).		4
Extinguish fires using manual extinguisher and hose lines.		4
Maintain tools, equipment and materials in a proper condition.		3
Identify equipment malfunction.		3
Produce brief technical reports on tasks performed and fill in checklists.		3
Maintain a safe working environment.		3
Understand and follow instructions and procedures.		3
Comply with statutory requirements, codes and standards.		3

Record any shortage or malfunction of fire protection equipment, controls and instruments.	3
Implement assigned part of emergency plan.	3
Force entry into buildings.	3
Use smoke and fire PPEs.	3
Use communication equipment.	3
Use ladders and lifting machines.	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Manual dexterity	4
Team working	4
Accuracy / Eye for detail	3
Safety attitude	3
Discipline	3
Stress resistance	3
Communication skills – ability to understand and to be understood	3
Accountability	2

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
L. PIRONKOV	C. CHENEL RAMOS	6 <sup>TH</sup> ECVET WORKSHOP
24.10.2012	15.12.2014	17.02.2015

Ref	Job Title	Occupational Category
<b>2.6.05</b>	<b>Fire Protection Supervisor</b>	Technician
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	---	Specialist
Safety and Security		
Role / Functions		
Responsible for managing the daily plant activities regarding the Fire Protection Systems.		
<ul style="list-style-type: none"> <li>• Development, implementation and maintenance of the fire protection procedures.</li> <li>• Manage the contracts for all activities related to the Fire Protection Department.</li> <li>• Draft and review Fire Protection procedures and prepare fire emergency drills plan.</li> <li>• Manage the supervision of fire protection and containment systems.</li> <li>• Interface and coordination with local and regional competent bodies</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Fire protection technology: Fire suppression systems; Fire water-based system; extinguishers.		6
Prevention and risk analysis: classification of plant fire areas		6
Industrial and occupational safety		5
Security and safeguards		5
Fire alarms		5
Passive fire containment elements		5
Hazardous and flammable materials in fire situation		5
Plant ventilation systems		5
Smoke and fire protection PPEs		5
Fire safety		5
Operating experience		4
Safety culture		4
NPP systems and components		4
Radiation protection		4
Error prevention techniques and human performance tools		4
Fire origin and cause determination		4
Communication techniques: Negotiation, presentations, writing		4
Evacuation signalling and emergency lightning		4
Types of fire and combustibles		4
Nuclear safety principles: Defence-in-Depth concept, Protective Barrier concept, redundancy, diversity, fail safe, spatial separation, self-monitoring and single failure criterion, safety classification of systems and components.		3
Regulation, codes, standards, policies and procedures in the nuclear field		3
ICT literacy		3
Civil engineering drawings		3
Storage and handling of flammable substances		3
Engineering data and documentation		2

Quality assurance	2
<b>SKILLS (Technical and functional competence)</b>	<b>EQF level (1-8)</b>
Identify safety functional requirements.	5
Monitor and maintain a safe work environment.	5
Promote and ensure compliance with statutory regulations, technical specifications and project requirements.	5
Communicate with other disciplines groups as needed to solve issues.	5
Supervise working activities.	5
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	5
Monitor, control and report anomalies and failures.	5
Work in emergency scenes.	5
Assess structure integrity in fire situation.	5
Prepare reports using technical writing.	4
Monitor and maintain the quality of processes.	4
Compile and report information for management control and task assignment.	4
Give clear instructions and guidance to the rest of members of the team.	4
Organize and coordinate the fire protection team.	4
Force entry into a structure.	4
Inspect and test fire detection and suppression systems.	4
Hoisting, use ladders and devices to access high locations.	4
Select appropriate protective equipment and clothing.	4
Program and conduct fire emergency drills.	4
Analyse and interpret technical data and documentation.	3
Apply first aid.	3
Carry out inspection of facilities.	3
Use communication equipment.	3
Use self-contained breathing apparatus.	3
Identify radiation protection requirements and apply radiation protection measures.	2
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Team working	5
Leadership	5
Team Working	5
Conscientiousness	4
Problem solving	4
Communication skills	4
Stress resistance	4
Accountability	4
Task allocation and work organisation	4
Analytical thinking	4

Multitasking	4
Communication - Ability to understand and be understood	4
Decisiveness	4

NOTES
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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
J. IGLESIAS MORÁN	C. CHENEL RAMOS	6 <sup>TH</sup> ECVET WORKSHOP
12.10.2012	15.12.2014	18.02.2015

Ref	Job Title	Occupational Category
<b>2.7.01</b>	<b>Electrical Technician</b>	Technician
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	-----	Executive
Maintenance		
Role / Functions		
<p>The individual responsible for supervision of electrical maintenance daily activities. Organization of assigned electrical maintenance activities.</p>		
<ul style="list-style-type: none"> <li>• Perform regular walk-downs and monitoring of serviced electrical systems and equipment.</li> <li>• Inform electrical supervisor about identified deficiencies and malfunctions of serviced equipment.</li> <li>• Assist electrical supervisor with organization, implementation and control of maintenance activities assigned to serviced electrical equipment.</li> <li>• Issue orders for performance of electrical maintenance tasks.</li> <li>• Follow the maintenance schedules, monitor its implementation and prepare respective reports.</li> <li>• Contribute to development and update of electrical maintenance related technical documentation.</li> <li>• Contribute to development and implementation of electrical technical modifications.</li> <li>• Provide in-time notifications for review and calibration of measurement devices and instruments</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Nuclear safety principles: Defence-in-Depth concept, Protective Barrier concept, redundancy, diversity, fail safe, spatial separation, self-monitoring and single failure criterion, safety classification of systems and components.		4
Regulation, codes, standards, policies and procedures in the nuclear field		4
Operating experience		4
Engineering data and documentation		4
Quality assurance		4
Error Prevention Techniques and Human Performance Tools		4
Electrical equipment and installations		4
Electrical instrumentation		4
Electrical maintenance, fault diagnosis and rectification		4
Electrical machines and drives		4
Interpreting electrical schemes		4
Cabling		4
Electrical and Electronic Circuits		4
Configuration management		4
Industrial and occupational safety		3
ICT literacy		3
Safety culture		3
Radiation protection		3
Foreign material exclusion		3
Electrical Supply and grid connection		3
Troubleshooting electromechanical systems		3

Command of specific software	3
NPP systems and components	2
<b>SKILLS (Technical and functional competence)</b>	<b>EQF level (1-8)</b>
Analyse and interpret technical data and documentation.	4
Promote and ensure compliance with statutory regulations, technical specifications and project requirements.	4
Compile and report information for management control and task assignment.	4
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	4
Give clear instructions and guidance to the rest of members of the team.	4
Perform electrical maintenance, inspection, testing and commissioning.	4
Maintain, service and repair electrical equipment and systems.	4
Draft preventive maintenance procedures.	4
Prepare reports using technical writing.	3
Monitor and maintain the quality of processes.	3
Communicate with other disciplines groups as needed to solve issues.	3
Supervise working activities.	3
Perform electrical and electronic measurement.	3
Modify or rewire electrical circuits.	3
Inspect and test electrical equipment.	3
Use specific software.	3
Identify safety functional requirements.	2
Monitor and maintain a safe work environment.	2
Identify radiation protection requirements and apply radiation protection measures.	2
Plan Electrical Maintenance, Management and Evaluation	2
Conduct assessment of risk in the workplace	2
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Conscientiousness	3
Team working	3
Problem solving	3
Communication skills	3
Accountability	3
Task allocation and work organisation	3
Analytical thinking	3
Multitasking	3
Stress resistance	2
<b>NOTES</b>	
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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
L. PIRONKOV	J. IGLESIAS MORÁN	6 <sup>TH</sup> ECVET WORKSHOP
18.10.2012	06.05.2013	18.02.2015



Ref	Job Title	Occupational Category
<b>2.7.02</b>	<b>Electronic-I&amp;C Technician</b>	Technician
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	-----	Specialist
Maintenance		
Role / Functions		
Responsible for operational capability and reliability of serviced I&C systems and equipment; monitoring of overhaul life of I&C equipment and replacement of respective devices or components; corrective and preventive maintenance of I&C systems, devices and components.		
<ul style="list-style-type: none"> <li>• Perform regular walk-downs and monitoring of serviced I&amp;C systems and equipment.</li> <li>• Inform I&amp;C supervisor about identified deficiencies and malfunctions of serviced equipment.</li> <li>• Assist I&amp;C supervisor with organization, implementation and control of maintenance activities prescribed to service I&amp;C equipment.</li> <li>• Issue orders for performance of maintenance tasks.</li> <li>• Contribute to development of maintenance schedules, monitor its implementation and prepare respective reports.</li> <li>• Contribute to development and update of maintenance related technical documentation.</li> <li>• Contribute to development and implementation of technical modifications.</li> <li>• Provide in-time notifications for review and calibration of measurement devices and instruments.</li> </ul>		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Nuclear safety principles: Defence-in-Depth concept, Protective Barrier concept, redundancy, diversity, fail safe, spatial separation, self-monitoring and single failure criterion, safety classification of systems and components.		4
Regulation, codes, standards, policies and procedures in the nuclear field		4
Operating experience		4
ICT literacy		4
Engineering data and documentation		4
Error prevention techniques and human performance tools		4
Analogue electronics		4
Digital electronics		4
Electronic Digital Signal Systems		4
Power Electronics		4
Sensors, Measurements and Signal Processing		4
Electronic Circuits		4
Calibration and metrology		4
Wiring		4
Equipment and techniques of reactor core measurement		4
Instrumentation and control		4
Radiation Detection and Instrumentation		4
Technical drawing – electrical/electronic diagrams		4
Configuration management		4
Industrial and occupational safety		3
Safety culture		3
Quality assurance		3

Radiation protection	3
Preventive and Corrective maintenance	3
Control and Automation Systems	3
NPP systems and components	2
<b>SKILLS (Technical and functional competence)</b>	<b>EQF level (1-8)</b>
Analyse and interpret technical data and documentation.	4
Promote and ensure compliance with statutory regulations, technical specifications and project requirements.	4
Compile and report information for management control and task assignment.	4
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	4
Give clear instructions and guidance to the rest of members of the team.	4
Perform Instrument & Control Maintenance.	4
Read and interpret Electronic Circuit Schemes.	4
Inspect and Test Electronic devices and components.	4
Rectify faults in electronic equipment.	4
Check and calibrate Process Control Instrumentation and other instruments.	4
Operate computers using a variety of software.	4
Use hand or power tools, measuring, and test equipment.	4
Monitor and maintain a safe work environment.	3
Prepare reports using technical writing.	3
Monitor and maintain the quality of processes.	3
Communicate with other disciplines groups as needed to solve issues.	3
Supervise working activities.	3
Perform Electrical and Electronic Measurements.	3
Carry out preventive maintenance procedures.	3
Identify safety functional requirements.	2
Identify radiation protection requirements and apply radiation protection measures.	2
Conduct assessment of risk in the workplace.	2
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Conscientiousness	3
Team working	3
Problem solving	3
Communication skills	3
Accountability	3
Task allocation and work organisation	3
Analytical thinking	3
Multitasking	3
Stress resistance	2

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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
L. PIRONKOV	C. CHENEL RAMOS	6 <sup>TH</sup> ECVET WORKSHOP
18.10.2012	8.12.2014	18.02.2015

Ref	Job Title	Occupational Category
<b>2.7.03</b>	<b>Mechanical Maintenance Technician</b>	Technician
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	-----	Specialist
Maintenance		
Role / Functions		
<p>Responsible for organisation and supervision of mechanical equipment of the plant during operation and outage. Enforce established site standards and expectations with the work force by providing in-field oversight, mentoring and coaching for assigned work crews.</p> <ul style="list-style-type: none"> <li>Supervise and coordinate daily mechanical maintenance work on plant equipment and facilities consistent with standards and procedures.</li> <li>Assign tasks and manage personnel to ensure that deadlines and compliance to the standards are met for the assigned interventions.</li> <li>Supervise and direct craft and contractor personnel in the realisation of maintenance.</li> <li>Participate in the work of testing and commissioning of repaired equipment at the plant after the maintenance.</li> <li>Provide response to urgent maintenance requests.</li> <li>Ensure the availability of complete and up-to date set of tools, instruments and consumables, necessary for maintenance activities.</li> <li>Check that personnel is properly trained and qualified to perform assigned activities.</li> <li>Perform duties required to support the Emergency Plan.</li> <li>Provide work order reviews, walk downs and validation for correctness of scope, parts, clearances and work package preparation.</li> <li>Interface with other groups to resolve issues.</li> <li>Comply with the maintenance schedule</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Nuclear safety principles: Defence-in-Depth concept, Protective Barrier concept, redundancy, diversity, fail safe, spatial separation, self-monitoring and single failure criterion, safety classification of systems and components.		4
Regulation, codes, standards, policies and procedures in the nuclear field		4
Operating experience		4
Industrial and occupational safety		3
ICT literacy		3
Engineering data and documentation		3
Safety culture		3
NPP systems and components		3
Radiation protection		3
Error prevention techniques and human performance tools		3
Mechanical Engineering		3
Equipment management, preventive and corrective maintenance		3
Material Science		3
Fluid Mechanics		3
Quality assurance		2
SKILLS (Technical and functional competence)		EQF level (1-8)
Analyse and interpret technical data and documentation.		4
Assign tasks related to corrective and preventive maintenance activities.		4

Promote and ensure compliance with statutory regulations, technical specifications and project requirements.	4
Compile and report information for management control and task assignment.	4
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	4
Give clear instructions and guidance to the rest of members of the team.	4
Prepare reports using technical writing.	3
Monitor and maintain the quality of processes.	3
Communicate with other disciplines groups as needed to solve issues.	3
Supervise working activities.	3
Consider radiation conditions during work activities.	3
Conduct assessment of risk in the workplace.	3
Identify safety functional requirements.	2
Monitor and maintain a safe work environment.	2
Identify radiation protection requirements and apply radiation protection measures.	2
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Conscientiousness	3
Team working	3
Problem solving	3
Communication skills	3
Accountability	3
Task allocation and work organisation	3
Analytical thinking	3
Multitasking	3
Stress resistance	2

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
I. KULPA	L. PIRONKOV	5 <sup>TH</sup> ECVET WORKSHOP
23.10.2012	30.04.2013	14.11.2013

Ref	Job Title	Occupational Category
<b>2.7.04</b>	<b>Electrical Worker</b>	Craft
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	-----	Executive
Maintenance		
Role / Functions		
<p>To carry out outage, medium-term, current or emergency maintenance and to service specified electrical equipment independently or under supervision. To accomplish pre-defined tasks in field of preparation and implementation of maintenance related activities.</p>		
<ul style="list-style-type: none"> <li>• Perform regular observation of working conditions of serviced electrical equipment.</li> <li>• Follow existing procedures regarding treatment of malfunctioning equipment – take over, repairing, testing, commissioning, hand over.</li> <li>• Collect and keep up-to date prescribed information on status and conditions of serviced equipment.</li> <li>• Provide line management with information about identified deficiencies and failures of assigned electrical equipment.</li> <li>• Apply procedures, good practices, techniques, safety methods, radiation protection, organization, quality.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Radiation Protection		3
Occupational and industrial safety		3
Conservation and maintenance of equipment and tools		3
Electrical instrumentation		3
Electrical Equipment, machines and installations		3
Electrical maintenance		3
Electrical safety		3
Statutory and regulatory requirements, codes, standards, procedures and practices		2
Safety culture		2
Cabling		2
NPP Systems and components		2
Nuclear safety		2
SKILLS (Technical and functional competence)		EQF level (1-8)
Select and use equipment/tools for a specific job.		3
Maintain tools, equipment and materials in a proper condition.		3
Identify equipment malfunction.		3
Maintain a safe working environment.		3
Understand and follow instructions and procedures.		3
Use Personal Protective Equipment (PPEs).		3
Inspect and test electrical equipment.		3
Maintain, service and repair electrical machines.		3
Safely dismantle, remove and dispose of plant equipment.		3

Reinstate the work area on completion of activities.	3
Carry out maintenance procedures.	3
Using and interpreting electrical schemes and diagrams	3
Produce brief technical reports on tasks performed and fill in checklists.	2
Comply with statutory requirements, codes and standards.	2
Perform troubleshooting in electromechanical systems following established procedures.	2
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Manual dexterity	3
Accuracy / Eye for detail	3
Safety attitude	3
Team working	3
Stress resistance	3
Accountability	3
Adaptability	3
Discipline	2
Communication skills – ability to understand and to be understood	2
Problem solving	2

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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
L. PIRONKOV	O. DERUELLE	5 <sup>TH</sup> ECVET WORKSHOP
18.10.2012	13.04.2013	14.11.2013

Ref	Job Title	Occupational Category
<b>2.7.05</b>	<b>Electronic-I&amp;C Worker</b>	Craft
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	I&C fitter	Executive
Maintenance		
Role / Functions		
Responsible for maintenance of specified I&C equipment independently or under supervision.		
<ul style="list-style-type: none"> <li>• Perform routine tests prescribed by the vendor or maintenance procedures.</li> <li>• Perform pre-defined tasks in field of preparation and implementation of maintenance related activities.</li> <li>• Perform regular observation of working conditions of serviced I&amp;C equipment and supporting measurement devices and instruments.</li> <li>• Collect and keep up-to date prescribed information on status and conditions of serviced I&amp;C equipment.</li> <li>• Provide line management with information about identified deficiencies and failures of assigned I&amp;C equipment.</li> <li>• Follow existing procedures regarding treatment of malfunctioning equipment – take over, repairing, testing, commissioning, hand over.</li> <li>• Implement technical modifications according to the design change documentation.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Instrumentation & Control Equipment		4
I&C systems maintenance procedures		4
Occupational and industrial safety		3
Conservation and maintenance of equipment and tools		3
Digital Electronics		3
Electronic Digital Signal Systems		3
Electrical Hazards and Safety		3
Wiring		3
Radiation Protection		2
Statutory and regulatory requirements, codes, standards, procedures and practices		2
Safety culture		2
Analogue electronics		2
Electronic Circuits		2
Electrical instrumentation		2
Information technology		2
NPP systems and principle components description		2
SKILLS (Technical and functional competence)		EQF level (1-8)
Fix I&C equipment failures.		4
Install, maintain and test I&C equipment.		4
Select and use equipment/tools for a specific job.		3
Maintain tools, equipment and materials in a proper condition.		3



Identify equipment malfunction.	3
Maintain a safe working environment.	3
Use Personal Protective Equipment (PPEs).	3
Label I&C equipment.	3
Produce brief technical reports on tasks performed and fill in checklists.	2
Comply with statutory requirements, codes and standards.	2
Understand and follow instructions and procedures.	
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Manual dexterity	4
Accuracy / Eye for detail	3
Safety attitude	3
Team working	3
Discipline	3
Accountability	3
Communication skills – ability to understand and to be understood	3
Conscientiousness	3
Stress resistance	2

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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
L. PIRONKOV	R. MINAKOVA / L. PIRONKOV	6 <sup>TH</sup> ECVET WORKSHOP
18.10.2012	11.01.2015	18.02.2015

Ref	Job Title	Occupational Category
<b>2.7.06</b>	<b>Mechanical Worker</b>	Craft
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	-----	Executive
Maintenance		
Role / Functions		
Mechanical maintenance tasks		
<ul style="list-style-type: none"> <li>• Perform mechanical work in compliance with the applicable procedures indicating the possible deviations from their supervisors, and suggesting improvements to them.</li> <li>• Perform mechanical work respecting the safety and radiation protection requirements and indications.</li> <li>• Use the necessary tools and equipment (cranes, forklifts, others) in accordance with the relevant procedures.</li> <li>• Prepare equipment for inspection and testing.</li> <li>• Interface with other groups to resolve issues.</li> <li>• Perform duties required to support the emergency plan.</li> <li>• Housekeeping of the workshop and mechanical tools and equipment, including tracking of the consumables.</li> <li>• Prepare, keep tidy and clean the work area before and after the intervention.</li> <li>• Prepare records for maintenance activities.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Radiation Protection		3
Occupational and industrial safety		3
Safety culture		3
Conservation and maintenance of equipment and tools		3
Nuclear Power Plant components		3
Mechanical tools and equipment (cranes and other lifting devices, pneumatic tools)		3
Mechanical workshop equipment and tools (saws, turning machine, lathe)		3
Lubrication		3
Scaffolding		3
Insulation		3
Foreign material exclusion/FME		3
Statutory and regulatory requirements, codes, standards, procedures and practices		2
Electrical engineering		2
Civil engineering		2
I&C engineering		2
SKILLS (Technical and functional competence)		EQF level (1-8)
Apply FME principles.		5
Understand and follow instructions and procedures.		4
Comply with statutory requirements, codes and standards.		4
Use Personal Protective Equipment (PPEs).		4
Apply safety requirements.		4

Execute mechanical maintenance (Fitting, Welding, Pipefitting).	4
Select and use equipment/tools for a specific job.	3
Maintain tools, equipment and materials in a proper condition.	3
Identify equipment malfunction.	3
Produce brief technical reports on tasks performed and fill in checklists.	3
Maintain a safe working environment.	3
Perform visual inspection of mechanical equipment.	3
Dismantle and assemble mechanical equipment.	3
Interface between mechanical work and other fields and vice-versa.	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Manual dexterity	4
Accuracy / Eye for detail	3
Safety attitude	3
Discipline	3
Accountability	3
Conscientiousness	3
Team working	2
Stress resistance	2
Communication skills – ability to understand and to be understood	2

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
I. KULPA	4 <sup>TH</sup> ECVET WORKSHOP	6 <sup>TH</sup> ECVET WORKSHOP
12.10.2012	16.05.2013	17.02.2015

Ref	Job Title	Occupational Category
<b>2.7.07</b>	<b>Electrical Supervisor</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	Electrical Maintenance Supervisor	Management
Maintenance		
Role / Functions		
<p>Responsible for overall management of maintenance activities related to electrical equipment of assigned plant structure.</p> <p>Implementation of approved methods, tools, procedures and practices for maintaining adequate technical conditions, high reliability and safe operation of electrical equipment.</p> <p>Updating of existing or developing new solutions for ensuring high quality and efficiency of maintenance activities.</p>		
<ul style="list-style-type: none"> <li>• Monitor and control the technical condition of electrical systems and equipment which are under his supervision.</li> <li>• Develop plans for maintenance activities.</li> <li>• Organize, manage, coordinate and supervise the overall maintenance process.</li> <li>• Monitor and control the quality of performance of contracted maintenance tasks.</li> <li>• Approve tests and procedures for maintenance activities.</li> <li>• Monitor the remaining life-time of electrical equipment.</li> <li>• Assure availability of electrical spare parts and consumables.</li> <li>• Control strict adherence to maintenance regulations and procedures.</li> <li>• Propose technical modifications.</li> <li>• Provide training and examination of subordinate personnel</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
General management: budget, human resources, defining organisational objectives and strategies, business improvement, planning, monitoring, evaluating		6
Electric power system maintenance		6
Maintenance engineering – preventive maintenance, corrective maintenance, reliability centred maintenance, overhauls, maintenance procedures		6
Electrical hazards and Safety		6
Evaluation of response of the electrical system		6
Industrial safety		5
Safety culture principles		5
Technical fundamentals: mechanical, electrical, I&C engineering principles		5
Electrical technology and engineering		5
Electrical equipment: motors, machines, drives, transformers, switchyard equipment		5
Electrical instruments, maintenance of electrical instruments, periodical testing of electrical instruments		5
Electrical fault diagnosis and rectification		5
Electrical installations		5
Nuclear safety and nuclear safety principles		4
National and international legal framework and licensing		4
Risk assessment		4
Nuclear power plant: reactor fundamentals, plant systems description		4
Radiation protection		4

Human error prevention techniques	4
Performance improvement methods	4
Computerized Maintenance Management System	4
Troubleshooting Electromechanical Systems	4
Electrical Supply categorisation	4
Cabling	4
Electrical codes and standards	4
Project management software	3
Integrated management system: quality, health & safety, environment, information security	3
Safety and security management	3
Operating experience	3
ICT literacy	3
Communication techniques: negotiation, presentation, writing	3
Emergency preparedness and emergency response	3
Management of plant modifications	3
Configuration Management	3
SKILLS (Technical and functional competence)	EQF level (1-8)
Manage activities to the highest standards of safety, security, quality, reliability and efficiency.	6
Draft maintenance programme; Draft procedures applying electrical engineering principles; Draft technical specifications for delivery of electrical equipment; Develop Reliability centred maintenance (RCM) programme;	6
Plan corrective and preventive maintenance of electrical equipment and systems; Plan and schedule overhauls; Plan maintenance and testing of electrical equipment /systems.	6
Diagnose malfunctions in electrical equipment; Measure electrical equipment parameters; Carry out testing of electrical equipment; Perform quality checks during maintenance activities.	6
Monitor and maintain a safe working environment.	5
Lead and enforce safety culture.	5
Promote and implement continuous improvement tools.	5
Coordinate response to non-conformities and to unexpected events.	5
Perform maintenance of electrical equipment and installations.	5
Elaborate maintenance reports.	5
Conduct assessment of risks in the workplace.	5
Follow electrical safety requirements.	5
Plan, schedule and monitor activities by using suitable management tools to ensure timely completion within budget.	4
Interface with managers from other disciplines and/or from external organisations.	4
Support the development of quality plans and monitor and maintain quality compliance.	4
Conduct commercial follow-up of contracts.	4
Develop business plans and forecast needed resources such as materials and manpower utilization.	4

