

Bangladesh-Needs

No	Detail				
1	*Country Bangladesh	*Level Basic	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit, etc.
	*Field A. Racioactive Waste Management *Outline of needs Radioactive waste treatment To acquire knowledge on radioactive waste treatment				
2	*Country Bangladesh	*Level Basic	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit, etc.
	*Field A. Racioactive Waste Management *Outline of needs Radioactive waste disposal To acquire knowledge on radioactive waste disposal				
3	*Country Bangladesh	*Level Basic	*Type Go to abroad	*Priority Medium	*Method Lecture, Practice, Facility Visit, etc.
	*Field A. Racioactive Waste Management *Outline of needs Radioactive waste disposal facilities To acquire knowledge on radioactive waste disposal facilities				
4	*Country Bangladesh	*Level Advanced	*Type Go to abroad and Invite foreign expert	*Priority High	*Method Lecture, Practice, etc.
	*Field B. Radiation and RI Application *Outline of needs *Outline of needs Training on diagnostic and therapeutic application of radio isotope in medicine Present the various applications of isotopes in medical fields. Provide the safety system within				
5	*Country Bangladesh	*Level Advanced	*Type Go to abroad and Invite foreign expert	*Priority High	*Method Lecture, Practice, etc.
	*Field B. Radiation and RI Application *Outline of needs Application of radio isotope in environment To acquire knowledge on application of RI in environment; environmental RI and artificial RI to find out the causes of pollution and climate change				

Bangladesh-Needs

No	Detail				
6	*Country	*Level	*Type	*Priority	*Method
	Bangladesh	Basic and Advanced	Go to abroad	High	Lecture, Computer Modeling, etc.
	*Field B. Radiation and RI Application				
7	*Outline of needs				
	Ground water modeling				
	To acquire knowledge on Ground water modeling and particle transport				
7	*Country	*Level	*Type	*Priority	*Method
	Bangladesh	Basic	Go to abroad and Invite foreign expert	High	Lecture, Practice, Facility Visit, etc.
	*Field B. Radiation and RI Application				
8	*Outline of needs				
	Ion beam application for cancer therapy and material science				
	To acquire knowledge on Ion beam application for cancer therapy and material science				
8	*Country	*Level	*Type	*Priority	*Method
	Bangladesh	Basic	Go to abroad	Medium	Lecture, Practice, Facility Visit, etc.
	*Field C. Reactor				
9	*Outline of needs				
	Reactor Design				
	To acquire knowledge on reactor design				
9	*Country	*Level	*Type	*Priority	*Method
	Bangladesh	Advanced	Invite foreign expert	High	Lecture, Practice, Facility Visit, etc.
	*Field C. Reactor				
10	*Outline of needs				
	Reactor safety analysis/assessment				
	To acquire knowledge on reactor safety analysis and assessment				
10	*Country	*Level	*Type	*Priority	*Method
	Bangladesh	Basic	Go to abroad	Medium	Lecture, etc.
	*Field C. Reactor				
10	*Outline of needs				
	Reactor Engineering				
	To acquire knowledge on reactor engineering				

Bangladesh-Needs

No	Detail				
11	*Country	*Level	*Type	*Priority	*Method
	Bangladesh	Basic	Go to abroad	High	Lecture, Practice, etc.
	*Field C. Reactor *Outline of needs Reactor safety engineering To acquire knowledge on reactor safety engineering				
12	*Country	*Level	*Type	*Priority	*Method
	Bangladesh	Basic	Go to abroad	High	Lecture, Practice, etc.
	*Field C. Reactor *Outline of needs Reactor behavior To acquire knowledge on reactor behavior				
13	*Country	*Level	*Type	*Priority	*Method
	Bangladesh	Basic	Invite foreign expert	High	Lecture, etc.
	*Field C. Reactor *Outline of needs Reactor physics To acquire knowledge on reactor physics				
14	*Country	*Level	*Type	*Priority	*Method
	Bangladesh	Basic	Go to abroad	Medium	Lecture, Practice, etc.
	*Field C. Reactor *Outline of needs Reactor decommissioning To acquire knowledge on reactor decommissioning.				
15	*Country	*Level	*Type	*Priority	*Method
	Bangladesh	Advanced	Go to abroad	High	Training, Research
	*Field C. Reactor *Outline of needs Dense plasma focus device: Production, Diagnosis and Modeling To acquire knowledge on Production, Diagnosis and Modeling of the plasma in dense plasma focus device				

