

## **4<sup>th</sup> Workshop for the preparation of an ECVET-oriented Nuclear Job Taxonomy**

### **DEBRIEFING**

Bergen NH (The Netherlands)

13-17 May 2013

#### **1. INTRODUCTION**

This Workshop is the fourth of a series initiated in October 2011 with the objective of preparing a taxonomy of nuclear jobs, aimed to facilitate the implementation of the European Credit System for Vocational Education and Training (ECVET). At the present stage, the taxonomy covers the three phases in the life cycle of a nuclear power plant (NPP). Jobs in collateral activities such as fuel disposal or research are not included, neither are nuclear jobs in sectors non-related to fission energy production. It is under consideration the enlargement of the taxonomy to the jobs in the regulatory bodies.

#### **2. PARTICIPANTS**

The Workshop was held at the Parkhotel in Bergen NH (NL) and was attended by the following participants:

The invited experts

- Lyubomir PIRONKOV, from Kozloduy NPP (Bulgaria)
- Fulvia PASQUALONI, from ENEL (Italy)
- Marisa MARCO ARBOLI, from CIEMAT (Spain)
- Paul LIVOLSI, from CEA/INSTN (France)
- Salvatore LANZA, independent consultant (Italy)
- Jesús IGLESIAS MORÁN, from TECNATOM (Spain)
- Odile DERUELLE, from ISTP-IRUP (France)
- Anton CHAUSHEVSKI, from Ss.Cyril and Methodius Univ. Skopje (Makedonia)
- Mihail CECLAN, from University of Bucharest-UBA (Romania)
- Abdesselam ABDELOUAS, from École des mines de Nantes (France)

The volunteer contributors

- Natalia SHULEPOVA, from CICE&T (Russia)
- Charlotte DUPRE, from ISTP-IRUP (France)
- Vladimir ASPIDOV, from CICE&T (Russia)

The internal experts

- Stefaan, VAN WINCKEL, from JRC-ITU E.5 (EC)
- Rocco SILVERII, from JRC-IET F.5 (EC)
- Manuel MARTÍN RAMOS, from JRC A.8 (EC)
- Daniele GIUFFRIDA, from JRC C.1 (EC)
- Lorenzo DI CESARE, from JRC C.1 (EC)

The organisers

- Ulrik VON ESTORFF, from JRC-IET F.04 (EC)
- Willy MUNTJEWERF, from JRC-IET F.04 (EC)
- César CHENEL RAMOS, from JRC-IET F.04 (EC)

Other contributors

Izabela KULPA, from PGE Energia (Poland), although was not present during the Workshop, took part in the preliminary work (see next paragraph)

**3. PRELIMINARY WORK**

The participants were requested some individual preparation prior to the Workshop, consisting in the review and draft of profiles. This was meant to make possible that the workshop sessions were more focused in group review. The following experts took part in this preparation:

Manuel Martín Ramos	Lyubomir Pironkov
Izabela Kulpa	Daniele Giuffrida
Mihail Ceclan	Salvatore Lanza
Izabela Kulpa	Fulvia Pasqualoni
Jesús Iglesias Morán	

As a result the following tasks were carried out:

FIRST DRAFTS:

- |                                      |   |
|--------------------------------------|---|
| - Site Characterisation Manager (NB) | - Clean-up Worker (D)                               |
| - Quality Control Manager (NB)       | - Radioactive Waste Worker-<br>Characterisation (D) |
| - Spent Fuel Management Engineer (D) |   |
| - Clean-up Supervisor (D)            |   |

PEER REVIEWS:

- |                     |                          |
|---------------------|--------------------------|
| - Plant Manager (O) | - Production Manager (O) |
|---------------------|--------------------------|