Organize and manage teams: keep track of personnel professional development, identify training needs, select new employees, monitor performance of each team, evaluate and report suitability and availability of those within the allocated teams, allocate professional roles, mentor and coach employees, establish duties and responsibilities, ensure proper levels of guidance and direction.	4
Classify information according to security criteria.	4
Provide and filter data in Computerized Maintenance Management System.	4
Coordinate planning, implementing and monitoring activities and projects.	4
Negotiate and manage subcontractors.	4
Perform troubleshooting of electromechanical systems.	4
Compile and analyse legal requirements to ensure and promote compliance with statutory regulations.	3
Stay updated on changes on the market, regulations and new operating experience to identify market trends, best practices and/or emerging regulatory issues.	3
Negotiate contract conditions covering all possible contingencies.	3
Handle specific software applications.	3
Define corrective measures based on operational experience feedback.	3
Monitor training performance; Conduct on the job training.	3
Create and participate in professional contact networks.	2
Prepare bid and tender enquiries.	2
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Organisational skills	5
Multitasking and priority setting	5
Problem solving	5
Communication skills	4
Accountability	4
Conflict resolution	4
Stress resistance	4
Leadership	4
Analytical thinking	4

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
L. PIRONKOV	R. MINAKOVA / L. PIRONKOV	6 <sup>TH</sup> ECVET WORKSHOP
18.10.2012	11.01.2015	18.02.2015

Ref	Job Title	Occupational Category
<b>2.7.08</b>	<b>Electronic-I&amp;C Supervisor</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	I&C Maintenance Supervisor	Management
Maintenance		
Role / Functions		
<p>Responsible for: Overall management of maintenance activities related to electronic/I&amp;C equipment of assigned plant structure. Implementation of approved methods, tools, procedures and practices for maintaining adequate technical conditions, high reliability and safe operation of electronic/I&amp;C equipment. Updating of existing or developing new solutions for ensuring high quality and efficiency of maintenance activities.</p>		
<ul style="list-style-type: none"> <li>• Monitor and control the technical condition of electronic/I&amp;C systems and equipment which are under his supervision.</li> <li>• Develop plans for maintenance activities.</li> <li>• Organize, manage, coordinate and supervise the overall maintenance process.</li> <li>• Monitor and control the quality of performance of contracted maintenance tasks.</li> <li>• Approve tests and procedures for maintenance activities.</li> <li>• Monitor the remaining life-time of I&amp;C equipment.</li> <li>• Assure availability of I&amp;C spare parts and consumables.</li> <li>• Control strict adherence to maintenance regulations and procedures.</li> <li>• Propose technical modifications.</li> <li>• Provide training and examination of subordinated personnel</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
General management: budget, human resources, defining organisational objectives and strategies, business improvement, planning, monitoring, evaluating		6
Instrumentation & Control Equipment and systems		6
I&C systems maintenance; I&C system configuration; I&C systems testing;		6
Maintenance engineering – preventive maintenance, corrective maintenance, reliability centred maintenance, overhauls, maintenance procedures		6
Electrical hazards and Safety		6
Industrial safety		5
Safety culture principles		5
Technical fundamentals: mechanical, electrical, I&C engineering principles		5
Digital Electronics		5
Electronic Digital Signal Systems		5
Electronic digital measurement		5
I&C equipment maintenance, fault diagnosis and rectification; Electronic equipment testing		5
Procedures for maintenance, service and repair of electronic devices		5
National and international legal framework and licensing		4
Safety and security management		4
Risk assessment		4
Nuclear power plant: reactor fundamentals, plant systems description		4
Radiation protection		4

Operating experience	4
Human error prevention techniques	4
Performance improvement methods	4
Communication techniques: negotiation, presentation, writing	4
Emergency preparedness and emergency response	4
Analogue electronics	4
Computerized Maintenance Management System	4
Wiring	4
Project management software	3
Integrated management system: quality, health & safety, environment, information security	3
Nuclear safety and nuclear safety principles	3
ICT literacy	3
Configuration Management	3
Quality Assurance	3
Management of plant modifications	3
SKILLS (Technical and functional competence)	EQF level (1-8)
Manage activities to the highest standards of safety, security, quality, reliability and efficiency.	6
Monitor and maintain a safe working environment.	6
Draft maintenance programme; Draft procedures applying I&C engineering principles; Draft technical specifications for delivery of I&C equipment; Develop Apply reliability centred maintenance (RCM) programme.	6
Plan corrective, preventive I&C maintenance; Plan and schedule overhauls; Plan maintenance and testing of I&C equipment / systems.	6
Perform quality checks during maintenance activities.	6
Lead and enforce safety culture.	5
Promote and implement continuous improvement tools.	5
Coordinate response to non-conformities and to unexpected events.	5
Calibrate I&C equipment.	5
Maintain and test I&C systems and equipment.	5
Diagnose and report I&C malfunctions; Measure I&C parameters; Install & commission I&C equipment.	5
Modify electronic circuits; Test electronic circuits	5
Elaborate maintenance reports.	5
Conduct assessment of risks in the workplace.	5
Plan, schedule and monitor activities by using suitable management tools to ensure timely completion within budget.	4
Interface with managers from other disciplines and/or from external organizations.	4
Support the development of quality plans and monitor and maintain quality compliance.	4
Negotiate contract conditions covering all possible contingencies.	4
Conduct commercial follow-up of contracts.	4



Develop business plans and forecast needed resources such as materials and manpower utilization.	4
Classify information according to security criteria.	4
Apply I&C software tools in I&C operation according regulations and standards.	4
Provide and filter data in Computerized Maintenance Management System.	4
Negotiate and manage subcontractors.	4
Compile and analyze legal requirements to ensure and promote compliance with statutory regulations.	3
Stay updated on changes on the market, regulations and new operating experience to identify market trends, best practices and/or emerging regulatory issues.	3
Organize and manage teams: keep track of personnel professional development, identify training needs, select new employees, monitor performance of each team, evaluate and report suitability and availability of those within the allocated teams, allocate professional roles, mentor and coach employees, establish duties and responsibilities, ensure proper levels of guidance and direction.	3
Assemble I&C devices; Repair I&C equipment; Repair or replace defective equipment.	3
Handle specific software applications.	3
Define corrective measures based on operational experience feedback.	3
Perform troubleshooting of I&C systems	3
Monitor training performance; Conduct on the job training.	3
Create and participate in professional contact networks.	2
Prepare bid and tender enquiries.	2
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Organizational skills	5
Multitasking and priority setting	5
Problem solving	5
Communication skills	4
Accountability	4
Conflict resolution	4
Stress resistance	4
Leadership	4
Analytical thinking	4

NOTES
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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
L. PIRONKOV	R. MINAKOVA, L. PIRONKOV	6 <sup>TH</sup> ECVET WORKSHOP
18.10.2012	12.01.2015	18.02.2015

Ref	Job Title	Occupational Category
<b>2.7.09</b>	<b>Mechanical Supervisor</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	Mechanical Maintenance Supervisor	Management
Maintenance		
Role / Functions		
<p>Responsible for direct control on the implementation of preventive, predictive and corrective maintenance programs as well as in-service inspection program.</p> <ul style="list-style-type: none"> <li>• Oversight and control of daily and outage maintenance activities in order to ensure the safe and reliable performance of maintenance programs.</li> <li>• Develop and supervise the implementation of in-service inspection programme to examine systems and components of the plant for possible deterioration.</li> <li>• Coordinate maintenance groups and operations and supporting groups.</li> <li>• Allocate maintenance tasks.</li> <li>• Ensure that working environment and respective maintenance tools and equipment are in compliance with approved requirements.</li> <li>• Oversight maintenance activities to be performed in accordance with maintenance procedures and other work-related documents.</li> <li>• Supervise that maintenance personnel is properly trained and qualified to perform assigned tasks.</li> <li>• Supervise the schedule and the quality of the performance of contractors.</li> <li>• Support maintenance manager in development of maintenance related plans, procedures and program and provide recommendations for improvement of work quality.</li> <li>• Produce reports about performance of allocated tasks for establishing goals and objectives for subsequent planning periods.</li> <li>• Propose suggestions for technical modifications.</li> <li>• Provide training and examination of subordinate personnel</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
General management: budget, human resources, defining organisational objectives and strategies, business improvement, planning, monitoring, evaluating		6
Mechanical equipment maintenance, inspection, testing and commissioning		6
Mechanical engineering and technology		6
Maintenance engineering – preventive maintenance, corrective maintenance, reliability centred maintenance, overhauls, maintenance procedures		6
Foreign material exclusion		6
Industrial safety		5
Safety culture principles		5
Technical fundamentals: mechanical, electrical, I&C engineering principles		5
Mechanical systems and equipment; Industrial machinery and equipment		5
Heating equipment; Hydraulic equipment; Pneumatic equipment; Pumps and liquid handling equipment; Heating and ventilation and air conditioning (HVAC); Turbine technology		5
Risk assessment		4
Nuclear power plant: reactor fundamentals, plant systems description		4
Radiation protection		4
Human error prevention techniques		4
Performance improvement methods		4

Maintenance and repair of general metal and welding fabrications	4
Safety, reliability and maintainability requirements	4
Computerized Maintenance Management System	4
Troubleshooting Electromechanical Systems	4
Mechanical design standards; Engineering codes and standards	4
Project management software	3
Integrated management system: quality, health & safety, environment, information security	3
Nuclear safety and nuclear safety principles	3
National and international legal framework and licensing	3
Safety and security management	3
Operating experience	3
ICT literacy	3
Communication techniques: negotiation, presentation, writing	3
Emergency preparedness and emergency response	3
NPP Configuration Management	3
Management of plant modifications	3
Material science	3
SKILLS (Technical and functional competence)	EQF level (1-8)
Manage activities to the highest standards of safety, security, quality, reliability and efficiency.	6
Draft maintenance programme; Draft procedures applying mechanical engineering principles; Draft technical specifications for delivery of mechanical equipment; Develop Reliability Centred Maintenance (RCM) programme.	6
Plan corrective, preventive mechanical maintenance; Plan and schedule overhauls; Plan maintenance and testing of equipment / systems.	6
Diagnose malfunctions in mechanical equipment; Perform quality checks during maintenance activities.	6
Monitor and maintain a safe working environment.	5
Lead and enforce safety culture.	5
Promote and implement continuous improvement tools.	5
Coordinate response to non-conformities and to unexpected events.	5
Elaborate maintenance reports.	5
Conduct assessment of risks in the workplace.	5
Plan, schedule and monitor activities by using suitable management tools to ensure timely completion within budget.	4
Interface with managers from other disciplines and/or from external organisations.	4
Support the development of quality plans and monitor and maintain quality compliance.	4
Negotiate contract conditions covering all possible contingencies.	4
Conduct commercial follow-up of contracts.	4
Develop business plans and forecast needed resources such as materials and manpower utilization.	4
Classify information according to security criteria.	4

Provide and filter data in Computerized Maintenance Management System.	4
Manage subcontractors; Negotiate with subcontractors; Direct control of subcontractors.	4
Compile and analyse legal requirements to ensure and promote compliance with statutory regulations.	3
Stay updated on changes on the market, regulations and new operating experience to identify market trends, best practices and/or emerging regulatory issues.	3
Organize and manage teams: keep track of personnel professional development, identify training needs, select new employees, monitor performance of each team, evaluate and report suitability and availability of those within the allocated teams, allocate professional roles, mentor and coach employees, establish duties and responsibilities, ensure proper levels of guidance and direction.	3
Assemble mechanical devices; Repair mechanical equipment; Repair or replace defective equipment (conducts, blowers, fans, valves, filters, heaters, coolers, etc.)	3
Handle specific software applications.	3
Define corrective measures based on operational experience feedback.	3
Perform troubleshooting of electromechanical systems.	3
Monitor training performance; Conduct on the job training.	3
Create and participate in professional contact networks.	2
Prepare bid and tender enquiries.	2
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Organisational skills	5
Multitasking and priority setting	5
Problem solving	5
Communication skills	4
Accountability	4
Conflict resolution	4
Stress resistance	4
Leadership	4
Analytical thinking	4

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
L. PIRONKOV	A. NANEV / L. PIRONKOV	6 <sup>TH</sup> ECVET WORKSHOP
14.05.2013	13.01.2015	18.02.2015

Ref	Job Title	Occupational Category
<b>2.7.11</b>	<b>Welder</b>	Craft
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	-----	Specialist
Maintenance		
Role / Functions		
Execution of welding jobs required by the maintenance engineering crew according to the given technical specifications and safety standards		
<ul style="list-style-type: none"> <li>• Preparation and reinstatement of the workplace</li> <li>• Realisation of welding tasks</li> <li>• Verification of compliance of the joints with technical standards and specifications</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Welding symbols, abbreviations and joint designs		5
Welding methods: (to be defined) (**)		5
Fire protection: use of extinguishers, storage of flammables		5
Conservation and maintenance of equipment and tools		4
Safety procedures applicable to workshop and field technical interventions: safe use of mechanical and electrical tools and equipment.		4
Metallurgy and corrosion, and radiation degradation of materials, welding properties		4
Non-destructive testing		4
Radiation Protection		3
Occupational and industrial safety		3
Statutory and regulatory requirements, codes, standards, procedures and practices		3
Safety culture		3
Technical drawing and schematics – pipes, hydraulic, pneumatic systems		3
SKILLS (Technical and functional competence)		EQF level (1-8)
Perform weld - Flux Cored Arc Welding (FCAW) – when applicable.		5
Perform weld - Gas Tungsten Arc Welding (GTAW) – when applicable.		5
Perform weld - Gas Metal Arc Welding (GMAW) – when applicable.		5
Perform weld - Shielded Metal Arc Welding (SMAW) – when applicable.		5
Maintain tools, equipment and materials in a proper condition.		4
Understand and follow instructions and procedures.		4
Perform visual inspection on joints and metallic components.		4
Select and use equipment/tools for a specific job.		3
Maintain a safe working environment.		3
Comply with statutory requirements, codes and standards.		3
Perform shear, bend, slot and punch operations on metal pieces.		3
Report safety hazards and implement corrective measures.		3
Identify equipment malfunction.		2

Produce brief technical reports on tasks performed and fill in checklists.	2
Use Personal Protective Equipment (PPEs).	2
Draw pictorial and orthographic sketches.	2
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Manual dexterity	4
Accuracy / Eye for detail	4
Stress resistance	4
Accountability	4
Conscientiousness	4
Endurance for hard workplace conditions	4
Safety attitude	3
Team working	3
Discipline	3
Autonomy	3
Communication skills – ability to understand and to be understood	2

NOTES
<p>Profile belonging primarily to NEW BUILD, present in OPERATION only in certain organisations and mostly as subcontracted staff. Proposal to be moved to NB. (**) The content of this item vary depending on specialisation.</p>

DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
C. CHENEL RAMOS	3 <sup>RD</sup> ECVET WORKSHOP	5 <sup>TH</sup> ECVET WORKSHOP
24.10.2012	24.10.2012	15.11.2013

Ref	Job Title	Occupational Category
<b>2.7.13</b>	<b>Maintenance Manager</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	-----	Management
Maintenance		
Role / Functions		
Responsible for managing the maintenance program in order to keep plant systems and equipment in a fully operable state.		
<ul style="list-style-type: none"> <li>• Long term planning for equipment reliability, ensuring adequate staffing and setting yearly priorities for the Maintenance department and external contractors.</li> <li>• Evaluate the maintenance processes and implement procedures to optimize maintenance costs, work quality and availability.</li> <li>• Provide leadership and oversee daily maintenance activities to ensure work is performed to appropriate standards using standardized practices, policies and procedures.</li> <li>• Establish high levels of performance, monitoring performance, and reinforcing/correcting behaviour as necessary.</li> <li>• Assign tasks and manage maintenance personnel to ensure that the schedules and standards are met.</li> <li>• Ensure that maintenance activities are completed in accordance with standardized practices, policies and procedures.</li> <li>• Establish site standards and expectations by providing in-field oversight, mentoring and coaching</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Mechanical Maintenance Engineering		7
Electrical maintenance, fault diagnosis and rectification		7
Preventive and Corrective Maintenance		7
Foreign material exclusion		7
Project management software		6
Nuclear safety and nuclear safety principles		6
Equipment Reliability		6
General management: budget, human resources, defining organisational objectives and strategies, business improvement, planning, monitoring, evaluating		5
Technical fundamentals: mechanical, electrical, I&C engineering principles		5
Operating experience		5
Human error prevention techniques		5
Performance improvement methods		5
Radiochemistry and Material science		5
Plant modifications history		5
Testing and inspection of equipment		5
National and international legal framework and licensing		4
Safety culture principles		4
Safety and security management		4
Nuclear power plant: reactor fundamentals, plant systems description		4
Radiation protection		4

Communication techniques: negotiation, presentation, writing	4
Emergency preparedness and emergency response	4
Integrated management system: quality, health & safety, environment, information security	3
Industrial safety	3
Risk assessment	3
ICT literacy	3
Training and qualification of personnel	3
Industrial safety	3
SKILLS (Technical and functional competence)	EQF level (1-8)
Manage activities to the highest standards of safety, security, quality, reliability and efficiency.	6
Lead and enforce safety culture.	6
Plan, schedule and monitor activities by using suitable management tools to ensure timely completion within budget.	6
Support the development of quality plans and monitor and maintain quality compliance.	6
Coordinate response to non-conformities and to unexpected events.	6
Organize and manage teams: keep track of personnel professional development, identify training needs, select new employees, monitor performance of each team, evaluate and report suitability and availability of those within the allocated teams, allocate professional roles, mentor and coach employees, establish duties and responsibilities, ensure proper levels of guidance and direction.	6
Plan maintenance and testing of equipment and systems.	6
Identify safety requirements.	6
Compile and analyse legal requirements to ensure and promote compliance with statutory regulations.	5
Interface with managers from other disciplines and/or from external organisations.	5
Promote and implement continuous improvement tools.	5
Develop business plans and forecast needed resources such as materials and manpower utilization.	5
Manage, negotiate, direct, control, check compliance and evaluate performance of subcontractors.	5
Use and interpret data, documentation, diagrams and drawings.	5
Stay updated on changes on the market, regulations and new operating experience to identify market trends, best practices and/or emerging regulatory issues.	4
Negotiate contract conditions covering all possible contingencies.	4
Conduct commercial follow-up of contracts.	4
Classify information according to security criteria.	4
Use of dedicated software applications.	4
Supply information for management control.	3
Create and participate in professional contact networks.	2
Prepare bid and tender enquiries.	2
Monitor and maintain a safe working environment.	
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)



Communication skills	6
Accountability	6
Stress resistance	6
Leadership	6
Organisational skills	6
Decisiveness	6
Problem solving	6
Team working	6
Conflict resolution	5
Analytical thinking	5
Multitasking and priority setting	5

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
2 <sup>ND</sup> ECVET WORKSHOP	L. PIRONKOV	5 <sup>TH</sup> ECVET WORKSHOP
24.03.2012	30.04.2013	14.11.2013

Ref	Job Title	Occupational Category
<b>2.7.14</b>	<b>Maintenance Planning officer</b>	Technician
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	Maintenance Planning Engineer	Specialist
Maintenance		
Role / Functions		
The person responsible for scheduling and updating the maintenance activities according to the plant necessities.		
<ul style="list-style-type: none"> <li>• Prepare, plan and launch the maintenance work packages and plant modifications.</li> <li>• Prepare and schedule together with the Operation and Engineering departments the activities for next refuelling outage.</li> <li>• Monitor daily maintenance activities in order to accomplish the work schedule.</li> <li>• Record maintenance activities documents and update the history of maintenance activities</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Plant modifications		6
Nuclear safety principles: Defence-in-Depth concept, Protective Barrier concept, redundancy, diversity, fail safe, spatial separation, self-monitoring and single failure criterion, safety classification of systems and components.		5
Radiation protection		5
Regulation, codes, standards, policies and procedures in the nuclear field		4
Operating experience		4
Engineering data and documentation		4
Safety culture		4
NPP systems and components		4
Quality assurance		4
Error prevention techniques and human performance tools		4
Project management Programme and project planning		4
Mechanical. Electrical and I&C systems		4
Testing and inspections		4
Industrial and occupational safety		3
ICT literacy		3
Foreign material exclusion		3
Logistic and supply		3
National and international regulations and licensing		3
Management procedures		3
SKILLS (Technical and functional competence)		EQF level (1-8)
Compile and report information for management control and task assignment.		6
Prioritise maintenance activities with plant necessities and expectations.		6
Communicate with other disciplines groups as needed to solve issues.		5
Supervise working activities.		5
Give clear instructions and guidance to the rest of members of the team.		5

Plan maintenance and testing of equipment / systems.	5
Manage and update of maintenance plans.	5
Prepare records and archive them.	5
Supply information for management control and for task assignment.	5
Analyse and interpret technical data and documentation.	4
Identify safety functional requirements.	4
Monitor and maintain a safe work environment.	4
Prepare reports using technical writing.	4
Monitor and maintain the quality of processes.	4
Promote and ensure compliance with statutory regulations, technical specifications and project requirements.	4
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	4
Provide and filter data in Computerized Maintenance Management System.	4
Identify radiation protection requirements and apply radiation protection measures.	3
Handle specific software applications.	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Problem solving	6
Conscientiousness	5
Team working	5
Stress resistance	5
Task allocation and work organisation	5
Ability to meet deadlines	5
Priority setting	5
Communication skills	4
Accountability	4
Analytical thinking	4

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
J. IGLESIAS / F. PASQUALONI	L. PIRONKOV	6 <sup>TH</sup> ECVET WORKSHOP
24.10.2012	30.04.2013	18.02.2015

Ref	Job Title	Occupational Category
<b>2.7.15</b>	<b>Civil Engineering Technician</b>	Technician
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	-----	Specialist
Maintenance		
Role / Functions		
Responsible for permanent monitoring, inspection and maintenance of buildings and other civil constructions on the site of nuclear power plant.		
<ul style="list-style-type: none"> <li>Carry out visual monitoring and technical inspection of structural components of buildings and other facilities on the NPP site.</li> <li>Perform special analysis, measurements and calculations in order to ensure updated information about current status of serviced objects depending on their specifics (standard buildings, industrial constructions, containment, hydro-technical facilities).</li> <li>Update and archive drawings and other construction documentation of serviced objects.</li> <li>Contribute to prepare technical specifications for construction activities.</li> <li>Supervise performance and quality of civil construction activities.</li> <li>Attend acceptance of serviced objects after the end of civil construction activities.</li> <li>Manage subordinated staff and supervise contractors.</li> <li>Ensure safe and error-free performance, adhering to required parameters and limits of radiation protection, nuclear and industrial safety regulations</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Regulation, codes, standards, policies and procedures in the nuclear field		5
Industrial and occupational safety		5
Engineering data and documentation		5
Error prevention techniques and human performance tools		5
NPP Site Specific Safety Requirements		5
Nuclear safety principles: Defence-in-Depth concept, Protective Barrier concept, redundancy, diversity, fail safe, spatial separation, self-monitoring and single failure criterion, safety classification of systems and components.		4
Operating experience		4
Safety culture		4
Civil engineering, Construction engineering, Building engineering, Structural engineering		4
Scaffolding, Insulation, Water system construction, Effluent system construction		4
Construction quality control		4
Materials science		4
ICT literacy		3
NPP systems and components		3
Quality assurance		3
Radiation protection		3
Hydraulic engineering		3
Legal Issues in Construction		3
Energy supply, HVAC, water supply, electrical installations and equipment		3
SKILLS (Technical and functional competence)		EQF level (1-8)

Analyse and interpret technical data and documentation.	5
Monitor and maintain a safe work environment.	5
Monitor and maintain the quality of processes.	5
Promote and ensure compliance with statutory regulations, technical specifications and project requirements.	5
Compile and report information for management control and task assignment.	5
Supervise working activities.	5
Give clear instructions and guidance to the rest of members of the team.	5
Organise and supervise works of construction.	5
Identify and quantify the needs in terms of materials from the technical and price requirements.	5
Assist in the management of construction claims.	5
Perform inspection of construction methods and materials, perform inspections of the construction works.	5
Use specific software application for civil engineering.	5
Prepare reports using technical writing.	4
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	4
Draft purchase and technical specifications; write technical specifications related to civil engineering drawing.	4
Verify certification of construction materials.	4
Assist in the management of construction projects.	4
Supervise construction site.	4
Manage and supervise subcontractors.	4
Conduct shield construction.	4
Identify radiation protection requirements and apply radiation protection measures.	3
Communicate with other disciplines groups as needed to solve issues.	3
Select subcontractors based on the requirements of technical specifications	3
Handle applied standard software applications*	3
Conduct scaffold construction.	3
Identify safety functional requirements.	
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Conscientiousness	4
Team working	4
Accountability	4
Task allocation and work organisation	4
Problem solving	3
Communication skills	3
Stress resistance	3
Analytical thinking	3
Adaptability and flexibility	3