Bangladesh-Needs

No	Detail				
16	*Country Bangladesh	*Level Advanced	*Type Go to abroad	*Priority High	*Method Training, Research
	*Field C. Reactor *Outline of needs Theoretical and Computational research on fusion plasma To acquire knowledge on theoretical and computational research on fusion plasma				
17	*Country Bangladesh	*Level Basic	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit, etc.
	*Field D. Fuel/Material *Outline of needs Fuel Cycle To acquire knowledge on fuel cycle				
18	*Country Bangladesh	*Level Basic	*Type Go to abroad	*Priority Medium	*Method Lecture, Practice, Facility Visit, etc.
	*Field D. Fuel/Material *Outline of needs Transportation of fuel/material To acquire knowledge on transportation of fuel/material				
19	*Country Bangladesh	*Level Advanced	*Type Go to abroad	*Priority High	*Method Lecture, Practice, etc.
	*Field E. Nuclear/Radiation Safety *Outline of needs Nuclear safety culture To acquire knowledge on nuclear safety culture				
20	*Country Bangladesh	*Level Advanced	*Type Go to abroad	*Priority High	*Method Lecture, Practice, etc.
	*Field E. Nuclear/Radiation Safety *Outline of needs Countermeasures for severe accident To acquire knowledge on countermeasures for severe accident				

Bangladesh-Needs

No	Detail				
21	*Country	*Level	*Type	*Priority	*Method
	Bangladesh	Advanced	Go to abroad	High	Lecture, Practice, Facility Visit, etc.
	*Field E. Nuclear/Radiation Safety				
	*Outline of needs				
	Radiation instrumentation, measurement monitoring To acquire knowledge on radiation instrumentation, measurement monitoring				
22	*Country	*Level	*Type	*Priority	*Method
	Bangladesh	Advanced	Go to abroad	High	Lecture, Practice, Facility Visit, etc.
	*Field E. Nuclear/Radiation Safety				
	*Outline of needs				
	Emergency response (preparedness) To acquire knowledge on emergency response (preparedness)				
23	*Country	*Level	*Type	*Priority	*Method
	Bangladesh	Advanced	Go to abroad	High	Lecture, Practice, Facility Visit, etc.
	*Field E. Nuclear/Radiation Safety				
	*Outline of needs				
	Medical emergency preparation To acquire knowledge and skills on medical emergency preparedness and respond				
24	*Country	*Level	*Type	*Priority	*Method
	Bangladesh	Basic	Go to abroad	High	Lecture, Practice, etc.
	*Field F. Policy/Planning/Administration				
	*Outline of needs				
	Nuclear Regulation To acquire knowledge and skills on Nuclear Regulation				
25	*Country	*Level	*Type	*Priority	*Method
	Bangladesh	Basic	Go to abroad	High	Lecture, Practice, etc.
	*Field F. Policy/Planning/Administration				
	*Outline of needs				
	Licensing/Regulation To acquire knowledge and skills on Licensing/Regulation				

Bangladesh-Needs

No	Detail				
26	*Country	*Level	*Type	*Priority	*Method
	Bangladesh	Basic	Go to abroad	High	Lecture, Practice, etc.
	*Field F. Policy/Planning/Administration *Outline of needs Public Information To acquire knowledge and skills on public Information				
27	*Country	*Level	*Type	*Priority	*Method
	Bangladesh	Basic	Go to abroad	High	Lecture, Practice, etc.
	*Field F. Policy/Planning/Administration *Outline of needs Risk management/communication To acquire knowledge and skills on risk management/communication				
28	*Country	*Level	*Type	*Priority	*Method
	Bangladesh	Basic	Go to abroad	High	Lecture, Practice, etc.
	*Field F. Policy/Planning/Administration *Outline of needs Nonproliferation and safeguards To acquire knowledge and skills on nonproliferation and safeguards				
29	*Country	*Level	*Type	*Priority	*Method
	Bangladesh	Basic	Go to abroad	High	Lecture, Practice, etc.
	*Field F. Policy/Planning/Administration *Outline of needs Nuclear material control To acquire knowledge and skills on Nuclear material control				
30	*Country	*Level	*Type	*Priority	*Method
	Bangladesh	Basic	Invite foreign expert	High	Lecture, Practice, etc.
	*Field F. Policy/Planning/Administration *Outline of needs Siting for introduction of NPP To acquire knowledge and skills on siting for introduction of NPP				