- Quality Assurance Officer (O)
- Reactor Manager (O)
- Field Operator Technician (O)
- Field Operator Worker (O)
- WM&RP Manager (O)
- Radiation Protection Worker (O)
- Safety and Security Manager (O)
- Electrical Technician (O)
- Mechanical Maintenance Technician (O)
- Maintenance Manager (O)
- Process Equipment Engineer (O)
- Maintenance Planning Officer (O)
- Decontamination Planner (D)
- Site Manager (D)
- Decontamination Worker (D)
- Engineering Support Manager (D)
- Decommissioning Supervisor (D)
- Decommissioning Operator (D)
- Decommissioning Worker (D)
- Dismantling Planner (D)
- Demolition Worker (D)
- Radioactive Waste Manager (D)
- Transport Responsible (D)
- Maintenance Engineer/Manager (D)
- Maintenance Supervisor (D)
- Nuclear Laboratory Technician (D)
- Radiation Protection Manager (D)
- Radiation Protection Supervisor (D)
- Radiation Protection Worker (D)
- Industrial Safety Engineer (D)
- Safety Case Expert (D)
- Environmental Manager (D)
- Health Physics Technician (D)

### **3. WORKSHOP SESSIONS**

The workshop consisted of plenary sessions on the first and last days, being the participants split in three working groups for the rest of the time:

#### **3.1. Opening session**

As introduction of the meeting Mr. Ulrik von Estorff addressed the participants to explain the activities in the project EHRO-N and the context in which the nuclear job taxonomy is developed.

After that the participants introduced themselves.

This was followed by two presentations. The first of them showed ECVET and related initiatives, and explained the principles and concepts most relevant for the preparation of the taxonomy. In the second, the work plan, work documents and methodology for the meeting was presented. The organisers' proposal for the formation of the working groups was adopted, since some participants kindly accepted to join an area that was not the best fit for their expertise.

Both interventions were followed by a turn of questions and comments.

### **3.2. Work sessions**

Three groups worked separately since the morning Tuesday 14 till the closure session on Friday. Their composition was:

#### **NPP NEW BUILD**

Moderated by C. Chenel and attended by the experts: Anton Chaushevski, O. Deruelle, C. Dupre, J. Iglesias Morán and F. Pasqualoni.

#### **NPP OPERATION**

Moderated by M. Martín Ramos and attended by the experts: V. Aspidov, L. Di Cesare, P. Livolsi, L. Pironkov, N. Shulepova and S. Van Winckel.

#### **NPP DECOMMISSIONING**

Moderated by R. Silverii and attended by the experts A. Abdelouas, M. Ceclan, D. Giuffrida, S. Lanza and M. Marco Arboli.

The work in each group was conditioned by the progress reached so far. The preparation and review of profiles carried out previously to the meeting allowed to focus on the work of the Decommissioning group in group reviews, while in the other groups was still necessary to devote much of the time to individual reviews and preparation of drafts.

### **3.2. Closure**

In the late morning of the last day, a summary of the tasks carried out was presented with a brief recapitulation of some of the discussions held during the workshop.

## **4. OUTCOME OF THE WORKING GROUPS**

The progress achieved after the 4<sup>th</sup> workshop is reflected in the table in Annex 1. The specific tasks carried out in each group consisted of drafting and reviewing profiles, discussing modifications to the job list and other.

### **NEW BUILD**

#### **FIRST DRAFTS:**

- |                                    |                                    |
|------------------------------------|------------------------------------|
| - Nuclear Safety Manager           | - HVAC Design Engineer             |
| - PSA specialist                   | - HVAC Technical Draughtsman       |
| - Design Manager                   | - Transverse Engineer              |
| - Electrical Technical Draughtsman | - Mechanical Discipline Engineer   |
| - Mechanical Technical Draughtsman | - Mechanical Construction Engineer |
| - I&C Technical Draughtsman        | - Civil Construction Engineer      |

- |                                      |                                |
|--------------------------------------|--------------------------------|
| - I&C Discipline Engineer            | - I&C Construction Worker      |
| - I&C Construction Engineer          | - Occupational Safety Manager  |
| - Mechanical Construction Technician | - Quality Control Technician   |
| - Civil Construction Technician      | - Environmental Manager        |
| - Electrical Construction Technician | - HVAC Construction Engineer   |
| - I&C Construction Technician        | - HVAC Construction Technician |
| - Mechanical Construction Worker     | - Civil Commissioning Engineer |
| - Civil Construction Worker          | - Commissioning Manager        |
| - Electrical Construction Worker     |                                |