NOTES

DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
O. DERUELLE / C. D'AGOSTINO	L. PIRONKOV	6 <sup>TH</sup> ECVET WORKSHOP
24.10.2012	15.01.2015	19.02.2015

Ref	Job Title	Occupational Category
<b>2.8.01</b>	<b>Mechanical Design Engineer</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	---	Specialist
Engineering		
Role / Functions		
<p>Responsible for surveillance, testing and plant performance monitoring of mechanical equipment and systems as well as implementation of mechanical modifications or design changes of the plant; participating in the safety analysis report within the mechanical area as required.</p>		
<ul style="list-style-type: none"> <li>• Develop and control the implementation of surveillance test programme for verification that the mechanical systems and components are continuously ready to operate and are able to perform their safety functions as designed.</li> <li>• Review, verification and approval (or rejection) of mechanical design changes to the plant including field changes, modifications and the acceptance of non-conforming items for repair or use without modification.</li> <li>• Provide technical reporting and perform mechanical design modifications for long-term operation licensing –life extension.</li> <li>• Ensure that the knowledge of the design, which is needed for the safe operation, and maintenance of a mechanical systems and components is available to all parts of the operating organization.</li> <li>• Ensure that the interface with supporting on site and off site groups related to mechanical design is clearly defined and working well.</li> <li>• Control and verify technical documentation related to mechanical design, design changes and plant modifications.</li> <li>• Participate in the drafting of safety analysis reports.</li> <li>• Support the establishment of performance indicators for subject related area and provide periodic assessments</li> <li>• Conduct or support conducting of specialized training activities, addressed to mechanical design, design changes or modifications.</li> <li>• Evaluation and selection in purchase processes related to the mechanical engineering area</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Mechanical vibrations		7
Mechanical systems and equipment; Industrial machinery and equipment		7
Mechanical engineering and design, Engineering analysis		7
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		6
Nuclear safety principles and requirements		6
Engineering graphics, drawings and diagrams		6
Mechanical equipment maintenance, inspection, testing and commissioning		6
Mechanical engineering and technology		6
Mechanical design standards; Engineering codes and standards		6
Material science		6
Management of plant modifications		6
Heating equipment; Hydraulic equipment; Pneumatic equipment; Pumps and liquid handling equipment; Heating and ventilation and air conditioning (HVAC); Turbine technology; Steam supply systems		6
Foreign material exclusion		6

National and international codes and standards	5
Thermodynamics, Thermal-hydraulic design and analysis of nuclear systems	5
NPP Configuration Management –ensure consistency between design requirements, physical configuration and operational documentation.	5
Safety Culture	4
Radiation Protection	4
Project management, planning methods and tools	4
ICT literacy	4
Technical writing	4
Operating experience	4
Root Cause Analysis, Event analysis methodology, Accident analysis	4
Mechanical maintenance and engineering, Maintenance engineering – preventive maintenance, corrective maintenance, reliability centred maintenance, overhauls, maintenance procedures	4
Maintenance Management System	4
Deterministic Safety Analysis, Probabilistic safety Analysis	4
Industrial Safety	3
Occupational Safety and personal protective equipment	3
Quality assurance and control	3
Environmental hazards	3
<b>SKILLS (Technical and functional competence)</b>	<b>EQF level (1-8)</b>
Review design bases and design requirements after design change, Update existing design based on new specifications or requirements, new regulations.	7
Draft procedures applying mechanical engineering principles; Draft technical specifications for delivery of mechanical equipment**;	7
Use and interpret engineering data and technical documentation.	6
Identification of safety requirements.	6
Ensure the implementation of engineering codes and standards.	6
Plan, design and conduct technical experiments*.	6
Perform Process System Reliability and Analyse performance of mechanical equipment.	6
Perform analysis of plant modification	6
Inspection and testing of mechanical equipment*	6
Ensure compliance with statutory regulations and organisational QSE requirements.	5
Produce and communicate requirement specifications, technical specifications, procedures and reports.	5
Assess performance and identify measures and indicators to improve or correct performance.	5
Identify possible impacts and interactions with other related disciplines.	5
Design technical drawings using specific design software.	5
Planning, coordinating, implementing and monitoring project activities.	4
Monitor and maintain a safe working environment.	4
Perform work analysis, breakdown of activities and allocate tasks.	4



Perform troubleshooting of electromechanical systems.	4
Record/ensure records entry in –computerized- Maintenance Management System; Filter data in Computerized Maintenance Management System.	4
Perform Engineering Risk-Benefit Analysis, Safety analysis	4
Deliver training according to developed training materials.	4
Define and analyse Design Basis Accidents (DBAs), Analyse accidents / incidents and elaborate preventive measures*** In the event of an accident, design or participate in a root cause analysis***	4
Retrieve technical information by using computer aided techniques.	3
Define actions to improve safety culture based on operational feedback.	3
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Analytical thinking	7
Team working	6
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	6
Problem solving	6
Accountability	5
Communication	5
Conscientiousness	4
Decisiveness	4
Multitasking and priority setting	4

NOTES
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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
L. PIRONKOV	A. NANEV / L. PIRONKOV	6 <sup>TH</sup> ECVET WORKSHOP
15.05.2013	17.01.2015	18.02.2015

Ref	Job Title	Occupational Category
<b>2.8.02</b>	<b>Civil Design Engineer</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	-----	Specialist
Design		
Role / Functions		
Responsible for planning, design and overseeing construction and maintenance of building structures and installations, within specified rules and guidelines.		
<ul style="list-style-type: none"> <li>Carry out and/or coordinate the detailed Civil design of NPP, ensuring compliance with regulatory and quality standards, preparing the necessary documentation and reporting.</li> <li>Defining size and selecting Civil structures and equipment.</li> <li>Ensuring compliance with applicable codes, standards, licenses, permits, and permissions governing the design, engineering, construction and operation of nuclear power plant.</li> <li>Interfacing with other disciplines as required.</li> <li>Assessment of seismic requirements and conditions of the NPP civil constructions</li> <li>Supervising tendering processes, reviewing customer specifications and developing solutions and cost estimates.</li> <li>Manage constructions claims</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
National and international codes and standards		7
Civil construction technology		7
Engineering graphics, drawings and diagrams		6
Civil engineering and standards		6
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		5
Nuclear safety principles and requirements		5
Safety Culture		5
Occupational Safety and personal protective equipment		5
Quality assurance and control		5
ICT literacy		5
Operating Experience		5
Radiation Protection		4
Industrial Safety		4
Project management, planning methods and tools		4
Technical writing		4
Material science / radiation effect on matter / weathering and degradation		4
SKILLS (Technical and functional competence)		EQF level (1-8)
Ensure compliance with statutory regulations and organizational QSE requirements.		7
Ensure the implementation of engineering codes and standards.		7
Use computer technology and Civil application programs (CAD, PDMS).		7
Implement design modification according to corrective feedback received from design implementation.		7

Design the specific civil systems of the NPP.	7
Use and interpret engineering data and technical documentation.	6
Producing and communicate requirement specifications, technical specifications, procedures and reports.	6
Identification of safety requirements.	6
Provide technical reporting and perform civil modifications required for long term operation licensing – life extension.	6
Carry out technical calculations for static and dynamic loads and seismic endurance when required.	6
Planning, coordinating, implementing and monitoring project activities.	5
Monitor and maintain a safe working environment.	5
Update existing designs based on other projects and existing standards.	5
Supervise an assess results of quality control testing.	5
Retrieve technical information by using computer aided techniques.	4
Perform work analysis, breakdown of activities and allocate tasks.	4
Assess performance and identify measures and indicators to improve or correct performance.	4
Identify possible impacts and interactions with other related disciplines.	4
Define actions to improve safety culture based on operational feedback.	4
Participate in safety analysis.	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	5
Problem solving	5
Conscientiousness	5
Communication	5
Analytical thinking	4
Accountability	4
Team working	4
Decisiveness	4

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
M. BURKHARD - TRAINWARE C.	P. SOTOLA – AF CONSULT CZ	6TH ECVET WORKSHOP
05.01.2015	03.02.2015	18.02.2015

Ref	Job Title	Occupational Category
<b>2.8.03</b>	<b>Electrical Design Engineer</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	-----	Specialist
Engineering		
Role / Functions		
<p>Undertake variety of works on electrical components and systems to ensure compliance with project procedures, quality assurance requirements, schedules, industry standards, regulations, configuration management and design modifications.</p> <ul style="list-style-type: none"> <li>Contribute as a member of a team that provides engineering design, analysis or hands-on work including preparation of design documentation in the area of plant electrical systems, high-voltage switchgear and related components.</li> <li>Provide technical or hands-on contribution for a variety of equipment including their selection and sizing, support to related development and verification testing, and maintenance, repair, and operation.</li> <li>Contribute to documentation including, but not limited to, assessment documents, performance analysis, design requirements, design manuals, installation and commissioning documents, equipment technical specifications.</li> <li>Contribute to development of technical requirements and technical specifications for design modifications.</li> <li>Assist with recommendations, taking into consideration the operation experience and feedback from the existing plants as well as client and project requirements.</li> <li>Perform general or specific hands-on activities including the operation, maintenance and repair plant equipment or specialized tooling or test equipment and systems.</li> <li>Take into account the requirements for related systems and disciplines.</li> <li>Assist supervision or management with the preparation of detailed planning and budgeting information as required.</li> <li>Conduct work in accordance with the applicable codes in the area of electrical system and its components as well as the requirements for safety-related systems, components and structures.</li> <li>Contribute to work plans and resource requirements for the production of deliverables.</li> <li>Contribute to the development of requirements for the electrical equipment maintenance and repair, and for operation instructions and manuals</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Engineering graphics, drawings and diagrams		6
Industrial Safety		6
Electricity and electromagnetism		6
Electrical engineering		6
Electrical machinery		6
Design Standards and regulatory requirements for the electrical grid and equipment		6
Electrical equipment service, inspection, testing and commissioning		6
Measurement of electrical parameters and time characteristics of electrical systems and equipment		6
Electrical Safety		6
Quality assurance and control		5
Project management, planning methods and tools		5
Technical writing		5
Operating experience		5

Electric power system analysis	5
Electric power system operation	5
Electric power system protection	5
High and low voltage distribution systems	5
Fire safety requirements	5
Safety classification/qualification for the NPP systems and components	5
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems	4
Nuclear safety principles and requirements	4
National and international codes and standards	4
Safety Culture	4
Radiation Protection	4
Occupational Safety and personal protective equipment	4
ICT literacy	4
Maintenance and repair of electrical equipment and components	4
Mechanical vibrations	4
Computer aided design	4
Material Science – physical metallurgy	3
SKILLS (Technical and functional competence)	EQF level (1-8)
Use and interpret engineering data and technical documentation.	6
Ensure compliance with statutory regulations and organisational QSE requirements.	6
Carry out measurements of electrical parameters and time characteristics of electrical systems and equipment.	6
Analyse electrical equipment failures.	6
Verify procedures for electrical equipment / systems operation.	6
Producing and communicate requirement specifications, technical specifications, procedures and reports.	5
Identification of safety requirements.	5
Planning, coordinating, implementing and monitoring project activities.	5
Retrieve technical information by using computer aided techniques.	5
Ensure the implementation of engineering codes and standards.	5
Perform work analysis, breakdown of activities and allocate tasks.	5
Define actions to improve safety culture based on operational feedback.	5
Draft instructions, procedures and manuals for operation, maintenance and repair of equipment.	5
Perform inspection and testing of electrical equipment.	5
Perform acceptance control of equipment.	5
Draft technical specifications for acquisition of electrical equipment.	5
Update electrical drawings.	5
Assess performance and identify measures and indicators to improve or correct	4

performance.	
Identify possible impacts and interactions with other related disciplines.	4
Conduct risk assessment in the workplace.	4
Monitor and maintain a safe working environment.	3
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Accountability	5
Problem solving	5
Conscientiousness	5
Analytical thinking	4
Decisiveness	4
Team working	3
Communication	3

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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
CICE&T	L. PIRONKOV	5TH ECVET WORKSHOP
14.05.2013	07.11.2013	13.11.2013

Ref	Job Title	Occupational Category
<b>2.8.04</b>	<b>I&amp;C Design Engineer</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	-----	Specialist
Engineering		
Role / Functions		
Responsible for monitoring, testing, modernization and design changes of I&C equipment and systems, in nuclear facilities as well as development of subject matter engineering and safety analysis.		
<ul style="list-style-type: none"> <li>• Develop and control the implementation of surveillance test programme for verification that the I&amp;C systems and components are continuously ready to operate and are able to perform their safety functions as designed</li> <li>• Review, verification and approval (or rejection) of modifications or design changes related to I&amp;C systems</li> <li>• Monitor the implementation of projects/programs for I&amp;C modifications or design changes</li> <li>• Ensure that the knowledge of the design, which is needed for the safe operation, and maintenance of I&amp;C systems and components is available to all parts of the operating organization</li> <li>• Ensure that the interface with supporting on-site and off-site groups related to I&amp;C design is clearly defined and working well</li> <li>• Control and verify technical documentation related to I&amp;C design, design changes and plant modifications.</li> <li>• Participate in the drafting of engineering analysis and safety analysis reports.</li> <li>• Support the establishment of performance indicators for subject related area and provide periodic assessments</li> <li>• Conduct or support conducting of specialized training activities, addressed to I&amp;C design, design changes or modifications.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Instrumentation & Control, Instrumentation & Control Equipment		7
I&C system configuration; Conceptual design of I&C systems architecture, I&C systems testing; Reliability engineering of I&C systems		7
I&C codes and standards*		7
Nuclear safety principles and requirements		6
Engineering graphics, drawings and diagrams		6
Systems design		6
Management of plant modifications		6
Electronic digital signals and measurement, Sensors and Signal Processing measurements, Measurement of critical parameters		6
Electronic Analogue and Digital Engineering, Digital Electronics, Electronic Digital Signal Systems		6
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		5
Safety Culture		5
Project management, planning methods and tools		5
ICT literacy		5
Operating experience		5
NPP Configuration Management		5

Electronic equipment; Electronic instruments; Electronic Circuits; Sensors	5
Electrical instrumentation, Electrical hazards and Safety, Electrical codes and standards	5
Analogue electronics	5
Industrial Safety	4
Occupational Safety and personal protective equipment	4
Quality assurance and control	4
Technical writing	4
Root Cause Analysis, Event analysis methodology, Accident analysis	4
Risk Assessment, Probabilistic Risk Assessments	4
I&C systems maintenance;	4
Computerized Maintenance Management System	4
National and international codes and standards	3
Radiation Protection	3
Reactor fundamentals, nuclear engineering	3
Deterministic Safety Analysis, Probabilistic safety Analysis	3
SKILLS (Technical and functional competence)	EQF level (1-8)
Revise design bases and design requirements after design change, Update existing design based on new specifications or requirements, new regulations	7
Review design bases and design requirements, Record design bases and design requirements for a particular installation or equipment	7
Plan I&C upgrades and updates	7
Install & commission I&C equipment; Apply I&C standards; Apply electronic regulations and standards in design	7
Draft operating procedures for I&C systems***; Draft technical specifications for delivery of I&C equipment**; Write procedures for I&C systems operation***	7
Configure I&C systems and equipment; Design I&C configuration	7
Use and interpret engineering data and technical documentation.	6
Test I&C equipment; Calibrate I&C equipment; Calibrate master instruments	6
Plan, design and conduct technical tests*	6
Perform Process System Reliability and Perform analysis of I&C lines; Perform reliability engineering of I&C systems	6
Perform analysis of plant modification	6
Ensure the implementation of regulations and procedures in engineering process	6
Design I&C systems and equipment; Draw I&C diagrams; Apply I&C software tools in I&C operation	6
Ensure compliance with statutory regulations and organisational OSE requirements.	5
Producing and communicate requirement specifications, technical specifications, procedures and reports.	5
Identification of safety requirements.	5
Retrieve technical information by using computer aided techniques.	5
Assess performance and identify measures and indicators to improve or correct performance.	5
Used specialised I&C design software tools	5



Provide technical reporting and perform I&C modifications required for long term operation licensing –life extension	5
Prepare reports, contribute to Safety Analysis Report (SAR)	5
Modify electronic circuits; Test electronic circuits	5
In the event of an accident, design or participate in a root cause analysis***	5
Follow electrical safety requirements	5
Diagnose and report I&C malfunctions; Measure I&C parameters	5
Planning, coordinating, implementing and monitoring project activities.	4
Ensure the implementation of engineering codes and standards.	4
Identify possible impacts and interactions with other related disciplines.	4
Define actions to improve safety culture based on operational feedback.	4
Record/ensure recording in the –computerized- Maintenance Management System; Filter data in Computerized Maintenance Management System	4
Perform Engineering Risk-Benefit Analysis, safety analysis	4
Deliver training according to developed training materials	4
Monitor and maintain a safe working environment.	3
Perform work analysis, breakdown of activities and allocate tasks.	3
Handle applied standard software applications*	3
Define corrective measures to improve safety culture based on operational experience feedback, Apply actions to enhance safety culture	3
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Analytical thinking	7
Problem solving	6
Accountability	5
Team working	5
Conscientiousness	5
Verbal communication; Written communication	5
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	4
Planning, organizing, allocating and prioritizing tasks	4
Decisiveness	4

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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
4TH ECVET WORKSHOP	L. PIRONKOV	6 <sup>TH</sup> ECVET WORKSHOP
14.05.2013	18.01.2015	18.02.2015

Ref	Job Title	Occupational Category
<b>2.8.07</b>	<b>Reactor Physicist</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	Reactor Engineer / Physicist	Specialist
Engineering	Core Physicist / Reactor Core Expert	
Role / Functions		
Responsible for core calculations in strict adherence to nuclear safety regulations during all operations with new and spent nuclear fuel.		
<ul style="list-style-type: none"> <li>• Calculation of the nuclear reactor core and of the spent fuel pool.</li> <li>• Specification of reactor operational limits on the basis of authorised or licensed operational fuel limits.</li> <li>• Compliance with fuel specifications for the new fuel.</li> <li>• Reception and inspection of new fuel.</li> <li>• Monitoring and collecting data on reactor core conditions during operation.</li> <li>• Perform calculations in order to ensure safety (core/reactor coolant system conditions within licensed limits), and efficiency (neutron flux distribution, core burn up rate ...).</li> <li>• Ensuring compliance of reactor core operative manoeuvres.</li> <li>• Design of fuel loads (fuel movements, fuel assembly location in reactor core/spent fuel pool).</li> <li>• Model and predict reactor core behaviour under a change of operating conditions.</li> <li>• Supervise nuclear fuel related activities during refuelling operations.</li> <li>• Develop working documents (procedures, programs, instructions) for reactor start-up.</li> <li>• Prepare and evaluate pre start-up reactor core tests.</li> <li>• Data collection and follow-up of radiation damage to core structures and reactor pressure vessel.</li> <li>• Monitoring, collecting data and controlling nuclear material (i.e fuel assemblies, core monitoring instruments), and other core related equipment: sources, fuel attachments, control rods</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Reactor physics theory		7
Nuclear safety principles and requirements		6
Safety Culture		6
Engineering graphics, drawings and diagrams		6
Radiation Protection		6
Nuclear physics		6
Nuclear safety regulations		6
Nuclear engineering		6
In-core and ex-core nuclear instrumentation (fission chambers, neutron flux monitoring)		6
Numerical methods for reactor design		6
Thermal-hydraulic design and analysis		6
Nuclear fuel (thermal limits, operating limits, etc)		6
Core pre-start up tests		6
Reactor core operation, limits, and set points		6
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		5
National and international codes and standards		5

Industrial Safety	5
Operating experience	5
Core instrumentation and procedures	5
Visual inspection	5
Material science and radiation damage	5
Occupational Safety and personal protective equipment	4
Quality assurance and control	4
Project management, planning methods and tools	4
ICT literacy	4
Technical writing	4
Nuclear safeguards	4
SKILLS (Technical and functional competence)	EQF level (1-8)
Use and interpret engineering data and technical documentation.	7
Planning, coordinating, implementing and monitoring project activities.	6
Ensure the implementation of engineering codes and standards.	6
Identify possible impacts and interactions with other related disciplines.	6
Perform reactor core analysis and design fuel configuration.	6
Map the location of fuel assemblies in the core and in the spent fuel pool.	6
Calculate neutron distribution flux mapping.	6
Calculate criticality and neutronics.	6
Collect data and monitor core operating conditions.	6
Define reactor operation limits.	6
Monitor nuclear fuel safety operating parameters.	6
Monitor reactor core efficiency.	6
Predict/model/analyse of reactor core behaviour.	6
Design of reactor core operating manoeuvres.	6
Draft procedures for core operating manoeuvres.	6
Receive and inspect new fuel.	6
Draft/verify procedures for reception and inspection of new fuel.	6
Contribute to technical specifications for new fuels.	6
Interpret core monitoring instruments readings.	6
Use and update databases of reactor fuel assemblies, attachments, control rods, sources, etc.	6
Design procedures for reactor core tests, analyse and monitor results.	6
Ensure compliance with statutory regulations and organisational QSE requirements.	5
Produce and communicate requirement specifications, technical specifications, procedures and reports.	5
Identification of safety requirements.	5
Retrieve technical information by using computer aided techniques.	4
Monitor and maintain a safe working environment.	4
Perform work analysis, breakdown of activities and allocate tasks.	4

Assess performance and identify measures and indicators to improve or correct performance.	4
Maintain the nuclear material inventory.	4
Define actions to improve safety culture based on operational feedback.	3
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Team working	7
Analytical thinking	6
Accountability	6
Problem solving	6
Communication	6
Conscientiousness	4
Decisiveness	4
Stress tolerance	4

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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
M. MARTÍN RAMOS	L. PIRONKOV	5TH ECVET WORKSHOP
14.05.2013	08.11.2013	13.11.2013

Ref	Job Title	Occupational Category
<b>2.9.01</b>	<b>Fuel Machine Operator for CANDU</b>	Technician
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	-----	Specialist
CANDU		
Role / Functions		
Responsible, within a CANDU unit, for all daily operation activities for fuel handling related systems and equipment including fuelling machines, during normal operation, planned outages and abnormal plant conditions. Contribute to maintenance programs.		
<ul style="list-style-type: none"> <li>• Refuels and records refuelling operation for CANDU reactor fuel channels.</li> <li>• Handles fresh nuclear fuel from storage to warehouse of refuelling machine.</li> <li>• Handles spent fuel from refuelling machine warehouse to discharge bay.</li> <li>• Monitor thermo-hydraulic parameters during the refuelling process.</li> <li>• Participate at fuel channel inspection activities.</li> <li>• Monitor and troubleshooting serviced equipment and systems.</li> <li>• Report to the line manger identified malfunctions of serviced equipment and systems.</li> <li>• Participate at maintenance refuelling machine activities.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Fuel handling related systems and equipment, including fuelling machines, for CANDU reactors		6
CANDU Nuclear fuel types; CANDU Reactor refuelling		6
Operating limits and conditions for CANDU nuclear fuel		5
CANDU systems and components		5
Nuclear safety principles: Defence-in-Depth concept, Protective Barrier concept, redundancy, diversity, fail safe, spatial separation, self-monitoring and single failure criterion, safety classification of systems and components.		4
Regulation, codes, standards, policies and procedures in the nuclear field		4
Industrial and occupational safety		4
Operating experience		4
NPP systems and components		4
Radiation protection		4
Error prevention techniques and human performance tools		4
Nuclear reactors physics		4
ICT literacy		3
Engineering data and documentation		3
Safety culture		3
Quality assurance		2
Mechanical Engineering; Pipe systems; Hydraulic systems		2
SKILLS (Technical and functional competence)		EQF level (1-8)
Operate and control refuelling machine for CANDU reactor.		6
Read and interpret refuelling schemes.		5
React properly during abnormal refuelling operation.		5
Monitor refuelling operation parameters.		5

Participate in the rehearsal of the refuelling machine.	5
Assure the interface with the fuel supply and storage.	5
Identify safety functional requirements.	4
Monitor and maintain a safe work environment.	4
Identify radiation protection requirements and apply radiation protection measures.	4
Implement nuclear safety principles in commissioning, operation and shutdown conditions.	4
Inspect maintenance of the refuelling machine.	4
Prepare reports using technical writing.	3
Monitor and maintain the quality of processes.	3
Promote and ensure compliance with statutory regulations, technical specifications and project requirements.	3
Communicate with other disciplines groups as needed to solve issues.	3
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	3
Record the fuelling operation.	3
Analyse and interpret technical data and documentation.	2
Compile and report information for management control and task assignment.	2
Supervise working activities.	2
Give clear instructions and guidance to the rest of members of the team.	2
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Team working	5
Accountability	5
Discipline	5
Accuracy	5
Conscientiousness	4
Stress resistance	4
Problem solving	3
Communication skills	3
Analytical thinking	3
Task allocation and work organisation	2

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
M. CECLAN	L. PIRONKOV	6 <sup>TH</sup> ECVET WORKSHOP
12.10.2012	19.01.2015	19.02.2015