Indonesia-Needs

No	Detail				
1	*Country	*Level	*Type	*Priority	*Method
	Indonesia	Advanced	Go to abroad	High	Lecture, Practice, Facility Visit, etc.
	*Field A. Radioactive Waste Management *Outline of needs Implementation of aging management on Interim Storage for Spent Fuel To acquire knowledge on impelementation of aging management on Interim Storage for Spent Fuel				
2	*Country	*Level	*Type	*Priority	*Method
	Indonesia	Advanced	Go to abroad	High	Lecture, Practice, Facility Visit, etc.
	*Field A. Radioactive Waste Management *Outline of needs Development of environmental radiation monitoring around nuclear facility To acquire knowledge on development of environmental radiation monitoring around nuclear facility				
3	*Country	*Level	*Type	*Priority	*Method
	Indonesia	Advanced	Go to abroad	High	Lecture, Practice, Facility Visit, etc.
	*Field A. Radioactive Waste Management *Outline of needs Development of radioactive waste management information system To acquire knowledge on development of radioactive waste management information system				
4	*Country	*Level	*Type	*Priority	*Method
	Indonesia	Advanced	Go to abroad	High	Lecture, Practice, Facility Visit, etc.
	*Field A. Radioactive Waste Management *Outline of needs Radioactive waste management (including contaminated waste management, DSRS management, SNF management and Transportation) To acquire knowledge on development of radioactive waste management				
5	*Country	*Level	*Type	*Priority	*Method
	Indonesia	Advanced	Go to abroad	High	Lecture, Practice, Facility Visit, etc.
	*Field A. Radioactive Waste Management *Outline of needs Radioactive waste disposal programme To acquire knowledge on development of radioactive waste disposal				

Indonesia-Needs

No	Detail				
6	*Country	*Level	*Type	*Priority	*Method
	Indonesia	Basic	Go to abroad	Medium	Lecture, Practice, etc.
*Field A. Radioactive Waste Management, E. Nuclear/Radiation Safety					
*Outline of needs					
<p>Safety evaluation for RW</p> <p>Deal with presentation and discussion of the safety approach and safety requirements for RW management and decommissioning activities.</p>					
7	*Country	*Level	*Type	*Priority	*Method
	Indonesia	Advanced	Go to abroad	High	Lecture, Practice, Facility Visit, etc.
*Field A. Radioactive Waste Management, F. Policy/Planning/Administration					
*Outline of needs					
<p>Transportation security for the radioactive waste</p> <p>To provide participants in implementing, maintaining or enhancing a nuclear security regime to protect radioactive waste while in transport against the theft, sabotage or other malicious acts and unacceptable radiological consequences</p>					
8	*Country	*Level	*Type	*Priority	*Method
	Indonesia	Advanced	Invite foreign expert	High	Lecture, Practice, etc.
*Field B. Radiation and RI Application					
*Outline of needs					
<p>Medical Application of Isotopes</p> <p>Present the various application of isotopes in medical fields. Provide the safety system within.</p>					
9	*Country	*Level	*Type	*Priority	*Method
	Indonesia	Advanced	Invite foreign expert	High	Lecture, practice and introduce model to
*Field B. Radiation and RI Application					
*Outline of needs					
<p>Neutron activation analysis and neutron irradiation technique</p> <p>To develop capacity the use of NAA method and other neutron irradiation techniques</p> <p>*It is used to develop model for sediment budget on the NAA basis.</p>					

