Name of the region: **Asia**	**Regional/Cooperative Agreement** *(if applicable):*	**Project concept priority number within the Regional/Cooperative Agreement Programme Note** *(if applicable):*	**Project concept priority number within the Regional Programme Note:**

Field of activity:
Safety Enhancement of Nuclear Power Plants

Title:
Implication and Benefits of Risk Informed In-Service Inspection Program (RI-ISI) for NPP

Problem Statement:
All operating NPPS undergo examination for the systems, structure and components (SSCs) for possible deterioration so as to determine whether they are acceptable for continued safe operation or remedial measure be taken. In-service inspection provides the systematic frame work for their examination. An effective ISI- performance is a continuous challenge for a utility in terms of safety and cost. Application of an integrated in- service inspection program which incorporates risk informed methodology leads to maintain and even entrance plant safety and availability.

Objective:
Development of an integrated, risk informed in service inspection program needs to meet several goals, these objectives are described as follows:

1. To assess the robustness of plant specific (PRAs) risk ranking, number and type of inspections
2. Consistent application: prescriptive requirements are developed.
3. Reduce un- necessary burdens of inspections.
4. Maintain or improve Plant Safety.

End Users:

Nuclear Power Sector

Past and present regional efforts in addressing the need:

No past efforts in the region, this project will be useful to improve safety and reliability of NPPs in Pakistan through sharing of international experience and acquiring latest/modified concepts in the field of In-service Inspection Management Program for enhancement of Safety Culture by IAEA and other organizations.

Role of nuclear technology: Safe, reliable and economical operation of NPPs is the fundamental requirement for the continuous supply of electricity in country.
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 RI-ISI Program.
Participating Member States; All NPP holders in the region.
National and regional counterpart institutions/stakeholders involved in the project: Pakistan Atomic Energy Commission. Muhammad Nasarullah Head Technical Coordination Group C-3/C-4, Islamabad
Link to regional strategies or equivalent: Due to energy crises in Pakistan PAEC has been assigned the goals to substantially enhance nuclear power share in the energy mix of the country. New and modified concepts in the field are vital to operate and maintain the NPPs.
Partnership: -Directorate of Technical Support TS, CNPGS- EQM Div. ISI Section.
Physical infrastructure and human resources In-Service Inspection Groups at CHASNUPP-1 & 2, KANUPP and NCNDT
Financial resources required and source of funding Estimated total cost of the Project: USD 46000/- in two years. It included one expert mission (2 experts) each year (~USD 23000 for 2 year). Participation in IAEA regional cooperation workshops/ meeting (two persons once per year for one week) costing (~1000 for 2 years). One Fellowship Titled: To understand the concept of RI-ISI, Elements of its application at NPPS, study of model implemented in an NPP. For two persons (costing ~ USD 12000/). An additional USD 1000 will be required for the purchase of the related, tools, software, books/journals etc.
Duration of the project: 02 years
Safety regulatory infrastructure: 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 safety of Nuclear Power Projects will be helpful in setting the baseline for RI-ISI program under this project.

Regional / Cooperative agreement (if applicable):
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