Ref	Job Title	Occupational Category
<b>2.9.02</b>	<b>System Responsible Engineer</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP O	Support System Engineer – RSE	Specialist
CANDU		
Role / Functions		
<p>Provides overall coordination for all daily operation activities and maintenance programs for a specific system of a CANDU unit (for instance fuel handling related systems and equipment including fuelling machines), during normal operation, planned outages and abnormal plant conditions</p>		
<ul style="list-style-type: none"> <li>Coordinates and supervises the Operation and Maintenance activities of the assigned system and equipment (technical engineers, control room panel operators and field specialists (mechanical, electrical and I&amp;C maintenance technicians))</li> <li>Identifying technical problems (status of malfunction), recommends technical solutions and prepare progress reports</li> <li>Accurately monitors and records the status and work progress for assigned system and equipment</li> <li>Analyse and report of transients, in particular those resulting in releases of radioactive products and challenges to containment.</li> <li>Reporting of lessons learned and list of recommendations for review and acceptance;</li> <li>Procedures updating and makes recommendations of modifications to equipment or changes to maintenance programs to improve reliability and efficiency of equipment.</li> <li>Maintain CANDU quality standards and ensuring technical consistency across performed activities</li> <li>Provide technical lead to CANDU Services projects</li> <li>Assist in the training, coaching and mentoring of new and less experienced staff in safe practices and procedures</li> <li>NPP configuration management</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Nuclear safety principles and requirements		6
Engineering graphics, drawings and diagrams		6
Radiation Protection		6
CANDU technology		6
CANDU NPP systems and components (mechanic; hydraulic; electrical; I&C: HVAC)		6
Heavy water as cooling and moderator for CANDU NPP-attributes and properties		6
Root Cause Analysis, Event analysis methodology, Accident analysis		6
Management of plant modifications		6
National and international codes and standards		5
Safety Culture		5
Industrial Safety		5
Operating experience		5
CANDU re-tubing systems and technologies		5
Foreign material exclusion		5
Radioactive waste treatment systems		5
Heavy water equipment - Hydraulic installations, Pipe systems, valves, pumps and turbines, Pneumatic pipes, compressors, air tanks		5
Occupational Safety and personal protective equipment		4

Quality assurance and control	4
Project management, planning methods and tools	4
ICT literacy	4
Technical writing	4
Computerized Maintenance Management System	4
Deterministic Safety Analysis, Probabilistic safety Analysis	4
<b>SKILLS (Technical and functional competence)</b>	<b>EQF level (1-8)</b>
Use and interpret engineering data and technical documentation.	7
Report functionality of a particular installation or equipment according to design bases and design requirements; Perform analysis of plant modification.	7
Revise design bases and design requirements after design change, update existing design based on new specifications or requirements, new regulations.	7
Ensure the implementation of engineering codes and standards.	6
Identify possible impacts and interactions with other related disciplines.	6
Perform Engineering Risk-Benefit Analysis, Perform Process System Reliability and Safety analysis, Analyse performance of plant system equipment.	6
Implement design changes.	6
Ensure compliance with statutory regulations and organisational QSE requirements.	5
Producing and communicate requirement specifications, technical specifications, procedures and reports.	5
Identification of safety requirements.	5
Draft procedures for nuclear installations operation and maintenance.	5
Perform accidents / incidents analysis, including root cause analysis and elaborate corrective and preventive measures.	5
Prepare reports and input data for Safety Analysis Report (SAR).	5
Perform technical drawings using specific design software.	5
Inspect and test of mechanical/electrical/I&C equipment*.	5
Planning, coordinating, implementing and monitoring project activities.	4
Retrieve technical information by using computer aided techniques.	4
Monitor and maintain a safe working environment.	4
Perform work analysis, breakdown of activities and allocate tasks.	4
Assess performance and identify measures and indicators to improve or correct performance.	4
Enter and filter data in Computerized Maintenance Management System.	4
Deliver training according to developed training materials.	4
Define actions to improve safety culture based on operational feedback.	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Analytical thinking	7
Accountability	5
Team working	7
Problem solving	6
Conscientiousness	4



Decisiveness	4
Communication	5
Multitasking and priority setting	4

NOTES
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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
M. CECLAN	L. PIRONKOV	6 <sup>TH</sup> ECVET WORKSHOP
12.10.2012	20.01.2015	18.02.2015

### 3. DECOMMISSIONING

3.1. MANAGEMENT	3.1.01.	Project Manager
	3.1.02.	Contractors Manager
	3.1.03.	Management System Manager
	3.1.04.	Training Manager
	3.1.05.	Licensing Manager
	3.1.06.	Communication Manager
	3.1.07.	Financial Manager
	3.1.08.	Site Manager
3.2. DECONTAMINATION	3.2.01.	Decontamination Planner
	3.2.02.	Decontamination Supervisor
	3.2.03.	Decontamination Worker
3.3. PREPARATORY WORK FOR DECOMMISSIONING (2)	3.3.01.	Site Engineer
	3.3.02.	Spent Fuel Management Engineer
	3.3.03.	Engineering Support Manager
	3.3.04.	Decommissioning Planner
	3.3.05.	Decommissioning Supervisor
	3.3.06.	Decommissioning Operator
	3.3.07.	Decommissioning Worker
3.4. DISMANTLING/EQUIPMENT	3.4.01.	Dismantling Planner
	3.4.02.	Dismantling Supervisor
	3.4.03.	Dismantling Worker
3.5. DEMOLITION (BUILDING AND STRUCTURES)	3.5.01.	Demolition Planner
	3.5.02.	Demolition Civil Engineer
	3.5.03.	Demolition Worker
3.6. SITE CLEAN UP	3.6.01.	Clean up Supervisor
	3.6.02.	Clean up Worker
3.7. RADIOACTIVE WASTE (1)	3.7.01.	Radioactive Waste Manager
	3.7.02.	Radioactive Waste Manager-characterisation
	3.7.03.	Radioactive Waste Manager-processing
	3.7.04.	Radioactive Waste Worker-characterisation
	3.7.05.	Radioactive Waste Worker-processing
	3.7.06.	Radioactive Waste Worker-transport
	3.7.07.	Transport responsible
3.8. MAINTENANCE	3.8.01.	Maintenance Engineer – Manager
	3.8.02.	Maintenance Supervisor
	3.8.03.	Maintenance Worker
3.9. HEALTH, SAFETY AND ENVIRONMENT	3.9.01.	Radiation Protection Manager
	3.9.02.	Radiation Protection Officer
	3.9.03.	Radiation Protection Worker
	3.9.04.	Industrial Safety Engineer
	3.9.05.	Safety Case Expert
	3.9.06.	Environmental Expert
3.10 SITE RELEASE	3.9.09.	Nuclear Laboratory Technician - Chemistry
	3.10.1	Final Release Process Supervisor

Ref	Job Title	Occupational Category
<b>3.1.01</b>	<b>Project Manager</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	Safety Analysis Engineer	Management
Management		
Role / Functions		
Responsible for managing decommissioning projects or provide support in other specific parts of the projects. Manages and supervises the Operation and Maintenance activities (technical engineers, control room panel operators and field specialists).		
<ul style="list-style-type: none"> <li>Establish the phases of the decommissioning project and the priorities as a basis for project implementation.</li> <li>Establish the conformity of the project with the authorized design, conformity with license and proceedings.</li> <li>Supervise the implementation of plans and procedures to ensure compliance with project schedules, budget, safety procedures and legislation.</li> <li>Defines proper communication channels at appropriate level.</li> <li>Establish methods for measuring how goals are met</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Project management software		6
General management: budget, human resources, defining organisational objectives and strategies, business improvement, planning, monitoring, evaluating		6
Integrated management system: quality, health & safety, environment, information security		6
National and international legal framework and licensing		6
Decommissioning methodology		6
Risk assessment		5
Technical fundamentals: mechanical, electrical, I&C engineering principles		5
Nuclear power plant: reactor fundamentals, plant systems description		5
Radiation protection		5
Performance improvement methods		5
Nuclear safety and nuclear safety principles		4
Industrial safety		4
Safety and security management		4
Operating experience		4
Human error prevention techniques		4
ICT literacy		4
Communication techniques: negotiation, presentation, writing		4
Safety culture principles		3
Emergency preparedness and emergency response		3
SKILLS (Technical and functional competence)		EQF level (1-8)
Plan, schedule and monitor activities by using suitable management tools to ensure timely completion within budget.		6
Interface with managers from other disciplines and/or from external organisations.		6
Coordinate response to non-conformities and to unexpected events.		6

Develop business plans and forecast needed resources such as materials and manpower utilization.	6
Organize and manage teams: keep track of personnel professional development, identify training needs, select new employees, monitor performance of each team, evaluate and report suitability and availability of those within the allocated teams, allocate professional roles, mentor and coach employees, establish duties and responsibilities, ensure proper levels of guidance and direction.	6
Compile and analyse legal requirements to ensure and promote compliance with statutory regulations.	5
Manage activities to the highest standards of safety, security, quality, reliability and efficiency.	5
Monitor and maintain a safe working environment.	5
Promote and implement continuous improvement tools.	5
Support the development of quality plans and monitor and maintain quality compliance.	5
Negotiate contract conditions covering all possible contingencies.	5
Conduct commercial follow-up of contracts.	5
Classify information according to security criteria.	5
Perform risk estimation and value management and cost control.	5
Lead and enforce safety culture.	4
Prepare bid and tender enquiries.	4
Stay updated on changes on the market, regulations and new operating experience to identify market trends, best practices and/or emerging regulatory issues.	3
Create and participate in professional contact networks.	3
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Conflict resolution	7
Organisational skills	7
Accountability	6
Leadership	6
Team Working	6
Communication skills	5
Stress resistance	5
Analytical thinking	5
Multitasking and priority setting	5

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
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22.10.2012	14.05.2013	12.11.2013

Ref	Job Title	Occupational Category
<b>3.1.02</b>	<b>Contractors' Manager</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	-----	Management
Management		
Role / Functions		
Management of the contractors that are engaged at the decommissioning activities.		
<ul style="list-style-type: none"> <li>To identify (together with the Project Manager) areas/activities that need to be performed by the suppliers and vendors (further Contractors).</li> <li>Contribute to the preparation of the tender procedure(s) and contracting of the external organisations.</li> <li>To manage obtaining the necessary permits and approvals for contractors' work at the NPP site.</li> <li>To supervise the work performed by the contractors/subcontractors and to ensure that the contractors' work is performed in line with the contract and the decommissioning plan.</li> <li>To intervene, analyse, manage and resolve business conflicts between the company and the Contractors.</li> <li>To intervene, analyse, manage and resolve technical issues in the implementation of the work by the Contractors.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Project management software		6
General management: budget, human resources, defining organisational objectives and strategies, business improvement, planning, monitoring, evaluating		6
Integrated management system: quality, health & safety, environment, information security		6
Risk assessment		5
Technical fundamentals: mechanical, electrical, I&C engineering principles		5
Nuclear power plant: reactor fundamentals, plant systems description		5
Performance improvement methods		5
Nuclear safety and nuclear safety principles		4
Industrial safety		4
National and international legal framework and licensing		4
Safety and security management		4
Radiation protection		4
Operating experience		4
Human error prevention techniques		4
ICT literacy		4
Communication techniques: negotiation, presentation, writing		4
Decommissioning methodology		4
Safety culture principles		3
Emergency preparedness and emergency response		3
SKILLS (Technical and functional competence)		EQF level (1-8)
Plan, schedule and monitor activities by using suitable management tools to ensure timely completion within budget.		6

Interface with managers from other disciplines and/or from external organisations.	6
Negotiate contract conditions covering all possible contingencies.	6
Coordinate response to non-conformities and to unexpected events.	6
Develop business plans and forecast needed resources such as materials and manpower utilization.	6
Select contractors and establish contracts.	6
Develop and maintain effective working relationships with contractors.	6
Compile and analyse legal requirements to ensure and promote compliance with statutory regulations.	5
Manage activities to the highest standards of safety, security, quality, reliability and efficiency.	5
Monitor and maintain a safe working environment.	5
Promote and implement continuous improvement tools.	5
Support the development of quality plans and monitor and maintain quality compliance.	5
Conduct commercial follow-up of contracts.	5
Organize and manage teams: keep track of personnel professional development, identify training needs, select new employees, monitor performance of each team, evaluate and report suitability and availability of those within the allocated teams, allocate professional roles, mentor and coach employees, establish duties and responsibilities, ensure proper levels of guidance and direction.	5
Classify information according to security criteria.	5
Stay updated on changes on the market, regulations and new operating experience to identify market trends, best practices and/or emerging regulatory issues.	4
Lead and enforce safety culture.	4
Prepare bid and tender enquiries.	4
Create and participate in professional contact networks.	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Organisational skills	7
Multitasking and priority setting	7
Communication skills	6
Conflict resolution	6
Leadership	6
Team work and building	6
Decision making	6
Accountability	5
Stress resistance	5
Analytical thinking	5

#### NOTES

This job can be combined with the 3.1.01 Project Manager

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Ref	Job Title	Occupational Category
<b>3.1.03</b>	<b>Management System Manager</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	Management System (IMS) Manager	Management
Management		
Role / Functions		
Responsible for the establishment, implementation, assessment and continually improvement of a decommissioning management system (MS) that integrates safety, health, environmental, security, quality and economic elements to ensure that safety is properly taken into account in all decommissioning activities.		
<ul style="list-style-type: none"> <li>To develop and ensure implementation of an MS plan and procedures for decommissioning and termination of license;</li> <li>To ensure that safety, security and environmental principles, requirements and guidelines are applied throughout decommissioning in line with the national legislation, international standards (ISO, IAEA, etc.) and best international practice;</li> <li>To ensure adequate organisational structure and allocation of management responsibilities for decommissioning, as well as mechanisms for resource management, measurement, assessment and improvement process throughout the decommissioning</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
General management: budget, human resources, defining organisational objectives and strategies, business improvement, planning, monitoring, evaluating		6
Integrated management system: quality, health & safety, environment, information security		6
Safety and security management		6
National legislation on management system and international standards (e.g. ISO, IAEA)		6
Nuclear safety and nuclear safety principles		5
Industrial safety		5
National and international legal framework and licensing		5
Safety culture principles		5
Business administration		5
Site organisation and lifecycle		5
Project management software		4
Risk assessment		4
Technical fundamentals: mechanical, electrical, I&C engineering principles		4
Nuclear power plant: reactor fundamentals, plant systems description		4
Radiation protection		4
Operating experience		4
Human error prevention techniques		4
Performance improvement methods		4
ICT literacy		4
Communication techniques: negotiation, presentation, writing		4
Emergency preparedness and emergency response		4
SKILLS (Technical and functional competence)		EQF level (1-8)



Compile and analyse legal requirements to ensure and promote compliance with statutory regulations.	6
Manage activities to the highest standards of safety, security, quality, reliability and efficiency.	6
Plan, schedule and monitor activities by using suitable management tools to ensure timely completion within budget.	6
Promote and implement continuous improvement tools.	6
Support the development of quality plans and monitor and maintain quality compliance.	6
Stay updated on changes on the market, regulations and new operating experience to identify market trends, best practices and/or emerging regulatory issues.	5
Monitor and maintain a safe working environment.	5
Lead and enforce safety culture.	5
Interface with managers from other disciplines and/or from external organisations.	5
Negotiate contract conditions covering all possible contingencies.	5
Coordinate response to non-conformities and to unexpected events.	5
Conduct commercial follow-up of contracts.	5
Develop business plans and forecast needed resources such as materials and manpower utilization.	5
Classify information according to security criteria.	5
Management and control of processes, purchases, documents and communication	5
Managing organisational change	5
Prepare bid and tender enquiries.	4
Organize and manage teams: keep track of personnel professional development, identify training needs, select new employees, monitor performance of each team, evaluate and report suitability and availability of those within the allocated teams, allocate professional roles, mentor and coach employees, establish duties and responsibilities, ensure proper levels of guidance and direction.	4
Create and participate in professional contact networks.	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Organisational skills	7
Communication skills	6
Accountability	6
Analytical thinking	6
Multitasking and priority setting	6
Conflict resolution	5
Stress resistance	5
Leadership	5

<b>NOTES</b>
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23.10.2012	14.05.2013	14.11.2013

Ref	Job Title	Occupational Category
<b>3.1.04</b>	<b>Training Manager</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	-----	Management
Management		
Role / Functions		
Responsible for the definition and implementation of the training policy of the company. Works with the HR department to set future directions in terms of training in accordance to operations planned on the site.		
<ul style="list-style-type: none"> <li>• Define and apply the training policy of the company in relation with HR needs.</li> <li>• Anticipate competences required and training needs in relation with HR and Project Managers.</li> <li>• Develop, or make develop standards of job profile / competence / certification and syllabus.</li> <li>• Specify the standards for vocational and continuing training.</li> <li>• Define the appropriate E&amp;T methodology for each training item.</li> <li>• Ensure that the E&amp;T approach comply with the European approach (ECVET)</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Education, qualification and continuous professional development frameworks		6
Project management software		5
General management: budget, human resources, defining organisational objectives and strategies, business improvement, planning, monitoring, evaluating		5
Integrated management system: quality, health & safety, environment, information security		5
Pedagogical methods		5
Tailored training requirements (mock-ups, on the job training etc.)		5
Methodology of assessment and competency assurance		5
Training for trainers		5
Nuclear safety and nuclear safety principles		4
Safety culture principles		4
Technical fundamentals: mechanical, electrical, I&C engineering principles		4
Nuclear power plant: reactor fundamentals, plant systems description		4
Radiation protection		4
Operating experience		4
Human error prevention techniques		4
Performance improvement methods		4
ICT literacy		4
Communication techniques: negotiation, presentation, writing		4
Emergency preparedness and emergency response		4
Labour law / code		4
Industrial safety		3
National and international legal framework and licensing		3
Safety and security management		3
Risk assessment		3

Nuclear decommissioning culture, safety and security	3
<b>SKILLS (Technical and functional competence)</b>	<b>EQF level (1-8)</b>
Plan, schedule and monitor activities by using suitable management tools to ensure timely completion within budget.	6
Interface with managers from other disciplines and/or from external organisations.	6
Manage activities to the highest standards of safety, security, quality, reliability and efficiency.	5
Promote and implement continuous improvement tools.	5
Support the development of quality plans and monitor and maintain quality compliance.	5
Prepare bid and tender enquiries.	5
Negotiate contract conditions covering all possible contingencies.	5
Conduct commercial follow-up of contracts.	5
Develop business plans and forecast needed resources such as materials and manpower utilization.	5
Classify information according to security criteria.	5
Develop standards for competence / training / syllabus and certification.	5
Monitor training performance and effectiveness.	5
Prepare and schedule the training plan for the entire company.	5
Provide training and information about the special procedures as emergency, potential risks on workers' health, nuclear safety and security.	5
Stay updated on changes on the market, regulations and new operating experience to identify market trends, best practices and/or emerging regulatory issues.	4
Lead and enforce safety culture.	4
Create and participate in professional contact networks.	4
Coordinate response to non-conformities and to unexpected events.	4
Organize and manage teams: keep track of personnel professional development, identify training needs, select new employees, monitor performance of each team, evaluate and report suitability and availability of those within the allocated teams, allocate professional roles, mentor and coach employees, establish duties and responsibilities, ensure proper levels of guidance and direction.	4
Compile and analyse legal requirements to ensure and promote compliance with statutory regulations.	3
Monitor and maintain a safe working environment.	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Leadership	6
Organisational skills	6
Communication skills	5
Accountability	5
Conflict resolution	5
Multitasking and priority setting	5
Synthesis	5
Stress resistance	4
Analytical thinking	4

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24.10.2012	14.05.2013	13.11.2013

Ref	Job Title	Occupational Category
<b>3.1.05</b>	<b>Licensing Manager</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	-----	Management
Management		
Role / Functions		
Managing the licensing process related to decommissioning and site release.		
<ul style="list-style-type: none"> <li>• Interfacing with the local and regulatory authorities to obtain required authorisations.</li> <li>• Ensuring that licensing documents (decommissioning plan, final survey report, etc.) are developed in compliance with the regulations, national strategies/policies and international best practice and standards.</li> <li>• Interfacing with the regulatory authorities and stakeholders with respect to radiological and non-radiological hazards and site end-state.</li> <li>• Control the implementation of licensing requirements, conditions and regulatory prescriptions and recommendations</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
National and international legal framework and licensing		6
Project management software		5
General management: budget, human resources, defining organisational objectives and strategies, business improvement, planning, monitoring, evaluating		5
Integrated management system: quality, health & safety, environment, information security		5
Nuclear safety and nuclear safety principles		5
Safety and security management		5
Radiation protection		5
Communication techniques: negotiation, presentation, writing		5
Emergency preparedness and emergency response		5
Waste and transport safety		5
Decommissioning activities, radioactive waste management, clearance of material and site release		5
Industrial safety		4
Safety culture principles		4
Nuclear power plant: reactor fundamentals, plant systems description		4
Operating experience		4
Risk assessment		3
Technical fundamentals: mechanical, electrical, I&C engineering principles		3
ICT literacy		3
Human error prevention techniques		2
Performance improvement methods		2
SKILLS (Technical and functional competence)		EQF level (1-8)
Interface with managers from other disciplines and/or from external organisations.		6
Support the development of quality plans and monitor and maintain quality compliance.		6

Classify information according to security criteria.	6
Analyse and interpret the licensing requirements.	6
Compile and analyse legal requirements to ensure and promote compliance with statutory regulations.	5
Stay updated on changes on the market, regulations and new operating experience to identify market trends, best practices and/or emerging regulatory issues.	5
Manage activities to the highest standards of safety, security, quality, reliability and efficiency.	5
Plan, schedule and monitor activities by using suitable management tools to ensure timely completion within budget.	5
Conduct commercial follow-up of contracts.	5
Organize and manage teams: keep track of personnel professional development, identify training needs, select new employees, monitor performance of each team, evaluate and report suitability and availability of those within the allocated teams, allocate professional roles, mentor and coach employees, establish duties and responsibilities, ensure proper levels of guidance and direction.	5
Lead and enforce safety culture.	4
Create and participate in professional contact networks.	4
Promote and implement continuous improvement tools.	4
Prepare bid and tender enquiries.	4
Negotiate contract conditions covering all possible contingencies.	4
Coordinate response to non-conformities and to unexpected events.	4
Develop business plans and forecast needed resources such as materials and manpower utilization.	4
Monitor and maintain a safe working environment.	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Communication skills	6
Organisational skills	6
Accountability	5
Conflict resolution	5
Stress resistance	5
Multitasking and priority setting	5
Strategic thinking	5
Pragmatism	5
Analytical thinking	4
Leadership	3

#### NOTES

Standard ISO 10006: description of the tasks  
Decommissioning definition – add from IAEA SR WS-R-5

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24.10.2012	14.05.2013	13.11.2013

Ref	Job Title	Occupational Category
<b>3.1.06</b>	<b>Communication and PR Manager</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	-----	Management
Management		
Role / Functions		
Responsible for managing internal and external communication on a decommissioning programme.		
<ul style="list-style-type: none"> <li>• Develop communication strategy (Communication Plan), submit it for approval to the Decommissioning Project Manager, and execute it.</li> <li>• Establish decommissioning communication goals and submit them to approval of the Decommissioning Project Manager.</li> <li>• Provide appropriate information to internal and external stakeholders.</li> <li>• Liaise between the decommissioning project teams, public (general and local), regulators, defining proper communication channels at the appropriate level.</li> <li>• Take responsibilities for completing tasks and processes.</li> <li>• He/she may lead a team of communicators, depending on the size of the decommissioning project.</li> <li>• Establish an targeted communication programme</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Communication techniques: negotiation, presentation, writing		6
Prepare communication plan content and workflow, according to the different phases of the project		6
Media communication		5
Crisis management		5
Public relations		5
General management: budget, human resources, defining organisational objectives and strategies, business improvement, planning, monitoring, evaluating		4
National and international legal framework and licensing		4
Safety culture principles		4
ICT literacy		4
Emergency preparedness and emergency response		4
Occupational sociology		4
Project management software		3
Integrated management system: quality, health & safety, environment, information security		3
Nuclear safety and nuclear safety principles		3
Industrial safety		3
Safety and security management		3
Technical fundamentals: mechanical, electrical, I&C engineering principles		3
Nuclear power plant: reactor fundamentals, plant systems description		3
Radiation protection		3
Operating experience		3
Environmental awareness		3
Risk assessment		2