PEER REVIEWS:

- |                                    |                                      |
|------------------------------------|--------------------------------------|
| - Safety Design Engineer           | - Construction Project Manager       |
| - Electrical technical Draughtsman | - Electrical Discipline Engineer     |
| - Mechanical technical Draughtsman | - I&C Discipline Engineer            |
| - Electrical design Engineer       | - Mechanical Construction Technician |
| - I&C Design Engineer              |                                      |

- Addition of HVAC Engineer and HVAC Technician jobs in in the Construction stage
- The existence of the position Health and Safety Officer in the Site Location stage is found questionable.
- In the design stage, it is decided to change the name of the design technicians into design draughtsmen, and to reshape their functions accordingly. Provisionally both versions of these profiles will be kept in the list.
- Geological and environmental infrastructure experts are added to the site location stage.
- The positions 1.3.22 Welder and 1.3.23 Locksmith are not considered to require any specific nuclear competence and are therefore assigned low priority or proposed for removal from the list. Nevertheless this should keep consistency with the other phases, where similar positions exist.
- The positions 1.4.08 Permission-to-work and 1.4.09 Permission-to-energise Officers are unknown to the experts in the group. Their relevance/presence in real organisations needs to be verified.
- The proposal to include of a new area for Safety Assessment is adopted: it consists of the existing Safety Design Engineer together with at least three more identified jobs. This department would monitor and verify the safety and business implications of all the processes and activities carried out in the site.

## OPERATION

### FIRST DRAFTS:

- |                                |                              |
|--------------------------------|------------------------------|
| - Chemistry Supervisor         | - Mechanical Design Engineer |
| - Industrial Safety Technician | - Electrical design Engineer |
| - Security Manager/Supervisor  | - I&C Design Engineer        |
| - Mechanical Supervisor        | - Core Physicist             |
| - Operational Locksmith        |                              |

### PEER REVIEWS

- |                                |                            |
|--------------------------------|----------------------------|
| - Licensing Officer            | - Environmental Supervisor |
| - Training Officer             | - Electrical Worker        |
| - Radiation Protection Officer | - Mechanical Worker        |
| - Industrial Safety Technician |                            |

### GROUP REVIEWS

- |                     |                                |
|---------------------|--------------------------------|
| - Plant Manager     | - Senior Reactor Operator      |
| - Licensing Officer | - Radiation Protection Officer |

- The job 2.1.01 *Operation Planning Officer* is proposed for suppression.
- The Operation in Control Room section is reduced to three profiles: Unit Shift Supervisor (or Shift Supervisor), Reactor Operator y Turbine Operator. Job 2.2.01 is proposed for suppression and the split of 2.2.03 proposed in the 3<sup>rd</sup> Workshop is confirmed.
- 2.7.10 *Process Equipment Technician* is proposed for suppression, as it is being considered the same as a Mechanical Engineer job.
- The job *Civil Engineering Supervisor* is added.
- In the Maintenance section, It is proposed a systematic hierarchical classification into the categories Supervisor, Technician, Worker for each engineering area (civil, mechanical, electrical, I&C)
- In the engineering section, the possible suppression of the jobs *System Design Engineer* and *Safety Design Engineer*
- The job *Reactor Physicist* is added and drafted; it could be included in Engineering or in Nuclear Operations.
- It stressed the need to harmonise certain jobs with equivalents in the other life-cycle phases.

