

<b>Name of the region:</b> Asia	<b>Regional/Cooperative Agreement</b> <i>(if applicable):</i>	<b>Project concept priority number within the Regional/Cooperative Agreement Programme Note</b> <i>(if applicable):</i>	<b>Project concept priority number within the Regional Programme Note:</b>
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**Field of activity:**

Capacity Building for a Nuclear Power Project

**Title:**

Work Force Planning and Implementation for a Nuclear Power Project

**Problem Statement:**

A nuclear power facility, from its design and construction to the completion of its decommissioning, is a national commitment for about 100 years. Work force planning is an important component in the overall strategy for nuclear power infrastructural development and should be in line with the organization's strategic plans and budgetary requirements. While embarking any Nuclear Power Project whether it is a turnkey or split package type the utility need to assess the number and types of qualified personnel that will be required to support the planning, procurement, construction, licensing, start-up, operation and decommissioning of a nuclear power plant. The requirements depend upon the kind of reactor design used as well as the existing national power infrastructure. Planning is thus essential to ensure that the necessary educational programmes are in place to be able to deliver qualified personnel.

**Objective:**

Work force planning including following:

1. Understanding of the Nuclear Power Human Resources (NPHR) modeling tool available with IAEA *(recently provided by Los Alamos National Laboratory USA for IAEA Member States)*;
2. Effective workforce planning, including anticipating needs for new employees and succession planning;
3. Identifying and planning for needed changes in the organization's processes, tools and equipment, and related staffing implications;
4. Development of a long term strategy for the recruitment, training and employment of future staff
5. Development of training and re-training needs programme vis-à-vis job task requirements

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**End Users:**

Nuclear Power Sector

**Past and present regional efforts in addressing the need:**

No past efforts on international level. This project will help to identify the size, type and quality and timings of workforce needed to run Nuclear Power plant effectively. The regional approach is effective because the problem of manpower loading is faced by most of the nations. This project will be useful to improve safety and reliability of NPPs in Pakistan through sharing of international experience and acquiring the hardware and software by IAEA and other organizations.

**Role of nuclear technology:**

Skilled and trained human resource is the basic need in order to make effective use of the Nuclear Technology in country. For this project development of plans for the development of the manpower will be the main objective. No specific use of Nuclear Technology is expected for subject endeavor.

**Role of the IAEA:**

IAEA being at pivotal end has the relevant expertise and tools. The field experts can contribute by sharing their rich experience in area of manpower loading and workforce planning.

**Participating Member States;**

All NPP holders in the region.

**National and regional counterpart institutions/stakeholders involved in the project:**

Pakistan Atomic Energy Commission.

Amer Manzoor

Head Project Management C-3/C-4 Project, Islamabad.

**Link to regional strategies or equivalent:**

Due to energy crisis in Pakistan, PAEC has been assigned the goal to substantially enhance nuclear power share in the energy mix of the country. A huge manpower will be essentially required to operate and maintain the NPPs in order to achieve the above mentioned target.

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<b>Partnership:</b>
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<b>Physical infrastructure and human resources</b>
Training institutes of PAEC including CHASCENT, KINPOE and PIEAS.
<b>Financial resources required and source of funding</b>
Estimated total Cost of the Project: USD 49000/- in two years. It includes one expert mission (2 experts) each year (~USD 26000 for 2 year). Participation in IAEA regional cooperation workshops/meetings (two persons once per year for one week) costing (~10000 for 2 years). One Fellowship titled 'Understanding NPHR Software Model and development of template plans based on various scenarios' for one person (costing ~ USD 12000/-). An additional USD 1000 will be required for the purchase of the related books/journals etc.
<b>Duration of the project:</b>
02 years
<b>Safety regulatory infrastructure:</b>
Pakistan Nuclear Regulatory Authority (PNRA) is functioning independently since 2001. PNRA is functioning efficiently in the regularization of Nuclear Power. All the regulations of PNRA have been endorsed by National Law in the form of an ordinance. PNRA regulations regarding training requirements of manpower for Nuclear Power projects will be helpful in setting the baseline for development HR under this project.

<b>Regional / Cooperative agreement (if applicable):</b>
Regional Project category
Names and contact details of project counterparts and counterpart institutions (starting with the main counterpart)
Analysis of regional Gap/ Problems /needs
Why should it be a regional project
Stakeholder analysis and partnerships
Overall objective (or developmental objective)
Analysis of objectives
Role of nuclear technology and the IAEA
Project duration
Requirements for participation
Participating Member States
Funding and project budget