Human error prevention techniques	2
Performance improvement methods	2
<b>SKILLS (Technical and functional competence)</b>	<b>EQF level (1-8)</b>
Interface with managers from other disciplines and/or from external organisations.	6
Create and participate in professional contact networks.	6
Classify information according to security criteria.	6
Prepare, organize, evaluate and follow-up the communication plan.	6
Establish the phases of the CP and its priorities.	6
Manage resources involved in the communication project (both human and financial) and stakeholders (user groups, providers, local infrastructure bodies, local municipalities)	6
Plan, schedule and monitor activities by using suitable management tools to ensure timely completion within budget.	5
Promote and implement continuous improvement tools.	5
Support the development of quality plans and monitor and maintain quality compliance.	5
Prepare bid and tender enquiries.	5
Conduct commercial follow-up of contracts.	5
Develop business plans and forecast needed resources such as materials and manpower utilization.	5
Conduct public speaking.	5
Select and apply different approaches for information dissemination.	5
Apply the scheme of the key elements to communicate.	5
Improve efficiency, effectiveness, and realism of communication.	5
Carry out the appraisal or assessment of the CP results, CP reports, etc.	5
Compile and analyse legal requirements to ensure and promote compliance with statutory regulations.	4
Stay updated on changes on the market, regulations and new operating experience to identify market trends, best practices and/or emerging regulatory issues.	4
Manage activities to the highest standards of safety, security, quality, reliability and efficiency.	4
Lead and enforce safety culture.	4
Coordinate response to non-conformities and to unexpected events.	4
Organize and manage teams: keep track of personnel professional development, identify training needs, select new employees, monitor performance of each team, evaluate and report suitability and availability of those within the allocated teams, allocate professional roles, mentor and coach employees, establish duties and responsibilities, ensure proper levels of guidance and direction.	4
Monitor and maintain a safe working environment.	3
Negotiate contract conditions covering all possible contingencies.	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Communication skills	6
Conflict resolution	6
Organisational skills	6
Accountability	5



Stress resistance	5
Leadership	5
Multitasking and priority setting	5
Sociability	5
Team working	5
Analytical thinking	4

NOTES
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24.10.2012	14.05.2013	19.02.2015

Ref	Job Title	Occupational Category
<b>3.1.07</b>	<b>Financial Manager</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	Cost Manager	Management
Management		
Role / Functions		
Responsible for the management of the financial resources for decommissioning in line with the approved decommissioning plan, budget and schedule.		
<ul style="list-style-type: none"> <li>To support the Project Manager in the planning, implementation and termination of the decommissioning activities in a timely, effective and safe manner (including licensing authorisations/approvals, communication with stakeholders, use of subcontractors).</li> <li>Manage financial accounting, monitoring and reporting systems –manage and control the use of funding for the dedicated decommissioning activities, as outlined in the decommissioning plan and authorisations and within the allocated budget.</li> <li>Ensure compliance with relevant financial regulations.</li> <li>Analyse changes and future trends and advise the Project Manager accordingly.</li> <li>Evaluate the cost-reduction opportunities.</li> <li>Preparation of financial reports</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Economics		6
Financial administration		6
Accounting		6
Financial and accounting regulations		6
Life cycle cost analysis		6
Project management software		5
General management: budget, human resources, defining organisational objectives and strategies, business improvement, planning, monitoring, evaluating		5
Integrated management system: quality, health & safety, environment, information security		5
Funding mechanisms for decommissioning and radioactive waste management		5
ICT literacy		4
Communication techniques: negotiation, presentation, writing		4
Nuclear safety and nuclear safety principles		3
Industrial safety		3
National and international legal framework and licensing		3
Safety culture principles		3
Safety and security management		3
Technical fundamentals: mechanical, electrical, I&C engineering principles		3
Nuclear power plant: reactor fundamentals, plant systems description		3
NPP lifecycle and decommissioning activities		3
Risk assessment		2
Radiation protection		2
Operating experience		2

Human error prevention techniques	2
Performance improvement methods	2
Emergency preparedness and emergency response	2
<b>SKILLS (Technical and functional competence)</b>	<b>EQF level (1-8)</b>
Stay updated on changes on the market, regulations and new operating experience to identify market trends, best practices and/or emerging regulatory issues.	6
Plan, schedule and monitor activities by using suitable management tools to ensure timely completion within budget.	6
Organize and manage teams: keep track of personnel professional development, identify training needs, select new employees, monitor performance of each team, evaluate and report suitability and availability of those within the allocated teams, allocate professional roles, mentor and coach employees, establish duties and responsibilities, ensure proper levels of guidance and direction.	6
Analyse financial information that influence project performance.	6
Monitor and interpret cash flows and predict future trends.	6
Monitor budget and predict financial needs.	6
Formulate strategic and long-term business (financial) plans.	6
Develop financial management mechanisms.	6
Interface with managers from other disciplines and/or from external organisations.	5
Conduct commercial follow-up of contracts.	5
Analyse competitors and market trends.	5
Interface with stakeholders, auditors and subcontractors	5
Use financial software tools	5
Compile and analyse legal requirements to ensure and promote compliance with statutory regulations.	4
Manage activities to the highest standards of safety, security, quality, reliability and efficiency.	4
Promote and implement continuous improvement tools.	4
Support the development of quality plans and monitor and maintain quality compliance.	4
Prepare bid and tender enquiries.	4
Negotiate contract conditions covering all possible contingencies.	4
Develop business plans and forecast needed resources such as materials and manpower utilization.	4
Create and participate in professional contact networks.	3
Coordinate response to non-conformities and to unexpected events.	3
Monitor and maintain a safe working environment.	2
Lead and enforce safety culture.	2
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Accountability	6
Organisational skills	6
Communication skills	5
Conflict resolution	5
Analytical thinking	5

Attention to details	5
Stress resistance	4
Multitasking and priority setting	4

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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
B. BATANDJEVA	R. SILVERII	6 <sup>TH</sup> ECVET WORKSHOP
23.10.2012	14.05.2013	19.02.2015

Ref	Job Title	Occupational Category
<b>3.1.08</b>	<b>Site Manager</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	-----	Management
Management		
Role / Functions		
Legal representative of the organization General management of the decommissioning project.		
<ul style="list-style-type: none"> <li>• Maintain contact with the Local and Administrative Authorities and trade unions.</li> <li>• Maintain the licensing conditions established by the regulatory authorities on the basis of the decommissioning license.</li> <li>• Maintain site standards with respect to safety, health physic, efficiency, during the decommissioning process.</li> <li>• Establish external contracts regarding security.</li> <li>• Implementation of an integrated management system directed to provide a single framework for the arrangements and processes to address all the goals of the organization.</li> <li>• Manage staff and contractors</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
General management: budget, human resources, defining organisational objectives and strategies, business improvement, planning, monitoring, evaluating		6
Integrated management system: quality, health & safety, environment, information security		6
National and international legal framework and licensing		6
Safety and security management		6
Emergency preparedness and emergency response		6
Nuclear safety and nuclear safety principles		5
Industrial safety		5
Safety culture principles		5
Radiation protection		5
Nuclear decommissioning practices		5
Project management software		4
Risk assessment		4
Technical fundamentals: mechanical, electrical, I&C engineering principles		4
Nuclear power plant: reactor fundamentals, plant systems description		4
Operating experience		4
Human error prevention techniques		4
Performance improvement methods		4
ICT literacy		4
Communication techniques: negotiation, presentation, writing		4
SKILLS (Technical and functional competence)		EQF level (1-8)
Manage activities to the highest standards of safety, security, quality, reliability and efficiency.		7
Monitor and maintain a safe working environment.		7
Lead and enforce safety culture.		7

Coordinate response to non-conformities and to unexpected events.	7
Organize and manage teams: keep track of personnel professional development, identify training needs, select new employees, monitor performance of each team, evaluate and report suitability and availability of those within the allocated teams, allocate professional roles, mentor and coach employees, establish duties and responsibilities, ensure proper levels of guidance and direction.	7
Compile and analyse legal requirements to ensure and promote compliance with statutory regulations.	6
Plan, schedule and monitor activities by using suitable management tools to ensure timely completion within budget.	6
Interface with managers from other disciplines and/or from external organisations.	6
Support the development of quality plans and monitor and maintain quality compliance.	6
Develop business plans and forecast needed resources such as materials and manpower utilization.	6
Classify information according to security criteria.	6
Supply information for management control	6
Manage, negotiate, direct, control of subcontractors	6
Promote and implement continuous improvement tools.	5
Negotiate contract conditions covering all possible contingencies.	5
Conduct commercial follow-up of contracts.	5
Create and participate in professional contact networks.	3
Prepare bid and tender enquiries.	3
Stay updated on changes on the market, regulations and new operating experience to identify market trends, best practices and/or emerging regulatory issues.	
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Leadership	7
Organisational skills	7
Discretion and confidentiality	7
Decision making	7
Communication skills	6
Conflict resolution	6
Stress resistance	6
Accountability	5
Analytical thinking	5
Multitasking and priority setting	5

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
M. MARCO ARBOLI	S. LANZA	4 <sup>TH</sup> ECVET WORKSHOP
24.10.2012	26.03.2013	15.05.2013

Ref	Job Title	Occupational Category
<b>3.2.01</b>	<b>Decontamination Planner</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	-----	Specialist
Decontamination		
Role / Functions		
Responsible for the decontamination schedule of materials and areas for the preparation of a nuclear installation decommissioning		
<ul style="list-style-type: none"> <li>Assist the decommissioning project manager in the preparation of detailed decontamination planning</li> <li>Ensure coordination of the decontamination activities</li> <li>Reports to the decommissioning project manager</li> <li>Prepare planning in compliance with statutory standards and nuclear safety and security principles (radiation protection, waste management, fire)</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Project management, planning methods and tools		6
Team management		6
Nuclear safety principles and requirements		5
National and international codes and standards		5
Safety Culture		5
Engineering graphics, drawings and diagrams		5
Occupational Safety and personal protective equipment		5
Operating experience		5
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		4
Quality assurance and control		4
ICT literacy		4
Technical writing		4
Release procedures		4
Decontamination techniques and situations		4
Radiation Protection		3
Industrial Safety		3
Radioactive Waste Management		3
Knowledge management and historic data from nuclear installation		2
SKILLS (Technical and functional competence)		EQF level (1-8)
Planning, coordinating, implementing and monitoring project activities.		6
Perform work analysis, breakdown of activities and allocate tasks.		6
Use and interpret engineering data and technical documentation.		5
Identification of safety requirements.		5
Retrieve technical information by using computer aided techniques.		5

Ensure the implementation of engineering codes and standards.	5
Monitor and maintain a safe working environment.	5
Assess performance and identify measures and indicators to improve or correct performance.	5
Identify possible impacts and interactions with other related disciplines.	5
Define actions to improve safety culture based on operational feedback.	5
Assess impact of decontamination techniques on decommissioning	5
Ensure compliance with statutory regulations and organisational QSE requirements.	4
Producing and communicate requirement specifications, technical specifications, procedures and reports.	4
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Team working	6
Accountability	5
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	5
Problem solving	5
Conscientiousness	5
Decisiveness	5
Communication	5
Analytical thinking	4

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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
P. LIVOLSI	M CECLAN	4 <sup>TH</sup> ECVET WORKSHOP
24.10.2012	20.03.2013	15.05.2013



Ref	Job Title	Occupational Category
<b>3.2.02</b>	<b>Decontamination Supervisor</b>	Technician
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	-----	Specialist
Decontamination		
Role / Functions		
<p>The spent fuel management engineer is responsible for the planning and execution of all the activities needed for the defueling of the nuclear power plant prior to its decommissioning.</p> <ul style="list-style-type: none"> <li>• Ensure the safety of the spent fuel during the defueling of the plant.</li> <li>• Ensure the compliance of the defueling activities with the regulatory, safeguards, and industrial safety requirements.</li> <li>• Define the defueling activities and the needed resources (human and technical).</li> <li>• Coordinate the shipments with the relevant organisations and companies (service suppliers, equipment suppliers, interim storage or reprocessing, etc).</li> <li>• Plan the defueling activities, and the shipment of the spent fuel away from the reactor.</li> <li>• Ensure that the defueling activities are executed according to the plan.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Spent fuel management, including damaged fuel elements		6
Inspection of fuel assemblies and special conditioning of damaged elements		6
Nuclear safety principles: Defence-in-Depth concept, Protective Barrier concept, redundancy, diversity, fail safe, spatial separation, self-monitoring and single failure criterion, safety classification of systems and components.		5
Industrial and occupational safety		5
Operating experience		5
Safety culture		5
Radiation protection		5
Logistics		5
Regulation, codes, standards, policies and procedures in the nuclear field		4
ICT literacy		4
Engineering data and documentation		4
NPP systems and components		4
Quality assurance		4
Nuclear engineering		4
Nuclear safeguards		4
Spent fuel transport (preparation of packaging, codes calculations,...)		4
Project management		4
Error prevention techniques and human performance tools		
SKILLS (Technical and functional competence)		EQF level (1-8)
Promote and ensure compliance with statutory regulations, technical specifications and project requirements.		6
Identify safety functional requirements.		5
Monitor and maintain a safe work environment.		5
Identify radiation protection requirements and apply radiation protection measures.		5

Compile and report information for management control and task assignment.	5
Supervise working activities.	5
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	5
Give clear instructions and guidance to the rest of members of the team.	5
Ability to understand, review and correct technical specifications	5
Organise supplies/control subcontractors.	5
Analyse and interpret technical data and documentation.	4
Prepare reports using technical writing.	4
Monitor and maintain the quality of processes.	4
Communicate with other disciplines groups as needed to solve issues.	4
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Task allocation and work organisation	6
Conscientiousness	5
Team working	5
Problem solving	5
Communication skills	5
Stress resistance	5
Accountability	5
Analytical thinking	5
Organisational skills	5
Decisiveness	5
Priority setting	5

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
M. MARTÍN RAMOS	A. ABDELOUAS	5 <sup>TH</sup> ECVET WORKSHOP
08.04.2013	14.05.2013	13.11.2013

Ref	Job Title	Occupational Category
<b>3.2.03</b>	<b>Decontamination Worker</b>	Craft
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	-----	Executive
Decontamination		
Role / Functions		
<p>The decontamination worker is involved in many activities related to the decontamination and/or management of radioactive waste. As a part of a team, he/she monitors the implementation of equipment, facilities and movement procedures of radioactive pollutants according to rules of nuclear safety and radiation protection standards.</p>		
<ul style="list-style-type: none"> <li>• Organise the work place for safe removal of radioactive contamination of an area or equipment under the supervision of the decontamination supervisor/planner.</li> <li>• Perform decontamination of an area or equipment to reduce the exposure of workers or avoid the spread of contaminants.</li> <li>• Perform treatment and storage of solid or liquid radioactive waste during the temporary or permanent shutdown of reactor/installation.</li> <li>• Install ventilation equipment and air filtration.</li> <li>• Verify individual contamination control devices, conventional nuclear protective equipment and monitoring and control the installation.</li> <li>• Take care of and maintain decontamination tools, equipment and machines.</li> <li>• Safely organise the storage of the decontamination products and agents.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Exemption threshold and release procedures		3
Radiation Protection		2
Statutory and regulatory requirements, codes, standards, procedures and practices		2
Safety culture		2
Conservation and maintenance of equipment and tools		2
Decontamination techniques, products and agents (liquid, gel, Carboglass ...)		2
Decontamination tools and machines		2
Conservation and storage of decontamination products and agents		2
Radioactive waste treatment systems and storage		2
Decontamination situations (under water, mechanical, on workshop, chemical ...)		2
Occupational and industrial safety		1
Radiological cartographies of the installation		1
SKILLS (Technical and functional competence)		EQF level (1-8)
Maintain tools, equipment and materials in a proper condition.		3
Maintain a safe working environment.		3
Use Personal Protective Equipment (PPEs).		3
Select and use equipment/tools for a specific job.		2
Identify equipment malfunction.		2
Produce brief technical reports on tasks performed and fill in checklists.		2
Understand and follow instructions and procedures.		2

Comply with statutory requirements, codes and standards.	2
Apply decontaminating solutions.	2
Operate hands-on and/or remotely operated equipment.	2
Perform radioactive waste packaging and storage.	2
Use decontamination products, agents, tools and machines.	2
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Manual dexterity	3
Safety attitude	3
Team working	3
Discipline	3
Stress resistance	3
Accuracy / Eye for detail	2
Accountability	2
Communication skills – ability to understand and to be understood	2

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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
P. LIVOLSI	M. MARTÍN RAMOS	5 <sup>TH</sup> ECVET WORKSHOP
24.10.2012	07.05.2013	12.11.2013

Ref	Job Title	Occupational Category
<b>3.3.01</b>	<b>Site Engineer</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	-----	Specialist
Decommissioning Preparation		
Role / Functions		
<p>The site engineer is responsible for the general layout arrangements in site, health, safety and security arrangements, the co-ordination and supervision of the decommissioning works. The Site Engineer works in close co-operation with the site manager, project manager and contractors´ manager.</p>		
<ul style="list-style-type: none"> <li>To plan the layout of the auxiliary facilities (warehouses, radioactive and non-radioactive waste storage areas, pathways).</li> <li>To co-ordinate the different decommissioning activities to avoid interferences and damage to operating systems and structures.</li> <li>To draw the arrangements for the safety and security of the site.</li> <li>To try to solve immediate problems and challenges of the decommissioning works.</li> <li>To supervise the safe progress of the decommissioning activities.</li> <li>The day-to-day control of the subcontractors and activities.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Project management, planning methods and tools		6
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		5
Nuclear safety principles and requirements		5
National and international codes and standards		5
Safety Culture		5
Engineering graphics, drawings and diagrams		5
Occupational Safety and personal protective equipment		5
Radiation Protection		4
Industrial Safety		4
Quality assurance and control		4
ICT literacy		4
Technical writing		4
Decommissioning methodology		4
Construction/decommissioning site supervision		4
Radioactive waste treatment systems		3
Radioactive waste handling and storage		3
Electrical and mechanical installations		3
SKILLS (Technical and functional competence)		EQF level (1-8)
Perform work analysis, breakdown of activities and allocate tasks.		6
Assess performance and identify measures and indicators to improve or correct performance.		6
Identify possible impacts and interactions with other related disciplines.		6

Identification of safety requirements.	5
Ensure the implementation of engineering codes and standards.	5
Define actions to improve safety culture based on operational feedback.	5
Use and interpret engineering data and technical documentation.	4
Ensure compliance with statutory regulations and organizational QSE requirements.	4
Producing and communicate requirement specifications, technical specifications, procedures and reports.	4
Planning, coordinating, implementing and monitoring project activities.	4
Retrieve technical information by using computer aided techniques.	4
Monitor and maintain a safe working environment.	4
Conduct building/decommissioning site preparation.	4
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Team working	6
Analytical thinking	5
Accountability	5
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	5
Problem solving	5
Decisiveness	5
Global vision	5
Stress resistance	5
Conscientiousness	4

**NOTES**

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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
M. MARTÍN RAMOS	M. CECLAN	5 <sup>TH</sup> ECVET WORKSHOP
24.10.2012	14.05.2013	12.11.2013

Ref	Job Title	Occupational Category
<b>3.3.02</b>	<b>Spent Fuel Management Engineer</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	-----	Specialist
Decommissioning Preparation		
Role / Functions		
<p>The spent fuel management engineer is responsible for the planning and execution of all the activities needed for the defueling of the nuclear power plant prior to its decommissioning</p> <ul style="list-style-type: none"> <li>• Ensure the safety of the spent fuel during the defueling of the plant</li> <li>• Ensure the compliance of the defueling activities with the regulatory, safeguards, and industrial safety requirements.</li> <li>• Define the defueling activities and the needed resources (human and technical)</li> <li>• Coordinate the shipments with the relevant organisations and companies (service suppliers, equipment suppliers, interim storage or reprocessing).</li> <li>• Plan the defueling activities, and the shipment of the spent fuel away from the reactor</li> <li>• Ensure that the defueling activities are executed according to the plan</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Spent fuel management, including damaged fuel elements		6
Inspection of fuel assemblies and special conditioning of damaged elements		6
Nuclear safety principles and requirements		5
Safety Culture		5
Radiation Protection		5
Occupational Safety and personal protective equipment		5
Logistics		5
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		4
National and international codes and standards		4
Engineering graphics, drawings and diagrams		4
Industrial Safety		4
Quality assurance and control		4
Project management, planning methods and tools		4
ICT literacy		4
Technical writing		4
Operating experience		4
Nuclear engineering		4
Nuclear safeguards		4
Spent fuel transport (preparation of packaging, codes calculations)		4
SKILLS (Technical and functional competence)		EQF level (1-8)
Identification of safety requirements.		6
Use and interpret engineering data and technical documentation.		5

Planning, coordinating, implementing and monitoring project activities.	5
Monitor and maintain a safe working environment.	5
Perform work analysis, breakdown of activities and allocate tasks.	5
Organise supplies/control of subcontractors.	5
Ensure compliance with statutory regulations and organizational QSE requirements.	4
Producing and communicate requirement specifications, technical specifications, procedures and reports.	4
Retrieve technical information by using computer aided techniques.	4
Ensure the implementation of engineering codes and standards.	4
Assess performance and identify measures and indicators to improve or correct performance.	4
Identify possible impacts and interactions with other related disciplines.	4
Define actions to improve safety culture based on operational feedback.	4
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Team working	6
Analytical thinking	5
Accountability	5
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	5
Problem solving	5
Conscientiousness	5
Decisiveness	5
Priority settings	5
Communication	5

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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
M. MARTÍN RAMOS	A. ABDELOUAS	5 <sup>TH</sup> ECVET WORKSHOP
08.04.2013	14.05.2013	13.11.2013



Ref	Job Title	Occupational Category
<b>3.3.04</b>	<b>Decommissioning Planner</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	-----	Specialist
Decommissioning Preparation		
Role / Functions		
<p>Design the plant modifications needed to proceed with the decommissioning. Establish the planning needed for the decommissioning process taking into account the priorities of the system to be decommissioned.</p>		
<ul style="list-style-type: none"> <li>• Design the plant modifications needed to adapt the systems to the decommissioning activities, attending to the following aspects: short design life / simplicity / adaptability / non-interference / waste management</li> <li>• Interact and co-ordinate with the relevant activities sections (Management, Decommissioning Operations, Dismantling, Demolition, Radiation Protection and Safety, Radioactive Waste) to avoid interference and ensure safety</li> <li>• Interact with the relevant specialists (Mechanical/Electrical/I&amp;C) to ensure a safe design</li> <li>• Elaborate the drawings and diagrams of the plant modifications.</li> <li>• Elaborate the technical specifications for the purchase of needed equipment and components and for the implementation of the modifications</li> <li>• Supervise the implementation of the modifications</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Decommissioning activities in a Nuclear installation		6
Recycling chains according to EU document Radiation Protection 122 for guidance on clearance		6
Tools and machinery for decommissioning		6
Nuclear safety principles and requirements		5
Safety Culture		5
Radiation Protection		5
Project management, planning methods and tools		5
Technical writing		5
Radioactive waste treatment systems		5
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		4
National and international codes and standards		4
Engineering graphics, drawings and diagrams		4
Occupational Safety and personal protective equipment		4
Quality assurance and control		4
ICT literacy		4
Operating experience		4
Financial planning		4
Industrial Safety		3

Hydraulic and pneumatic systems and components	3
HVAC systems	3
I&C systems	3
Electrical systems and components	3
<b>SKILLS (Technical and functional competence)</b>	<b>EQF level (1-8)</b>
Planning, coordinating, implementing and monitoring project activities.	6
Identify possible impacts and interactions with other related disciplines.	6
Producing and communicate requirement specifications, technical specifications, procedures and reports.	5
Identification of safety requirements.	5
Monitor and maintain a safe working environment.	5
Assess performance and identify measures and indicators to improve or correct performance.	5
Use and interpret engineering data and technical documentation.	4
Ensure compliance with statutory regulations and organisational QSE requirements.	4
Retrieve technical information by using computer aided techniques.	4
Ensure the implementation of engineering codes and standards.	4
Perform work analysis, breakdown of activities and allocate tasks.	4
Define actions to improve safety culture based on operational feedback.	4
Coordinate the maintenance of equipment (mechanical, electrical and Instrumentation and control).	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Team working	6
Analytical thinking	5
Accountability	5
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	5
Problem solving	5
Conscientiousness	5
Communication	5
Decisiveness	4

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
M CECLAN	M MARCO ARBOLI / S LANZA	5TH ECVET WORKSHOP
24.10.2012	14.05.2013	13.11.2013

Ref	Job Title	Occupational Category
<b>3.3.05</b>	<b>Decommissioning Supervisor</b>	Technician
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	-----	Specialist
Decommissioning Preparation		
Role / Functions		
<p>Responsible for the safe and efficient management of a team undertaking one or more specific phases related to nuclear decommissioning activities. The Decommissioning Supervisor manages, implements and monitors plant, equipment and personnel and ensures that decommissioning activities are performed according to schedule and adhering to Health &amp; Safety legislative requirements.</p>		
<ul style="list-style-type: none"> <li>• Manage and supervise a team delivering a decommissioning project, ensuring that key objectives are achieved.</li> <li>• Enable learning within the decommissioning team through demonstration, instruction and coaching.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Decommissioning processes for nuclear installations		6
Nuclear safety principles: Defence-in-Depth concept, Protective Barrier concept, redundancy, diversity, fail safe, spatial separation, self-monitoring and single failure criterion, safety classification of systems and components.		5
Regulation, codes, standards, policies and procedures in the nuclear field		5
Operating experience		5
Safety culture		5
Error prevention techniques and human performance tools		5
Decommissioning tools and equipment		5
Industrial and occupational safety		4
ICT literacy		4
Engineering data and documentation		4
NPP systems and components		4
Quality assurance		4
Radiation protection		4
Radioactive and hazardous waste management		4
SKILLS (Technical and functional competence)		EQF level (1-8)
Identify safety functional requirements.		5
Monitor and maintain a safe work environment.		5
Promote and ensure compliance with statutory regulations, technical specifications and project requirements.		5
Identify radiation protection requirements and apply radiation protection measures.		5
Compile and report information for management control and task assignment.		5
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.		5
Give clear instructions and guidance to the rest of members of the team.		5
Work planning and schedule		5