## DECOMMISSIONING

### FIRST DRAFTS:

- Final Release Process Supervisor

### PEER REVIEWS:

- |                                  |   |
|----------------------------------|---|
| - Project Manager                | - Dismantling Worker                              |
| - Contractors Manager            | - Demolition Planner                              |
| - Management System Manager      | - Demolition Civil Engineer                       |
| - Training Manager               | - Clean-up Supervisor                             |
| - Licensing Manager              | - Clean-up Worker                                 |
| - Communication Manager          | - Radioactive Waste Engineer-<br>Characterisation |
| - Financial Manager              | - Radioactive Waste Engineer-Processing           |
| - Decontamination Supervisor     | - Radioactive Waste Worker-<br>Characterisation   |
| - Site Engineer                  | - Radioactive Waste Worker-Processing             |
| - Spent Fuel Management Engineer | - Chemistry and Radiochemistry Manager            |
| - Decommissioning Planner        |   |
| - Dismantling Supervisor         |   |

### GROUP REVIEWS:

- |   |   |
|---|---|
| - Site Manager                                    | - Radioactive Waste Engineer-Processing |
| - Decontamination Planner                         | - Maintenance Engineer/Manager          |
| - Engineering Support Manager                     | - Radiation Protection Supervisor       |
| - Dismantling Planner                             | - Radiation Protection Worker           |
| - Radioactive Waste Manager                       | - Nuclear Laboratory Technician         |
| - Radioactive Waste Engineer-<br>Characterisation |   |

The following job titles were changed:

- *Radioactive Waste Engineer–characterisation* into *Radioactive Waste Characterisation Manager*
- *Radioactive Waste Engineer – processing* into *Radioactive Waste Processing Manager*
- *Maintenance Engineer – Manager* into *Decommissioning Maintenance Manager*
- *Radiation Protection Manager* into *Radiation Protection Expert*
- *Radiation Protection Supervisor* into *Radiation Protection Officer*

The first three modifications were due to the understanding that these roles do not have to be necessarily covered by engineers. The other two were for alignment with the last European directives.

## **5. MATTERS OF DISCUSSION**

There were several issues concerning the general design of the taxonomy discussed either during the plenary sessions or within the working groups, and also posed by some participants during the communication held by e-mail previously to the meeting. Some proposals were adopted and will demand the adaptation of the existing profiles; others were not discussed in detail and should be brought up to plenary debate in future meetings.

### **Suppression of the ISCED entry qualification level**

This item is found to be troublesome, as there is no clear criterion for attribution and can potentially lead to bias when applying the EQF levels to the competence items. The customary practices vary greatly from one country to the other, where on the other hand, the education systems can present substantial differences. Moreover its inclusion was informative and is not essential for the definition of the job requirements in terms of competence.

### **Improvement in the classification of job categories**

L. Mr. Pironkov presented a proposal to provide a more detailed and consistent description of job categories, including also a differentiation for the nature of functions and reflecting the staff-and-line structure (see annex 2). This approach is generally accepted and applied in practice during the work sessions in the Operation group. After final definition of the wording, it should be implemented throughout the job list.

### **Harmonisation of job titles**

Linked to the previous proposal, a normalised terminology for naming of the job titles is presented (see annex 3) consistent with the abovementioned categorisation. This is also accepted and the existing job titles have to be adapted accordingly.

### **Changes to Organisational Structure**

The modification partly adopted in New Build phase needs to be further studied, including its possible applicability to the other two phases. The inclusion of new sections for nuclear safety oversight and work management is displayed in the example in Annex 4, which would be in line with the last business models widespread in the industry.

### **Standardisation of competence items**

An enlargement and revision of the KSC Catalogue should allow its use in systematic manner for an effective unification of the terminology.






































































































## **5. CONCLUSIONS**

The next Workshop should move closer to the completion of the project. It is necessary to streamline further the work methods to speed up the progress. An effort must be done in order to engage expertise in the New Build phase, as well as to attract contributors with operational experience.

