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Selection, competency development and assessment of nuclear power plant managers

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SELECTION, COMPETENCY DEVELOPMENT AND ASSESSMENT OF
NUCLEAR POWER PLANT MANAGERS
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FOREWORD

In 1996 the IAEA published Technical Reports Series No. 380, *Nuclear Power Plant Personnel Training and its Evaluation, A Guidebook*. That publication provides guidance with respect to development, implementation and evaluation of training programmes for all NPP personnel, including managers. The IAEA International Working Group on Training and Qualification of Nuclear Power Plant Personnel recommended that an additional publication be prepared that provided further details concerning the training and development of NPP managers. This report has been prepared in response to that recommendation.

In the past, much of the focus of formal NPP training and development programmes was on the technical skills of NPP personnel, particularly control room operators. NPP managers were generally selected from the population of NPP personnel based on their technical skills and an expectation that they had some aptitude for management. The environment in which NPPs are operating has continued to change, placing new demands on NPP managers to continue to maintain a high level of safety while at the same time finding new ways to work more efficiently and effectively. It is in that context that more structured ways for the selection, competency development and assessment of NPP managers are proposed in this report. An integrated approach based on the competencies that these managers need in order to be successful is proposed.

EDITORIAL NOTE

CONTENTS

1. INTRODUCTION

1.1. PURPOSE

This publication provides information on proven methods and good practices with respect to the selection, development and assessment of nuclear power plant (NPP) managers. In this publication, the term NPP manager includes all levels of managers from first line managers who supervise work groups or teams, to middle managers, and senior managers (including the plant manager and his/her peers in the utility organization). Given that there has been continuing focus in the nuclear industry on the technical aspects of NPP managers' jobs, this publication deliberately focuses principally on management competencies. There are five primary purposes for this publication: These are to:

- Stress the importance of appropriate selection, development and assessment of NPP managers for the continued safe and efficient operation of NPPs.
- Describe an integrated approach to the selection, development and assessment of NPP managers.
- Provide the basis document for a self-assessment of current selection, development and assessment methods.
- Support the development of national normative documents on manager development.
- Provide examples of good practices to achieve better selection, development, and assessment of managers.

1.2. ROLE OF MANAGERS

According to fundamental safety principles identified in IAEA Safety Series No. 75-INSAG-4, *Safety Culture*, the responsibilities of managers are directly connected with the establishment of a safety culture, the role and responsibility of the operating organization, the provision of regulatory control and verification of safety related activities.

This is part of a manager's wider role in setting the standards and expectations for all staff in all aspects of company business. In addition, it is essential that managers themselves visibly meet these standards and help staff to understand why they are appropriate.

When speaking about any kind of culture, society or company, we should recognize, that NPP managers have an extraordinary influence on culture by:

- Designing and adhering to policy, rules and procedures,
- The way they select employees or remove people from senior positions,
- Being a role-model and organizing specific training,
- The involvement and interest they have in certain activities,
- Their way of reacting in crisis situations.

It should be clearly understood, that in addition to written policies, managers' everyday attitudes and behaviors have an outstanding influence on the establishment of an organization's culture. NPP managers' personal sharing of an organization's values and their demonstration of adherence to the organization's policies, rules and procedures is the cornerstone by which NPP safety culture, operational culture, and quality culture are established and enhanced.

To improve human and power plant performance senior managers in each organization must understand and support the need to develop the management and technical skills of all individuals to perform their assigned tasks. This support should be in the form of modeling the new behaviors and providing resources including adequate funds to develop and implement management and technical skills programmes.

Based on the experiences of utilities that are leaders in the operation of nuclear power plants, a competency based approach to NPP manager selection, development and assessment is suggested. For

the purposes of this publication, competencies are defined as groups of characteristics, values, knowledge and skills that lead to superior performance as demonstrated through behavior It is important that the competencies selected are those that are considered to be critical to the success of both individuals and their organizations

1 3 BACKGROUND

In the past, much of the focus of NPP training programmes was on the technical skills of the operators of the power plant, particularly control room operators Most NPP managers were selected from the plant staff based on a combination of their technical expertise and, to a lesser extent, their aptitude for management For many NPPs there was little or no formal management training provided for managers They were expected to learn by doing, and/or through informal mentoring

1 4 NEW DEMANDS

In the environment which NPP managers find themselves in today, there is increased emphasis on safe, efficient and effective plant operation The pace of change in the nuclear power industry has increased, and is likely to remain at a high rate for the foreseeable future Issues such as competing in open energy markets, increasing economic pressures, and maintaining high safety standards have made new demands on NPP managers at all levels, and will probably make additional ones in the future Managers are expected to maintain high levels of nuclear safety and at the same time be more efficient to reduce their cost of production Such circumstances underline the need to give managers the necessary training to succeed in such a demanding environment

1 5 BENEFITS

Information provided in this report was obtained from utilities that have experience in competency based management programmes Such utilities have found considerable benefit in providing management training programmes to develop prospective managers and/or to provide training and development opportunities for individuals once they are selected for a management position It is a premise of this publication that to be effective in this environment, management competencies such as those identified in Appendix A, e g people development, strategic thinking, decision making, and managing change will be as important to the success of NPP managers as required technical competencies Enhanced manager competence will lead to improved plant performance by ensuring that other members of the staff are encouraged to contribute to the overall safe operation of the power plant through increased performance, improved morale and job satisfaction

1 6 STRUCTURE

This report is organized into four sections, a glossary, two appendices, and several annexes

The Introduction (Section 1) provides the framework for the report

Section 2 describes how appropriate management competencies can be used for the selection, development and assessment of NPP managers, including

- Selection which includes recruitment, promotion and succession management
- Management development programmes including formal training, job rotation, on the job training, mentoring, and outside assignments
- Assessment of individual performance

Section 3 describes a systematic process for identifying the competencies needed by NPP managers This section culminates in a set of suggested core competencies for NPP managers which are further expanded in Appendix A

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The annexes included provide specific examples of competency-based management selection, development, and assessment programmes in several Member States

- Annex A is one method to organize and display competencies
- Annex B is an example of using competencies for selection of first line managers
- Annex C is an example of using management competencies for succession management
- Annexes D–H are examples of management development programmes
- Annexes I and J are examples of management assessment programmes

A glossary of terms is provided at the end of the report to explain the use of some key terms

1 7 HOW TO USE THIS REPORT

This report is intended for two principal audiences (1) senior NPP managers, and (2) management training developers It is recommended that each audience use this report as follows

- **Senior NPP managers** — should read Sections 1 and 2, and the Management Competencies in Appendix A It may be of value to read some of the examples of how management competencies are used for selection, development, and assessment as described in the annexes This will provide managers with an understanding of competencies needed to be successful (i e , as a self-assessment tool) It will also provide information to develop policy and procedures for NPP manager training
- **Management training developers** — should read the entire report with particular focus on Sections 2, 3 and the annexes This provides developers with examples of good practices and the methods that can be adapted to develop a process for an organization

This report is generic and each country should consider its implementation in the context of national culture, status of their nuclear programme, and available training services and facilities Where appropriate, IAEA workshops/seminars, advisory missions, and expert missions could assist in introducing such programmes and identifying good practices in this area

2. NUCLEAR POWER PLANT MANAGER SELECTION, COMPETENCY DEVELOPMENT AND ASSESSMENT

The purpose of this section is to describe, competence based, integrated programmes for NPP manager selection, development and assessment The principal audience for this section is senior NPP managers Section 3 provides guidelines for the development of these programmes Its principal audience is management training developers These two sections and the associated annexes provide examples of specific processes and practices that are being used by some nuclear power generating organizations to good effect to ensure that managers have, and continue to develop, the management competencies required for success

NPP managers have a wide range of responsibilities They need to be involved in the day-to-day operation and technical oversight of the power plant and also need to manage the activities of a highly diverse and highly technical staff It is important, therefore, that plant managers possess good organization and management skills as well as a broad range of technical knowledge and skills if the station is to achieve high standards in operational safety and reliability

2 1 NPP MANAGER SELECTION

Manager positions may be filled by promoting from within or recruiting individuals from outside the organization In either case, the identification and selection of an individual to fill a particular manager position will be more successful if it is based on the competencies that the person will need to have or develop to successfully perform the position being filled The closer the match of

individual skills, abilities, and aptitudes to the competencies required on the job, the more likely it is that the organization will have another effective manager. The following factors must be taken into account:

- Management, analytical and supervisory ability,
- Experience (i.e., performance in previous jobs),
- Education and training,
- Knowledge of NPP operations, and
- Psycho-physiological characteristics, including attitudes toward nuclear safety and quality.

To make this comparison effectively and efficiently, the NPP organization must have clearly defined job requirements and competencies and systematic processes for collecting information on, and assessing, job candidate qualifications. This will require support of personnel trained in assessment techniques.

2.1.1. Assessment of management capabilities

Those competencies identified as key to business success should form the basis of the selection process. They may vary from organization to organization depending on their needs at the time. The process to determine the appropriate competencies will be more successful if the senior managers agree with and visibly support it. The senior managers must ensure that the competencies are in agreement with the organization's goals, objectives, principles and policies. It may even be necessary to change policy to reinforce the competencies selected.

Once the competencies are agreed upon, they can be used as part of a structured selection process. Assessment of management capabilities is a process that uses multiple techniques to evaluate candidates for manager jobs that may be significantly different from their current jobs. The results of the assessment are used to predict the probability of manager success in the job. There are a number of options for capability assessment some or all of which may be considered. (In all options the assessment process will generally be better received and more valued by candidates if it includes a development element. That is, unsuccessful candidates should be given feedback on where further development is needed, rather than just being told they were unsuccessful.)

One focus will be on determining if the manager candidate has the psychological characteristics to successfully master the competencies associated with a specific management job or with a particular career path. This aspect of assessment must not be overlooked because no matter how technically qualified a person is for a manager position, without certain psychological and physiological characteristics, attitudes (including attitudes toward nuclear safety and quality), personality traits and social aptitudes they may not be successful as a manager.

A second focus of the capability assessment is to determine the candidate's aptitude to perform job related tasks. Competencies can be the bases of the exercises in an assessment center to evaluate a potential manager's abilities(an assessment center is a process, rather than a location, that uses assessment techniques to evaluate candidates for jobs that are usually significantly different than what they currently perform). In this context, the assessment center process usually consists of exercises that are based on the competencies that are needed for successful performance of the job. The exercises may include group discussions, role-playing, in-basket/in-tray work or simulated interviews. The candidates are assessed by trained evaluators. The evaluators are typically experienced managers who have been trained in assessment techniques. Each candidate typically is evaluated by two or more evaluators. The assessors each make an independent rating of the candidates they assessed during the various exercises. After the independent assessment, the evaluators reach consensus on the rating of each candidate on the competencies evaluated. The results of the assessment are typically provided to the candidates to identify strengths and areas for improvement. The candidates that achieve the predetermined acceptable rating are considered to have the potential to succeed in the job the assessment center was designed to evaluate.

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A third focus of the capability assessment is to develop a structured interview based on the competencies that are important for the job being filled. The competencies can be used to develop structured interview questions to measure the potential manager's ability in the areas that are important for the job. The competencies can be used as part of the evaluation of an internal candidate to determine if the employee can be promoted based on the ability to perform the competencies of the targeted position

An example of the way competencies are used as the basis for an assessment process at Pennsylvania Power and Light (USA) is provided in Annex B

2.1.2. Succession management

Succession management may be described as the process whereby those positions considered key to the ongoing viability of an organization are identified, as are those individuals who are capable of filling those positions effectively, should the current incumbent be unavailable for whatever reason

As within the selection process, which the succession management process is intended to support, using the developed technical and managerial competencies as a basis for the definition of the requirements of key positions within the organization, will ensure that the right people are selected to fill these positions when they become vacant. Hence, an effective succession management process should include, but not be limited to, the following elements

- Identification of all key positions in the organization. These should be described in terms of why they are essential to the organization and what are the necessary technical and management competencies and experience required for a manager to be effective in this position
- Identification of those staff who have the potential to fill these positions. This is achieved by assessing selected staff against the competencies and identifying those who are, or have the potential to be, competent in the areas required (usually via assessment centers). This could be subdivided, e g those who are competent now, those who need limited further development and those who need significant further development
- Identification of development opportunities available for staff identified for succession e g assignment of a production manager from a power plant to headquarters to work on a project (which may itself be a development action) creates a potential opportunity for development for someone needing that level of production experience
- Identification of relatively 'junior' staff with significant potential whose development and experience the company needs to manage appropriately to ensure they fulfill their potential, to the company's benefit
- A regular review process whereby information from the above elements is assessed and analysed on a company wide basis as a 'health check' and to identify any gaps or vulnerabilities on which the company needs to take action. This needs to be owned and reviewed by the most senior managers in the company as it is their responsibility to ensure the succession health of the business

Since effective succession management arrangements are an important element of the continuing well-being of a company, it is essential that they are owned and understood by all parts of the organization. Hence it is recommended that it should be a 'bottom-up' process, i e the review process should begin within individual departments/business units, then aggregated into divisional plans and culminating in a company wide review to ensure the capture of all significant issues

An overview of the succession management arrangements of Nuclear Electric Ltd (UK) are presented in Annex C

For the purposes of this publication, development is defined as any/all activities which provide an individual the opportunity to develop the competencies required to contribute to the success of the organization These activities ensure that managers and potential managers of NPPs acquire and maintain the requisite competencies to perform in a safe and efficient manner The emphasis of these activities will be experiential in nature and will be in a variety of formats including self-development, formal training, staff rotation, on the job training (OJT) and work based projects, and outside assignments Which format is chosen for which development need will depend very much on the job competencies, the learning style of the individual undergoing development, and other organizational factors, such as the availability of the individual to be released from his normal work to undertake development

2.2.1. Categories of management development programmes

The programmes that are developed or selected to be used for manager development will generally fall into one of two categories (1) core training programmes that generally are needed by all personnel selected for manager positions and (2) individualized development programmes that generally are designed to meet the needs of an individual manager candidate

Core training programmes usually exist where the position has some generic management requirements and the personnel selected for the job are unlikely to have previously mastered the basic job requirements or competencies, or where senior managers wish to convey company messages such as required behaviors For example, individuals selected for first line manager positions are unlikely to have any experience or extensive knowledge in areas such as job planning, project management, budgetary control or administrative processes and procedures Therefore, it would be logical to require all first line managers, or candidates for such positions, to complete a common set of development activities to ensure they master the basic competencies of a first line manager

Individualized development programmes are based on the ongoing assessment of a manager's qualifications and performance Most organizations establish some type of Individual Development Plan process that documents a manager's strengths as well as identifies areas where performance improvement is desirable In the latter case, specific development activities, designed especially for the individual manager, are defined Some form of personal development planning tool will be of significant value, and there are a number of commercially available products for this purpose Equally an organization may wish to develop its own approach One of the key benefits of such tools is that it encourages all individuals to take ownership of their own development, rather than being seen as something which is being "done to them"

Feedback from individual development activities may be useful in assessing the need for organizational change in the area of manager competencies

2.2.2. Development options

When considering different development options, it is important to remember that the individual's preferred learning styles are as important as the nature of the development required, e g one individual may find that the best way to learn about a project management process is to read about it, while someone else would need to actually participate in the process to understand it The following sections briefly describe common development activities that are employed to ensure individuals master job competencies, including management competencies All of these options should be considered when planning an individual development programme for individual managers or designing development programmes for groups of managers

It is also important to remember that whatever option is chosen the activity should be developed based upon objective and measurable learning objectives

Self-development. Many management competencies may be acquired or improved by continuous self development efforts by the managers themselves. All nuclear power organizations rely to some extent on managers acquiring special management and technical knowledge through self-development. Acquisition of licenses, higher level degrees, foreign languages, knowledge of technical specialties, and organizational skills are frequently the results of self-study and self-directed improvement programmes.

The higher the level of manager, the higher the level of job competency is required, but there frequently is less opportunity for formal training and other off the job development activities. The organization should establish a policy that provides time and incentives for self development. Both should be formalized in the individual development plans or whatever formal process the organization uses to structure manager development.