Analyse and interpret technical data and documentation.	4
Prepare reports using technical writing.	4
Monitor and maintain the quality of processes.	4
Communicate with other disciplines groups as needed to solve issues.	4
Supervise working activities.	
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Conscientiousness	5
Team working	5
Problem solving	5
Stress resistance	5
Accountability	5
Task allocation and work organisation	5
Team leadership	5
Decisiveness	5
Communication skills	4
Analytical thinking	4

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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
M. CECLAN	D. GIUFFRIDA	5 <sup>TH</sup> ECVET WORKSHOP
23.10.2012	14.05.2013	13.11.2013

Ref	Job Title	Occupational Category
<b>3.3.06</b>	<b>Decommissioning Operator</b>	Craft
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	---	Executive
Decommissioning Preparation		
Role / Functions		
<p>The decommissioning operator controls and operates equipment efficiently and safely. He reports and investigates deviations from routine operating conditions and deals with basic process upsets. He is also capable of minimising and transferring waste.</p>		
<ul style="list-style-type: none"> <li>• Prepare the work area for decommissioning activities.</li> <li>• Support and prepare alpha or beta/gamma radiation/contamination controlled work areas.</li> <li>• Operate ancillary equipment such as cranes, fork lift trucks etc.</li> <li>• Operate in a pressurised suit environment.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Decontamination and remediation		4
Operation of auxiliary equipment		4
Radiation Protection		3
Occupational and industrial safety		3
Safety culture		3
Conservation and maintenance of equipment and tools		3
Contamination containment systems and techniques		3
Dismantling techniques		3
ICT literacy		3
Statutory and regulatory requirements, codes, standards, procedures and practices		2
Nuclear installation systems		2
Radioactive waste treatment systems (the minimisation, packaging and removal of hazardous materials and transfer of materials to designated storage area)		2
SKILLS (Technical and functional competence)		EQF level (1-8)
Maintain tools, equipment and materials in a proper condition.		4
Use Personal Protective Equipment (PPEs).		4
Operate, maintain, monitor and adjust appropriate nuclear decommissioning equipment		4
Decontamination of radioactive plant and materials		4
Minimise and package radioactive wastes		4
Select and use equipment/tools for a specific job.		3
Identify equipment malfunction.		3
Maintain a safe working environment.		3
Understand and follow instructions and procedures.		3
Removal and transfer radioactive and hazardous materials etc. to designated storage locations		3
Produce brief technical reports on tasks performed and fill in checklists.		2

Comply with statutory requirements, codes and standards.	2
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Manual dexterity	4
Accuracy / Eye for detail	4
Team working	4
Discipline	4
Accountability	4
Work independently subject to overall direction or guidance	4
Safety attitude	3
Stress resistance	3
Communication skills – ability to understand and to be understood	3

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
M. CECLAN	D. GIUFFRIDA	5 <sup>TH</sup> ECVET WORKSHOP
24.10.2012	14.05.2013	13.11.2013

Ref	Job Title	Occupational Category
<b>3.3.07</b>	<b>Decommissioning Worker</b>	Craft
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	Mechanical/Electrical/I&C Decommissioning Worker	Executive
Decom Preparation		
Role / Functions		
<p>Execution of operational decommissioning works. On site sorting and handling of the radioactive and hazardous waste generated by equipment decommissioning.</p> <ul style="list-style-type: none"> <li>• Prepare the workplace for safe decommissioning of mechanical/electrical/I&amp;C equipment under supervision.</li> <li>• Construct scaffolding or erect containment areas prior to mechanical/electrical/I&amp;C equipment decommissioning.</li> <li>• Execute cutting, demolition and removal of equipment under supervision.</li> <li>• React to emergencies with presence of radioactive contamination.</li> <li>• Perform the work following written procedures under the supervision.</li> <li>• Clean the work place, and remove any radioactive or contaminated materials.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Occupational and industrial safety		3
Statutory and regulatory requirements, codes, standards, procedures and practices		3
Safety culture		3
Conservation and maintenance of equipment and tools		3
Decontamination and remediation		3
Contamination containment systems and techniques		3
Dismantling techniques		3
Radiation Protection		2
Nuclear installation systems		2
Industrial safety and security		2
Radioactive waste treatment systems		1
SKILLS (Technical and functional competence)		EQF level (1-8)
Maintain tools, equipment and materials in a proper condition.		2-3
Put in service mechanical/electrical equipment.		2-3
Fit mechanical and electrical equipment.		2-3
Perform radioactive waste packaging.		2-3
Read and interpret engineering drawings.		1-2
Select and use equipment/tools for a specific job.		3
Identify equipment malfunction.		3
Produce brief technical reports on tasks performed and fill in checklists.		3
Maintain a safe working environment.		4
Understand and follow instructions and procedures.		4
Comply with statutory requirements, codes and standards.		3

Use Personal Protective Equipment (PPEs).	3
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Safety attitude	4
Team working	4
Manual dexterity	3
Accuracy / Eye for detail	3
Accountability	3
Discipline	2
Stress resistance	2
Communication skills – ability to understand and to be understood	2
Conscientiousness	2

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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
M. MARTÍN RAMOS	D. GIUFFRIDA	5 <sup>TH</sup> ECVET WORKSHOP
24.02.2012	14.05.2013	13.11.2013



Ref	Job Title	Occupational Category
<b>3.4.01</b>	<b>Dismantling Planner</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	-----	Specialist
Dismantling		
Role / Functions		
To plan / program the dismantling activities.		
<ul style="list-style-type: none"> <li>Assist the decommissioning project manager in the preparation of detailed dismantling planning.</li> <li>To analyse and break down the nuclear facility end-of-life dismantling/disassembly in selective activities, estimate its duration, and decide the workforce needed.</li> <li>To ensure the coordination of the dismantling teams.</li> <li>Reports to the decommissioning project manager.</li> <li>Prepare planning in compliance with statutory standards and nuclear safety and security principles (radiation protection, waste management, fire...).</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Nuclear safety principles and requirements		6
Project management, planning methods and tools		6
Team management		6
Nuclear facility disassembly of end-of-life as a phase in a complex recycling chain		6
Optimizing the design of recycling chains		6
National and international codes and standards		5
Safety Culture		5
Engineering graphics, drawings and diagrams		5
Occupational Safety and personal protective equipment		5
Quality assurance and control		5
Tools and machinery for dismantling		5
Radioactive waste treatment systems		5
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		4
ICT literacy		4
Technical writing		4
Operating experience		4
Radiation Protection		3
Industrial Safety		3
Hydraulic and pneumatic systems and components		3
I&C systems		3
Electrical systems (buses, transformers, switches, breakers, batteries)		3
HVAC systems (conducts, blowers, fans, valves, filters, heaters, coolers, etc)		3
SKILLS (Technical and functional competence)		EQF level (1-8)

Planning, coordinating, implementing and monitoring project activities.	6
Perform work analysis, breakdown of activities and allocate tasks.	6
Ensure compliance with statutory regulations and organisational QSE requirements.	5
Identification of safety requirements.	5
Ensure the implementation of engineering codes and standards.	5
Monitor and maintain a safe working environment.	5
Assess performance and identify measures and indicators to improve or correct performance.	5
Identify possible impacts and interactions with other related disciplines.	5
Define actions to improve safety culture based on operational feedback.	5
Use and interpret engineering data and technical documentation.	4
Producing and communicate requirement specifications, technical specifications, procedures and reports.	4
Retrieve technical information by using computer aided techniques.	4
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Team working	6
Conscientiousness	5
Analytical thinking	4
Accountability	4
Problem solving	4
Decisiveness	4
Team leadership	4

NOTES
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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
M. CECLAN	S. LANZA	4 <sup>TH</sup> ECVET WORKSHOP
24.02.2012	26.03.2013	15.05.2013

Ref	Job Title	Occupational Category
<b>3.4.02</b>	<b>Dismantling Supervisor</b>	Technician
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	Dismantling Team Leader / Foreman	Specialist
Dismantling		
Role / Functions		
To lead and supervise a team of workers in specific works of decommissioning.		
<ul style="list-style-type: none"> <li>Analyse and break down assigned objectives in work activities and tasks, estimate their duration, and decide the workforce needed.</li> <li>Brief the workers on the specific work and activities to be performed.</li> <li>Distribute tasks among the workers of the team.</li> <li>Supervise work activities, verifying that it is performed effectively and safely.</li> <li>Inspect that result of the work has been accomplished.</li> <li>Regularly communicate with and report to the dismantling planner</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Dismantling techniques		6
Nuclear safety principles: Defence-in-Depth concept, Protective Barrier concept, redundancy, diversity, fail safe, spatial separation, self-monitoring and single failure criterion, safety classification of systems and components.		5
Regulation, codes, standards, policies and procedures in the nuclear field		5
Operating experience		5
Quality assurance		5
Error prevention techniques and human performance tools		5
Tools and machinery		5
Engineering data and documentation		4
Safety culture		4
NPP systems and components		4
Decommissioning processes for nuclear installations		4
Radioactive and hazardous waste management		4
Industrial and occupational safety		3
ICT literacy		3
Radiation protection		3
SKILLS (Technical and functional competence)		EQF level (1-8)
Identify safety functional requirements.		5
Monitor and maintain a safe work environment.		5
Monitor and maintain the quality of processes.		5
Promote and ensure compliance with statutory regulations, technical specifications and project requirements.		5
Supervise working activities.		5
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.		5
Give clear instructions and guidance to the rest of members of the team.		5
Inspection of equipment (electrical, mechanical)		5

Analyse and interpret technical data and documentation.	4
Prepare reports using technical writing.	4
Identify radiation protection requirements and apply radiation protection measures.	4
Communicate with other disciplines groups as needed to solve issues.	4
Compile and report information for management control and task assignment.	4
Maintenance, service and repair of equipment (mechanical, electrical and I&C)	4
Work planning and schedule	4
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Conscientiousness	4
Problem solving	4
Communication skills	4
Task allocation and work organisation	4
Team leadership	4
Decisiveness	4
Team working	
Stress resistance	
Accountability	
Analytical thinking	

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
M. CECLAN	D. GIUFFRIDA	5 <sup>TH</sup> ECVET WORKSHOP
24.02.2012	14.05.2013	14.11.2013

Ref	Job Title	Occupational Category
<b>3.4.03</b>	<b>Dismantling Worker</b>	Craft
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	Mechanical / Electrical / I&C / Worker	Executive
Dismantling	Handler of heavy machinery	
Role / Functions		
Dismantle mechanical / electrical / I&C equipment, remove, package, handling and storage (in site) the radioactive and non-radioactive waste generated during the dismantling.		
<ul style="list-style-type: none"> <li>• Perform the work place for safe dismantling of mechanical / electrical / I&amp;C equipment under the supervision of the Team leader.</li> <li>• Erect containment areas prior to mechanical/electrical/I&amp;C equipment dismantling.</li> <li>• Dismantle or break down contaminated mechanical / electrical / I&amp;C equipment (using suitable technologies or hand tools for equipment dismantling) with the view of reusing it or to handle it as radioactive waste.</li> <li>• Handling of heavy machinery for dismantling.</li> <li>• Respond to emergencies.</li> <li>• Implement the work according to work order and under supervision of the team leader.</li> <li>• Clean the work place, and collect and remove any radioactive or contaminated materials.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Safety culture		3
Conservation and maintenance of equipment and tools		3
Decontamination and remediation		3
Contamination containment systems and techniques		3
Dismantling techniques		3
Radiation Protection		2
Occupational and industrial safety		2
Statutory and regulatory requirements, codes, standards, procedures and practices		2
Nuclear installation systems		2
Industrial safety and security		2
Radioactive waste treatment systems		1
SKILLS (Technical and functional competence)		EQF level (1-8)
Maintain tools, equipment and materials in a proper condition.		3
Identify equipment malfunction.		3
Maintain a safe working environment.		3
Understand and follow instructions and procedures.		3
Use Personal Protective Equipment (PPEs).		3
Perform radioactive waste handling and packaging.		3
Select and use equipment/tools for a specific job.		2
Produce brief technical reports on tasks performed and fill in checklists.		2
Comply with statutory requirements, codes and standards.		2
Read and interpret engineering drawings.		2
COMPETENCE (Attitude; behavioural and personal competence)		EQF level (1-8)

Manual dexterity	3
Accuracy / Eye for detail	3
Safety attitude	3
Team working	3
Accountability	3
Discipline	2
Stress resistance	2
Communication skills – ability to understand and to be understood	2
Conscientiousness	2

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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
M. CECLAN	M. MARCO ARBOLI / S. LANZA	5 <sup>TH</sup> ECVET WORKSHOP
24.02.2012	14.05.2013	14.11.2013

Ref	Job Title	Occupational Category
<b>3.5.01</b>	<b>Demolition Planner</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	-----	Specialist
Demolition		
Role / Functions		
<p>Plans the demolition activities in accordance with the NPP decommissioning plan (e.g. endpoints, schedule, costs, human resources) Ensures coordination of the demolition activities and the implementation in accordance with the relevant safety standards and licensing conditions</p>		
<ul style="list-style-type: none"> <li>Plans the demolition activities and their management (e.g. nuclear site staff, subcontractors), optimises the resources and ensures that the application of the ALARA, defence in depth and other safety principles in place.</li> <li>Plans systems, processes, tools and resources for demolition activities (e.g. taking into account the need for radioactive waste minimisation) and provides justification of the selected options to regulators and other stakeholders, as required.</li> <li>Develops and implements demolition control procedures and necessary staff training, in line with the NPP management system, national legislation, international safety standards and best demolition practice.</li> <li>Develops demolition schedules in line with the decommissioning project schedule, and identifies milestones and potential critical/problem areas.</li> <li>Analyses critical paths and restraints and integrates relevant safety, technical and other demolition requirements to establish logical work sequences and demolition programme/individual tasks.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Nuclear safety principles and requirements		6
Radiation Protection		6
Project management, planning methods and tools		6
Demolition techniques, tools and practices at nuclear facilities		6
National and international codes and standards		5
Safety Culture		5
Occupational Safety and personal protective equipment		5
Project schedule analysis and development		5
Radiological and industrial hazards associated with demolition		5
Regulatory and site requirements for demolition activities		5
Planning tools		5
Engineering graphics, drawings and diagrams		4
Industrial Safety		4
Quality assurance and control		4
ICT literacy		4
Technical writing		4
Operating experience		4
Quality assurance and control		4
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and		3

control system, electrical systems	
Cost evaluation	3
SKILLS (Technical and functional competence)	EQF level (1-8)
Identification of safety requirements.	6
Planning, coordinating, implementing and monitoring project activities.	6
Ensure the implementation of engineering codes and standards.	6
Monitor and maintain a safe working environment.	6
Perform work analysis, breakdown of activities and allocate tasks.	6
Ensure compliance with statutory regulations and organisational QSE requirements.	5
Producing and communicate requirement specifications, technical specifications, procedures and reports.	5
Assess performance and identify measures and indicators to improve or correct performance.	5
Identify possible impacts and interactions with other related disciplines.	5
Define actions to improve safety culture based on operational feedback.	5
Use and interpret engineering data and technical documentation.	4
Retrieve technical information by using computer aided techniques.	4
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Accountability	6
Project delivery focus	6
Analytical thinking	5
Team working	5
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	5
Problem solving	5
Conscientiousness	5
Decisiveness	5
Communication	5

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
B. BATANDJEVA	M. CECLAN	5 <sup>TH</sup> WORKSHOP
22.10.2012	14.05.2013	14.11.2013



Ref	Job Title	Occupational Category
<b>3.5.02</b>	<b>Demolition Civil Engineer</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	-----	Specialist
Demolition		
Role / Functions		
To provide technical and engineering support for demolition activities in accordance with the decommissioning plan, procedures, national legislation and international standards and best practice.		
<ul style="list-style-type: none"> <li>To prepare and implement the demolition procedures.</li> <li>To select and ensure that the necessary equipment and tools for demolition of buildings and structures are in place.</li> <li>To coordinate the demolition working teams.</li> <li>To support the decommissioning process through resolution of technical problems related to demolition in line with the safety and technical standards and best practice.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Civil Engineering		6
Demolition technologies and tools		6
National and international codes and standards		5
Safety Culture		5
Industrial Safety		5
Occupational Safety and personal protective equipment		5
Nuclear safety principles and requirements		4
Engineering graphics, drawings and diagrams		4
Quality assurance and control		4
Project management, planning methods and tools		4
ICT literacy		4
Technical writing		4
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		3
Operating experience		3
Nuclear installation design		3
Radiation Protection		2
Radioactive waste management		2
SKILLS (Technical and functional competence)		EQF level (1-8)
Ensure compliance with statutory regulations and organisational QSE requirements.		6
Identification of safety requirements.		6
Ensure the implementation of engineering codes and standards.		6
Development of plans and procedures for demolition of buildings and structures		6
Analyse and solve demolition problems and tasks, and provide innovative solutions		6

Monitor implementation of demolition plans and procedures to ensure compliance with project schedules, safety procedures and legislation.	6
Producing and communicate requirement specifications, technical specifications, procedures and reports.	5
Monitor and maintain a safe working environment.	5
Identify possible impacts and interactions with other related disciplines.	5
Define actions to improve safety culture based on operational feedback.	5
Use and interpret engineering data and technical documentation.	4
Planning, coordinating, implementing and monitoring project activities.	4
Retrieve technical information by using computer aided techniques.	4
Perform work analysis, breakdown of activities and allocate tasks.	4
Assess performance and identify measures and indicators to improve or correct performance.	4
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Team working	6
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	6
Decisiveness	6
Analytical thinking	5
Problem solving	5
Conscientiousness	5
Accountability	4

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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
B. BATANDJEVA	R. SILVERII	5 <sup>TH</sup> NJT WORKSHOP
23.10.2012	14.05.2013	14.11.2013

Ref	Job Title	Occupational Category
<b>3.5.03</b>	<b>Demolition Worker</b>	Craft
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	-----	Executive
Demolition		
Role / Functions		
<p>The operator carries out demolition tasks respecting the planning stages. He/she uses demolition equipment (heavy or not, remote or not) and respects the demolition process. The operator uses devices to reduce the dust level in the work area. He/she removes materials resulting from demolition in accordance with the evacuation procedures.</p>		
<ul style="list-style-type: none"> <li>• Use and implement equipment/tool for demolition, technical standards and best practices selected by the demolition engineer.</li> <li>• Ensure demolition operations.</li> <li>• Care and housekeeping of the demolition equipment and tools.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Statutory and regulatory requirements, codes, standards, procedures and practices		4
Safety culture		4
Conservation and maintenance of equipment and tools		4
Occupational and industrial safety		3
Demolition tools, equipment and technologies		3
Resistance of structure		3
Radiation Protection		1
Radioactive waste management system		1
Nuclear culture		1
SKILLS (Technical and functional competence)		EQF level (1-8)
Maintain tools, equipment and materials in a proper condition.		4
Maintain a safe working environment.		4
Comply with statutory requirements, codes and standards.		4
Assemble and dismantle demolition equipment.		4
Perform metal cutting.		4
Use pneumatic hammers/breakers.		4
Use hydraulic tools.		4
Use explosives.		4
Handle and use diamond saw.		4
Install scaffolding.		4
Select and use equipment/tools for a specific job.		3
Identify equipment malfunction.		3
Understand and follow instructions and procedures.		3
Use Personal Protective Equipment (PPEs).		3
Minimise and pack rubble and other demolition waste.		3

Produce brief technical reports on tasks performed and fill in checklists.	2
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Accuracy / Eye for detail	4
Safety attitude	4
Manual dexterity	3
Team working	3
Discipline	3
Stress resistance	3
Accountability	3
Problem solving	3
Communication skills – ability to understand and to be understood	2

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
P. LIVOLSI	M. MARTÍN RAMOS	5 <sup>TH</sup> ECVET WORKSHOP
25.10.2012	07.05.2013	14.11.2012

Ref	Job Title	Occupational Category
<b>3.6.01</b>	<b>Clean-up Supervisor</b>	Technician
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	-----	Specialist
Site Clean-up		
Role / Functions		
<p>The clean-up supervisor has to organise and supervise the work of the clean-up workers, to ensure that the site is cleaned on a regular basis, taking into consideration also punctual cleaning needs. He or she has to manage and organise the cleaning supplies, tools and machines.</p>		
<p>The clean-up supervisor has to organise and supervise the work of the clean-up workers, to ensure that the site is cleaned on a regular basis, taking into consideration also punctual cleaning needs. He or she has to manage and organise the cleaning supplies, tools and machines.</p> <ul style="list-style-type: none"> <li>• Organise the work of the clean-up workers to ensure ordinary (non-radiological) cleanliness and hygiene of the site, allowing for supplementary cleaning actions if needed.</li> <li>• Supervise the work of the clean-up workers.</li> <li>• Keep track of the stock and manage the supply of cleaning products and agents.</li> <li>• Keep track of and manage the status of the cleaning tools and machines.</li> <li>• Supervise the status of the storage and conservation of cleaning products, agents, tools and machines.</li> <li>• Organise and control the collection and cleaning of the protective clothes.</li> <li>• Manage the liquid and solid wastes produced during the clean-up.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Cleaning products, tools and machines		3
Conservation and maintenance of cleaning tools and machines		3
Conservation, storage and stock management of cleaning products and agents		3
Engineering data and documentation		2
Error prevention techniques and human performance tools		3
General management		3
ICT literacy		3
Industrial and occupational safety		3
NPP systems and components		3
Nuclear safety principles: Defence-in-Depth concept, Protective Barrier concept, redundancy, diversity, fail safe, spatial separation, self-monitoring and single failure criterion, safety classification of systems and components.		3
Operating experience		3
Quality assurance		3
Radiation protection		3
Regulation, codes, standards, policies and procedures in the nuclear field		3
Safety culture		3
Site specific hazards and procedures		3
SKILLS (Technical and functional competence)		EQF level (1-8)
Identify safety functional requirements.		3
Monitor and maintain a safe work environment.		3
Monitor and maintain the quality of processes.		3

Promote and ensure compliance with statutory regulations, technical specifications and project requirements.	3
Compile and report information for management control and task assignment.	3
Supervise working activities.	3
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	3
Give clear instructions and guidance to the rest of members of the team.	3
Planning and scheduling	3
Management of supplies	3
Analyse and interpret technical data and documentation.	2
Prepare reports using technical writing.	2
Identify radiation protection requirements and apply radiation protection measures.	2
Communicate with other disciplines groups as needed to solve issues.	2
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Conscientiousness	3
Team working	3
Communication skills	3
Stress resistance	3
Accountability	3
Task allocation and work organisation	3
Team leadership	3
Environmental awareness	3
Problem solving	2
Analytical thinking	2

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
M. MARTÍN RAMOS	D. GIUFFRIDA	5 <sup>TH</sup> ECVET WORKSHOP
08.04.2013	14.05.2013	14.11.2013

Ref	Job Title	Occupational Category
<b>3.6.02</b>	<b>Clean-up Worker</b>	Craft
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	-----	Executive
Site Clean-up		
Role / Functions		
The clean-up worker has the duty to clean equipment, structures, floors, ceilings and walls; to take care, conserve and maintain the cleaning equipment, products and agents.		
<p>The clean-up worker has the duty to clean equipment, structures, floors, ceilings and walls; to take care, conserve and maintain the cleaning equipment, products and agents.</p> <ul style="list-style-type: none"> <li>To clean up equipment, structures, floors, ceilings, windows and walls, using the appropriate techniques, cleaning products or agents, tools, and machines.</li> <li>To take care of and maintain the cleaning tools, equipment and machines.</li> <li>To safely organise the storage of the cleaning products and agents.</li> <li>To dispose responsibly and safely of the cleaning products and cleaning agents, respecting the corresponding environmental restrictions in force.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Statutory and regulatory requirements, codes, standards, procedures and practices		3
Safety culture		3
Occupational and industrial safety		2
Conservation and maintenance of equipment and tools		2
Cleaning products, tools and machines		2
Conservation and storage of cleaning products and agents		2
Industrial safety - handling of hazardous products		2
Site specific hazards and procedures		2
Radiation Protection		1
SKILLS (Technical and functional competence)		EQF level (1-8)
Maintain tools, equipment and materials in a proper condition.		4
Maintain a safe working environment.		4
Understand and follow instructions and procedures.		4
Comply with statutory requirements, codes and standards.		4
Select and use equipment/tools for a specific job.		3
Use Personal Protective Equipment (PPEs).		3
Identify equipment malfunction.		2
Produce brief technical reports on tasks performed and fill in checklists.		2
Use cleaning products, agents, tools and machines in a safe and efficient manner.		2
Manage of waste produced safely and efficiently.		2
COMPETENCE (Attitude; behavioural and personal competence)		EQF level (1-8)
Safety attitude		4
Manual dexterity		3
Team working		3