## ANNEX 1: Updated list of job profiles

1. NEW BUILD			
Area	Ref	Job title	Status
SAFETY ASSESSMENT	<b>1.0.01</b>	<b>Nuclear Safety Manager</b>	1
	<b>1.0.02</b>	<b>PSA specialist</b>	1
	<b>1.0.03</b>	<b>DSA specialist</b>	0
	1.2.10.	Safety Design Engineer	2
1.1. SITE LOCATION	1.1.01.	Site Characterisation Manager	1
	1.1.02.	Licensing Manager	1
	1.1.03.	Nuclear Engineer	0
	1.1.04.	Health and Safety Officer	0
	<b>1.1.05</b>	<b>Geological (hydrogeology/seismic) experts</b>	0
	<b>1.1.06</b>	<b>Environmental External infrastructure expert</b>	0
1.2 DESIGN	1.2.01.	Design Manager	1
	1.2.02.	Civil Design Technician	1
	1.2.02[bis]	Civil Technical Draughtsman	0
	1.2.03.	Electrical Design Technician	0
	1.2.03[bis]	Electrical Technical Draughtsman	2
	1.2.04.	Mechanical Design Technician	1
	1.2.04[bis]	Mechanical Technical Draughtsman	2
	1.2.05.	Mechanical Design Engineer	1
	1.2.06.	Civil Design Engineer	1
	1.2.07.	Electrical Design Engineer	2
	1.2.08	I&C Design Engineer	2
	1.2.08[bis]	I&C Technical Draughtsman	1
	1.2.09	System Design Engineer	1
	1.2.11.	Project Integration Engineer	0
1.2.12	HVAC Design Engineer	1	
1.2.13	HVAC Technical Draughtsman	1	
1.3. CONSTRUCTION	1.3.01.	Construction Project manager	2
	1.3.02.	Transverse Engineer	1
	1.3.03.	Mechanical Discipline Engineer	1
	1.3.04.	Mechanical Construction Engineer	1
	1.3.05.	Civil Construction Engineer	1
	1.3.06.	Electrical Discipline Engineer	2
	1.3.07.	Electrical Construction Engineer	2
	1.3.08.	I&C Discipline Engineer	2
	1.3.09.	I&C Construction Engineer	1
	1.3.10.	Mechanical Construction Technician	2
	1.3.11.	Civil Construction Technician	1
	1.3.12.	Electrical Construction Technician	1
	1.3.13.	I&C Construction Technician	1
	1.3.14.	Mechanical Construction Worker	1
	1.3.15.	Civil Construction Worker	1
	1.3.16.	Electrical Construction Worker	1
	1.3.17.	I&C Construction Worker	1
	1.3.18.	Occupational Safety Manager	1
	1.3.19.	Quality Control Manager	2
	1.3.20.	Quality Control Technician	2
	1.3.21.	Environmental Manager	1
	1.3.22.	Welder	0
1.3.23.	Locksmith	0	
1.3.25	HVAC Construction Engineer	1	
1.3.26	HVAC Construction Technician	1	
1.4. COMMISSIONING(*)	1.4.01.	Electrical Commissioning Engineer	2
	1.4.02.	Mechanical Commissioning Engineer	2
	1.4.03.	Civil Commissioning Engineer	1
	1.4.04.	I&C Commissioning Engineer	2
	1.4.05.	System Commissioning Engineer	1
	1.4.06.	Commissioning Manager	1
	1.4.07.	Licensing Manager	1
	1.4.08.	Permission-to-work Officer	0
	1.4.09.	Permission-to-energize Officer	0