Formal training is generally appropriate where the learning is knowledge based and is structured or proceduralized. Where large numbers of staff need the same development, it has cost benefit in terms of economies of scale. The advantage of classroom based formal training is that it allows interaction between participants and between participant and trainer/teacher. Another, often underestimated, benefit is opportunity for participants to build up a network of contacts who have shared similar experiences. The main disadvantage is that it involves time away from the primary workplace. This may be minimized by the use of open learning to convey the basic principles and background to a topic being studied and then using time in the classroom for enhancing understanding (open learning is student centered and managed learning without the traditional barriers to participation. It may simply be by the use of (work)books but is often delivered by information technology means)

Staff rotations and outside assignments. Rotation of NPP managers or potential managers within their organization, either inter-department or inter-site allows for an effective exchange of ideas and experience. Organizational and functional relationships can be explored and the needs of the different parts of the business better understood. This will allow managers working in support functions to improve the service they give to the production units and similarly allow those in production to understand the constraints and limitations placed on those working in support.

Similarly, assignments to positions outside their organizations are beneficial. They allow exploration of different organizational and functional relationships. Observation of others' management styles, and application of their business practices can be very valuable, helping managers to step outside their own organizational "mindsets". The participant is provided with the opportunity to compare his/her line of business with others.

On the job training (OJT) is an effective way to obtain experience and develop the skills required to become an NPP manager. It allows managers or potential managers to perform in real time situations, in the proper work environment, while under direct or indirect supervision. Regular, immediate feedback to the individual is provided. To maximize the effectiveness of OJT, clear objectives have to be identified and applied to each OJT activity. It also has the benefit that the manager is doing "real" work and is not removed from the workplace.

OJT may take the form of undertaking a routine task, normally conducted by someone else, or it may be in the nature of a project or special assignment which would not otherwise be done but will nonetheless add value to the organization. Undertaking such a project would typically involve developing several competencies simultaneously, e.g. project management, budgetary control, resource management and staff development.

Mentoring is that process whereby an experienced manager is assigned to assist and counsel a junior manager or potential manager in his/her development. To be effective, the mentor should be at a level significantly higher in the organization than the person being mentored. Mentors can be from outside the individual's organization. Outside mentors can be from professional organizations, previous work locations, or social acquaintances. This ensures that the experiences of the mentor will add value

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Mentors can be used during all phases of the development programmes as advisors and role models During training activities they can also act as facilitators, observers, subject matter experts, and lecturers

Annexes D–H provide examples of elements of management development programmes

2 3 NPP MANAGER PERFORMANCE ASSESSMENT

Assessment is a structured process that uses objective data to assess, measure, and provide continuous feedback to the manager Assessment systems help shape behavior within the organization by providing inducements and rewards to join, remain, and work toward specific objectives Reward systems that are aligned with core competencies and with systems that measure performance provide managers with incentives for achieving the organization's goals

The foremost objective of assessment should be continuous improvement of the managers and plant performance As such, a good system will be based on the integration of two sets of performance evaluation and feedback (1) data regarding the performance of individual managers and (2) data regarding plant performance, which is the ultimate measure of manager success For the most part plant performance parameters are regularly measured and reported via some type of assessment system On the other hand, assessment of individual manager performance is less well defined although nuclear power organizations employ a wide range of processes for that purpose

NPP organizations can establish clear expectations for their managers through the development of a competency based approach to assessment Having well-defined technical and management competencies provides the best possible basis for an assessment system A precise set of technical and management competencies outlines the performance requirements and standards for all levels of managers Implementing a competency-based assessment system can be the critical factor that distinguishes a mediocre organization from a high performing organization

The following characteristics reflect the dimensions of a competency-based assessment process

1 Communicates clear expectations about optimal performance and the process for linking performance to the core competencies at every level of manager in the organization
2 Holds all levels of managers in the organization accountable for achieving the optimal level of performance
3 Provides continuous feedback about optimal performance in terms of the core competencies
4 Recognizes and rewards individuals who meet the optimal level of performance in each core competency
5 Provides specific developmental plans based on the core competencies to managers at all levels

Assessment systems are most effective when performance expectations are defined using behavioral terms that are clear and objective rather than subjective Objective expectations are defined as Specific, Measurable, Attainable, Realistic and Timely (SMART) and as a result performance can be measured accurately

Successful organizations use the assessment process as a mechanism to create continuous improvement for all managers An effective assessment process communicates the following information to individuals

1 Defines the performance standard or expectation
2 Defines why the standard or expectation is important
3 Explains how the standard or expectation will be measured
4 Clarifies how feedback for continuous improvement will be provided
5 Explains the schedule used to provide feedback

High performing managers spend time with their people, coach them and provide daily feedback to help analyse the results of an individual's efforts They model the behaviors necessary to achieve expectations, establish values, and incorporate the competencies

Formal periodic performance appraisals should be an integral part of the assessment process because they provide a method to measure and document performance However, individuals should receive feedback about performance frequently, and a periodic formal performance appraisal should not be expected to take the place of continuous performance feedback from supervisors, project managers, department heads, etc In fact, periodic performance appraisals can become disruptive and counter productive if not viewed as the formal documentation of a continuous process

There are a number of assessment systems being used in the nuclear power industry Most organizations will share their experiences, processes and documentation with other NPP organizations Reviewing a number of existing competency-based assessment systems would be an effective approach to establishing one at the reader's nuclear power organization (Annex I provides an example of a performance appraisal system) The following characteristics should be considered in a review of existing performance appraisal systems

1 There should be a clear and direct association between performance measures, job competencies and any individual development activities
2 Both individual performance and plant performance data should be used in the overall evaluation of managers
3 Performance feedback should be continuous, and the system should not rely solely on periodic evaluations such as annual, semi-annual, or quarterly performance appraisals
4 There should be a direct link between performance appraisal and rewards
5 Input to individual appraisal should come not only from supervisors but also from co-workers, customers, direct reports, and peers (Frequently referred to as 360 degree feedback)
6 Performance appraisal should be linked with individual development plans or other improvement systems
7 Performance appraisal should feedback into organization goals and the job competencies themselves in order to continuously improve managers' performance

Recognition and reward systems should be built into assessment systems Rewards can be intangible as well as tangible Some examples of intangible rewards/ recognition include challenging work assignments, the chance to be creative, or establishing a sense of accomplishment Reward systems may be very creative, but the bottom line is that proper incentives result in higher quality work

3. A SYSTEMATIC APPROACH TO DEVELOPING PROGRAMMES FOR THE SELECTION, COMPETENCY DEVELOPMENT AND ASSESSMENT OF NPP MANAGERS

This section has two purposes

- First of all, it provides an overview of a systematic process for developing programmes for selection, development and assessment of NPP managers, together with practical guidance based on the experience of a number of utilities
- Secondly, within that process, emphasis is provided on the methods for identifying the core competencies that are needed by NPP managers to be successful As compared to technical competencies, management competencies

  - are more unique to the organization and its culture,
  - have greater variability in the entry level competency of new appointees,
  - are more difficult to objectively measure

Figure 3 1 presents a model for a systematic approach to developing competency-based selection, development, and assessment programmes for NPP managers It is based on systematic approaches currently in use by nuclear power organizations The model contains four basic action steps

- Analyse the job to identify and define, the competencies that managers should have to perform their jobs (Section 3 2)
- Design and development of the selection, development, and assessment programmes necessary to hire and promote the right manager (Section 3 3)
- Implementation of the programmes in an effective and timely manner (Section 3 4)
- Evaluation of the effectiveness of the programme by the performance of individual managers (Section 3 5)

Management support and involvement
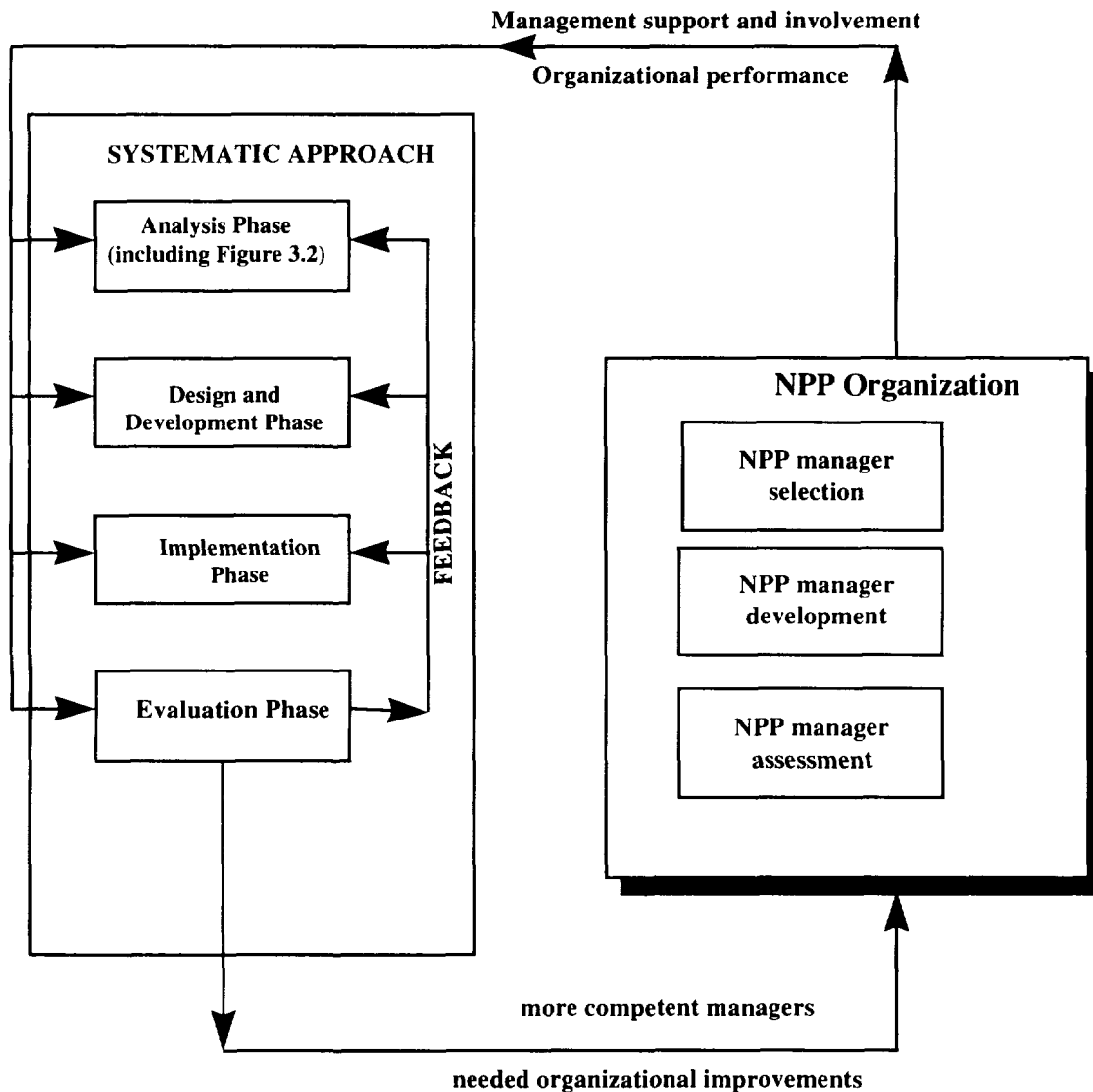

FIG 3 1 Systematic approach model

3 1 MANAGEMENT SUPPORT AND INVOLVEMENT

A critical component in the success of the systematic approach to competency-based manager selection, development, and assessment process is support and involvement by incumbent managers during all phases of the model In particular, senior managers must perform the following roles and activities

1   Demonstrate, by day-to-day actions, the behaviors expected of the organization's managers

2   Sponsor the competency-based manager selection, development, and assessment programme Senior managers must make it clear to all organizational levels and to the personnel in manager positions that competency-based manager selection, development, and assessment process is the policy and approach by which the organization will select, develop, and assess its managers Senior managers should communicate to all personnel that they may be asked to participate in the design of the programme, and are expected to support its implementation Most importantly, senior managers must make it clear to all managers that this programme is important to them and to the successful operations of the organization

3   Be involved in the development and approval of the management competencies In particular, senior managers should provide an ongoing link between the competencies that are defined for key manager positions and the goals, vision, and mission of the organization New technical business or management competencies that may be associated with changes in the way that the organization does its business should be defined by senior managers These competencies should be developed in key managers to ensure success in new ventures as well as continued success in existing organizational activities

4   Demonstrate their support of the programme Typical ways for senior managers to demonstrate their support and sponsorship of a competency-based manager selection, development, and assessment process is to show visible support, participate in the development and maintenance of the process, participate in the selection and mentoring of managers, and respond to the feedback obtained from the evaluation of the programme Senior managers can establish incentive programmes related to participation and performance in manager development programmes

3 2 ANALYSIS PHASE OF NPP MANAGER SELECTION, DEVELOPMENT AND ASSESSMENT PROCESS

The purpose of this section is to present some general guidelines regarding how to identify and define job competencies for manager positions In addition to the guidelines, two actual approaches or methodologies for defining competencies that are being used in nuclear organizations are presented in Annexes A and B

In Section 1 2 of this report, competencies were defined as a group of characteristics, values, knowledge, and skills (CVKSs) that lead to superior performance as demonstrated through behavior It should also be remembered that the desired 'superior performance' must always be tied to requirements that the organization must fulfill if the organization is to continue to exist and operate successfully Figure 3 2 identifies seven key factors that are applicable to the operation of a nuclear power plants These factors will have a major influence on the nature of the essential management competencies The factors are

*   The organizational culture which is how activities are done in accordance with the goals, mission, vision, and values This is influenced by the norms of the society surrounding the nuclear organization
*   The business environment which means whether the organization is regulated, government owned, or in an open market
*   The safety culture is the necessary attitude to operate the plant in a conservative, responsible manner
*   The administrative requirements are influenced by the business environment, regulatory requirements, corporate policy, and organizational culture
*   The regulatory requirements are dictated by oversight organizations
*   The job technical requirements are the understanding of the technology and the controls necessary to operate a nuclear power plant
*   The corporate policy is the rules that are imposed from the organization

Managers must have the competences necessary to ensure that the nuclear organization can meet the unique challenges that these factor present in the daily and long term operation of the nuclear power plant

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Organizational Culture
Goals, Mission,
Vision and Values

Corporate
Policy

Business
Environment

Core
Management
Competencies

Safety
Culture

Job
Technical
Requirements

Administrative
Requirements

Regulatory
Requirements
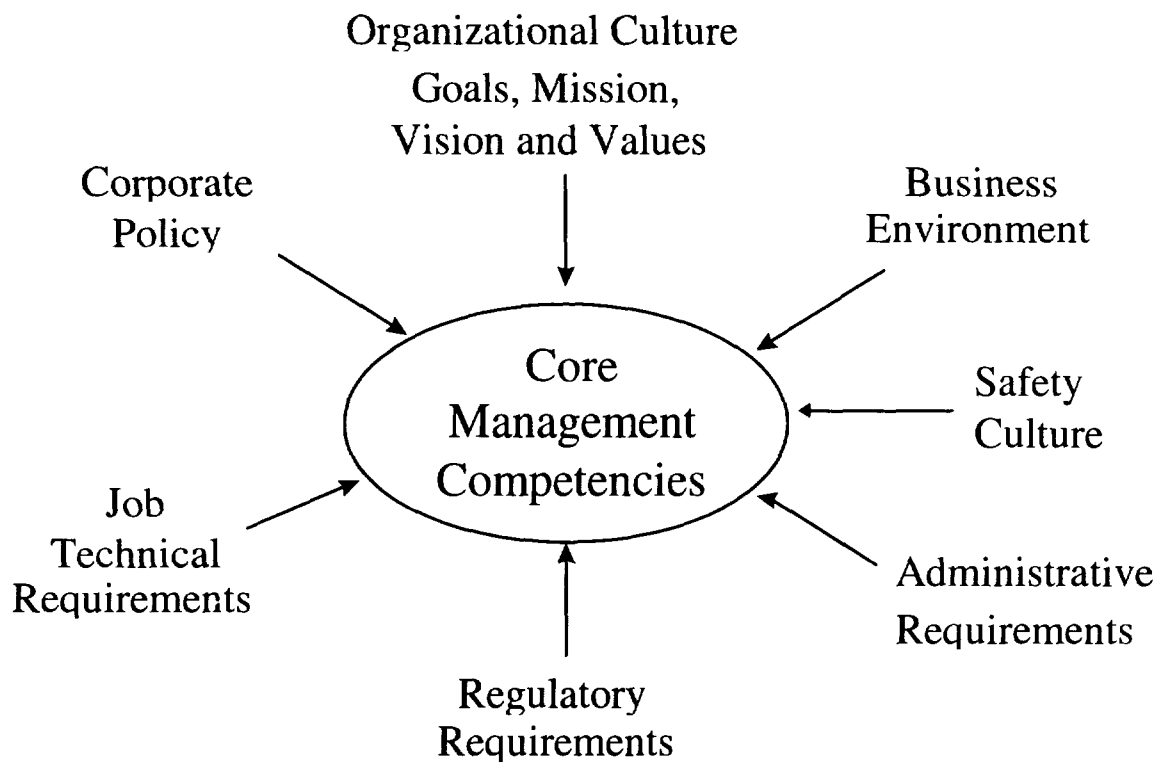
FIG 3 2 Factors influencing the competencies required by managers