Indonesia-Needs

No	Detail				
10	*Country	*Level	*Type	*Priority	*Method
	Indonesia	Advanced	Go to abroad	High	Lecture, practice and validation of mathematical
	*Field B. Radiation and RI Application				
11	*Country	*Level	*Type	*Priority	*Method
	Indonesia	Basic	Go to abroad	High	Lecture, Practice, Facility Visit, etc.
	*Field B. Radiation and RI Application				
12	*Country	*Level	*Type	*Priority	*Method
	Indonesia	Advanced	Go to abroad	High	Lecture, Practice, Facility Visit, etc.
	*Field B. Radiation and RI Application				
13	*Country	*Level	*Type	*Priority	*Method
	Indonesia	Basic	Go to abroad	Medium	Lecture, practice, Facility Visit, etc.
	*Field B. Radiation and RI Application				
10	*Outline of needs				
	<p>Simulation of industrial process dynamics</p> <p>Develop methodology, algorithm and numerical simulation procedure.</p> <p>*Practical radiotracers in combination with theoretical simulation is an effective tool for evaluation of industrial process dynamics</p>				
	<p>Radiation processing for degradation of natural polymers</p> <p>To acquire knowledge on application of radiation processing especially gamma rays and electron beam for degradation of natural polymers to be used in industry and energy</p>				
12	*Outline of needs				
	<p>Application of PCR-reverse dot/line blot using P-32 labeled probe to detect HPV types</p> <p>To acquire knowledge on molecular biology based on P-32 radioisotope which can be applied directly to clinical specimens for detecting HPV types</p>				
	<p>The use of gamma radiation on preparation and modification of biomaterials and tissue engineering materials</p> <p>To acquire knowledge on the effect of low dose gamma rays for preparation of biomaterials and tissue engineering materials</p>				

Indonesia-Needs

No	Detail				
14	*Country Indonesia	*Level Basic	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit, etc.
	*Field B. Radiation and RI Application				
	*Outline of needs The role of low doses gamma rays on the change of fungi characteristic for food applications To acquire knowledge on the effect of low dose gamma rays for some fungi for the application on food irradiation				
15	*Country Indonesia	*Level Advanced	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit, etc.
	*Field B. Radiation and RI Application				
	*Outline of needs Mutation breeding for improvement if rice grain quality To acquire knowledge on mutation breeding of rice, molecular marker for detection of rice mutants				
16	*Country Indonesia	*Level Advanced	*Type Invite foreign expert	*Priority High	*Method Lecture, Practice, Facility Visit, etc.
	*Field C. Reactor				
	*Outline of needs Operation, maintenance and utilization of research reactor To acquire knowledge on selection of nuclear fuels and materials in research reactor				
17	*Country Indonesia	*Level Advanced	*Type Invite foreign expert	*Priority High	*Method Lecture, Practice, Facility Visit, etc.
	*Field C. Reactor				
	*Outline of needs Aging SSS of reactor To acquire knowledge on aging of the research reactor				
18	*Country Indonesia	*Level Basic	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit, etc.
	*Field C. Reactor				
	*Outline of needs Research reactor decommissioning To acquire knowledge on research reactor decommissioning				

Indonesia-Needs

No	Detail				
19	*Country	*Level	*Type	*Priority	*Method
	Indonesia	Basic	Go to abroad	Medium	Lecture, Practice, etc.
	*Field C. Reactor				
20	*Outline of needs				
	Criticality control in NPP and SF pool				
	Provide a presentation of basic factors of criticality control while using fissile materials: technical (mass, density, geometry, moderation, reflection, interaction, neutron absorbers, etc.) and administrative controls (operating procedures).				
21	*Country	*Level	*Type	*Priority	*Method
	Indonesia	Basic	Invite foreign expert	Medium	Lecture, Practice, etc.
	*Field C. Reactor, E. Nuclear/Radiation Safety				
22	*Outline of needs				
	Design safety and safety evaluation for NPP (SAR and PSA)				
	Deal with presentation and discussion of the safety conception of design of nuclear installations and the key aspects to be considered in the design phase in order to assure an adequate level of safety. It will include evaluation of safety concept, civil structure design, safety function and components.				
21	*Country	*Level	*Type	*Priority	*Method
	Indonesia	Basic	Invite foreign expert	Medium	Lecture, Practice, etc.
	*Field C. Reactor, F. Policy/Planning/Administration				
21	*Outline of needs				
	Review and Inspection of I&C systems				
	Present and discuss all aspects related to inspection activity from regulatory authority for I&C systems considering their relevance for safety (protection or control functions). The key issues related to different technologies for I&C will be covered with particular focus on software qualification for digital based I&C. The experience in the licensing of Olkiluoto NPP will also be addressed.				
22	*Country	*Level	*Type	*Priority	*Method
	Indonesia	Advanced	Go to abroad	Medium	Lecture, Practice, etc.
	*Field C. Reactor, F. Policy/Planning/Administration				
22	*Outline of needs				
	Regulatory Inspections (oversight) during siting and construction phase				
	Provide the knowledge of the regulatory inspection process with special regard to onsite activities during siting and construction phase with respect to site works, construction of structures and systems, installation of major components and the quality assurance and safety culture of the construction and commissioning organization.				