2. OPERATION			
Area	Ref	Job title	Status
	2.0.01.	Plant Manager	 3
2.1. NUCLEAR OPERATIONS AND WASTE MANAGEMENT	2.1.01.	Operation Planning Officer	 0
	2.1.02.	Licensing Officer	 3
	2.1.03.	Production Manager	 2
	2.1.04.	Training Officer	 2
	2.1.05.	Quality Assurance Officer	 2
	2.1.06.	Engineering Manager	 2
	2.1.07.	Operation Manager	 2
2.2. OPERATORS IN CONTROL ROOM	2.2.01.	Shift Engineer	 1
	2.2.02.	Senior Reactor Operator	 3
	2.2.04.	Reactor Operator	 2
	2.2.05.	Turbine Operator	 1
2.3. OPERATORS IN THE FIELD	2.3.01.	Field Operator Technician	 2
	2.3.02.	Field Operator Worker	 2
2.4. WASTE MANAGEMENT & RP	2.4.01.	WM&RP Manager	 2
	2.4.02.	Radiation Protection Officer	 3
	2.4.03.	Radiation Protection Worker	 2
2.5. CHEMISTRY	2.5.01.	Chemistry Manager	 2
	2.5.02.	Chemistry Supervisor	 1
	2.5.03.	Chemistry Operator II	 1
	2.5.04.	Chemistry Operator I	 1
2.6. SAFETY AND SECURITY	2.6.01.	Safety and Security Manager	 2
	2.6.02.	Industrial Safety Technician	 2
	2.6.03.	Industrial Safety Supervisor	 1
	2.6.04.	Fire Protection Worker	 1
	2.6.05.	Fire Protection Supervisor	 1
	2.6.06.	Environmental Supervisor	 2
	2.6.07.	Security Manager/Supervisor	 1
2.7. MAINTENANCE	2.7.01.	Electrical Technician	 2
	2.7.02.	Electronic-I&C Technician	 1
	2.7.03.	Mechanical Maintenance Technician	 2
	2.7.04.	Electrical Worker	 2
	2.7.05.	Electronic-I&C Worker	 1
	2.7.06.	Mechanical Worker	 2
	2.7.07.	Electrical Supervisor	 1
	2.7.08.	Electronic-I&C Supervisor	 1
	2.7.09.	Mechanical Supervisor	 1
	2.7.10.	Process Equipment Technician	 1
	2.7.11.	Welder	 2
	2.7.12.	Operational Locksmith	 1
	2.7.13.	Maintenance Manager	 2
	2.7.14.	Maintenance Planning Officer	 2
	2.7.15.	Civil Engineering Technician	 1
	2.7.16.	Process Equipment Engineer	 2
	2.7.17.	<b>Civil Engineering Supervisor</b>	 0
2.8. ENGINEERING	2.8.01.	Mechanical Design Engineer	 1
	2.8.02.	Civil Design Engineer	 0
	2.8.03.	Electrical Design Engineer	 1
	2.8.04.	I&C Design Engineer	 1
	2.8.05.	System Design Engineer	 0
	2.8.06.	Safety Design Engineer	 0
	2.8.07.	<b>Reactor Physicist</b>	 1
2.9. CANDU	2.9.01	Fuel Machine Operator	 1
	2.9.02	System Responsible Engineer	 1

3. DECOMMISSIONING			
Area	Ref	Job title	Status
3.1. MANAGEMENT	3.1.01.	Project Manager	 2
	3.1.02.	Contractors Manager	 2
	3.1.03.	Management System Manager	 2
	3.1.04.	Training Manager	 2
	3.1.05.	Licensing Manager	 2
	3.1.06.	Communication Manager	 2
	3.1.07.	Financial Manager	 2
	3.1.08.	Site Manager	 3
3.2. DECONTAMINATION	3.2.01.	Decontamination Planner	 3
	3.2.02.	Decontamination Supervisor	 2
	3.2.03.	Decontamination Worker	 2
3.3. PREPARATORY WORK FOR DECOMMISSIONING (2)	3.3.01.	Site Engineer	 2
	3.3.02.	Spent Fuel Management Engineer	 2
	3.3.03.	Engineering Support Manager	 3
	3.3.04.	Decommissioning Planner	 2
	3.3.05.	Decommissioning Supervisor	 2
	3.3.06.	Decommissioning Operator	 2
	3.3.07.	Decommissioning Worker	 2
3.4. DISMANTLING/EQUIPMENT	3.4.01.	Dismantling Planner	 3
	3.4.02.	Dismantling Supervisor	 2
	3.4.03.	Dismantling Worker	 2
3.5. DEMOLITION (BUILDING AND STRUCTURES)	3.5.01.	Demolition Planner	 2
	3.5.02.	Demolition Civil Engineer	 2
	3.5.03.	Demolition Worker	 2
3.6. SITE CLEAN UP	3.6.01.	Clean up Supervisor	 2
	3.6.02.	Clean up Worker	 2
3.7. RADIOACTIVE WASTE (1)	3.7.01.	Radioactive Waste Manager	 3
	3.7.02.	Radioactive Waste Manager-characterisation	 3
	3.7.03.	Radioactive Waste Manager-processing	 3
	3.7.04.	Radioactive Waste Worker-characterisation	 2
	3.7.05.	Radioactive Waste Worker-processing	 2
	3.7.07.	Transport responsible	 2
3.8. MAINTENANCE	3.8.01.	Maintenance Engineer – Manager	 3
	3.8.02.	Maintenance Supervisor	 2
	3.8.03.	Maintenance Worker	 2
3.9. HEALTH, SAFETY AND ENVIRONMENT	3.9.01.	Radiation Protection Expert	 2
	3.9.02.	Radiation Protection Officer	 3
	3.9.03.	Radiation Protection Worker	 3
	3.9.04.	Industrial Safety Engineer	 2
	3.9.05.	Safety Case Expert	 2
	3.9.06.	Environmental Manager	 2
	3.9.07.	Health Physics Technician	 2
	3.9.08.	Chemistry and Radiochemistry Manager	 2
	3.9.09.	Nuclear Laboratory Technician - Chemistry	 3
3.10 SITE RELEASE	3.10.1	<b>Final Release Process Supervisor</b>	 1