Discipline	3
Accuracy / Eye for detail	2
Stress resistance	2
Accountability	2
Communication skills – ability to understand and to be understood	2
Environmental awareness	2

<b>NOTES</b>
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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
M. MARTÍN RAMOS	D GIUFFRIDA	5 <sup>TH</sup> ECVET WORKSHOP
08.04.2013	17.05.2013	14.11.2013



Ref	Job Title	Occupational Category
<b>3.7.01</b>	<b>Radioactive Waste Manager</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	-----	Management
Radioactive Waste		
Role / Functions		
Responsible for the management and safe treatment, storage and handling of radioactive waste, related to decommissioning activities.		
<ul style="list-style-type: none"> <li>Responsible for the elaboration of the radioactive waste management programme of the decommissioning site.</li> <li>Manages the waste management programme according to the safety, schedule and cost objectives required in the national legislation.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Project management software		6
General management: budget, human resources, defining organisational objectives and strategies, business improvement, planning, monitoring, evaluating		6
Integrated management system: quality, health & safety, environment, information security		6
Radioactive waste management		6
National and international legal framework and licensing		5
Safety culture principles		5
Safety and security management		5
Radiation protection		5
Emergency preparedness and emergency response		5
Radiological incidents evaluation and control		5
Nuclear safety and nuclear safety principles		4
Industrial safety		4
Technical fundamentals: mechanical, electrical, I&C engineering principles		4
Nuclear power plant: reactor fundamentals, plant systems description		4
Operating experience		4
Human error prevention techniques		4
Performance improvement methods		4
ICT literacy		4
Communication techniques: negotiation, presentation, writing		4
Knowledge of nuclear installations and fuel cycle		4
Radioactive material transport		4
Risk assessment		3
SKILLS (Technical and functional competence)		EQF level (1-8)
Compile and analyse legal requirements to ensure and promote compliance with statutory regulations.		5
Manage activities to the highest standards of safety, security, quality, reliability and efficiency.		5

Monitor and maintain a safe working environment.	5
Lead and enforce safety culture.	5
Interface with managers from other disciplines and/or from external organisations.	5
Promote and implement continuous improvement tools.	5
Support the development of quality plans and monitor and maintain quality compliance.	5
Coordinate response to non-conformities and to unexpected events.	5
Develop business plans and forecast needed resources such as materials and manpower utilization.	5
Organize and manage teams: keep track of personnel professional development, identify training needs, select new employees, monitor performance of each team, evaluate and report suitability and availability of those within the allocated teams, allocate professional roles, mentor and coach employees, establish duties and responsibilities, ensure proper levels of guidance and direction.	5
Classify information according to security criteria.	5
Stay updated on changes on the market, regulations and new operating experience to identify market trends, best practices and/or emerging regulatory issues.	4
Plan, schedule and monitor activities by using suitable management tools to ensure timely completion within budget.	4
Conduct commercial follow-up of contracts.	4
Create and participate in professional contact networks.	3
Prepare bid and tender enquiries.	3
Negotiate contract conditions covering all possible contingencies.	3
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Leadership	6
Organisational skills	6
Multitasking and priority setting	6
Decision making	6
Communication skills	5
Accountability	5
Stress resistance	5
Problem solving	5
Conflict resolution	4
Analytical thinking	4

NOTES
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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
M. PALMU	M. CECLAN	4TH ECVET WORKSHOP
24.02.2012	19.04.2013	15.05.2013

Ref	Job Title	Occupational Category
<b>3.7.02</b>	<b>Radioactive Waste Manager-characterisation</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	-----	Specialist
Radioactive Waste		
Role / Functions		
<p>Responsible of characterization and classification of all radioactive waste from the decommissioning process.</p> <ul style="list-style-type: none"> <li>Produce the technical specifications and procedures for characterization and classification of the radioactive wastes in cooperation with the Radiation Protection in compliance with the national legislation and requirements.</li> <li>Characterize and classify the waste according to the technical specifications and procedures.</li> <li>Produce the procedures for the quality assurance of the waste characterisation processes.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Radiation Protection		6
Analytical chemistry		6
Equipment and techniques for radionuclide identification and quantification		6
Statistics and data analysis		6
National and international codes and standards		5
Safety Culture		5
Occupational Safety and personal protective equipment		5
Quality assurance and control		5
Project management, planning methods and tools		5
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		4
Nuclear safety principles and requirements		4
Engineering graphics, drawings and diagrams		4
Industrial Safety		4
ICT literacy		4
Technical writing		4
Operating experience		4
Radiological Contamination		4
Radiological hazard analysis		4
Nuclear and radiation science		3
Emergency Preparedness		3
SKILLS (Technical and functional competence)		EQF level (1-8)
Planning, coordinating, implementing and monitoring project activities.		6
Monitor and maintain a safe working environment.		6
Perform work analysis, breakdown of activities and allocate tasks.		6
Using radiation control and measurement equipment		6

Produce detailed analysis reports	6
Write technical specifications and procedures	6
Ensure compliance with statutory regulations and organisational QSE requirements.	5
Producing and communicate requirement specifications, technical specifications, procedures and reports.	5
Identification of safety requirements.	5
Ensure the implementation of engineering codes and standards.	5
Assess performance and identify measures and indicators to improve or correct performance.	5
Define actions to improve safety culture based on operational feedback.	5
Monitor and maintain a safe working environment	5
Use and interpret engineering data and technical documentation.	4
Retrieve technical information by using computer aided techniques.	4
Identify possible impacts and interactions with other related disciplines.	4
Apply appropriate radiation measurements for preliminary sample sorting	4
Computer literacy and use of database program(s)	4
Schedule working processes and prioritise tasks - (time management)	4
Complying with statutory regulations and organisational safety requirements	4
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Analytical thinking	6
Accountability	6
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	6
Communication	6
Conscientiousness	5
Team working	4
Problem solving	4
Decisiveness	4

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
M. PALMU	S. LANZA	4 <sup>TH</sup> NJT WORKSHOP
24.02.2012	26.03.2013	15.05.2013

Ref	Job Title	Occupational Category
<b>3.7.03</b>	<b>Radioactive Waste Manager- processing</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	Rad-waste Engineer- handling-processing-storage	Specialist
Radioactive Waste		
Role / Functions		
Ensure safe processing, handling (on-site), storage of all types of solid and liquid radioactive waste generated during decommissioning.		
<ul style="list-style-type: none"> <li>• Management of sorting, pre-treatment, treatment, conditioning and packaging, handling, transport and storing of all types of radioactive waste in accordance with the procedures and in compliance with the established waste acceptance criteria for storage or disposal.</li> <li>• Where non-compliance with the acceptance criteria is detected, takes corrective measures according to approved procedures.</li> <li>• Implementation of licensing conditions and prescriptions of the regulatory and other authorities.</li> <li>• Preparation and update of records for all types of waste, and any incidents or accidents related to waste processing, handling or storage on the site according to the quality system.</li> <li>• Development and update of the working instructions and procedures in accordance with the approved decommissioning plan.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
(Pre-) Treatment of solid / liquid radioactive wastes		6
Management of hazardous chemical and radioactive wastes		6
Safety Culture		5
Occupational Safety and personal protective equipment		5
Quality assurance and control		5
Storage types and requirements for liquid and solid waste		5
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		4
Nuclear safety principles and requirements		4
National and international codes and standards		4
Engineering graphics, drawings and diagrams		4
Radiation Protection		4
Industrial Safety		4
Project management, planning methods and tools		4
ICT literacy		4
Technical writing		4
Operating experience		4
Nuclear engineering		4
Emergency response and management of emergency situations		4
Radioactive waste transport and disposal concepts and acceptance criteria		4
SKILLS (Technical and functional competence)		EQF level (1-8)

Identification of safety requirements.	6
Monitor and maintain a safe working environment.	6
Producing and communicate requirement specifications, technical specifications, procedures and reports.	5
Planning, coordinating, implementing and monitoring project activities.	5
Ensure the implementation of engineering codes and standards.	5
Perform work analysis, breakdown of activities and allocate tasks.	5
Assess performance and identify measures and indicators to improve or correct performance.	5
Define actions to improve safety culture based on operational feedback.	5
Use and interpret engineering data and technical documentation.	4
Ensure compliance with statutory regulations and organisational QSE requirements.	4
Retrieve technical information by using computer aided techniques.	4
Identify possible impacts and interactions with other related disciplines.	4
Coordinate testing of waste and waste packages.	4
Coordinate of work activities to guarantee the safety and security conditions.	4
Coordinate the operation and monitoring of computer-controlled equipment.	4
Record keeping and reporting.	4
Respond to radiation incidents.	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Accountability	5
Conscientiousness	5
Analytical thinking	4
Team working	4
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	4
Problem solving	4
Decisiveness	4

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
B. BANTANDJEVA	M. CECLAN	4TH NJD WORKSHOP
24.02.2012	20.03.2013	16.05.2013

Ref	Job Title	Occupational Category
<b>3.7.04</b>	<b>Radioactive Waste Worker - characterisation</b>	Technician
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	Rad-Waste Worker: classification-characterisation-clearance	Executive
Radioactive Waste		
Role / Functions		
Perform tasks related to measurement and registering of the physical-chemical and radiological properties and subsequent classification of radioactive waste.		
<ul style="list-style-type: none"> <li>Perform the physic-chemical and radiological characterisation of the waste.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Radiation measurement equipment (measurement, verification)		4
Use of equipment for physical-chemical measurements (conductivity, acidity, organics, gas)		4
Industrial and occupational safety		3
Safety culture		3
Quality assurance		3
Radiation protection		3
Error prevention techniques and human performance tools		3
Waste acceptance criteria (physical and radiological criteria)		3
Nuclear safety principles: Defence-in-Depth concept, Protective Barrier concept, redundancy, diversity, fail safe, spatial separation, self-monitoring and single failure criterion, safety classification of systems and components.		2
Regulation, codes, standards, policies and procedures in the nuclear field		2
Operating experience		2
ICT literacy		2
Engineering data and documentation		2
NPP systems and components		2
SKILLS (Technical and functional competence)		EQF level (1-8)
Use of radiation measurement equipment		4
Registering/documenting/database		4
Use of crane and handling equipment		3
Application of procedures for radioactive material handling		3
Analyse and interpret technical data and documentation.		2
Identify safety functional requirements.		2
Monitor and maintain a safe work environment.		2
Prepare reports using technical writing.		2
Monitor and maintain the quality of processes.		2
Promote and ensure compliance with statutory regulations, technical specifications and project requirements.		2
Identify radiation protection requirements and apply radiation protection measures.		2

Communicate with other disciplines groups as needed to solve issues.	2
Compile and report information for management control and task assignment.	2
Supervise working activities.	2
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	2
Give clear instructions and guidance to the rest of members of the team.	2
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Conscientiousness	3
Team working	3
Accountability	3
Analytical thinking	3
Problem solving	2
Communication skills	2
Stress resistance	2
Task allocation and work organisation	2

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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
M. MARTÍN RAMOS	A. ABDELOUAS	5 <sup>TH</sup> ECVET WORKSHOP
08.04.2013	14.05.2013	14.11.2013



Ref	Job Title	Occupational Category
<b>3.7.05</b>	<b>Radioactive Waste Worker-processing</b>	Technician
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	Rad-Waste Worker: handling-processing-storage	Executive
Radioactive Waste		
Role / Functions		
Perform tasks related to processing, handling (on-site), storage of all types of solid and liquid radioactive waste generated during decommissioning (including clean-up of a site):		
<ul style="list-style-type: none"> <li>Performing pre-treatment, treatment and conditioning of all types of radioactive waste in accordance with the procedures.</li> <li>Handling of all types of radioactive waste on the territory of the site.</li> <li>Emplacement of all types of waste in safe storage at dedicated facilities at the site.</li> <li>Check of compliance of the radioactive waste (packages) for processing, handling and storage with the records/documentation.</li> <li>Where non-compliance with the acceptance criteria is detected, reporting the need for corrective measures according to approved procedures.</li> <li>Recording all types of waste, and any incidents or accidents related to waste processing, handling or storage on the site.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Techniques and requirements for solid/liquid radioactive waste pre-treatment, treatment and conditioning		4
Storage types and requirements for liquid and solid waste		4
Industrial and occupational safety		3
Operating experience		3
Safety culture		3
Quality assurance		3
Error prevention techniques and human performance tools		3
Physic-chemistry of solid/liquid waste		3
Nuclear safety principles: Defence-in-Depth concept, Protective Barrier concept, redundancy, diversity, fail safe, spatial separation, self-monitoring and single failure criterion, safety classification of systems and components.		2
Regulation, codes, standards, policies and procedures in the nuclear field		2
ICT literacy		2
Engineering data and documentation		2
NPP systems and components		2
Radiation protection		2
Waste acceptance and transport criteria		2
Radiation detection and instrumentation		2
Emergency procedures		2
SKILLS (Technical and functional competence)		EQF level (1-8)
Monitor and maintain a safe work environment.		4
Apply confinement, treatment, conditioning and packaging technologies.		4
Identify safety functional requirements.		3
Promote and ensure compliance with statutory regulations, technical specifications		3

and project requirements.	
Identify radiation protection requirements and apply radiation protection measures.	3
Analyse and interpret technical data and documentation.	2
Prepare reports using technical writing.	2
Monitor and maintain the quality of processes.	2
Communicate with other disciplines groups as needed to solve issues.	2
Compile and report information for management control and task assignment.	2
Supervise working activities.	2
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	2
Give clear instructions and guidance to the rest of members of the team.	2
Perform visual and other tests of waste and waste packages.	2
Monitor radiation conditions during work activities.	2
Respond to radiation incidents.	2
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Team working	3
Stress resistance	3
Accountability	3
Capability to analyse, structure and record technical data	3
Conscientiousness	2
Problem solving	2
Communication skills	2
Task allocation and work organisation	2
Analytical thinking	2

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
B. BATANDJEVA	A. ABDELOUAS	5 <sup>TH</sup> ECVET WORKSHOP
24.02.2012	14.05.2013	14.11.2013

Ref	Job Title	Occupational Category
<b>3.7.07</b>	<b>Transport Responsible</b>	Craft
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	Rad-Waste Worker: handling-processing-storage	Executive
Radioactive Waste		
Role / Functions		
Perform tasks related to processing, handling (on-site), storage of all types of solid and liquid radioactive waste generated during decommissioning.		
Perform tasks related to processing, handling (on-site), storage of all types of solid and liquid radioactive waste generated during decommissioning. <ul style="list-style-type: none"> <li>Choose the equipment and apply the procedures for the safe and efficient transport of radioactive materials.</li> <li>Handle the radioactive waste packages (load, transport, unload, allocate) according to procedures.</li> <li>Service the transport means and materials.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Occupational and industrial safety		3
Statutory and regulatory requirements, codes, standards, procedures and practices		3
Safety culture		3
Conservation and maintenance of equipment and tools		3
Radioactive waste Management (waste classification, handling, packaging)		3
Transport equipment and regulations		3
Radiation Protection		2
Safety and radioprotection (irradiation, contamination, chemical pollution)		2
SKILLS (Technical and functional competence)		EQF level (1-8)
Select and use equipment/tools for a specific job.		3
Maintain tools, equipment and materials in a proper condition.		3
Understand and follow instructions and procedures.		3
Comply with statutory requirements, codes and standards.		3
Use of waste package loading/unloading equipment (forklifts, cranes).		3
Identify equipment malfunction.		2
Produce brief technical reports on tasks performed and fill in checklists.		2
Maintain a safe working environment.		2
Use Personal Protective Equipment (PPEs).		2
Hold specific certification for transport of radioactive materials.		2
COMPETENCE (Attitude; behavioural and personal competence)		EQF level (1-8)
Safety attitude		4
Manual dexterity		3
Accuracy / Eye for detail		3
Discipline		3
Stress resistance		3

Accountability	3
Team working	2
Communication skills – ability to understand and to be understood	2

NOTES
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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
M. MARCO ARBOLI	M. CECLAN	5 <sup>TH</sup> ECVET WORKSHOP
24.10.2012	14.05.2013	15.11.2013

Ref	Job Title	Occupational Category
<b>3.8.01</b>	<b>Maintenance manager</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	Decommissioning Maintenance Engineer	Management
Maintenance		
Role / Functions		
Responsible of the maintenance activities during the decommissioning process:		
<ul style="list-style-type: none"> <li>Control and operation of decommissioning engineering operations as appropriate to the context.</li> <li>Line management of maintenance supervisors and workers.</li> <li>Contract and contractor management and control of compliance with planning.</li> <li>Project management.</li> <li>Quality assurance of technical operations according with the work permit procedures.</li> <li>Compliance on statutory, legal, ethical and social implications relating to safety, health and the environment.</li> <li>Legal/technical information management, inspection and reporting.</li> <li>Typically reports to the site manager</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Project management software		6
General management: budget, human resources, defining organisational objectives and strategies, business improvement, planning, monitoring, evaluating		6
Safety culture principles		6
Safety and security management		6
Risk assessment		6
Technical fundamentals: mechanical, electrical, I&C engineering principles		6
ICT literacy		6
Communication techniques: negotiation, presentation, writing		6
Plant systems knowledge management		6
Nuclear power plant: reactor fundamentals, plant systems description		5
Integrated management system: quality, health & safety, environment, information security		4
Nuclear safety and nuclear safety principles		4
Industrial safety		4
National and international legal framework and licensing		4
Radiation protection		4
Operating experience		4
Human error prevention techniques		4
Performance improvement methods		4
Emergency preparedness and emergency response		4
Standard procedures for dealing with radioactive discharges, waste, environmental control and emergencies		3
SKILLS (Technical and functional competence)		EQF level (1-8)
Plan, schedule and monitor activities by using suitable management tools to ensure timely completion within budget.		7

Organize and manage teams: keep track of personnel professional development, identify training needs, select new employees, monitor performance of each team, evaluate and report suitability and availability of those within the allocated teams, allocate professional roles, mentor and coach employees, establish duties and responsibilities, ensure proper levels of guidance and direction.	7
Develop and implement technical plans and procedures.	7
Compile and analyse legal requirements to ensure and promote compliance with statutory regulations.	6
Manage activities to the highest standards of safety, security, quality, reliability and efficiency.	6
Monitor and maintain a safe working environment.	6
Lead and enforce safety culture.	6
Support the development of quality plans and monitor and maintain quality compliance.	6
Coordinate response to non-conformities and to unexpected events.	6
Identify, quantify and critically assess safety hazards.	6
Interface with managers from other disciplines and/or from external organisations.	5
Create and participate in professional contact networks.	5
Develop business plans and forecast needed resources such as materials and manpower utilization.	5
Classify information according to security criteria.	5
Stay updated on changes on the market, regulations and new operating experience to identify market trends, best practices and/or emerging regulatory issues.	4
Promote and implement continuous improvement tools.	4
Conduct commercial follow-up of contracts.	4
Prepare bid and tender enquiries.	3
Negotiate contract conditions covering all possible contingencies.	3
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Leadership	7
Organisational skills	7
Communication skills	6
Stress resistance	6
Multitasking and priority setting	6
Accountability	5
Conflict resolution	5
Motivating and coaching	5
Analytical thinking	4

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
B. MURPHY	S. LANZA	4 <sup>TH</sup> ECVET WORKSHOP
23.10.2012	26.03.2013	17.05.2013

Ref	Job Title	Occupational Category
<b>3.8.02</b>	<b>Maintenance Supervisor</b>	Technician
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	Decommissioning Project Team Leader	Specialist
Maintenance		
Role / Functions		
<p>The Decommissioning Maintenance Supervisor is responsible for the safe and efficient management of equipment and systems during nuclear decommissioning activities. The Supervisor/Team Leader manages personnel and the processes for monitoring of equipment. This includes ensuring that Health &amp; Safety legislative requirements are adhered to.</p>		
<ul style="list-style-type: none"> <li>• Safe and efficient management of maintenance team.</li> <li>• Scheduling and coordination of technical operations.</li> <li>• Compilation and overview of recording and reporting as appropriate.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Equipment and system operating and maintenance instructions		5
Industrial and occupational safety		4
Operating experience		4
Safety culture		4
Radiation protection		4
Error prevention techniques and human performance tools		4
Site specific rules and procedures (permit to work, standard operating & maintenance procedures and risk assessment etc.)		4
Nuclear safety principles: Defence-in-Depth concept, Protective Barrier concept, redundancy, diversity, fail safe, spatial separation, self-monitoring and single failure criterion, safety classification of systems and components.		3
Regulation, codes, standards, policies and procedures in the nuclear field		3
ICT literacy		3
Engineering data and documentation		3
NPP systems and components		3
Quality assurance		3
Techniques and methodologies of decontamination within scope		3
Engineering principles (i.e. mechanical, electrical, instrumentation and control)		3
SKILLS (Technical and functional competence)		EQF level (1-8)
Identify safety functional requirements.		5
Monitor and maintain a safe work environment.		5
Promote and ensure compliance with statutory regulations, technical specifications and project requirements.		5
Compile and report information for management control and task assignment.		5
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.		5
Give clear instructions and guidance to the rest of members of the team.		5
Planning and scheduling of maintenance activities		5
Recording and reporting		5

Analyse and interpret technical data and documentation.	4
Prepare reports using technical writing.	4
Monitor and maintain the quality of processes.	4
Identify radiation protection requirements and apply radiation protection measures.	4
Communicate with other disciplines groups as needed to solve issues.	4
Handling of contaminated equipment	4
Organising and managing team operations	4
Routine problem-solving and repairs	4
Supervise working activities.	
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Team working	4
Communication skills	4
Stress resistance	4
Accountability	4
Task allocation and work organisation	4
Conscientiousness	3
Problem solving	3
Analytical thinking	3

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
B. MURPHY	R. SILVERII	5 <sup>TH</sup> ECVET WORKSHOP
23.10.2012	14.05.2013	14.11.2013



Ref	Job Title	Occupational Category
<b>3.8.03</b>	<b>Maintenance Worker</b>	Craft
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	Specialisations: Mechanical – Electrical – I&C	Executive
Maintenance		
Role / Functions		
Operation of decommissioning/dismantling plant systems, tools and equipment.		
<ul style="list-style-type: none"> <li>• Perform decommissioning engineering operations under supervision.</li> <li>• Adherence to procedures within scope of tasks as directed.</li> <li>• Comply with statutory, legal and social implications relating to safety, health and environment within scope of tasks directed.</li> <li>• Recording and reporting as directed.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Conservation and maintenance of equipment and tools		4
Radiation Protection		3
Occupational and industrial safety		3
Statutory and regulatory requirements, codes, standards, procedures and practices		3
Safety culture		3
Engineering processes and procedures (as appropriate to the plant/equipment)		3
Basic engineering principles as appropriate to the context (mechanical, electrical, instrumentation and control)		3
Routine decommissioning processes relevant to the context		3
Techniques and methods for dismantling facilities and equipment within scope and as directed		3
Standard operating & maintenance procedures and occupational risk assessment as appropriate to the context		3
Standard procedures for dealing with radioactive waste		2
Emergency response		2
SKILLS (Technical and functional competence)		EQF level (1-8)
Identify equipment malfunction.		4
Understand and follow instructions and procedures.		4
Prepare controlled/contaminated work areas for decommissioning activities.		4
Select and use equipment/tools for a specific job.		3
Maintain tools, equipment and materials in a proper condition.		3
Produce brief technical reports on tasks performed and fill in checklists.		3
Maintain a safe working environment.		3
Use Personal Protective Equipment (PPEs).		3
Perform routine disassembly and assembly of equipment.		3
Operate ancillary equipment including fork lift trucks, cranes as appropriate to the context.		3
Comply with statutory requirements, codes and standards.		2

COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Manual dexterity	4
Accuracy / Eye for detail	4
Safety attitude	3
Stress resistance	3
Accountability	3
Team working	2
Discipline	2
Communication skills – ability to understand and to be understood	2
Problem solving	2

NOTES
CHECK! Similar job to operation phase – suppress/replace with OPERATION profiles

DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
B. MURPHY	R. SILVERII	6 <sup>TH</sup> ECVET WORKSHOP
23.10.2012	14.05.2013	17.02.2015

Ref	Job Title	Occupational Category
<b>3.9.01</b>	<b>Radiation Protection Manager</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	Radiation protection Expert (RPE)	Management
HS&E		
Role / Functions		
Implement and advice (on) Radiation Protection and Health Physics issues in order to ensure effective protection of individuals, general public and the environment during the decommissioning of Nuclear Power Plant		
<ul style="list-style-type: none"> <li>• Ensure the technical Radiation Protection support function to the dismantler.</li> <li>• Assist the dismantler in evaluating the individual and collective doses for different decommissioning strategies.</li> <li>• Apply national Radiation Protection regulation and according to supranational indications and recommendations</li> <li>• Apply the ALARA principles and procedures in order to optimize doses.</li> <li>• Approve procedures and verify the implementation of Radiation Protection rules.</li> <li>• Revise and approve emergency preparedness and response plans (with Site Manager teams and others).</li> <li>• Respond to changing radiological conditions</li> <li>• Interact with staff on health and radiological risks of the installation</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Environmental monitoring and compliance (release, survey)		7
Radiological hazard analysis		7
Nuclear safety and nuclear safety principles		6
Radiation protection		6
National and international legal framework and licensing		5
Safety culture principles		5
Emergency preparedness and emergency response		5
Dosimetry and shielding calculations		5
Surface contamination levels and / or air contamination measurements		5
Radiation Protection personal protective equipment		5
Radiation detection and operational measurements		5
Radioactive material transport		5
Decommissioning strategies		5
Waste management		5
Radiochemistry		5
Integrated management system: quality, health & safety, environment, information security		4
Risk assessment		4
Technical fundamentals: mechanical, electrical, I&C engineering principles		4
Nuclear power plant: reactor fundamentals, plant systems description		4
Operating experience		4
Human error prevention techniques		4