Indonesia-Needs

No	Detail				
23	*Country	*Level	*Type	*Priority	*Method
	Indonesia	Basic	Invite foreign expert	High	Lecture, Practice, etc.
*Field C. Reactor, F. Policy/Planning/Administration					
*Outline of needs					
Regulatory oversight during NPP operation Provide the presentation and discussion of number of technical fields which are undergoing regulatory inspection during the operation of a NPP. It will include: Inspection of radiation protection for the environment for nuclear reactors; Inspection of occupational radiation protection					
24	*Country	*Level	*Type	*Priority	*Method
	Indonesia	Advanced	Go to abroad	High	Lecture, Practice, Facility Visit, etc.
*Field D. Fuel/Materia, F. Policy/Planning/Administration					
*Outline of needs					
Transportation security for the fuel /material To minimize the likelihood of the theft or sabotage of radioactive material during transport is accomplished by a combination of measures to deter, detect, delay and respond to such acts					
25	*Country	*Level	*Type	*Priority	*Method
	Indonesia	Advanced	Go to abroad	High	Lecture, Practice, Facility Visit, etc.
*Field E. Nuclear/Radiation Safety					
*Outline of needs					
Emergency preparedness and response for radiation and nuclear safety Strategic plan for emergency preparedness and response for radiation safety, to provide participants have a capabilities to regain control of the situation and to prevent or mitigate consequences					
26	*Country	*Level	*Type	*Priority	*Method
	Indonesia	Advanced	Go to abroad	High	Lecture, Practice, Facility Visit, etc.
*Field E. Nuclear/Radiation Safety					
*Outline of needs					
Nuclear Safety and Security culture To explains the basic concepts and element of nuclear security culture and how the relate to arrangements and policies for other aspects of nuclear security. It provides an overview of the attributes of nuclear security culture, emphasizing that nuclear security is ultimately dependent on individuals; policy makers, regulators, managers, individual employees and to a certain extent-members of the public					

Indonesia-Needs

No	Detail				
27	*Country Indonesia	*Level Advanced	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit, etc.
	*Field E. Nuclear/Radiation Safety				
	*Outline of needs Medical emergency preparation To acquire knowledge and skills on medical emergency preparedness and respond				
28	*Country Indonesia	*Level Basic	*Type Go to abroad	*Priority High	*Method Lecture
	*Field E. Nuclear/Radiation Safety				
	*Outline of needs Healths surveillance of radiation worker To acquire knowledge and skills on medical emergency preparedness and respond				
29	*Country Indonesia	*Level Basic	*Type Go to abroad	*Priority High	*Method Lecture, Practice, etc.
	*Field E. Nuclear/Radiation Safety				
	*Outline of needs Safety evaluation for SAR of RR and NF other than NPP Present and discuss the objective and scope of the content of the SAR for RR and other NF as for instance a RW storage facility.				
30	*Country Indonesia	*Level Basic	*Type Invite foreign expert	*Priority High	*Method Lecture, Practice, etc.
	*Field E. Nuclear/Radiation Safety, F. Policy/Planning/Administration				
	*Outline of needs Regulatory mechanism in country border to enhance radiation safety Learn about the stakeholders, role and responsibility among them.				
31	*Country Indonesia	*Level Advanced	*Type Invite foreign expert	*Priority High	*Method Lecture, Practice, etc.
	*Field E. Nuclear/Radiation Safety, F. Policy/Planning/Administration				
	*Outline of needs Safety management for regulators Learn about safety management systems, operator management systems, safety management principles, regulatory requirement, and management assessme				

Indonesia-Needs

No	Detail				
32	*Country Indonesia	*Level Basic	*Type Invite foreign expert	*Priority Medium	*Method Lecture, Practice, etc.
	*Field E. Nuclear/Radiation Safety				
	*Outline of needs Human and organizational factor Learn about human reliability, man-machine interface, human performance, task design, management systems, organizational assessment, and safety culture				
33	*Country Indonesia	*Level Advanced	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit, etc.
	*Field F. Policy/Planning/Administration				
	*Outline of needs Public communication on Nuclear Application To gain public acceptance				
34	*Country Indonesia	*Level Advanced	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit, etc.
	*Field F. Policy/Planning/Administration				
	*Outline of needs Financing for research and development product going to commercial To learn finance of research and development product going to commercial				
35	*Country Indonesia	*Level Advanced	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit, etc.
	*Field F. Policy/Planning/Administration				
	*Outline of needs Risk management/communication To recognize the factors of the classical security risk equation used in understanding the relationship between system effectiveness and risk for given attack scenario and recognize the relationship between risk management and system performance requirements				