3.2.1. Identifying competencies for management positions

Each nuclear power organization may establish its own unique methodology for identifying management competencies, but there are certain activities that should be included in that methodology. The following activities are presented not as a fixed procedure but rather as general guidance in defining an approach to identifying management competencies Annexes A and B describe approaches to developing management competencies successfully implemented by some nuclear power organizations

Activity 1   Define Who The Managers Are

The initial reaction to this suggestion may be that if there is anything well known it is who the managers are in the organization. Most organizations think this until they actually start the process of developing a competency-based selection, development, and assessment programme The problem lies in defining managers within the professional technical departments, such as engineering Also, managers in the organization may be differentiated as to whether they are line managers in the general organization or project managers within specially structured project organizations At any rate, an important first step in developing a competency-based selection, development, and assessment process is to review all aspects of the organizational structure and job definitions to precisely define manager positions

Activity 2   Start With Existing Management Competency Lists

Many of the competencies that apply to managers are the same ones that are applicable in other nuclear power organizations This comes as no surprise and there is no need to reinvent the wheel Start with an existing list of management competencies and build on it, identifying specific competencies for the organization's managers It will make the process more efficient and in almost every case result in a superior product

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An IAEA working group developed a list of general manager competencies A summary of the list is contained in Section 3 2 3 Detailed descriptions of these general management competencies are contained in Appendix A

Activity 3   Get Input From Incumbent NPP Managers

A critical concept is to get input from the personnel in manager positions This may seem obvious, however, many times the management competencies are identified by upper level managers or outside experts with little or no input from the job incumbents This practice can have very negative results First, job incumbents know more about their jobs than anyone else and their input is necessary to have confidence that the identified management competencies are an accurate and comprehensive list Involvement by the managers in the identification of their job competencies also contributes to their confidence that the proposed competency-based selection, development, and assessment process will be fair and effective

Activity 4   Review Requirements Documents

Documents that are most directly related to the job are easy to identify, and it is generally the practice to review the requirements in these documents to see if the requirements may be the basis for identifying specific management competencies These documents may include regulatory requirements, administrative manuals, technical procedures, project management guidelines, job descriptions, or functional descriptions of the organization

On the other hand, it is not so obvious that documents such as organizational goal and mission statements, corporate policy, business plans, and other documents profiling future organizational directions should be reviewed and reflected in management competencies Yet, it is critical to have a management staff that is clearly aware of the overall priorities and needs of the company and prepared to undertake new business and technical requirements if new business directions are to meet with success

Activity 5   Interview Selected Customers (both internal and external customers)

Most organizations do not involve their customers when defining management competencies However, the customers should have another perspective from which to identify the competencies that are really important to managing an effective and efficient operation It is generally sufficient to involve only a selected group of customers in the process of identifying management competencies The input received is usually excellent and this practice will demonstrate to the customers that the organization is concerned that the customers' requirements are met

Activity 6   Review Organizational Performance

A final set of data that should be reviewed is organizational performance information If the organization is not performing as desired in particular areas, the reason may well be linked to some specific lack of competencies in the managers

3.2.2. Validate competencies

Once a final list of organization specific management competencies has been developed, it will be worth the effort to conduct a validation of the identified competencies A good practice is to have the final list of competencies reviewed by a select group which could include superior performing incumbents and human resources personnel The individuals selected are independent from those who initially developed the list This group should strive to validate that the identified competencies are accurately expressed and reflect critical job requirements

The final step of validation is to have senior management review and approve the lists of management competencies As stated earlier, it is critical that senior managers are involved in a competency-based

selection, development, and assessment process Moreover, it is very important that senior managers approve the final management competencies before selection, development, and selection process are designed and developed

3.2.3. Other considerations in establishing management competencies

Other issues to be considered in establishing a competency-based management selection, development, and assessment process include

Number of competencies There is no fixed number of competencies for any job position There should be adequate competencies for each job position to reflect the key requirements and responsibilities associated with the position However, the number of competencies can be controlled to a degree by how broadly or specifically the competencies are written For the most part, it is better to state the competencies broadly and thus try to limit the number associated with any one job position

Core versus job/department specific competencies Most organizations attempt to establish core management competencies that are appropriate for all managers job positions An example of a core competency could be planning Personnel in all manager jobs have to conduct some type of planning activities — from planning a routine maintenance task to developing complex strategic plans for the entire organization A broadly stated planning competency statement could be applicable to senior managers as well as first line managers

Format of competency statements When writing competency statements, the key is to establish a consistent format for stating competencies For the general management competencies contained in Appendix A, the IAEA working group used a format that included a brief definition of the competency, explanation of its impact on organizational performance, and a list of the key characteristics, values, knowledge, and skills that make up the competency

The definition and explanation should be brief, yet include enough information to make it clear to the reader The characteristics, values, knowledge, and skills should be written as action statements and should be reflected in the performance and behavior of the managers that require this competency As noted earlier, they may be broadly written so that they are applicable to multiple manager levels

The following are the general competencies that were developed Details concerning these competencies are provided in Appendix A Other issues which can potentially impact upon the identification of plant-specific NPP manager competencies are provided in Appendix B

- ACHIEVING RESULTS The successful implementation of work activities which leads to the desired outcomes from processes

- BUSINESS/COMMERCIAL FOCUS Demonstrating knowledge of the key business aspects of the organization and the ability to identify ways of optimizing expenditures and creating new opportunities to generate income for the business

- CHANGE MANAGEMENT The ability to manage any kind of change (technical, organizational, social, and cultural) in such a way as to make effective use of resources and achieve high-level results, including maintaining an adequate level of safety

- COMMUNICATE Promoting alignment in the organization through the sharing of ideas, information, policy, and procedures

- INFLUENCE Winning support from others and directing them toward a goal

- MAKING DECISIONS The ability to make decisions based on relevant, factual information taking into consideration the organization and its resources

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- PEOPLE DEVELOPMENT The ability to release the full potential of the staff to achieve performance required by the organization

- PERSONAL CHARACTERISTICS Effective managers have been found to have some common personal characteristics The person's characteristics are instrumental in performing the competencies listed in this report

- PROCESS AND PROJECT MANAGEMENT The ability to plan, coordinate, and implement the day to day operations and activities that are the responsibility of the line organization or project management position

- SAFETY MANAGEMENT The ability to develop, maintain, and improve an organizations' ability to identify and control risks to health and safety to meet the expectations of stakeholders and satisfy legal requirements

- STAKEHOLDER FOCUS Stakeholder focus includes, decision making processes, consideration of the needs of stakeholders, and communication with them during all phases of decision making Stakeholders are all individuals or groups that may be affected by an action (e g , the public, customers, other organizational units, regulators, co-workers)

- STRATEGIC THINKING The ability to understand and influence long-term business strategies and to link one's behavior and actions to these

- TECHNICAL EXPERTISE Managers at NPP must understand the application of technology at their facility in sufficient detail to lead their organization, make good business decisions, and apply the results of technical assessments and analyses to the safe, reliable operation of the NPP Sufficient nuclear technical expertise is necessary to oversee and ensure proper reactivity management, radiological control, residual heat removal, nuclear risk management, conservative decision making, regulatory compliance, emergency response, and safe routine operation

3 3 DESIGN AND DEVELOPMENT PHASE OF NPP MANAGER SELECTION, DEVELOPMENT AND ASSESSMENT PROCESS

The purpose of this section is to identify major issues that may facilitate or inhibit the design and development of competency-based manager selection, development, and assessment processes at nuclear power plants It also may stimulate thinking in how to design and develop the overall programme and help avoid some pitfalls discovered at other nuclear power plants

The developers of the overall process must take an integrated approach to programme design Before identifying specific selection, development, and assessment programmes that are needed for a certain set or level of managers, develop a complete profile of manager selection, development and assessment programme needs across the organization and at all manager levels All too often, once the decision has been reached to establish competency-based manager selection, development and assessment programmes, organizations design or identify such programmes to be implemented without giving adequate thought to what other programmes may be required or how programmes may need to interface with each other By first establishing an overall concept of the manager selection, development and assessment programmes, redundancies and overlaps, interface conflicts, and inefficient use of resources may be avoided One of the first design activities should be to develop a programme plan that indicates the selection, development and assessment pathways and programmes for the overall organization

3.3.1. Design and development

Selection — Ideally several, complementary methods should be developed which may then be used in combination as appropriate This will be particularly important depending on whether new or experienced manager candidates are being nominated These methods must be built around the identified management competencies They will need to be continually reviewed to ensure they result

in the selection of successful managers Examples of how to develop the selection methods are provided in Annexes A and B

Development — In designing the development options, consideration must be given to how managers can best attain the required competence Individuals' preferred learning styles and their availability to attend events away from the workplace must also be taken into account Hence the design of the total programme may include elements of formal training, on the job training , job rotations and work assignments, education from advanced degrees and mentoring The competencies to be learned in this setting are often described in broad terms and the learning expectations need to be emphasized and understood by the manager before accepting the assignment The manner in which achievement of the competency will be measured is also difficult since it may only be measured simplisticly in the short term Achievement of the competencies will typically be measured over time by the behavior the manager displays while doing a variety of activities Examples of development programmes are provided in Annexes C–H

Assessment — The way managers should be assessed will depend on the nature of the competence required During the design of the assessment methods, the manner in which the competencies will be recognized and then compared to the manager's actual performance must be clearly defined The assessment of managers is commonly performed through daily feedback The daily feedback is based on the outcome of projects and activities The difficulty with this method is that the process is more subjective than objective Therefore, it is important to define as clearly as possible the types of behaviors that would indicate that a manager has mastered the competency This can be achieved through the development of a formal performance appraisal process There are many performance appraisals systems available Any system selected should incorporate the competencies that the organization expects their managers to master It may also be of value to describe areas that would indicate improvement and areas that indicate above average performance This is typically done by a description of what each particular level of mastery would be in observed behavior An example is provided in Annex I

It is expected that developers should rely on proven existing programmes and experiences There are a growing number of competency-based manager selection, development, and assessment programmes in the nuclear power industry As can be seen from the large number of annexes containing programme descriptions and materials, organizations are frequently willing to share the results of their labors It may prove to be cost effective to take advantage of their programme experience and the materials they are willing to share

3 4 IMPLEMENTATION PHASE OF NPP MANAGER SELECTION, DEVELOPMENT AND ASSESSMENT PROCESS

There are three key guidelines related to the implementation of a competency-based management selection and development programme Each of these guidelines is critical to the ultimate success or failure of the programme A process should be established that will allow for individualized manager development Although it is acceptable, and in fact should be a part of the programme, to have mandatory development programmes at various manager levels, the programme should also utilize a process that allows the organization to identify specific individual manager's needs In turn, management development can be customized to meet the needs of the individual Many organizations use "Individual Development Plans" as the basis of individually customized development programmes

3.4.1. Management involvement

Senior and key managers at all levels must be involved in the implementation of a competency-based manager selection, development, and assessment process as well as be involved as participants benefiting from the process Competency-based management selection, development, and assessment programmes that have been successfully implemented at other nuclear power stations have all had

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high levels of senior management participation The Senior Vice President Generation/Chief Nuclear Officer at Pennsylvania Power and Light, has attended and given a presentation to every class during their four week leadership academy Senior corporate managers actively participate in competency-based management selection and development programmes at EDF and a Managing Director is the company champion for one of the first line manager training programmes The Chief Executive Officer at Philadelphia Electric Company has attended and given a presentation at the beginning of every class in their management development programme In Nuclear Electric Ltd, the Executive Director of Operations has opened every Shift Supervisor Development Seminar

3.4.2. Pilot/test programme

Selection, development, and assessment programmes should be pilot tested and proven to be feasible and effective prior to introduction on a broad front within the organization If in the course of implementing a selection or development programme, it becomes too intrusive on day to day work, causes conflicts within the organization because the programme has minor discrepancies that were not eliminated, or due to a lack of a workable implementation strategy, then it is likely that the programme will never be accepted no matter its value To avoid this pitfall, carefully pilot the programme under real conditions and constraints A phased implementation strategy beginning with vertical or horizontal organizational slices should be considered for extended pilot testing before full implementation

3.4.3. Integrate programme implementation

Not only should development programmes be integrated in terms of their design and content, they should be integrated in terms of implementation One nuclear power station reported that they initiated their new first line manager training programme as the first step in a new competency-based management selection, development, and assessment process After only a short time, it was realized that there was an increase in the conflicts between the newly trained managers and the persons to whom they reported The problem was that many of the new management techniques being taught to the first line managers were not known or used by their managers The company quickly realized that the development, and particularly training, of multiple layers of managers has to be thoughtfully planned and implemented This organization designed a course for senior and middle managers that provided them with the new management competencies to reinforce and promote the competencies being developed in the first line managers

3 5 EVALUATION PHASE OF SELECTION, DEVELOPMENT AND ASSESSMENT OF NPP MANAGERS

An important feature of a systematic approach to establishing competency-based management selection, development and assessment programmes is a structured evaluation of the programmes including feedback of evaluation results to continually improve these programmes Evaluation should focus on both the processes and the results of these programmes Evaluation should integrate both management self-assessment and independent assessment In this way, evaluation is a management tool to improve the performance of NPP managers and promote quality in the organization

The evaluation of the process of selection, development and assessment of NPP managers should include

- Inputs from participants, instructors/mentors, concerning their lessons learned through participating in the programmes
- Observations of the conduct of these programmes through self-assessments and independent assessment
- Aggregate results of tests and other assessments conducted

The evaluation of the results of these programmes should include

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- measuring the programme results against their stated objectives
- business performance (e g , use of plant performance data, and operating experience)
- inputs from managers of participants in these programmes

IAEA Technical Reports Series No 380, *Nuclear Power Plant Personnel Training and its Evaluation, A Guidebook*, Section 9 2, provides detailed information concerning the important components and methods for this evaluation phase

Many NPP managers have made a commitment to the pursuit of excellence and continuous performance improvement The key to achieving these goals is to critically assess current performance and implement improvements This axiom is just as true for management performance and competency-based management selection, development and assessment programmes as it is for all of the station hardware and software, technical personnel, and technical training programmes Each uses a systematic approach that includes the fundamental steps of analysis, design, development, implementation, and evaluation

Appendix A

SUGGESTED CORE COMPETENCIES FOR NPP MANAGERS

Provided in this appendix are a set of suggested core management competencies for NPP managers This set was developed based on inputs from the practical experience of a number of NPPs/utilities that have formal, competency-based management development programmes Following each competency are a number of associated skills and knowledge to help the reader to better understand the competency The competencies are provided in alphabetical order, rather than in any indicated order of importance

ACHIEVING RESULTS. The successful implementation of work activities which leads to the desired outcomes from processes

- Organizing work activities and work assignment
- Strategic planning — Establishing organizational structures and relationships necessary to accomplish mission, goals, and objectives
- Defining organization and individual roles and responsibilities
- Allocating resources
- Performance management — measuring performance vs objectives and providing performance feedback
- Tactical planning — setting operations and project goals and objectives
- Setting priorities — Establishing activity priorities consistent with organization values, safety principles, and productivity goals and objectives
- Scheduling — Scheduling events, activities, personnel and resources
- Continuous improvement/assessment — Self-assessing effectiveness and efficiency of process activities and work performance

BUSINESS/COMMERCIAL FOCUS. Demonstrating knowledge of the key business aspects of the organization and the ability to identify ways of optimizing expenditures and creating new opportunities to generate income for the business