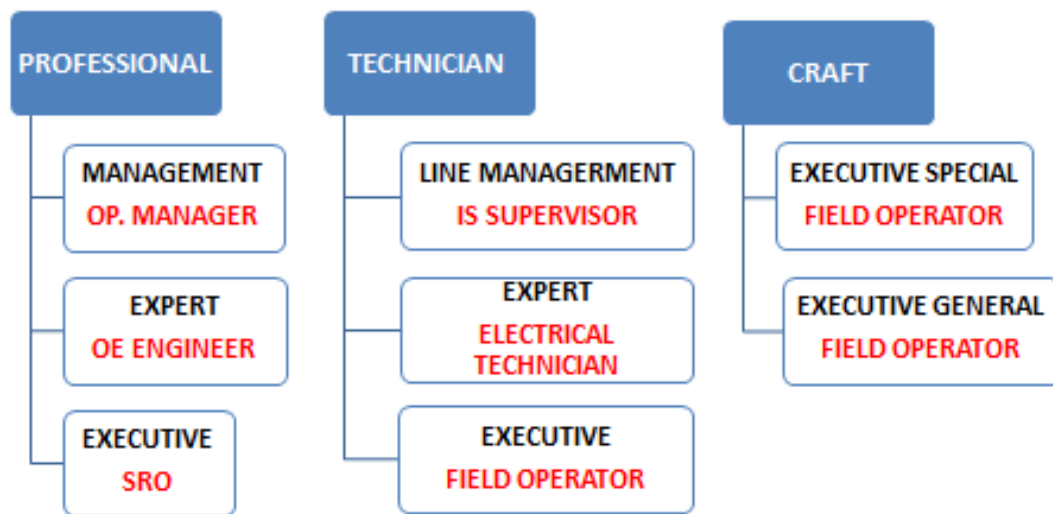
Grey: Proposed for suppression

Red: Jobs added during the 4<sup>th</sup> WS

Status: 0=blank; 1=draft; 2=peer reviewed; 3=group reviewed

## Annex 2: Classification of job categories

### CRITERIAS OF CATEGORIZATION

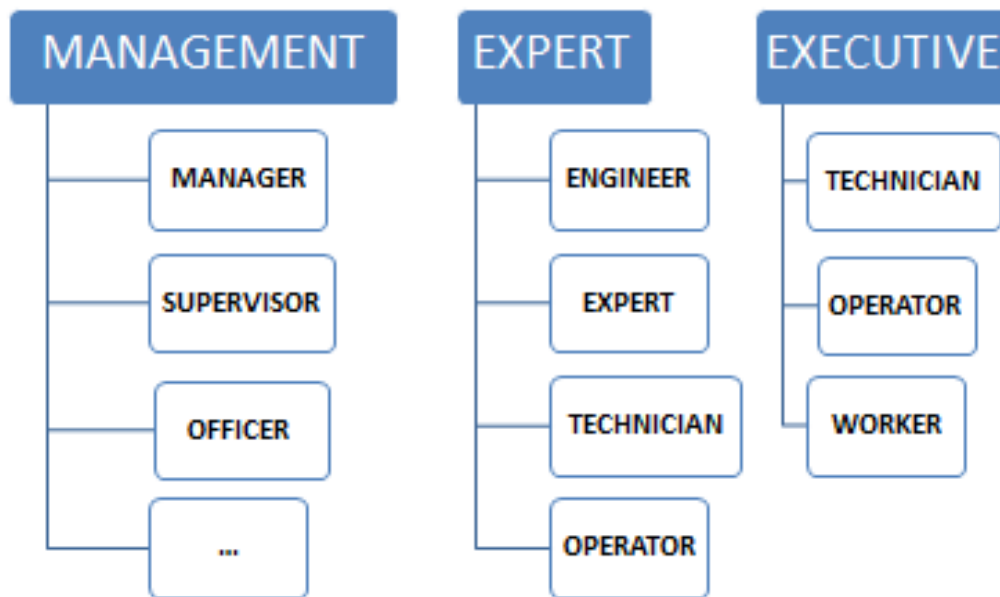