Indonesia-Needs

No	Detail				
36	*Country	*Level	*Type	*Priority	*Method
	Indonesia	Basic	Invite foreign expert	High	Lecture, Practice, etc.
	*Field F. Policy/Planning/Administration				
37	*Country	*Level	*Type	*Priority	*Method
	Indonesia	Advanced	Invite foreign expert	Medium	Lecture, Practice, etc.
	*Field F. Policy/Planning/Administration				
38	*Country	*Level	*Type	*Priority	*Method
	Indonesia	Advanced	Invite foreign expert	High	Lecture, Practice, etc.
	*Field F. Policy/Planning/Administration				
38	*Outline of needs				
	Licensing management, basic safety concepts and decision making				
	Provide a presentation of basic concepts of nuclear safety with focus on the regulatory functions and responsibilities. The safety objectives, principles and criteria adopted worldwide with reference to the main NPP technologies will be presented together with their evolution in the last decades considering the feedback from major accidents of Three Mile Island, Chernobyl and Fukushima.				

Kazakhstan-Needs

No	Detail				
1	*Country	*Level	*Type	*Priority	*Method
	Kazakhstan	Advanced	Invite foreign expert	High	Research, Lectures
	*Field A. Radioactive Waste Management				
*Outline of needs					
Radioactive Waste Treatment					
Liquid and solid high active waste treatment					
2	*Country	*Level	*Type	*Priority	*Method
	Kazakhstan	Advanced	Invite foreign expert	High	Research, Lectures
	*Field A. Radioactive Waste Management				
*Outline of needs					
Radioactive Waste Disposal					
Long term disposal					
3	*Country	*Level	*Type	*Priority	*Method
	Kazakhstan	Advanced	Invite foreign expert	High	Research, Lectures
	*Field A. Radioactive Waste Management				
*Outline of needs					
Radioactive Waste Disposal Facilities					
Modern equipment for disposal facilities					
4	*Country	*Level	*Type	*Priority	*Method
	Kazakhstan	Advanced	Invite foreign expert	High	Research, Lectures
	*Field A. Radioactive Waste Management				
*Outline of needs					
Safety Assessment of Radioactive Waste					
Methods of Safety assessment of radioactive waste					
5	*Country	*Level	*Type	*Priority	*Method
	Kazakhstan	Basic and Advance	Go to abroad	High	Training
	*Field B. Radiation and Radioactive Waste Management				
*Outline of needs					
RI Application for Environment					
Tracers application for water sources monitoring					

Kazakhstan-Needs

No	Detail				
6	*Country Kazakhstan	*Level Basic and Advance	*Type Go to abroad	*Priority High	*Method Training
	*Field B. Radiation and Radioactive Waste Management				
	*Outline of needs RI Application for Medicine Cancer therapy and diagnostics				
7	*Country Kazakhstan	*Level Basic and Advance	*Type Go to abroad	*Priority High	*Method Training
	*Field B. Radiation and Radioactive Waste Management				
	*Outline of needs RI Application for Industry Production of RI for industry application. Alarm equipment and sensors on the base of RI for industry and power production.				
8	*Country Kazakhstan	*Level Basic and Advance	*Type Go to abroad	*Priority High	*Method Training
	*Field B. Radiation and Radioactive Waste Management				
	*Outline of needs RI Production Radiopharmaceuticals production and application				
9	*Country Kazakhstan	*Level Advanced	*Type Invite foreign expert	*Priority Medium	*Method Research, Lectures
	*Field C. Reactor				
	*Outline of needs Reactor Design Basic design. Generation IV. High temperature reactors.				
10	*Country Kazakhstan	*Level Advanced	*Type Invite foreign expert	*Priority Medium	*Method Research, Lectures
	*Field C. Reactor				
	*Outline of needs Reactor Engineering Nuclear fuel; Nuclear material; Nuclear reactor technology				