> **Note** the skills and knowledge below are segregated by levels of management in order to provide an example of how a particular NPP might refine these competencies to be specific to its needs

First line managers can demonstrate this competence by

- preparing realistic business plans and budget forecasts
- continuously monitoring expenditures and identifying and minimizing potential overspending
- managing project to keep on time and within budget
- stopping unnecessary work which doesn't add value
- identifying more cost effective working methods
- prioritizing expenditures

Additionally, middle managers can demonstrate this competence by

- looking for expenditure variations across teams and exchanging good practices
- challenging first line managers to be more cost effective
- thinking of new products or processes that will add to the profitability of the business

Senior managers demonstrate this competence by

- identifying new business strategies to maximize the return on investment
- exploring new customer bases
- prioritizing expenditures across the organization to reduce costs while investing in safety and availability

CHANGE MANAGEMENT. The ability to manage any kind of change (technical, organizational, social, and cultural) in such a way as to make effective use of resources and achieve high-level results, including maintaining an adequate level of safety

- analysing situations where change may be needed
- identifying steps to be taken
- developing an appropriate plan with clear requirements/prerequisites to be met before changes such as reorganization or reductions in staffing occur
- identifying and obtaining needed resources (e g , human resources, finances)
- identifying specific indicators to monitor potential effects of changes (e g , amount of overtime, training backlog)
- managing conflicts, negotiating with those who are reluctant to change
- communicating the need for change, and methods to effect change
- following-up and evaluating results
- managing to handle stress

COMMUNICATE. Promoting unity of purpose in the organization through the sharing of ideas, information, policy, and procedures

- communicating orally
- encouraging discussion of the views, ideas, thoughts, and opinions of others
- encouraging everyone in the organization to express opinions freely
- listening actively for understanding and responds with empathy
- giving individuals time to be heard
- avoiding jumping to conclusions
- giving and receiving feedback
- interpreting the mission, vision, goals, and values clearly
- conducting briefings/meetings
- asking for input from others
- preparing written information in a clear and concise manner
- developing guidelines for written communication

INFLUENCE. Winning support from others and directing them toward a goal

- Presenting ideas effectively — emphasizing the facts of a situation by analysing the audience and expressing ideas clearly to individuals or groups at their level
- Understanding organizational culture — identifying the impact and implications in the organization then establishes networks, gathering support for ideas and developing advocates within the organization
- Using negotiation skills — anticipating and managing disagreements by focusing on important information

MAKING DECISIONS. The ability to make decisions based on relevant, factual information taking into consideration the organization and its resources

- Analyzing issues — analysing data from different sources and securing relevant information, evaluating the situations, identifying issues, and stakeholders
- Solving problems — selecting the most appropriate course of action, committing to a solution, and making a timely decision
- Utilizing risk management — understanding the pros and cons of an issue and developing contingency plans
- Using judgment — making decisions based on available information, examining alternative solutions, and evaluating results

PEOPLE DEVELOPMENT. The ability to motivate the staff to release their full potential to achieve performance required by the organization

> **Note** the skills and knowledge below are segregated by levels of management in order to provide an example of how a particular NPP might refine these competencies to be specific to its needs

This competence is demonstrated by first line managers by

- appraising their staff, including establishing expectations and standards of performance
- giving feedback on personnel performance which includes positive reinforcement and possible disciplinary actions
- building on the strengths of their staffs and identifying development activities to bridge gaps in staff member competence
- giving their staff the necessary time and resources to fulfill their development plans
- motivating their staff by putting their work in the context of the needs of the organization
- celebrating individual and team successes and promoting their successes in the organization
- encouraging individuals to support and coach other members of the team
- setting challenging targets for individuals and the team
- taking time to get to know individuals and encouraging them to share their ideas, needs, and concerns with other team members to build a stronger team

In addition middle managers demonstrate this competence by

- identifying opportunities for the development of staff through their wider contacts across the organization
- challenging first line managers to continuously improve the performance of their team members
- supporting first line managers in taking reasonable risks to develop their staff

In addition, senior managers demonstrate this competence by

- establishing processes to facilitate the development of their staff by providing the time and resources to develop their people
- coaching/mentoring junior managers
- ensuring the availability of appropriate development programmes and opportunities for the staff to be developed
- taking an active role in promoting development programmes, e g by sponsoring and leading sessions in the management development programmes

PERSONAL CHARACTERISTICS. Effective managers have been found to have some common personal characteristics   A person may be a competent manager without displaying all of the characteristics listed   The person's characteristics are instrumental in achieving the competencies listed in the remainder of this document   These are important for selection criteria   The effective manager characteristics include

- intelligence — to learn the knowledge's, and skills of the business
- honesty — when dealing with everyone
- loyalty — to the organization and the people
- ethics — when making all decisions
- self-control — when dealing with others
- sense of humor — to be able to laugh and have fun
- creativity — to see different ways to achieve results
- time management — to make productive use of the time available
- ability to handle stress — to keep stress from becoming distress

- invite dissension — to ensure that all sides of an issue are discussed thoroughly
- empathy — to understand the other persons point of view
- assess ones self — to honestly look at ones own strengths and weaknesses
- flexible/adaptable — able to change when needed and balance technical, safety, and business needs
- ability to say 'no' — able to stand ones ground under adverse conditions
- continuous learner — to actively pursue new knowledge and skills
- proactive — able to anticipate and take action before having to react
- fair minded — treats everyone and everything in a consistent manner
- broad minded — able to see the big picture
- courage — to take changes and make decisions when all the facts are not known
- perseverance — ability to see things through to the end
- enthusiasm — excitement over the job or activity
- role model — acts consistent with the values and expectations of the organization

PROCESS AND PROJECT MANAGEMENT. This competency includes the CVKS's necessary for the manager to plan, coordinate, and implement the day to day operations and activities that are the responsibility of the line organization or project management position Process and project management competence results in the effective and timely implementation of and desired outcomes from organizational processes and project activities

- establishing an appropriate quality assurance system
- establishing performance expectations through goals, objectives, standards, direction, and example
- defining roles and responsibilities and organizes work activities
- establishing activity and personnel priorities consistent with organizational values, safety principles, and productivity goals
- developing budgets and cost management tools
- scheduling work activities, personnel, project events and milestones, and resources
- controlling process and project activities and costs by measuring performance against standards and providing continuous performance feedback
- contributing to continuous improvement in individual, team, and organization performance

SAFETY MANAGEMENT. The ability to develop, maintain, and improve an organizations' ability to identify and control risks to health and safety to meet the expectations of stakeholders and satisfy legal requirements

- Establishes and maintains a dynamic and proactive safety management system which includes policy, organizational issues, planning, measuring, review and audit
- Complies with rules
  - personal compliance
  - does not cut corners
  - models correct behaviors
- Insists on compliance
  - Insists others comply with rigor
  - corrects others who don't
- Conservative decision-making
  - makes conservative decisions to reduce risk to acceptable levels
  - encourages and supports others to make conservative decisions
  - all decisions include consideration for potential safety implications/impact (may have short-term negative results in production)
- Establishes a positive safety culture
- Establishes corporate mission vision and values

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STAKEHOLDER FOCUS. Stakeholder focus includes, decision making processes, consideration of the needs of stakeholders, and communication with them during all phases of decision making Stakeholders are all individuals or groups that may be affected by an action (e g , the public, customers, other organizational units, regulators, co-workers)

- identify who stakeholders are
- determine the needs of stakeholders
- establish systems to ensure that appropriate information flows to/from these stakeholders
- obtain feedback from stakeholders concerning how well their needs are being met
- respond to this feedback
- communicate openly and regularly with the public
- maintain a customer service focus

STRATEGIC THINKING. The ability to understand and influence long-term business strategies and to link one's behavior and actions to these

- understanding corporate vision and values — Comprehending the organizational policies and goals set by others
- aligning actions with organizational business strategies/policies — Prioritizing work in alignment with organizational goals and externally set goals
- developing long-term strategies/policies/goals — Determining long-term issues, problems or opportunities
- identifying internal and external impact on strategy/policy — Awareness of the projected direction of the business unit and how the environment might impact
- contingency planning — planning actions to fit strategy/policy (own and outside) and to respond to external events

TECHNICAL EXPERTISE. NPP managers must understand the application of technology at their facility in sufficient detail to lead their organization, make good business decisions and to apply the results of technical assessments and analyses to the safe, reliable operation of the NPP

Sufficient nuclear technical expertise is necessary to oversee and ensure proper reactivity management, radiological control, residual heat removal, nuclear risk management, conservative decision making, regulatory compliance, emergency response, and safe routine operation

- NPP managers selected from within the organization probably have this technical expertise
- others will need some technical development
- balance needs to be maintained between technical and managerial competencies, as both are necessary for success

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Appendix B
NATIONAL AND PLANT-SPECIFIC ISSUES IMPACTING UPON THE
IDENTIFICATION AND USE OF NPP MANAGER COMPETENCIES

There are a number of issues related to selection, development and assessment of NPP managers, such as those discussed below whose origins are basically the same, but whose impact can vary depending upon the local/national culture and state of development.

Social problems

Two motivational aspects with respect to social problems should be taken into consideration by NPP managers; prestige and plant personnel salaries. The prestige of NPP employees in some Member States has decreased during the last years. Additionally, the salaries of NPP personnel in some countries are not significantly higher than at other enterprises with which NPPs compete for personnel, and are even lower in some cases. In these circumstances it has became more difficult to staff and to manage NPP personnel. The opposite is also the case, in some countries due to high unemployment and comparatively high NPP salaries, NPPs attract people with insufficient levels of competence. In both cases, a competency-based approach is potentially beneficial in helping to provide NPP managers with the tools to properly select candidates, and to effectively motivate and control plant personnel.

Social conditions and challenges

NPP personnel are potentially affected by the same problems that appear in the general population; such as stress, and alcohol and drug abuse. NPP managers need the competencies to identify such problems and to properly respond to help both the individuals and the organization.

Technical problems and plant upgrades

Old units are being upgraded, new safety systems and computerized control and support systems are being implemented, new procedures (e.g., symptom based emergency operating procedures) are being developed and implemented. All this points to a need to develop managers' competencies for successful project management, business planning and budget control.

Educational background

In some countries, social factors have greatly affected the educational systems that provide NPP personnel. Candidates or newcomers to the plants often do not possess adequate prerequisites (knowledge, skills, attitudes, experience, other characteristics). More effective systems based on predetermined personnel competencies are needed to more reliably select employees, and to more effectively develop personnel based on needs defined in terms of competencies required to perform a job. This issue affects all NPP job classifications, including NPP managers.

Changes in organizational culture

In order to have a good organizational culture, a plant should have a good organizational memory. Natural processes of people retiring or moving to other companies make it necessary to develop managers with the competencies to effectively replace departing managers. Organizations can also suffer from people stagnation, where personnel who are doing the same work for long periods of time are demotivated and fail to carry out their tasks with the necessary degree of quality and enthusiasm. However, a necessary prerequisite for job rotation is identification of the necessary competencies for these jobs, along with a well designed succession planning system.

Plant management systems

The optimization of plant organizational structures, implementation of new or upgraded management systems have made it necessary to identify and to develop corresponding managers' competencies associated with

- strategic thinking,
- change management,
- safety management,
- people development,
- establishing expectations for the subordinates, and
- personnel evaluation techniques

Additionally, analyses of plant operating experience frequently show, that many problems are caused by poor understanding by the managers of company or plant mission, by the lack in managers vision, and insufficient abilities of NPP managers to make effective strategic and tactical decisions The elimination of the above problems need multiple solutions, both NPP manager training, and other complementary management initiatives But almost all these solutions are related to and require an identification of NPP manager competencies needed to fix the problems arising

Reliability of managers' training

In order to meet safety and operational goals, each NPP needs sufficient numbers of well trained and reliably qualified personnel, including NPP managers For operations and maintenance staff training requirements, training programmes, and trainees' assessment are based on a systematic process of analysing their competencies NPP managers could benefit in a similar way through systematic identification of the competencies they need for quality and reliable job performance

Political and international issues

More and more, operating organizations and NPPs are involved in international activities, both bilateral and multilateral Developing strategic thinking, business focus and communication skills is needed for effective participation in such initiatives

Regulatory demands

In many countries, laws and regulations demand NPP manager qualification or so called "licensing" in order to be authorized to manage an NPP If such a process is to be credible, there is a need to establish job specific NPP manager competencies to be assessed during the qualification process

Teamwork

In a number of Member States, NPP managers have gained their experience in a culture in which inputs from and involvement of lower level NPP personnel in decisions about plant operation and maintenance were not encouraged Many of these NPPs are now attempting to take advantage of the operational and safety benefits of greater involvement of all NPP personnel in improving performance through teamwork Not surprisingly, some of these NPP managers need help in improving their competencies in the area of building and maintaining teams and teamwork

Expectations for quality of NPP manager work and effective assessment of NPP manager performance

First and middle level NPP managers want and need clear expectations and standards with respect to their job performance Moreover, first and middle level managers want to be adequately prepared to achieve these standards But many of these managers simply do not know what their

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training/development needs are Thus, identification of needed NPP manager competencies is necessary

NPP manager individual and group competencies

Management of an NPP depends upon both the competencies of individual managers as well as how the group of NPP managers work together It is recognized, that it was not only important to select, develop, and assess individual NPP managers, but also to develop and assess the performance of groups of NPP managers as well, in areas such as planning, work conduct, making decisions in complex situations, and coordinating comprehensive plant processes Such needs require identification of managers' individual competencies, as well as career development plans for managers based on both individual and group needs

Economic problems and new business environment

The changing external environment for NPP operation is one of the most important reasons for more systematically and precisely think about the competencies needed for NPP managers Adhering to the basic rule that nuclear safety must not be compromised, NPP managers should clearly understand that the mission of a NPP is cost-effective production of electricity Market and economic challenges lead to reducing operating costs, reducing numbers of plant personnel, optimization of plant management, and improved communication with customers and other stakeholders In order to successfully perform these tasks, NPP managers should possess corresponding competencies such as strategic thinking, achieving results, negotiations, leadership, innovation, business/commercial focus, stakeholder focus, and project management These mostly high level competencies should be analysed and job-specific competencies developed

Summary

After the analyses of a broad range of recurring problems arisen around managers' selection, development, and assessment, a competency-based methodology has been proposed and used by utilities in many Member States There are four cornerstones of this systematic methodology

- First, a recognition, that NPP managers should be subject to the same selection, development, and assessment process, as other plant personnel
- Second, a clear identification of competences needed for successful manager job performance
- Third, appropriate methods to select, develop, train, and assess managers based on needed competencies
- Fourth continuous feedback based on regular evaluation of business performance and identification of new needs in NPP managers' development

Annex A
THE COMPETENCIES TREES AT EDF

Introduction

Since 1996, EDF has been experimenting a new methodology allowing to model different forms and expressions of collective knowledge in business areas such as human resources, research and development projects or competitive intelligence, at enterprise-wide, departmental or desktop level That methodology has been developed by a French company, TRIVIUM and uses a "gingo" software design based on original research in the advanced mathematical theory of the aggregation and representation of complex data sets This research has resulted in an algorithm which allows real-time aggregation and dynamic representation of data relationships

Applied to human competencies, this methodology can be described as a high-performance and multidimensional hypertext tool with dynamic cartography features It extracts from continuously evolving data flows the most significant associations and highlights them in a synthetic and easy to understand fashion

1- What are the "competencies tree " for ?