ICT literacy	4
HVAC systems	4
Radiobiology	4
Decontamination techniques	4
Project management software	3
General management: budget, human resources, defining organisational objectives and strategies, business improvement, planning, monitoring, evaluating	3
Industrial safety	3
Safety and security management	3
Performance improvement methods	3
Communication techniques: negotiation, presentation, writing	3
<b>SKILLS (Technical and functional competence)</b>	<b>EQF level (1-8)</b>
Carry out plant and site radiological characterisation.	7
Manage activities to the highest standards of safety, security, quality, reliability and efficiency.	6
Monitor and maintain a safe working environment.	6
Perform dosimetry and shielding calculations.	6
Perform internal dose calculations.	6
Propose or equip workers with adapted personal protective equipment, including operational dosimeters.	6
Calculate dose for population.	6
Exchange and make proposals for the ALARA implementation.	6
Prepare licence documentation	6
Lead and enforce safety culture.	5
Plan, schedule and monitor activities by using suitable management tools to ensure timely completion within budget.	5
Support the development of quality plans and monitor and maintain quality compliance.	5
Supervise the radiological safety of work environment	5
Analyse the radiological data from reactor history	5
Prepare radiological cartographies of the installation	5
Survey of environment	5
Clearance level calculation	5
Compile and analyse legal requirements to ensure and promote compliance with statutory regulations.	4
Interface with managers from other disciplines and/or from external organisations.	4
Promote and implement continuous improvement tools.	4
Coordinate response to non-conformities and to unexpected events.	4
Classify information according to security criteria.	4
Stay updated on changes on the market, regulations and new operating experience to identify market trends, best practices and/or emerging regulatory issues.	3
Negotiate contract conditions covering all possible contingencies.	3
Conduct commercial follow-up of contracts.	3

Develop business plans and forecast needed resources such as materials and manpower utilization.	3
Organize and manage teams: keep track of personnel professional development, identify training needs, select new employees, monitor performance of each team, evaluate and report suitability and availability of those within the allocated teams, allocate professional roles, mentor and coach employees, establish duties and responsibilities, ensure proper levels of guidance and direction.	3
Create and participate in professional contact networks.	2
Prepare bid and tender enquiries.	2
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Communication skills	5
Accountability	5
Stress resistance	5
Analytical thinking	5
Organisational skills	5
Adaptability	5
Problem solving	5
Conflict resolution	4
Multitasking and priority setting	4

<b>NOTES</b>
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<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
M. CECLAN / S. LANZA	D. GIUFFRIDA	6 <sup>TH</sup> ECVET WORKSHOP
26.10.2012	14.05.2013	17.02.2015

Ref	Job Title	Occupational Category
<b>3.9.02</b>	<b>Radiation Protection Officer</b>	Technician
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	Radiation Protection Supervisor	Specialist
HS&E		
Role / Functions		
<p>Implement and advice (on) Radiation Protection and Health Physics issues in order to ensure effective protection of individuals, general public and the environment during the decommissioning of Nuclear Power Reactor.</p> <ul style="list-style-type: none"> <li>• Implement the operational Radiation Protection support during decommissioning under the directives of the Radiation Protection Expert.</li> <li>• Follow-up of the workers doses during the decommissioning process.</li> <li>• Apply the ALARA principles and procedures.</li> <li>• Arrange prevention preparedness and response in emergency situations.</li> <li>• Apply national and supranational Radiation Protection regulation.</li> <li>• Verify that the Radiation Protection rules are applied.</li> <li>• Supervise the implementation of the health surveillance programme.</li> <li>• Provide the new employees with an introduction to the local rules and procedures.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Operating experience		5
Safety culture		5
Practical rules to achieve static or dynamic containment		5
Radiation detection and measurement (operational dosimeter, dose-rate meter...)		5
Regulation, codes, standards, policies and procedures in the nuclear field		4
Industrial and occupational safety		4
ICT literacy		4
Engineering data and documentation		4
Radiation protection		4
Error prevention techniques and human performance tools		4
Initial radiological conditions of the installation		4
Guidelines for the control of the work area (best practices)		4
Surface contamination levels and / or air contamination		4
Environmental monitoring and compliance (release, survey...)		4
Nuclear safety principles: Defence-in-Depth concept, Protective Barrier concept, redundancy, diversity, fail safe, spatial separation, self-monitoring and single failure criterion, safety classification of systems and components.		3
NPP systems and components		3
Quality assurance		3
Emergency preparedness and response		3
Training and management knowledge		3
SKILLS (Technical and functional competence)		EQF level (1-8)
Identify radiation protection requirements and apply radiation protection measures.		6
Identify safety functional requirements.		5

Monitor and maintain a safe work environment.	5
Prepare reports using technical writing.	5
Communicate with other disciplines groups as needed to solve issues.	5
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	5
Analyse and interpret technical data and documentation.	4
Monitor and maintain the quality of processes.	4
Promote and ensure compliance with statutory regulations, technical specifications and project requirements.	4
Supervise working activities.	4
Give clear instructions and guidance to the rest of members of the team.	4
Analyse and interpret data from the radiological mapping.	4
Coordinate work of the radiation protection workers.	4
Realise ALARA estimated dose.	4
Deliver training of workers.	4
Propose or equip workers with adapted operational dosimeters and dose rates.	4
Liaise with the Radiation Protection Expert.	4
Manage capacities.	4
Compile and report information for management control and task assignment.	2
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Conscientiousness	5
Team working	5
Stress resistance	5
Accountability	5
Problem solving	4
Communication skills	4
Organisational skills	4
Analytical thinking	4

<b>NOTES</b>
Common to the equivalent profile for operation

<b>DRAFTED BY:</b>	<b>1ST REVIEW:</b>	<b>2ND REVIEW:</b>
P. LIVOLSI	S. LANZA	4 <sup>TH</sup> ECVET WORKSHOP
24.02.2012	26.03.2013	16.05.2013

Ref	Job Title	Occupational Category
<b>3.9.03</b>	<b>Radiation Protection Worker</b>	Technician
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	Radiation Protection Monitor	Executive
HS&E		
Role / Functions		
Accomplish Radiation Protection tasks during the decommissioning of Nuclear installation under the supervision of the Radiation Protection Officer.		
<p>Accomplish Radiation Protection tasks during the decommissioning of Nuclear installation under the supervision of the Radiation Protection Officer.</p> <ul style="list-style-type: none"> <li>• Execution of Radiation Protection measurements using appropriate instrumentation during decommissioning following written procedures.</li> <li>• Assist decontamination of materials, premises and persons executing appropriate measurements.</li> <li>• Radiological mapping of the installation under decommissioning.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Safety culture		4
Nuclear safety principles: Defence-in-Depth concept, Protective Barrier concept, redundancy, diversity, fail safe, spatial separation, self-monitoring and single failure criterion, safety classification of systems and components.		3
Regulation, codes, standards, policies and procedures in the nuclear field		3
Industrial and occupational safety		3
Operating experience		3
ICT literacy		3
Quality assurance		3
Radiation protection		3
Working suits and personal protective equipment		3
Nuclear ventilation, static and dynamic containment		3
Contamination detection and measurement		3
Radiation detection and measurement (operational dosimeter, dose-rate meter...)		3
Radiation shielding		3
Engineering data and documentation		2
NPP systems and components		2
Error prevention techniques and human performance tools		2
Environmental monitoring and compliance (release, survey...)		2
Emergency preparedness and response		2
SKILLS (Technical and functional competence)		EQF level (1-8)
Prepare reports using technical writing.		4
Perform radiological mapping of the installation.		4
Apply Radiation Protection regulations and rules.		4
Equip workers with adapted operational dosimeters and personal protective equipment.		4
Implement appropriate shielding.		4



Deliver a radiation protection monitoring service according to written procedures.	4
Identify safety functional requirements.	3
Monitor and maintain a safe work environment.	3
Promote and ensure compliance with statutory regulations, technical specifications and project requirements.	3
Identify radiation protection requirements and apply radiation protection measures.	3
Communicate with other disciplines groups as needed to solve issues.	3
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	3
Analyse and interpret technical data and documentation.	2
Monitor and maintain the quality of processes.	2
Compile and report information for management control and task assignment.	2
Supervise working activities.	2
Give clear instructions and guidance to the rest of members of the team.	2
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Conscientiousness	3
Team working	3
Problem solving	3
Communication skills	3
Stress resistance	3
Accountability	3
Task allocation and work organisation	2
Analytical thinking	2

#### NOTES

The job description 3903/NPP-D is in close relation to job 2403//NPP-O

DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
P. LIVOLSI	M. CECLAN	4 <sup>TH</sup> ECVET WORKSHOP
24.02.2012	13.04.2013	15.05.2013

Ref	Job Title	Occupational Category
<b>3.9.04</b>	<b>Industrial Safety Engineer</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	Industrial Safety Manager	Management
HS&E		
Role / Functions		
<p>The industrial safety engineer is the responsible for the industrial safety of the workers and the site, for each of the activities.</p> <ul style="list-style-type: none"> <li>To define the necessary protective measures for the decommissioning activities, and the needed individual or collective protective equipment.</li> <li>To ensure that the protective measures are adequately applied, and the PPE (personal protection equipment) is worn at all times during the work, and adequately maintained.</li> <li>To ensure the safety of the access to the work places.</li> <li>To ensure that the work place is adequately signalled, clean and tidy.</li> <li>To ensure that tools and machinery are used in a proper and safe way.</li> <li>Comply with regulations and organisational safety requirements</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Integrated management system: quality, health & safety, environment, information security		6
Industrial safety		6
Risk assessment		6
Nuclear safety and nuclear safety principles		5
Safety culture principles		5
Safety and security management		5
Human error prevention techniques		5
Emergency preparedness and emergency response		5
Chemical, mechanical, biological and thermal hazards		5
Electrical safety		5
National and international legal framework and licensing		4
Technical fundamentals: mechanical, electrical, I&C engineering principles		4
Nuclear power plant: reactor fundamentals, plant systems description		4
Operating experience		4
Performance improvement methods		4
ICT literacy		4
Communication techniques: negotiation, presentation, writing		4
Personal and collective protection equipment		4
Project management software		3
General management: budget, human resources, defining organisational objectives and strategies, business improvement, planning, monitoring, evaluating		3
Radiation protection		3
SKILLS (Technical and functional competence)		EQF level (1-8)
Monitor and maintain a safe working environment.		7

Compile and analyse legal requirements to ensure and promote compliance with statutory regulations.	6
Lead and enforce safety culture.	6
Identify safety hazards.	6
Investigate safety related events and accidents, and root cause determination.	6
Support the development of quality plans and monitor and maintain quality compliance.	5
Supervise installation of safety devices on machinery.	5
Devise and propose safety improvement measures.	5
Prepare and implement risk mitigation measures.	5
Review plans for modification of systems and new installations.	5
Stay updated on changes on the market, regulations and new operating experience to identify market trends, best practices and/or emerging regulatory issues.	4
Manage activities to the highest standards of safety, security, quality, reliability and efficiency.	4
Interface with managers from other disciplines and/or from external organisations.	4
Promote and implement continuous improvement tools.	4
Coordinate response to non-conformities and to unexpected events.	4
Develop business plans and forecast needed resources such as materials and manpower utilization.	4
Organize and manage teams: keep track of personnel professional development, identify training needs, select new employees, monitor performance of each team, evaluate and report suitability and availability of those within the allocated teams, allocate professional roles, mentor and coach employees, establish duties and responsibilities, ensure proper levels of guidance and direction.	4
Classify information according to security criteria.	4
Use and interpret drawings and documents.	4
Monitor safety of work activities.	4
Conduct visual inspection of equipment, structures and workplaces.	4
Plan, schedule and monitor activities by using suitable management tools to ensure timely completion within budget.	3
Inspection of construction methods, machinery, tools and materials.	3
Create and participate in professional contact networks.	2
Prepare bid and tender enquiries.	2
Negotiate contract conditions covering all possible contingencies.	2
Conduct commercial follow-up of contracts.	2
<b>COMPETENCE (Attitude; behavioural and personal competence)</b>	<b>EQF level (1-8)</b>
Stress resistance	4
Organisational skills	5
Multitasking and priority setting	5
Leadership	4
Decisiveness	4
Conflict resolution	4
Communication skills	5

Assertiveness	4
Analytical thinking	5
Adaptability	4
Accountability	5

<b>NOTES</b>
Revise against safety profiles in operation ***

DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
M. MARTÍN RAMOS	D. GIUFFRIDA	6 <sup>TH</sup> ECVET WORKSHOP
24.02.2012	14.05.2013	17.02.2015

Ref	Job Title	Occupational Category
<b>3.9.05</b>	<b>Safety Case Expert</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	Decommissioning Plan Expert	Specialist
HS&E		
Role / Functions		
<p>The Safety Case Expert provides expert, researched, peer-reviewed safety analyses and strategy supported by evidenced documentation to form a fit-for-purpose safety case, in compliance with statutory, regulatory and technical requirements of the system being decommissioned, including health, safety, environmental, ethical and social considerations.</p>		
<ul style="list-style-type: none"> <li>• Compliance assurance.</li> <li>• Legal/technical information management.</li> <li>• Safety case preparation, consultation, authoring, peer review and verification.</li> <li>• Safety case project management.</li> <li>• Standard setting for safety case processes and methodologies.</li> <li>• Quality assurance of safety case implementation.</li> <li>• Expert advice, guidance and recommendations.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Safety Culture		7
Quality assurance and control		6
Safety case standards and methodologies, including probabilistic evaluation		6
Requirements for nuclear safety case production		6
Nuclear safety principles and requirements		5
National and international codes and standards		5
Radiation Protection		5
Occupational Safety and personal protective equipment		5
Advanced procedures for risk assessment and management		5
Engineering design and operation (of the plant/equipment being assessed)		5
Statutory, regulatory and ethical requirements for nuclear safety		5
Safety management systems such as Permit to Work, Standard Operating & Maintenance Procedures and Risk Assessment		5
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		4
Engineering graphics, drawings and diagrams		4
ICT literacy		4
Technical writing		4
Operating experience		4
Industrial Safety		3
Project management, planning methods and tools		3
Standard procedures for dealing with radioactive sources, discharges, waste, environmental control and emergencies		3
SKILLS (Technical and functional competence)		EQF level (1-8)

Ensure compliance with statutory regulations and organisational QSE requirements.	6
Producing and communicate requirement specifications, technical specifications, procedures and reports.	6
Identification of safety requirements.	6
Ensure the implementation of engineering codes and standards.	6
Identify, quantify and critically assess safety hazards.	6
Write safety cases compliant to minimise risks on safety, health and environmental matters.	6
Produce, approve, implement, review and evaluate safety case strategies.	6
Define the scope and strategy for safety case developments throughout the lifecycle of decommissioning.	6
Monitor and periodically review and evaluate the processes for the adoption and implementation of safety cases, as appropriate to the design and operation of the plant/equipment being decommissioned.	6
Monitor and maintain a safe working environment.	5
Define actions to improve safety culture based on operational feedback.	5
Use and interpret engineering data and technical documentation.	4
Retrieve technical information by using computer aided techniques.	4
Assess performance and identify measures and indicators to improve or correct performance.	4
Identify possible impacts and interactions with other related disciplines.	4
Planning, coordinating, implementing and monitoring project activities.	3
Perform work analysis, breakdown of activities and allocate tasks.	3
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Problem solving	7
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	6
Conscientiousness	6
Decisiveness	6
Analytical thinking	5
Accountability	5
Team working	4

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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
B. MURPHY	D. GIUFFRIDA	5 <sup>TH</sup> NJD WORKSHOP
23.10.2012	14.05.2013	14.11.2013

Ref	Job Title	Occupational Category
<b>3.9.06</b>	<b>Environmental Expert</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	Environmental Officer	Specialist
HS&E		
Role / Functions		
To ensure compliance of decommissioning with the environmental safety principles, objectives and criteria.		
<ul style="list-style-type: none"> <li>To develop and implement adequate, up-to-date and effective environmental monitoring strategy, plans, procedures in line with the NPP management system, national regulation and international standards and best practice.</li> <li>Analyse monitoring results and identify existing or potential effects of decommissioning to the environment.</li> <li>To coordinate the development, review and update of Environmental Impact Assessment for decommissioning.</li> <li>To supervise the environmental monitoring and provide feedback to the decommissioning management and input to the development/revision of decommissioning plan, Safety Assessment.</li> <li>To monitor and regularly report on compliance with the national requirements, criteria and licence conditions related to environmental protection.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
National and international codes and standards		6
Quality assurance and control		6
Environmental science		6
Environmental legal framework (nuclear and other hazards)		6
Environmental impact and protection		6
Chemical and radiological hazards		6
Environmental remediation		6
Statistics, probability and data processing		6
Safety Culture		5
Radiation Protection		5
Project management, planning methods and tools		5
Engineering graphics, drawings and diagrams		4
Occupational Safety and personal protective equipment		4
ICT literacy		4
Technical writing		4
Principles of decommissioning		4
Nuclear power plant: reactor fundamentals, reactor and power plant process systems, process auxiliary systems, ionizing radiation, heat generation and removal systems, steam supplies system, nuclear chemistry, instrumentation and control system, electrical systems		3
Nuclear safety principles and requirements		3
Industrial Safety		3
Operating experience		3

SKILLS (Technical and functional competence)	EQF level (1-8)
Ensure compliance with statutory regulations and organisational QSE requirements.	6
Identification of safety requirements.	6
Perform environmental evaluation and inspection.	6
Perform environmental impact analysis and assessment.	6
Select techniques and tools for environmental monitoring and remediation.	6
Report and interpret environmental monitoring data.	6
Command of specific software tools for environmental contamination.	6
Producing and communicate requirement specifications, technical specifications, procedures and reports.	5
Planning, coordinating, implementing and monitoring project activities.	5
Monitor and maintain a safe working environment.	5
Use and interpret engineering data and technical documentation.	4
Retrieve technical information by using computer aided techniques.	4
Assess performance and identify measures and indicators to improve or correct performance.	4
Identify possible impacts and interactions with other related disciplines.	4
Define actions to improve safety culture based on operational feedback.	4
Ensure the implementation of engineering codes and standards.	3
Perform work analysis, breakdown of activities and allocate tasks.	3
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Analytical thinking	6
Lead by example: consistently demonstrating positive behaviours in relation to environment, health and safety, security and quality.	6
Accountability	5
Problem solving	5
Conscientiousness	5
Communication	5
Team working	4
Decisiveness	4

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DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
B. BATANDJEVA	M. MARTÍN RAMOS	6 <sup>TH</sup> NJT WORKSHOP
25.10.2012	14.05.2013	17.02.2015



Ref	Job Title	Occupational Category
<b>3.9.09</b>	<b>Nuclear Laboratory Technician</b>	Technician
Phase / Area	Alternate job title(s) – specialisations	Functional Category
NPP D	Chemical Analyses Technician / Radiochemistry Technician	Specialist
HS&E		
Role / Functions		
Responsible for sampling, preparation and analytical procedures.		
<ul style="list-style-type: none"> <li>Perform both routine and complex sampling preparation and analysis, and prepare reports</li> <li>Maintain database of analytical results according to auditing and regulatory requirements</li> <li>Handle safely and appropriately samples that are potentially hazardous and/or contaminated</li> <li>Typically reports to the Chemistry and Radiochemistry Manager</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Standard operating procedures for sample analysis, equipment use and waste handling		4
Safety, security and behavioural expectations of those working on a nuclear site		3
Principles of laboratory information management systems		4
Principles of chemical and radiochemical science		4
Good laboratory practice		5
Fundamentals of radiation protection		3
Analytical chemistry including statistical analysis and quality control methodologies		5
SKILLS (Technical and functional competence)		EQF level (1-8)
Plan laboratory workflow		4
Organise maintenance and servicing schedule of analytical equipment		4
Organise and maintain stock and control of laboratory chemical inventory		5
Organise and maintain data records and tracking systems in accordance with requirements		5
Data analysis and reporting		5
Applying techniques for sample preparation and analysis		5
COMPETENCE (Attitude; behavioural and personal competence)		EQF level (1-8)
Safety culture		4
Reliability and autonomy under direction		4
Comprehensive communication, literacy, ICT and numeracy		4
Accuracy and self-organisation		4

#### NOTES

Job description to be checked against the counterparts in NPP–O, 2.5.03, 2504 The job description 3909 belonging to Sub-area NPP-D is in good relationship with the counterparts NPP-O: 2.5.03 and 2.5.04

DRAFTED BY:	1ST REVIEW:	2ND REVIEW:
B. MURPHY	M. CECLAN	4TH ECVET WORKSHOP
26.10.2012	20.03.2013	17.05.2013

Ref	Job Title	Occupational Cat
<b>3.10.01</b>	<b>Final Release Process Supervisor</b>	Professional
Phase / Area	Alternate job title(s) – specialisations	Functional Class
NPP D	-----	Management
Site Release		
Role / Functions		
<p>Organise, supervise, collect, analyse and report the information provided by different decommissioning crews, in order to assure to the regulatory body that the decommissioning site (or part of it) can be released without any radiological constraint.</p>		
<ul style="list-style-type: none"> <li>• Elaborate a clearance process strategy and agree (with the regulatory body) its application to the decommissioning site.</li> <li>• Prepare clearance strategy technical documents, to be applied in the clearance process.</li> <li>• Collect historical data from the operation of the facility, in order to select the most appropriate classification for areas, homogeneous groups, potential radionuclide vectors.</li> <li>• Organize and supervise the work of a team of Radiation Protection Technicians and of Nuclear laboratory Technicians, who will perform direct and indirect measurements in the decommissioned site.</li> <li>• Collect and regroup results of direct and indirect contamination and activation analyses in a clearance report.</li> <li>• Analyse data applying appropriate statistical methods, as approved in the clearance strategy.</li> <li>• Prepare clearance reports, to be used in order to authorize final release of materials, buildings or the entire decommissioning site, from radiological constraints.</li> <li>• Submit final release reports to the regulatory body for approval.</li> <li>• Prepares technical scopes of work, technical specifications, hazard assessments, work plans and related documentation in support of release process.</li> <li>• Monitor and evaluate technical progress on studies and contracts, against standards, objectives and specifications.</li> <li>• Assist in the training, coaching and mentoring of new and less experienced staff in safe practices and procedures.</li> </ul>		
JOB REQUIREMENTS		
KNOWLEDGE (Cognitive competence)		EQF level (1-8)
Statistics and probability		4
Safety culture principles		4
Risk Assessment		4
Radiological Contamination; Contamination detection and measurement		5
Radioactive waste management; Radioactive Wastes remediation; Radioactive waste treatment systems		3
Radioactive waste disposal concepts; Waste packaging and storage options; Radioactive waste transport		4
Radioactive waste acceptance criteria		5
Radiation Protection		5
Program and project planning; Project management; Quality Assurance		4
Information technology		3
Industrial (Occupational) safety*		5
Geo-statistics		6
Error Prevention Techniques and Human Performance Tools		4
Dismantling techniques; Demolition techniques; Demolition tools		3
Decontamination; Decontamination techniques		5
Decommissioning; Decommissioning phases		4

SKILLS (Technical and functional competence)	EQF level (1-8)
Preserve and store contaminated products and agents	3
Measure contamination; Prepare controlled/contaminated work areas for decommissioning activities	5
Manage subcontractors; Direct, control subcontractors	5
Handle applied standard software applications*	3
Define corrective measures to improve safety culture based on operational experience feedback, Apply actions to enhance safety culture	3
Decontaminate equipment and materials; Handle contaminated equipment, including minimisation and packaging	4
Coordinate planning, implementing and monitoring of activities and projects; Develop quality control programmes and procedures;	5
Conduct on the job training; mentoring and coaching	3
Conduct assessment of risks in the workplace; Maintain safe workplace	4
Calculation of site clearance limits based on applicable radiological standards	5
COMPETENCE (Attitude; behavioural and personal competence)	EQF level (1-8)
Verbal communication; Written communication	4
Stress tolerance - Maintaining effective performance under pressure or adversity	4
Self-development and learning	4
Safety culture - Awareness and concern on safety aspects at the workplace.	5
Problem solving- Capacity to overcome obstacles and find solutions.	5
Priority setting	4
Multitasking Ability to manage assignments of different nature.	4
Monitoring - Controlling progress of tasks, processes, staff performance.	5
Managing, planning and organising - Ability to organise and schedule tasks and processes.	6
Conflict Management - Ability to handle disagreements and to solve them in a tactful and collaborative way	4

NOTES
* New entry

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