Kazakhstan-Needs

No	Detail				
11	*Country	*Level	*Type	*Priority	*Method
	Kazakhstan	Advanced	Invite foreign expert	Medium	Research, Lectures
	*Field C. Reactor				
12	*Country	*Level	*Type	*Priority	*Method
	Kazakhstan	Advanced	Invite foreign expert	Medium	Research, Lectures
	*Field C. Reactor				
13	*Country	*Level	*Type	*Priority	*Method
	Kazakhstan	Basic	Invite foreign expert	High	Research, Lectures
	*Field F. Policy/Planning/Administration				
14	*Country	*Level	*Type	*Priority	*Method
	Kazakhstan	Basic	Invite foreign expert	High	Research, Lectures
	*Field F. Policy/Planning/Administration				
15	*Country	*Level	*Type	*Priority	*Method
	Kazakhstan	Basic	Invite foreign expert	High	Research, Lectures
	*Field F. Policy/Planning/Administration				

Kazakhstan-Needs

No	Detail				
16	*Country	*Level	*Type	*Priority	*Method
	Kazakhstan	Basic	Invite foreign expert	High	Research, Lectures
	*Field F. Policy/Planning/Administration				
*Outline of needs					
Nonproliferation and safeguards					
International regulation, monitoring methods.					
17	*Country	*Level	*Type	*Priority	*Method
	Kazakhstan	Basic	Invite foreign expert	High	Research, Lectures
	*Field F. Policy/Planning/Administration				
*Outline of needs					
Preparation for introduction of NPP					
Legislation base, public relation, social policy, methods of information, system of decision					
18	*Country	*Level	*Type	*Priority	*Method
	Kazakhstan	Basic	Invite foreign expert	High	Research, Lectures
	*Field F. Policy/Planning/Administration				
*Outline of needs					
Bidding					
Marketing					
19	*Country	*Level	*Type	*Priority	*Method
	Kazakhstan	Basic	Invite foreign expert	High	Research, Lectures
	*Field F. Policy/Planning/Administration				
*Outline of needs					
Siting					
Methods of f public opinion formation, social policy, human resources development					
20	*Country	*Level	*Type	*Priority	*Method
	Kazakhstan	Basic	Invite foreign expert	High	
	*Field F. Policy/Planning/Administration				
*Outline of needs					
Procurement					
Planning, marketing					

Kazakhstan-Needs

No	Detail				
21	*Country	*Level	*Type	*Priority	*Method
	Kazakhstan	Basic	Invite foreign expert	High	
	*Field F. Policy/Planning/Administration				
	*Outline of needs Legislation International regulatory body				

Malaysia-Needs

No	Detail				
5	*Country Malaysia	*Level Basic	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit, etc
	*Field A. Radioactive Waste Management				
6	*Country Malaysia	*Level Basic	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit, etc
	*Field A. Radioactive Waste Management				
7	*Country Malaysia	*Level Advanced	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit, etc
	*Field B. Radiation and RI Application				
8	*Country Malaysia	*Level Advanced	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit, etc
	*Field B. Radiation and RI Application				
9	*Country Malaysia	*Level Advanced	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit, etc
	*Field B. Radiation and RI Application				

Malaysia-Needs

No	Detail				
10	Malaysia	Advanced	Go to abroad	High	Lecture, Practice, Facility Visit, etc
	*Field B. Radiation and RI Application				
	*Outline of needs Development of Polymer Electrolyte Membranes for Fuel Cells using Radiation Technique Synthesis and characterization of high performance polymer electrolyte membranes by radiation-induced cross-linking and graft polymerization using electron beams and gamma rays Study on nanostructures, ion conducting mechanism, and degradation behaviour of polymer				
11	*Country Malaysia	*Level Advanced	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit, etc
	*Field B. Radiation and RI Application				
	*Outline of needs Development of Multifunctional Composite Materials Research on multifunctional polymeric composite material that will provide shielding from radiation and has ballistic property.				
12	*Country Malaysia	*Level Basic	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit, etc
	*Field B. Radiation and RI Application, E. Nuclear/Radiation Safety				
	*Outline of needs Ecological Impact Study and Monitoring of Ecosystem in relation to Nuclear Power Programme To advise on national programme on Radiological Impact Assessment (RIA) and Monitoring of Ecosystem and Non-human Biota in relation to Malaysia's Nuclear Power Programme To give talks on recent development in radiation effects on biological systems with respect to nuclear facilities (e.g. nuclear power reactor, gamma greenhouse) especially on low level radiation effects and to advice on related experiments to be conducted. To provide insight and relate experience on handling the Fukushima Nuclear Power Plant incidents, with respect to impact on environment and non-human biota.				