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**Annex 3: Normalised job titles**

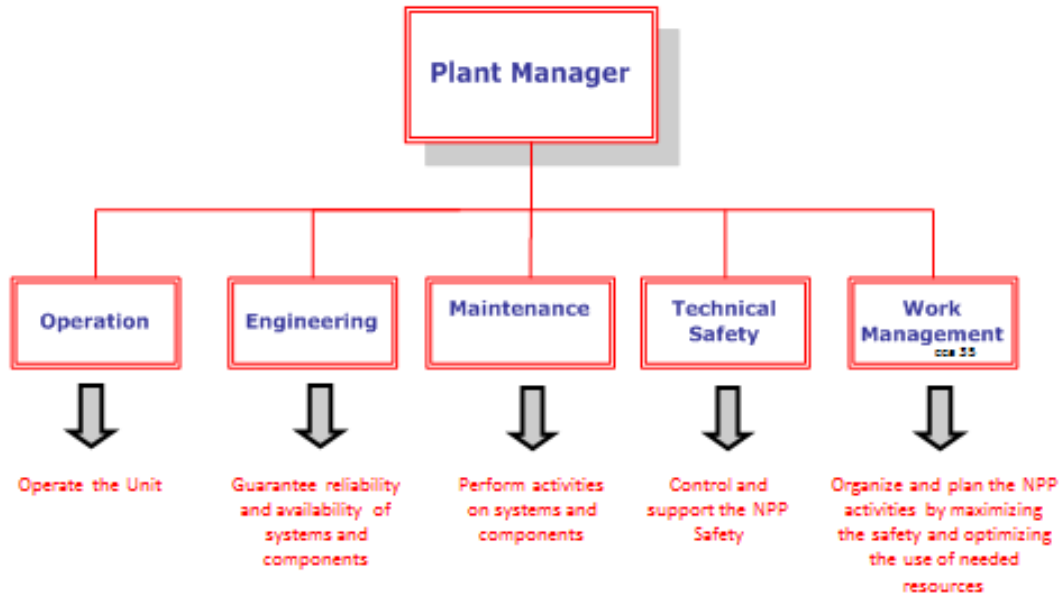
# SPECIFICATION OF PROFILE TITLES

TO BE SPECIFIED HIERARCHICAL LIST OF GENERIC JOB POSITION TITLES, E.G.:



4TH WORKSHOP ON NUCLEAR JOB TAXONOMY BERGEN, MAY 2013  
 L. Pironkov

## Annex 4: Proposed organisational model



*F. Pasqualoni*