Skill, knowledge or "competencies trees" are living maps of the diversity of knowledge and know-how available in a community

The use of competencies trees includes flexible, and rapid communication between three main types of participants

- providers of skills (individuals),
- seekers of skills (or job providers),
- converters of skills (training providers and everyone who makes learning resources available to individuals)

Trees are made of elements called badges The structure of a tree is generated by lists of badges associated with individuals

To each individual there corresponds an ordered list of badges It is from these lists that Gingo generates, automatically, the tree it is a representation of the relationships existing among all the badges

The shape of the tree depends on the order chosen for preparing the lists of badges It is therefore important, for each list, to fix the order of the badges according to the type of problematic The order could be

- chronological,
- numerical (increasing or decreasing),
- a matter of preference or importance,
- frequency-based

2- How does a competencies tree grow ? Definitions

This section briefly describes the main stages in the growth of a tree and the main concepts of the competency tree method badges, lists, blazons, and evaluation through use

1. Identifying skills: badges

In a first stage, the skills and knowledge that exist in the community are identified The software is independent of (and therefore compatible with) all theories concerning knowledge, skill, or the difference between these two notions The term "skills " is used here in its broadest and most general sense Skills are reported in a standard form, the badge A badge consists in particular of a title, four index keys (possibly represented by icons) and a definition Badges are the elementary components of lists and trees

2. Identifying persons: ordered lists

In a second stage, starting from an initial badge database, individuals identify themselves or are identified by lists of badges These lists, or curricula, may be organized in chronological order of acquisition, according to how generic the skill is, in order of decreasing frequency, etc A badge can be mentioned only once in a list

3. Identifying the community: the tree

In a third stage, starting from the collection of lists that describe the individuals, Gingo calculates the community's competency tree The tree results from the application of an original logical operator to the collection of ordered lists

Gingo arranges the badges in "layers", from the bottom to the top of the tree, according to their capacity to engender other badges in the lists, and in "branches" according to their connectedness in the collection of curricula The essential point is that the tree does not result from any a priori classification of the skills but only from the information provided by the ordered lists A tree is alive, recalculated at each time of the lists are modified, and there are many different trees as there are communities

4. Situating the individual in the community: blazons

The tree appears as a mosaic of badges The projection of the list corresponding to a person on the tree takes the form of a particular distribution of badges The portrait of a person's skills in a tree is called his blazon A person can keep the same list and yet his blazon evolve if the tree is transformed The same list will give rise to different blazons in different trees

5. Relating the community to itself: communications and evaluations

In a fifth stage, the use of the community makes of its tree automatically yields an evaluation of the badges The system of addressing by skills used in Gingo's mail systems keeps track of this use and the resulting The values of badges are shown on the tree by their colors

The dynamic character of the skills tree

Stages one to five described above are purely logical, not a fixed linear sequence On the contrary, Gingo lets you create and modify badges and lists whenever you want the tree is then recalculated in real time The evaluations by use can guide the learning of individuals, which transforms the tree, engenders further evaluations, and so on
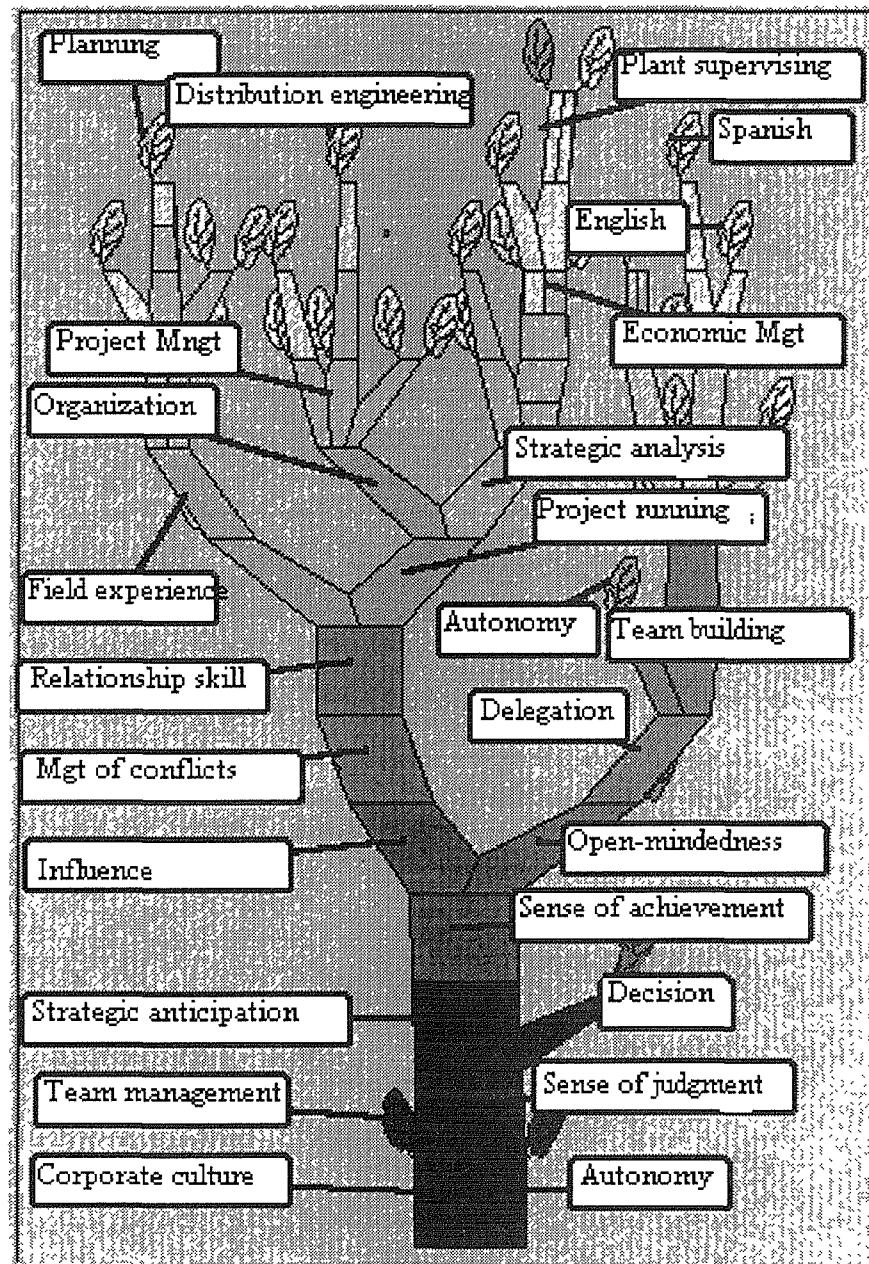
A competency tree is a living map in two senses First, because each change to the community (deletion or addition of a list), each new learning (enrichment of a list), each act of communication via the system (use of messaging facilities) causes a new map to be synthesized Second, because this map can only be read interactively It is not a static image but a hyper-document, a sort of virtual world that demands the active involvement of those who wish to explore it A tree will tell you nothing unless you question it However, Gingo lets you ask the tree a rich variety of questions and provides the answers immediately

3- First evaluation

Probably it is too early today to evaluate the results of this methodology at EDF Nevertheless this experimentation seems to be full of promise

- In our technical culture, that kind of approach is very well accepted
- In the tested services or departments, a real and positive dialogue between providers of skills, seekers of skills and converters of skills is being developed
- This tool invites individuals to communicate each other in terms of real activities and CV, more than in terms of level of skills or competencies, which is easier, less involving, and more objective
- individuals are "actors" in the process, and everybody can have access to a common competencies mapping, which is a considerable advantage in comparison with classical methods
- Lastly, this method is flexible, reactive, and cost-and-time-saving

AN EXAMPLE OF A COMPETENCIES TREE

Planning

Distribution engineering

Plant supervising

Spanish

English

Economic Mgt

Project Mngt

Organization

Strategic analysis

Project running

Field experience

Autonomy   Team building

Relationship skill

Delegation

Mgt of conflicts

Influence

Open-mindedness

Sense of achievement

Strategic anticipation

Decision

Team management

Sense of judgment

Corporate culture

Autonomy

This tree shows a collective vision of some competencies of 54 individuals liable to become managers of EDF international subsidiaries. Each rectangle in the tree is called a "badge". A well-ordered list of badges is associated with each individual: from those lists, Gingo software draws the tree automatically.

The trunk gets together basic knowledge. The branches amalgamate the badges that are often associated in lists. The leaves show the badges that are isolated in some lists.

Height and position in the tree, proximity of other badges, filled surface and color of badges (here invisible!) all have a meaning. Badges located at the basis of the tree are in the beginning of personal lists: chronologically, they have been first to be obtained by individuals. Badges located at the top

the top depend on many other badges and have been obtained recently. Leaves are badges which do not generate other badges ("dead ends "). The frequency of such or such competency is illustrated by color.

From this collective competencies tree, any individual can be extracted and located, any simulation can be made: information and badges can be filtered according to requested criteria.

Annex B

USING COMPETENCIES IN A SELECTION PROCESS

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Management competencies can be used to develop assessment center activities and for structured interviews to support the selection process. The competencies can be from a generic list, like the one provided in this document, or as the result of a job analysis for the particular NPP. The result should be a list of ten or less competencies that are in agreement with the goals and objectives of the organization. The competencies may be different for each level of management or may be carried out in varying degrees. Once the competencies are identified, then the development of selection activities may begin. The selection activities may be developed within the organization or by using outside expertise. The process used at Susquehanna Steam Electric Station, a nuclear power plant owned by Pennsylvania Power and Light, Inc. (PPL, Inc.) is described in the following sections of this annex.

Job analysis

The process used at PPL, Inc. for first line managers included an analysis for the job. The analysis started with a list of generic manager competencies supplied by a vendor through a contract. The first step in the process was to have incumbents in the job from the various groups and their managers select the most important competencies from the generic list. After the important competencies were identified, the same group of individuals were asked to rank the competencies from most important to the least important. This was done using questionnaires. The result was a job specific list of competencies for each group in the Nuclear Department. This analysis process was facilitated by an individual from the Human Resources department with the assistance of a consulting firm. The top ten competencies were selected as the ones that were important for success in that group's job. Representatives from each nuclear group agreed to one set of competencies for all the Nuclear Department's first line managers. The ten competencies for Nuclear Department first line managers are: Oral Communication, Decisiveness, Initiative, Judgment, Leadership, Sensitivity, Management Control, Planning and Organizing, Delegation, and Analysis. These competencies were the bases for the development of assessment center activities and structured interview questions.

Assessment center activities

A process to measure if potential first line manager candidates could demonstrate the identified competencies was established. This was done through the development of assessment center activities. The developers of the assessment center activities were led by a company that had that expertise. Human Resources and line management were involved in the development and validation of the assessment center activities. The assessment center activities included a group discussion, an interview simulation, and an "in-basket" exercises. Each activity is designed to measure selected competencies.

Group discussion

The group discussion exercise is conducted with six potential first line manager candidates. The candidates are given a set of scenarios and time to prepare. The group is assembled and the exercise begins. The objective of the exercise is to come to agreement on how to handle the situations described in the scenarios. Three trained assessors observe the interactions of the candidates. Each assessor observes two candidates. The activity is monitored by a facilitator from the Human Resource department. The facilitator monitors the time and starts and stops the activity in accordance with the predetermined times. The group discussion is designed to measure: Oral Communications, Initiative, Decisiveness, Judgment, Leadership, and Sensitivity.

Interview simulation

The interview simulation session is conducted with one candidate, an assessor or facilitator role-playing an employee, and an assessor as an observer. The candidate is given a scenario and time

to prepare. The candidate then discusses, with the role-player employee, the situation and tries to get the "employee" to agree to predetermined actions that demonstrate specific competencies. This activity is to be completed in a predetermined amount of time. This activity measures: Oral Communication, Decisiveness, Initiative, Leadership, Sensitivity, and Management Control.

In-basket
The in-basket activity is designed to put the candidate in the situation of a first line manager by dealing with administrative tasks for the job. The candidate is given information and is asked to process it without help from others. This activity is also timed. The in-basket measures: Decisiveness, Initiative, Judgment, Sensitivity, Management Control, Planning and Organizing, Delegation, and Analysis.

At the end of each of the activities, the assessor evaluates the results to predetermined criteria. Each assessor monitors two candidates on one of the three activities. For any one assessment session, one assessor will monitor two individuals during the group discussion, two different candidates during the interview simulation, and the other two candidates during the in-basket. The three assessors meet after they have made an independent assessment of their candidates. The three assessors and the facilitator come to consensus on each candidate for each competency. If an individual performs to a predetermined level, then that person is able to be considered a candidate for a future open first line manager position. Each candidate is provided feedback. The feedback is delivered by a qualified assessor and the feedback session includes the candidates current manager. This feedback can be used to develop an individual development plan. The technical competence is required before a person can be considered or selected and is not included in the assessment center.

Structured interview
The other use of the competencies for selection is to develop a structured interview. The interview questions are based on the competencies. The interview questions are general in nature. The interviewer requires that the candidate use specific examples to gather the job specific behaviors that demonstrate how the person has performed that competency. The interview questions are developed from a bank of questions for the competencies. These questions are provided by a vendor. The structured interview questions are assembled into three interview guides. The three guides are used by trained interviewers to interview each candidate. After the interviews, the three interviewers meet and determine how each candidate performed on each competencies. The outcome is a set of scores that identifies the strongest candidate based on a set of competencies needed to be successful on the job. Another outcome from this activity is a list of development areas that can be used for an individual development plan.

Annex C

SUCCESSION MANAGEMENT IN NUCLEAR ELECTRIC LTD

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Nuclear Electric has formal succession management arrangements which have evolved over the years to meet the needs of the company Whilst they are an ongoing process, the arrangements are most manifest in an annual review which results in an overall succession plan for the company The process embodies a twin-track approach of reviewing existing managers whilst also identifying younger staff with significant potential These younger staff are allocated into one of two groupings those identified as having director level potential, who have their development managed centrally, and those considered to have management potential, the development of whom is managed by the business unit to which they belong, with support from the center as requested The staff in both these groupings are kept under review and, if the circumstances warrant it, there may be movement between the two groupings

The succession arrangements include six key processes as illustrated in the attached diagram These are described briefly below

(1) Company succession review process

- this is a bottom-up business unit, division, company-wide review
- to develop and maintain local, divisional and company wide succession plans
- to establish overall succession health of the business
- to identify new nominees for senior management development
- to provide input to other processes described below

(2) Developing staff with significant potential This involves

- putting nominees through assessment centers to validate their potential
- developing personal development plans
- managing learning opportunities
- considering career moves (direct nomination for specific opportunities)
- mentoring
- identifying/organizing appropriate external training/development activities

(3) Developing existing managers

- running assessment and development centers to create/enhance action plans
- identifying/organizing appropriate external training/development activities

(4) Resourcing senior posts

- nominating candidates for vacancies from existing databases of competent staff
- organizing interviews
- involvement of succession management process owners in interview panels for senior positions

(5) Providing support to local development

- providing guidance and advice
- coordinating/facilitating secondments, moves, job swaps, etc
- provision of assessment and development centers to support local succession arrangements

(6) Input to company development:

- influencing company initiatives
- data on capability of organization to accommodate different organizational patterns

While much of the focus of the process is on people and their potential, an important element of the review process is to gather data on potential development opportunities which exist, or are likely to arise, in the various parts of the organization.

Annex D

LEADERSHIP ACADEMY

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Introduction

The intent of the Leadership Academy (LA) is to provide incumbent managers at the Susquehanna Steam Electric Station a nuclear power plant owned by Pennsylvania Power and Light, Inc. (PPL, Inc.) with an intensive exposure to key leadership principles, theory and tactics to allow them to meet the challenges of workforce management in an environment of change and competition while maintaining a strong and conservative Nuclear Safety culture.

The curriculum combines strategic leadership principles with tactical skill instruction to enhance the first and middle managers' existing management skills and to develop new skills such as change management, coaching, building partnerships , process mapping and leading cultural change. The programme also provides an opportunity to interact with Nuclear Department Senior Managers to understand not only the department direction, but the logic, rationale and external factors which influence our current business plan.

Leadership Academy is conducted full time over a four week period. An academy class contains about 16 students. A mix of first and middle managers, engineering and craft supervision, site and general office participants and a cross functional representation is designed into the class structure. The four week time period is a critical component in achieving significant and lasting behavior change. The intent is also to establish lasting relationships between LA attendees in order to create an overall environment of peer support, coaching and feedback. Ongoing leadership development activities are anticipated for LA graduates.

The format and content for the LA as well as the overall philosophy is established and maintained by the Leadership Curriculum Committee. This committee is made up of the Plant Manager (Chairperson), Supervisor Nuclear Instruction (Vice-Chairperson), Engineering Manager, Manager Nuclear Training, Maintenance Manager, Operations Manager, Outage Manager, Educational Advisors, and 2 Leadership Academy graduates. The committee makes extensive use of feedback from the LA graduates for identifying programme and format changes.

The LA learning experience relies heavily on the interaction between class participants and with the instructors. The courses are structured through the use of videos, skill practices and facilitated discussions to bring out department concerns and issues and have participants learn from each other. Wherever possible, department leaders are involved in presenting the course material along with their personal insights. Courses are also designed to emphasize Susquehanna specific experiences.

Leadership Academy curriculum

The following is a "typical" LA schedule and course outline. Senior managers availability as well as other activities throughout the month may impact schedule and content.

WEEK 1

Day 1 Introduction and Overview (2 hours)
The Plant Manager provides the LA Welcome and sets expectations and the framework for the LA Class.
The format, structure, schedule and logistics are presented. Class norms are also set.

Key Principles for High Involvement (5 1/2 hours)
The 5 Key Principles are introduced These principles form the foundation for all Leadership Modules and set a model for leadership behavior Through videos, exercises, and interactive discussions participants become familiar with the Key Principles and how they relate to work at Susquehanna

Day 2
Leadership: Facilitating Change (8 hours)
Describes how a changing work environment has transformed the traditional manager role It introduces four leadership roles

- Leading through Vision and Values
- Championing Continuous Improvement
- Building Partnerships
- Facilitating Learning

The course reviews phases of change, helping the leader and others be more comfortable with change and establishing role clarity during times of change This class sets the strategic foundation for some more skill based training in later LA classes.

Day 3
Corporate Finance (4 hours)
A "down to earth" look at the PPL, Inc financial picture as it relates to the company management, the employees and the investor. Relates strategic business decision making to key financial drivers
Process Mapping and Analysis (4 hours)
Provides some hands on experience with preparing process maps, identifying stakeholders, activities and process flow using the adopted process methodology and Susquehanna specific examples

Day 4
Activity Based Costing (4 hours)
This course includes a brief introduction to the concepts behind activity based costing, the process based cost breakdown for the Susquehanna Nuclear Department and management through activity based costing
Project Introduction (4 hours) As part of the LA experience, the class is expected to complete a project working in a team environment The project content and design is left to the participants with some underlying guidelines Time is provided throughout the month to develop the project

Day 5
Assessment (1 hour)
Introduces the services provided by Nuclear Assessment Services and the process for performing assessments at Susquehanna
Observation Training (4 hours)
Instructs on observation skills necessary for supervisors to identify and correct work practice, training, and qualifying problems (unacceptable work practices, standards issues and work environment issues)
Managing Safety (3 hours)
Discusses the first line supervisors role in attaining and maintaining an accident free workplace Discusses intervention strategies, leadership behaviors, and roles and responsibilities of supervisor

WEEK 2

Day 6
Conflict Resolution (8 hours)
Applies the Key Principles to the supervisors role in guiding effective conflict resolution Identifies root causes for conflict in the workplace and introduces a strategy for pre-planning conflict resolution discussions using "Interaction Guidelines" and "Key Principles" Uses video examples of effective and ineffective conflict resolution strategies

Day 7
Analyzing Human Performance (4 hours)
Provides a simple straightforward methodology for identifying, assessing, understanding and resolving performance discrepancies The course is based on the book, "Analyzing Performance Problems" by Robert Mager and Peter Pipe which is read by participants prior to the class Exercises include Susquehanna specific examples

Day 8
Insights on Department and Corporate Strategies (4 hours)
The Senior Vice President, Nuclear leads an interactive discussion which explores the evolution of PPL, Inc 's recent changes and strategy development
Difficult Communications (4 hours)
Reviews strategies for dealing with difficult communication situations which a supervisor may face Video, interactive discussions, and PP&L supervisor's policies are used to work through issues such as avoiding misunderstanding during pre-employment/selection interviews, delivering bad news with regard to performance appraisals or job status, communicating unpopular news to a group and managing displacement or termination communications An informational review of the PP&L, Inc outplacement services is also included

Day 9
Organizational Culture (8 hours)
Examines the defining criteria for organizational culture, basic assumptions and beliefs, and how culture is embedded and transmitted This forms a platform for discussing principles for implementing and facilitating cultural change Two examples of diverse but successful organizational cultures in other industries are studied and explored (Class requires pre-work)

Day 10
Teams: Reaching New Heights (8 hours)
Introduces team leadership strategies to ensure productive, effective team functions Course assumes fundamental team management techniques and dynamics are understood It focuses on more advanced skills of enhancing performance, re-energizing teams, recognizing common pitfalls and leadership intervention strategies

WEEK 3

Day 11
Coaching: Developing High Performance (8 hours)
This session builds on the Key Principles, Interaction Guidelines and introduces the concept of pre-establishing expectations through the use of 'Checkpoints" to enhance coaching skills This module covers creating an environment receptive to effective coaching, enhancing coaching skills, and customizing coaching Learning is facilitated through positive video models and participant skill practices

Day 12
Nuclear Department Strategies (4 hours)
The Vice President Nuclear Operations meets with the LA class in an interactive discussion on the development and course of the Susquehanna's Nuclear Department Strategic Direction
Project Time (4 hours) time is allocated periodically throughout the LA schedule for the teams to work on their class project

Day 13
Civil Treatment for Managers (8 hours)
This course is taught by an attorney with experience in defending corporations in civil cases brought by employees The course provides five prescriptive rules or guidelines to help supervisors act fairly and legally Actual cases are reviewed from a lessons learned standpoint Some legal information is provided, but emphasis is on conduct and behaviors designed to preclude problems Focus is on the

workplace environment established, including affirmative action and equal employment opportunity considerations.

Day 14
Managing Human Performance (8 hours)
Covers some of the legal and practical aspects of the employee/employer relationship
Includes the genesis of the "Just Cause" concept and its relationship to how we set policy and manage employees,. The tests for just cause, discussion of the concept of "reasonableness" and the clash between personal rights and business needs. Learning experience includes lecture, discussion and case studies. Text provided: Just Cause--the Seven Tests by Adolf M. Korne and Susan L. Smith.

Day 15
Adapting to Change (8 hours)
Combines the Key Principles, interaction guidelines and effective feedback techniques to provide the supervisor with a better understanding of the dynamics of change and equips him for his role as a catalyst for change. Explores issues such as managing situations in the absence of information, avoiding over-commitment, recognizing and managing resistance to change at the group and individual level.

WEEK 4

The last week of LA is conducted off-site at a local conference center. This affords a more concentrated environment for team interaction and allows for evening sessions for project work and strengthening the team experience.

Day 16
Partnerships (8 hours)
Examines the various partnerships within the workplace. Introduces the concept of partnership between internal and external partners. Explores the importance of establishing a shared vision, gaining commitment and establishing shared responsibility to make partnerships work. Looks at establishing and maintaining partnerships as well as handling difficult partnership situations.

Day 17
Labor Relations (4 hours)
PP&L, Inc. Corporate HR&D course to provide a basic understanding of our labor relations issues, the management/bargaining unit relationship, the labor agreement and the supervisor's role in the bargaining unit relationship.

Day 18
Time Management (8 hours):
This course emphasizes personal time management. It focuses on the importance of establishing and maintaining personal values and goals and managing daily activities to meet short term and long term goals.

Day 19
Trust: Strengthening the Foundation (8 hours)
Examines the trust level in the environment including warning signs of low trust, explores common trust traps and how unintentional actions can erode the trust within groups. Identifies five strategies for building trust. Course relies heavily on participant discussion and interaction. It is most effective when facilitated by a senior line manager.

Day 20
Leadership Academy Feedback and Project Presentations (4 hours)
The last day of LA is a joint session with the LA class and the sponsoring senior managers. The class provides feedback on the LA experience from a curriculum improvement as well as a personal viewpoint. The project results are presented by the team. A graduation lunch follows the morning session.

AN EXAMPLE OF A FIRST-LINE MANAGER TRAINING PROGRAMME AT EDF

Introduction

In the south-east of France, 26 Units and Departments have joined together for 3 years to develop a training process for their first-line managers. This process has 2 objectives:

* preparing future FLM (first line managers),
* improving skills of present FLM.

1- Preparing future FLM

A specific programme has been developed for this population, implicating the following actors:

* The trainees, future FLM (1 or 2 years before promotion)
* Their coaches (normally second-line managers)
* The "Champion " (member of Managing Direction)
* 2 pedagogical advisors
* The trainers: EDF executives, vocational training department, outside companies, etc.

Before launching the programme itself, we particularly focus on coaches' training: second-line managers attend a specific 3 days-programme.

> *The objective of this programme is to enable coaches to define pedagogic objectives, actions and follow-up of their trainee's "training itinerary ". The main contents are the following:*
> * *Achieving a skills assessment.*
> * *Escorting a trainee during a one-year period.*
> * *Understanding learning theories and methods*
> * *Defining skills and pedagogic objectives*
> * *Determining a personal training itinerary*
> * *Knowing learning techniques (Porter's attitudes, practice of interview, etc.)*

Then trainees attend a 18-days programme (6 x 3 days during a year). They are given methods, tools and thinking dealing with the four common roles for EDF managers:

* Vision: to give a meaning, a direction to operation.
* Organization: work, resources, projects.
* Motivation: stimulate teamwork, motivate employees (human resources).
* Control: results, costs, etc.

Which is maybe more important, they have to work on-the-field, between the courses, under assistance and control of their coaches. At the end of the programme, they have to explain what they have learnt, and above all, how they did it.

2- Improving skills of present FLM

For this population, the training objectives are double:

* cultural opening,
* deepening of vocational skills.

To achieve the first objective, trainees attend 6 lectures a year, followed by a public debate. These lectures are run by a high-level specialist.
Hereunder are mentioned some examples of topics:

* Power in organizations
* Major geo-political issues at the end of 20th century
* Utilities in Europe tomorrow
* EDF international development.

Vocational skills are developed through 6 "special days " where FLM exchange their own experiences in some particular issues, such as:

UNIT 1. LAUNCHING SEMINAR
⇒ *The main roles of a manager at EDF and in other companies*
Definition of a personal "training itinerary" with his own coach (i.e. a series of training opportunities to be implemented on-the-field, between seminars and depending on skills to be developed for each individual. Those opportunities may be very varied: courses, CD ROM's, participation in meetings, contacts with customers, exchange of experiences with colleagues, visits of other companies, coaching of another individual, business trips, etc.)

UNIT 2: VISION: TO GIVE A DIRECTION TO OPERATION
⇒ *Objectives and contents:*
  . *To understand main evolutions in EDF's environments and their consequences on the company's strategy.*
  . *To identify the managerial roles of FLM (First Line Managers)*
  . *To define efficient objectives for one's team.*

UNIT 3: MOTIVATION: STIMULATE TEAMWORK, MOTIVATE EMPLOYEES
⇒ *Objectives and contents:*
  . *To identify different managerial styles, and to understand one's own style.*
  . *To know motivation and demotivation factors in a team.*
  . *To know how to communicate with a team and with individuals.*
  . *To know how to make decisions.*

UNIT 4: ORGANIZATION
⇒ *Objectives and contents:*
  . *To identify the different organizational processes.*
  . *To diagnose one's own organization.*
  . *To know how to delegate.*
  . *To prepare and support organizational changes.*

UNIT 5: CONTROL
⇒ *Objectives and contents:*
  . *To identify different ways of control*
  . *To develop auto-control in the work-team.*
  . *To control costs and results.*

UNIT 6: FINAL SEMINAR
⇒ *Assessment of the training course.*
⇒ *Assessment of the "training itinerary"*
⇒ *Definition of an improvement plan.*
All along the course, pedagogy is active and participative: case studies, interviews of EDF and non-EDF managers, exchange of experiences, work in sub-groups. Trainees are always encouraged to be actors, and to propose improvements of their own training, which is (after all) expected from any manager.

- Motivating a work-team
- Mastering time, settling priorities
- Leading a project, building an action plan
- Being a team-leader
- Negotiating with unions
- Appraising performance
- Managing conflicts
- Delegating and controlling
- Managing skills
- Managing performance
- Communicating
- Speaking in public.

3- Conclusion

This process, as well as other programmes, not only tends to improve appropriate managerial skills of FLM: in addition, we try to develop their own sense of autonomy, and to allow present or future managers to adapt to a complex and uncertain environment.

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Annex F

PREPARATION OF FUTURE SENIOR EXECUTIVES AT EDF

Introduction

In a large company like EDF (125 000 employees), the preparation of future senior executives is a major strategic challenge. We think that for future Plant Managers, Unit Directors, Department Heads, Projects or Subsidiaries Managers, etc. management is a three-dimensional operation requiring:

● a vision of the future,

● strategic thinking (to be prepared to manage in uncertain situations),

● economic management (to create maximum value with minimum resources).

Four main principles

Four main principles are at the source of senior executives' training:

1. Training has to correspond with careers evolution. The general training scheme extends from recruitment, selection, detection of potential, professional experience, job assignments and training itself, until actual promotion.

2. Anticipation is essential. Training must begin as soon as possible before actual promotion can take place (normally after 5 or 10 years from being selected as potential management material).

3. Training programmes must be as personalized as possible (e.g. taking into account diversity of education, previous experience) through simultaneously enabling a corporate managerial culture.

4. Training should not consist only of indoor courses. All training opportunities and situations should be used, and particularly job assignments.

A training programme connected with a career programme

Between spotting of a potential manager and eventual promotion, a potential senior executive normally has to attend the 8 courses given below:

Senior executives
Training programme
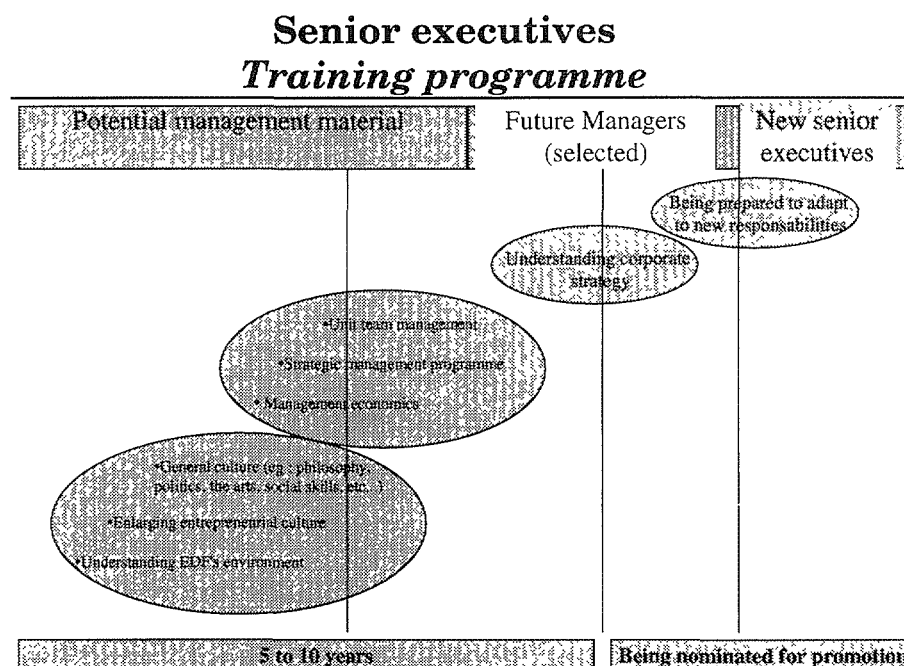
Hereunder are developed the objectives, required conditions and pedagogic design of those 8 courses:

1. Understanding EDF's environments

Objectives:

- To learn how to understand different thinking schemes.
- To identify other logics and different ways of reasoning.
- To learn how to discern weak signals in the Company's environments.

Required conditions:

- To be considered capable of becoming a senior executive within 5 or 10 years.

Pedagogical design:

- Number of participants: 20/26
- Duration: 8 days (2 × 4 days)
- Contents: The trainees are invited to run an on-the-field survey (through outside interviews) to try to solve a corporate issue in a given region.
  For example: How to optimize water management in the south-west and how to negotiate with politicians, ecologists, fishers, touristic business, agriculturists, etc. The participants have to investigate the actors' game in this area, and to propose innovative solutions.
- In addition, they attend 5 or 6 top-level lectures to help them to understand major changes in EDF's environments, such as:
  - European open market,
  - local communities,
  - changes in private business,
  - new social trends,
  - prospective attitude and methodology.

2. General culture

Objectives:

- Personal development by learning of new thinking modes and discovering of completely new areas.

Required conditions:

- To be considered capable of being a senior executive within 5 years (or being effectively a senior executive at present).

Pedagogical design:

- Number of participants: 15/25
- Duration: 22 days (over 2 years-period)
- Contents: 3 main areas:
  1. Logic of systems (history of philosophy, science, the arts, psychology, economy, politics, geo-politics).
  2. Discovery of language and expression: through study of a work, a movement, a religion, a language.
  3. Interpretation of main contemporary concepts (human relations, ethics, responsibility, strategy, system, organization. The course includes lecture, work-groups, personal research, travels, theater, visits of museums, and individual coaching).

3. Enlarging entrepreneurial culture

Objectives

- To understand better other outside companies
- To develop an entrepreneurial attitude
- To analyse the risk dimension

Required conditions

- To be considered capable of becoming a senior executive within 4 or 8 years

Pedagogical design

- Number of participants 20/30
- Duration 10 days (2 × 5 days)
- Contents Four levels of analysis are used to converge on a final synthesis
  1 Different ways of managing change in various companies
  2 Presentations by external managing directors (corporate culture and identity, centrality and networks, technical culture and management, social finality and business logic)
  3 A comparative study of some private and public companies in 4 European countries (Netherlands, UK, Italy, Germany)
  4 Change at EDF recent evolutions and prospects

4. Management economics

Objectives

- To master basics principles, methods and tolls in this area

Required conditions

- To be considered capable of becoming a senior executive within 2 or 3 years

Pedagogical design

- Number of participants 15/25
- Duration 12 days (3 × 4 days)
- Presentations, case studies, management simulations by teams
- Contents
  1 Management tools (marketing, marketing mix, competition, control, financial flows, financial diagnosis and profitability
  2 Relations to economic environment (business plan, cost analysis, overall economic situation, international economy and finance)
  3 Human Resources Management (leadership styles, power and motivation, entrepreneurial and managerial roles)
  4 Law
  5 Business Plan (simulation)

5. Strategic management programme

Objectives

- To equip managers with the knowledge, skills and self-confidence to handle a significant increase in responsibility in the short and medium terms
- To develop their strategic understanding and leadership skills, which are fundamental for moving the company forward in a context of greater uncertainty
- To broaden their capability to the point where they are able to adopt a multidisciplinary, cross-functional perspective on any business issue, thus lending their business judgments greater weight and credibility and developing their effective participation in the strategic process

Required conditions

- English language competence

Pedagogical design

- Number of participants 12/20
- Contents
  - Thinking and learning strategically the fundamental language of strategy — the mind of the strategist — the process of strategy strategic management as a learning process
  - Playing an active role in the strategic process creating a "local strategic space " — managing strategy as a systemic learning process — developing one's managerial identity
  - Making strategy happen, the challenge of change managing transformation in EDF — applying the strategic action process in EDF

Designed and run in partnership with London Business School, one of the leading European institutions in the field of management education, the programme is designed to be highly interactive, practical and enjoyable

Participants are encouraged to take a central role in their own learning, supported by a wide variety of methods (cases, games, videos, guest speakers form industry, computer simulations, meta-planning sessions, lectures, reading)

6. Unit team management

Objectives

- To develop skills in team management

Required conditions

- To have an experience of management and to be potentially a senior executive (within 2 years)

Pedagogical design

- Number of participants 15/20
- Duration 14 days
- Contents
  - Team-building
  - How to recruit and hire an employee?
  - How to develop his colleagues' potential?

7. Understanding corporate strategy

Objectives

- To know the main strategies of EDF and GDF

Required conditions

- To be considered capable of becoming a senior executive within 12/18 months

Pedagogical design

- Number of participants 15/25
- Duration 13 days (1+3+3+3+3 days)
- Contents
  - Basics of strategy
  - International issues
  - Environment
  - Development
  - Strategic planning

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8. Being prepared to adapt to new responsibilities

Objectives

- To be prepared to change role
- To achieve a Unit diagnosis
- To anticipate his/her own first managerial actions
-

Required conditions

- To be considered capable of becoming a senior executive within a maximum of 1 year

Pedagogical design

- Number of participants individual coaching
- Duration 4 days
- Contents
  - Individual interview
  - Supporting session (while taking up duties)
  - After taking up duties individual coaching, exchange of experiences

Every year, 500–600 individuals attend part of this programme 25% of them will be senior executives later We make this considerable effort because we think that management training is one of the main ways for adapting our company's evolution and future direction

Annex G

NUCLEAR ELECTRIC'S SHIFT CHARGE ENGINEERS' DEVELOPMENT SEMINAR

B.R. Molloy
Nuclear Electric Ltd,
Barnett Way, Barnwood, Gloucester, United Kingdom

The Shift Charge Engineers' (SCE) Development Seminar was developed by Nuclear Electric specifically for existing and potential charge engineers, in view of the important, difficult and unique role of those individuals in the Company. The Seminar is sponsored by the Generation Director, and has been developed jointly by Technical Training and Human Resource Development staff.

The Seminar is of one week's duration, at a residential venue. A representative from each power station will be present.

The programme has been put together following a survey of existing SCEs and managers of the skills which will be needed by Nuclear Electric SCEs in the future. The Seminar includes aspects of both 'technical' and 'man management' issues. The emphasis is firmly on providing useful skills and approaches for the SCE, which will actually help him in his work on site. Participants have the chance to work on any issues which they feel will help them as well as the predetermined Seminar content. The style of the event is highly participative, with learning coming from the participants' own experience combined with input from the team.

The Seminar team consists of facilitators conversant in the fields of management and technical training, under the direction of a station manager. The team is assisted by carefully chosen speakers during the event.

The following is an extract of the pre-briefing material sent to SCEs nominated to attend the programme:

Shift Charge Engineers' Development Seminar

Before the programme ......

The Shift Charge Engineers' Development Seminar will help you to learn in several ways. As well as tutor-led inputs and discussion sessions, you will benefit from sharing your own experience with the other Seminar members and in turn from learning about their experience. You will have opportunities to consider your own particular shift and their requirements for the future. To help you to do this, please bring along to the programme:

(a) A presentation of **not more than 15 minutes** duration to briefly outline to the other participants:

– The management structure of your station, i.e. how many heads?

– How is the Production/Operations Department structured and how does it function? Do the SCEs meet with the Production Manager regularly? Do SCEs have regular meetings and how do you ensure that you are all going in the same direction?

– How many people do you have in your shift team? What are their responsibilities? What are the advantages and disadvantages of your structure?

– Are there any managerial issues which you as leader of your shift find difficulty in implementing at present? (Examples: implementing Quality Improvement, skill broadening, staff training etc.).

IF POSSIBLE, PLEASE BRING 15 COPIES OF YOUR PRESENTATION WITH YOU.

(b) Details of an incident, actual or near miss, to learn from. Participants should be prepared to share the details **in confidence** with the other participants in syndicate groups (no formal presentation is required).

(c) Your Belbin team role results (if known)

(d) Any previous plans for your own personal development, perhaps from previous courses, or your own appraisals. (You will not have to reveal this information to other participants).

(e) Please familiarize yourself with the enclosed information on shiftwork. The emphasis during the session (Thursday am) will be based on possible methods which could be employed to alleviate the effects of shiftwork as opposed to the theory behind shiftwork.

As part of the programme, each participant will be playing a role in the progress of the Seminar. For each of the six days, a participant will act as a recorder and summaries of key points. No preparation is necessary, just come along prepared to participate. Also, we will be holding several discussions about the SCEs job and the various parts of his role.

Although the whole programme will be very interactive, these sessions in particular will be based around the participants sharing their views and experience, and drawing some conclusions. We will be asking for volunteers from the participants to act as discussion leaders in these sessions. Again, no particular preparation is required, but the following points may be of interest to you:

> – What contributions does the SCE make to the station management team? What contributions could he make?
>
> – How can communications between shift and day staff be improved?

Seminar outcomes:

By the end of the programme, the participants will be able to

- Summarize the future role of the SCE within the shift team, within the station and within the Company
- Explain how the role differs from those of other shift staff and station staff and the consequences for those carrying it out
- Review their own performance as SCEs and be better equipped to act
- Summarize the advantages and disadvantages of, and demonstrate the ability to, take a more detached view of the working of the plant and their team so as to be able to improve both more effectively
- Deal with other people, both individually and in groups, more effectively
- Analyse their own strengths as individuals and as team members and recognize and value the different strengths of others
- Summarize the skills and competence of effective team members and formulate an initial development plan for the shift team
- Summarize the potential causes of incidents and develop strategies to prevent incidents occurring
- Manage incidents which do occur more confidently and effectively
- Share their experiences with colleagues from other stations and learn from those colleagues' experiences
- Develop a plan for their own future development

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Annex H

ONTARIO HYDRO EXPERIENTIAL TRAINING PROGRAMMES

P. Tremblay
Leadership and Management Training Department,
Ontario Hydro, Canada

The Ontario Hydro experiential training programmes have been developed in partnership with the Institute of Nuclear Power Operations (INPO) after the successful training programmes provided by the Atlanta based INPO organization.

These programmes include:

Senior Nuclear Plant Management Programme (SNPM) — 5 week programme
Shift Supervisor Professional Development Seminar (SSPDS) — 2-1/2 week programme
Engineering Supervisors Professional Development Seminar (ESPDS) — 2 week programme
Maintenance Supervisors Professional Development Seminar (MSPDS) — 2 week programme

The programmes consist of an international mix of participants from countries which have included the United States of America, the Republic of Korea, Romania, the United Kingdom, Pakistan, India, and Canada. These intensive programmes are a combination of classroom sessions and site visits, culminating in goal setting and action planning.

In the past, a great deal of emphasis was placed on the technical skills required by staff to run a large nuclear facility. It has been recognized that in areas such as leadership, decision making, setting standards, motivation, management, supervisory and team work skills, staff were not being developed to their fullest potential. As a result, key performance measures were impacted. The experiential programmes address many of these areas in an adult learning environment, involving case studies, interactive discussion, role playing and facilitated sessions.

Each programme uses high level mentors experienced in plant turnaround or improvement in operating standards. Their role is to challenge the participants to elevate their own standards and expectations and those of the people they support.

An integral part of these programmes are the pre- and post-evaluations. Participants are interviewed with their supervisors to establish expectations prior to participation in the programme. Upon completion of the programme, participants' action plans are followed up by their supervisors.

Ontario Hydro — Leadership & Management Training
Senior Nuclear Plant Management Training Programme

Course Purpose

This programme is part of the overall executive development programme of Ontario Hydro and will have four principal objectives, namely

(1)   To establish clear and well understood standards for senior plant staff conduct
(2)   To enhance the ability of senior plant personnel to identify, analyse and solve management problems encountered in nuclear plants,
(3)   To strengthen lesson transfer between Ontario Hydro and other nuclear sites, and
(4)   To provide ongoing support for key plant staff through mentoring practices

Course Concepts

◆   Limited in class size (maximum of 12 candidates) to maximize discussions and active participation of each individual   Classroom instruction will be conducted away from any operating site

◆   Use of industry mentors chosen from proven plants or higher level managers   The mentors act as advisors to the participants   A different mentor will be provided for each week of classroom instruction

◆   Case studies will be used to review management issues   real problems will be employed as much as possible where actual solutions can be evaluated   Composite industry experience will also form part of the discussions

◆   Evening sessions will focus on mentor/student discussion on practical application of the material discussed that day and to share additional relevant experience   This will be done without any training presence   The mentor will lead these sessions

◆   Plant visits will be an integral part of this programme and will focus on giving candidates a mix of plant quality and environments   None of the visits will be to facilities managed by any of the candidates

Course Content

◆   Intensive five week course   the first two weeks of classroom sessions, followed by two weeks of site visits to two to three utilities with a final concluding week held away from the plants

◆   Class participants and mentors will stay at one hotel and meet for evening discussions

◆   First two weeks will include the following

•	Case studies	•	Observation techniques

Management focus on problems and issues in the areas that include

•	Standards of Operations and Maintenance	•	Nuclear Performance Expectations
•	Human Performance Management	•	Safety Culture
•	Operating Experience Application	•	Change Management
•	Leadership Practices	•	Labour Relations

◆   The third and fourth weeks of the programme will include visits to 2 or 3 sites

The fifth week will be held away from the plants and will be aimed at

•	Review of site visits	•	Action Planning
•	Major case study (specific OH PEER report)		

Ontario Hydro — Leadership & Management Training
Shift Supervisor Professional Development Seminar

Course Purpose

This programme is part of the overall development programme of Ontario Hydro and will have four principal objectives, namely

(1) To establish clear and well understood standards for senior plant staff conduct
(2) To enhance the ability of senior plant personnel to identify, analyse and solve management problems encountered in Nuclear plants,
(3) To strengthen lesson transfer between Ontario Hydro and other Nuclear Sites, and
(4) To provide ongoing support for key plant staff through mentoring practices

Course Concepts

♦ Limited in class size (maximum of 12 candidates) to maximize discussions and active participation of each individual Classroom instruction will be conducted away from any operating site

♦ Use of industry mentors chosen from proven plants or higher level managers The mentors act as advisors to the participants

♦ Case studies will be used to review management issues real problems will be employed as much as possible where actual solutions can be evaluated Composite industry experience will also form part of the discussions

♦ Evening sessions will focus on mentor/student discussion on practical application of the material discussed that day and to share additional relevant experience This will be done without any training presence The mentor will lead these sessions

♦ Plant visits will be an integral part of this programme and will focus on giving candidates a mix of plant quality and environments

Course Content

♦ Intensive two and a half week course the first week of classroom sessions explore the following areas ,

  • Case studies

Management focus on problems and issues in the areas that include

  • Standards of Operations and Maintenance • Nuclear Performance Expectations
  • Human Performance Management • Safety Culture
  • Operating Experience Application • Managing Risk
  • Leadership Practices • Problem Solving

♦ The second week of the programme will include a visit to leading utility

The final three days of classroom sessions will be aimed at

  • Review of site visits • Action Planning

Ontario Hydro — Leadership & Management Training
Engineering Supervisor Professional Development Seminar

Course Purpose

This programme is part of the overall development programme of Ontario Hydro and will have four principal objectives, namely

(1)   To establish clear and well understood standards for senior plant staff conduct
(2)   To enhance the ability of senior plant personnel to identify, analyse and solve management problems encountered in Nuclear plants,
(3)   To strengthen lesson transfer between Ontario Hydro and other Nuclear Sites, and
(4)   To provide ongoing support for key plant staff through mentoring practices

Course Concepts

♦   Limited in class size (maximum of 12 candidates) to maximize discussions and active participation of each individual   Classroom instruction will be conducted away from any operating site
♦   Use of industry mentors chosen from proven plants or higher level managers   The mentors act as advisors to the participants
♦   Case studies will be used to review management issues   real problems will be employed as much as possible where actual solutions can be evaluated   Composite industry experience will also form part of the discussions
♦   Evening sessions will focus on mentor/student discussion on practical application of the material discussed that day and to share additional relevant experience   This will be done without any training presence   The mentor will lead these sessions
♦   Plant visits will be an integral part of this programme and will focus on giving candidates a mix of plant quality and environments

Course Content

♦   Intensive two week course   the first week of classroom sessions explore the following areas ,

  •   Case studies

Management focus on problems and issues in the areas that include

• Communicating and Teambuilding	• Providing Standards, expectations and direction to subordinates
• Human Performance Management	• Conservative Decision Making
• Operating Experience Application	• Developing Engineering Personnel
• Leadership Practices	• Problem Solving

♦   The second week of the programme will include a visit to a leading utility and wrap up classroom sessions aimed at

• Review of site visits	• Action Planning

Ontario Hydro — Leadership & Management Training
Maintenance Supervisor Professional Development Seminar

Course Purpose

This programme is part of the overall development programme of Ontario Hydro and will have four principal objectives, namely

(1)   To establish clear and well understood standards for senior plant staff conduct
(2)   To enhance the ability of senior plant personnel to identify, analyse and solve management problems encountered in Nuclear plants,
(3)   To strengthen lesson transfer between Ontario Hydro and other Nuclear Sites, and
(4)   To provide ongoing support for key plant staff through mentoring practices

Course Concepts

♦   Limited in class size (maximum of 12 candidates) to maximize discussions and active participation of each individual Classroom instruction will be conducted away from any operating site
♦   Use of industry mentors chosen from proven plants or higher level managers The mentors act as advisors to the participants
♦   Case studies will be used to review management issues real problems will be employed as much as possible where actual solutions can be evaluated Composite industry experience will also form part of the discussions
♦   Evening sessions will focus on mentor/student discussion on practical application of the material discussed that day and to share additional relevant experience This will be done without any training presence The mentor will lead these sessions
♦   Plant visits will be an integral part of this programme and will focus on giving candidates a mix of plant quality and environments

Course Content

♦   Intensive two week course the first week of classroom sessions explore the following areas ,

•   Case studies

Management focus on problems and issues in the areas that include

• Leadership Practices	• Safety and Safety Culture
• Self Assessment	• Planning & Organizing Work
• Operating Experience Application	• Developing Maintenance Personnel
• Problem Solving	• Conduct of Maintenance and Work Control Systems

♦   The second week of the programme will include a visit to a leading utility and wrap-up classroom sessions aimed at

• Review of site visits	• Action Planning

Annex I

NUCLEAR ELECTRIC LTD STAFF APPRAISAL FORMS

Nuclear Electric staff appraisal scheme

Nuclear Electric staff confidential

appraisal
form

competence assessment

explanatory notes

These 16 competences describe behaviours which are important in every job in the company. Achieving and improving our competence standards is an essential part of being a quality company.

This form is for you to assess your level of competence, based on how you currently do your job. This will then be used as part of the appraisal discussion which will also cover the other technical skills which you need to do your job.

Along the scale for each competence there are seven statements which describe seven different levels of performance. The levels are cumulative, eg competence at level 4 means you need to be doing the things described at levels 1-3 as well.

Tick the darker box under the appropriate statement.

If you feel that performance falls between two levels, ie, clearly satisfies one statement but only partially satisfies the next level, please tick the intermediate box.

Responds to change positively, implementing required alterations to normal practices		Contributes ideas for change to meet new business objectives
✓	☐	☐

Responds to change positively, implementing required alterations to normal practices		Contributes ideas for change to meet new business objectives
☐	✓	☐

Also try to think of specific examples that you could use to explain your self assessment in discussion with your appraiser.

You should note that R appears for a particular level on each competence. This is the required level as agreed for your job.

Please return this questionnaire with the main appraisal form, before your appraisal discussion. During the appraisal your level of competence will be agreed and the appropriate box blackened. This may be above, below or at the required level.

Note for appraisers. After your appraisee has finished their self assessment you should consider your opinion of their performance against the competences. To assist you in the appraisal discussion you may wish to mark an X against the relevant competence level as a reminder of your initial assessment.

Name

Job

Department/division

Location

Reports to

Appraiser

Date

Nuclear Electric
ENERGY FOR THE 21ST CENTURY

1 **Breadth of vision:** We need to understand how every one of us can contribute to the business

Recognises that the team has goals	Understands the team's main business objectives	Takes initiatives which contribute to achieving location/dept business objectives	Encourages others to understand their priorities in the context of company objectives	Proposes new functional strategies which contribute to improving performance	Evaluates options and implements strategies and policies to achieve substantial performance improvement on a 1-5 year timescale	Contributes to the development of the corporate vision and strategies beyond 5 years
☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐

2 **Judgement:** We need to make decisions at the lowest appropriate level in our organisation

Seeks appropriate guidance when problems arise	Solves straightforward problems	Makes confident decisions where precedent and full information is available	Analyses issues logically and selects solutions when faced with several options	Determines most appropriate solution if faced with conflicting advice/demands or where not all facts available	Weighs up the implications and assesses the risk when analysing complex problems	Resolves conflict and ambiguity, providing a clear future direction for the business
☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐

3 **Influencing:** We need to be able to put across our point of view clearly and effectively

Puts forward views or opinions when appropriate	Makes constructive suggestions in one to one or small group situations	Makes a positive contribution in discussions/meetings with some effect on outcome	Prepares own case, emphasises the facts of the situation to win others over	Identifies others' objections and underlying needs then stresses the benefits which meet these	Bargains assertively anticipating others' objections and altering approach to achieve own objectives	Manoeuvres discussion to create win-win agreement in highly sensitive situations
☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐

4 **Open communication:** We need more open communication up and down the organisation

Communicates with colleagues when necessary	Exchanges information openly with colleagues	Presents and exchanges information with colleagues and other groups	Consults and briefs others regularly, ensuring full understanding is achieved	Facilitates open dialogue across teams, creating frequent opportunities for open communication with staff/suppliers	Handles difficult situations confidently and removes restrictions to communication	Conveys complex company messages clearly, encouraging open communication throughout the company
☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐

5 **People development:** We need to develop everyone in the Company continuously

Welcomes opportunities to broaden own experience	Pursues own self development	Trains others on specific tasks when requested	Improves others competence by identifying and implementing their training needs	Creates opportunities to broaden other's experiences and encourages continuous self development	Encourages subordinates to support development initiatives personally acting as a role model and mentor	Creates a climate of continuous improvement, implementing companywide developmental initiatives
☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐

7

Empowering: We need to encourage a sense of ownership and responsibility for work at all levels

Recognises own areas of responsibility	Takes on newly delegated tasks willingly	Accepts ownership of several priority areas taking initiatives as appropriate	Allows subordinates freedom to act on own tasks providing advice and support readily praising their efforts and progress	Encourages independent problem solving and full ownership removing barriers where necessary	Provides opportunities for others to assume responsibility for the delivery of business objectives and the running of day to day operations	Actively creates an organisational environment that encourages decision making at the lowest possible levels

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

8

Performance management: We need to focus attention on priority work and ensure it gets done efficiently

Knows what needs to be done	Understands own performance standards and priorities and asks for assistance when necessary	Plans and monitors own work systematically taking corrective action on own initiative	Allocates tasks checks achievements against expectations and gives constructive feedback.	Sets targets and analyses performance against business plan redirecting efforts to achieve objectives	Identifies trends in performance over time reviewing procedures and goals to enhance standards	Identifies the key areas of development required to meet corporate objectives & resolves potential conflicts

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

9

Safety management: We need to ensure a safe working environment at all times

Complies with health and safety requirements	Identifies and reports potential hazards in own work areas	Adheres to safety standards for self and colleagues suggesting solutions to potential hazards	Ensures team adheres to set rules and checks that safety measures are met removing potential hazards	Assesses risks to identify and remove the causes of potential hazards	Creates a positive commitment to safety establishing systems to avoid major dangers	Promotes the company safety programme providing the resources and creating the environment to encourage safety

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

10

Commercial awareness: We all need to play our part in reducing costs and achieving commercial success

Understands the need for value for money	Monitors and minimises costs in own work area wherever possible	Analyses costs of current work practices and proposes cost saving initiatives	Ensures cost-effective use of resources by own team to achieve commercial objectives	Recognises and responds to commercial pressures and possibilities ensuring value for money is always achieved	Takes risks and pursues viable business opportunities to improve profitability or reduce costs	Sets and controls corporate commercial policy and targets for the department which support the company business plan

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

11

Customer focus: We need to ensure we provide what our customers want, when they want it

Understands that everyone has customers	Understands who main customers are and standards of service required	Assesses and reacts quickly to customer needs and resolves their concerns	Focuses the team on developing & achieving clear customer service standards	Introduces improvements to existing levels of service	Seeks out and acts on customer feedback setting high professional standards for the team	Anticipates major changes in customer needs and drives the business to meet them

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

61

12 **Financial focus:** We need to work within agreed financial targets

| Recognises the need to work within financial limits | Understands the impact of own activity on team budget. | Contributes to preparation of budget and ensures that costs of own activities remain within budget. | Analyses, monitors and controls expenditure to ensure team achieve their financial targets | Sets own budget which supports the unit's business plan | Creates a climate which encourages continuous improvement in financial performance | Takes company wide initiatives to improve profitability in line with shareholder's requirements |

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

13 **Company networking:** We need a better understanding of the company to help us to do our jobs better

| Knows how own dept/ location is organised | Understands the role of other sections/teams in contact with | Knows who to contact to ensure tasks are completed in line with own unit's business plan | Demonstrates understanding of main activities of relevant departments building a network of useful contacts | Uses and develops personal network to achieve wider company goals | Shares functional information to ensure others can prioritise and deliver complex projects | Encourages cross fertilisation of corporate strategies maximising opportunities to achieve company goals |

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

14 **Achieving results:** We can all contribute to achieving results

| Completes the tasks set. | Achieves beyond set tasks when asked | Meets required standards putting in extra effort when under time and resource pressure | Strives to improve quality of results/service continuously | Overcomes difficult problems and setbacks focusing on priorities to achieve goals with limited resources | Challenges subordinates to improve effectiveness and achieve critical business targets | Focuses others on overcoming conflict and exceeding targets, actively contributing to strategic thinking outside own area |

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

15 **Project management:** We all need to complete projects or tasks to agreed plans

| Works to a day to day plan | Plans and monitors key elements of own work. | Handles several major tasks within normal workload | Schedules own project(s) & controls resources to meet budget & time specifications | Co-ordinates full project cycle, dovetailing activities to increase efficiency and meet quality standards | Establishes structures and procedures for major projects, overcoming functional conflict | Co-ordinates corporate activity, focusing efforts on key initiatives |

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

16 **Managing change:** We can all help to change things for better

| Accepts the need for change in Nuclear Electric | Complies with changes to working practices as they exist. | Responds to change positively, implementing required alterations to normal practices | Contributes ideas for change to meet new business objectives | Identifies when change is required, overcomes resistance to it and redirects the team effort | Implements major change programmes obtaining full commitment of subordinates | Delivers strategy for long term change in support of company-wide change process |

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

NE734 form sep

Annex J

DETECTION AND EVALUATION OF POTENTIAL TOP MANAGERS AT EDF

R. Bevand
EDF-GDF SFP Sud-Est Conseil,
Lyon, France

In order to improve their system for detection and evaluation of potential top managers, the managing directors of EDF implemented a new human resource development process in 1997. Through this process, for every high-potential manager, the "Potential Evaluation Sheet" is completed by his/her manager. The following pages provide a sample of this Potential Evaluation Sheet.

POTENTIAL EVALUATION SHEET

Name: Forename:

Date of birth: Nationality:

Studies and diplomas:

Date of entry into EDF:

Present position:

Present Department:

- **CAREER**

NOTE: Indicate prominent jobs and in particular, if any, previous experiences before entry into EDF, difficult managerial situations, important projects, experiences in subsidiaries and/or external organizations, international experience:

JOB	PERIOD	NAME OF MANAGER

- **TRAINING**

TRAINING COURSES	DATE

NAME:						
		Potential criteria	To be improved	Satisfactory	Outstanding	Factual evaluation elements
Motive energy	1	Ambition				
	2	Endurance				
	3	Dynamism				
Understanding of situations	4	Anticipation				
	5	Height of vision				
	6	Pertinence				
Behaviors of influence	7	Communication				
	8	Directing				
	9	Charisma				

65

NAME:

Personal project:

--

Geographical mobility, family constraints:

Potential analysis conclusion and prognostic of evolution:	Name and title of appraisers:
Improvement actions:	**Name of signer:** **Date:** **Signature:**

DEVELOPMENT OF SKILLS	
Jobs to be considered	**Training to be planned**
JOBS · TERMS 1-3 years - 3-6 years · 6-10 years	TRAINING COURSES · TERMS - ·

LANGUAGE SKILLS:

Levels 7-8-9: Ability to manage a project overseas, to pilot international working groups, to represent EDF overseas
Levels 4-5-6: Ability to participate in an international project as an expert, to run meetings or training courses, to travel overseas
Levels 2-3: Ability to use technical documentation, to welcome foreign visitors
Level 0-1: Inadequate skill for a vocational using

Languages	Level	Date of validation

POTENTIAL CRITERIA:

NOTE These criteria — as listed below — have to be used to evaluate potential (and should not be confused with criteria made to evaluate performance or competencies)

A. Motive energy

Ambition Will to assume always increasing responsibilities, by accepting risks and constraints of such an evolution For an expert, we will evaluate his potential to become an indisputable reference in his area (ambition of distinction)

Endurance The whole of an individual's reserves, as we can observe them in a vocational context, and in which he can draw to resist the efforts of a high pressure of environment

Dynamism Ability to stimulate oneself and to summon up his strength to achieve projects This ability enables to undertake new things, to start again after difficulties and to stimulate his associates

B. Understanding of situations:

Anticipation Ability to project oneself in the future, due to an appropriate understanding of environment, to better manage present and prepare future actions

Height of vision Ability to give oneself plenty of room with regard to a specific situation, to replace it in a broadened context and get a more global intelligence of it For an expert, we will evaluate his ability to give himself room with respect to his area by taking into account the other realities and stakes of the company

Pertinence Ability to know how to identify in a whole the details that are significant for action (quick and reliable first sight) and to deal with them efficiently with regard to the objective (reactivity and pragmatism)

C. Behaviors of influence:

Communication In the first place, ability to put in common while being able to be understood (expression of which is thought and felt) and to understand others (listening and taking into account points of view) It is an essential condition to cooperate

For an expert, we will evaluate his pedagogical qualities in transmitting a complicated subject together with his ability to cooperate with other people

Directing Ability to control physical and human environments to reach objectives, which requires an ability to organize projects and manage teams to achieve them

Charisma Influence, power of seduction, coming from an internal strength (courage of one's convictions) Charisma enables with a power of influence on a group, a capacity of convincing and leading others

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GLOSSARY

The following are terms that are used in this report that either are not necessarily known to the target audience for this report, or that are used in a particular context in this report:

Assessment. A structured process that uses objective data to assess, measure and provide continuous feedback to the management staff based on the integration of the organization's core competencies

Assessment center. An assessment center is a process, not a location, that uses assessment techniques to evaluate candidates for jobs that are usually significantly different than what they currently perform.

Coach. A supervisor, or co-worker who provides assistance in learning, improving, or mastering a task.

Competencies. Groups of characteristics, values, knowledge and skills that lead to superior performance as demonstrated through behavior.

Core competencies. Those competencies that are considered most important for an individual to possess to be successful in achieving the goals of the individual and the organization.

Core training programmes. Those programmes intended to be delivered to all (candidate) managers either because they cover generic management competencies/issues, where it is unlikely they will have been learned in previous roles, or where they contain company messages that all managers should know.

Development. All activities associated with providing an individual the opportunity to develop the competencies needed to contribute to the success of an organization.

First line manager. An individual who supervises a work group or team, and deals with day to day operational issues.

Individual development plan. A document that is continually updated to provide a structured path for individual development to meet both the future needs of the individual and the organization.

Individual development programme. Training, job assignments and other activities provided to allow an individual to develop beyond the minimum needed for competent job performance in a current position.

Management competencies. Those competencies related to strategic thinking, achieving results, making decisions, managing change, communicating, and developing others.

Manager. A person in an organization who achieves results through planning, organizing, directing and monitoring the work of others.

Mentor. An individual, generally at a significantly higher level with considerable experience, who coaches and guides the development of another individual.

Middle manager. An individual who supervises the work of first line managers and manages at a tactical level, promoting continuous improvement, best practice etc.

NPP manager. Includes all levels of managers from first line managers who supervise work groups or teams, to middle managers, and senior managers (including the plant manager and his/her peers in the utility organization).

On the job training . Training provided in the work place to qualify an individual to perform the associated task to defined standards.

Open learning. Student centered and controlled learning without traditional barriers to participation. Often delivered through the use of information technology.

Organizational unit. A defined section or group of the overall NPP or utility organization (e.g., department, section, shift crew, maintenance team).

Position. The function (e.g., unit shift supervisor, electrical maintenance manager) that has a particular collection of duties, tasks, responsibilities and authorities.

Senior manager. An individual who supervises the work of middle managers, and who is responsible for a major function or organizational unit of a utility (e.g., plant manager, chief financial officer, engineering manager). His/her key role is to set the strategic direction of the function.

Stakeholders. All individuals or groups that may be affected by an action (e.g., the public, customers, other organizational units, regulators, co-workers).

Succession management. Succession management is the process whereby those positions considered key to the ongoing viability of an organization are identified, the competencies determined, and individuals are developed so they are capable of filling those posts, should the incumbent be unavailable for whatever reason.

Technical competencies. Those competencies related to a particular technical discipline (e.g., engineering, computer science).

Training. Learning activities whose purpose is to prepare an individual to perform a specific task or job.

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