Malaysia-Needs

No	Detail				
13	*Country	*Level	*Type	*Priority	*Method
	Malaysia	Basic	Go to abroad	High	Lecture, Practice, Facility Visit, etc
	*Field B. Radiation and RI Application, E. Nuclear/Radiation Safety				
*Outline of needs					
<p>Radiological effects on microbial population</p> <p>Assessment of effects of low dose irradiation and radionuclides in bacteria in model ecosystems.;</p> <p>Research on the effect of radiation and radionuclides on an experimental model ecosystem, in preparation to monitoring for Malaysia's Nuclear Power Programme (NPP). The effects of radiation on microbial diversity will be carried out via both viable cell count and uncultured approaches. The effects on the microbial populations will also be studied by using a range of radiation doses. Further analysis using fluorescence in situ hybridization and pyrosequencing will also be carried to correlate the effect of radiation and radionuclides on the microbial community structure. Similar research activities have been carried out by Japanese institution such as Japan National Institute of Radiological Research.</p> <p>Through the attachment, the young scientist is expected to discuss and explore the possibilities of utilizing bacteria as radiation bioindicators for the country's NPP.</p>					
14	*Country	*Level	*Type	*Priority	*Method
	Malaysia	Basic	Go to abroad	High	Lecture, Practice, Facility Visit, etc
	*Field B. Radiation and RI Application, E. Nuclear/Radiation Safety				
*Outline of needs					
<p>Radiation effects at molecular level (radiation impact studies)</p> <p>Assessment of effects of low dose irradiation and radionuclides in fungi and mushrooms in model ecosystems.</p> <p>The following studies are proposed:</p> <ul style="list-style-type: none"> • Assessing impact of radiation and radionuclides in fungi and mushroom. • Research on sensitivity and specificity of exposure biomarkers using DNA damage. • Research on biological exposure measurement using altered gene, protein or metabolite expression (proteomics and metabolomics). • Bioinformatics evaluation on radiation and radionuclide effects on fungi and mushrooms. <p>Specification:</p> <ul style="list-style-type: none"> - Data analysis (statistics) in relation to information linkages, hypothesis and evaluation - Data modeling in relation to genetic drift under environmental stress - Gene prediction and gene annotation using some biological websites or bioinformatics tools - Analysis of genetic diversity in relation to biota richness(population) <p>Through the attachment, the young scientist is expected to discuss and explore the possibilities of utilizing bacteria as radiation bioindicators for the country's NPP.</p>					

Malaysia-Needs

No	Detail				
15	*Country	*Level	*Type	*Priority	*Method
	Malaysia	Basic	Go to abroad	High	Lecture, Practice, Facility Visit, etc
	*Field B. Radiation and RI Application, E. Nuclear/Radiation Safety				
*Outline of needs					
<p>Biosurveillance / Biomonitoring studies on the effects of low dose ionizing radiation on plant species.</p> <p>To gain knowledge on the proposed studies: Research on the establishment of low-dose gamma radiation biodosimetry</p> <ul style="list-style-type: none"> • Research on applying environmental biodosimetry to plants from exposed environment • Research on development of bioindicator and biosensor plant species towards exposure to low dose radiation • Research on the establishment baseline data of low dose gamma radiation through radio sensitivity on terrestrial and aquatic plant. • Bioinformatics evaluation on radiation and radionuclide effects on plant species (especially one proposed as reference plant for NPP). <ul style="list-style-type: none"> - Data analysis (statistics) in relation to information linkages, hypothesis and evaluation - Data modeling in relation to genetic drift under environmental stress - Gene prediction and gene annotation using some biological websites or bioinformatics tools - Analysis of genetic diversity in relation to biota richness(population) <p>Through the attachment, the young scientist is expected to discuss and explore the possibilities of utilizing bacteria as radiation bioindicators for the country's NPP.</p>					
16	*Country	*Level	*Type	*Priority	*Method
	Malaysia	Basic	Go to abroad	High	Lecture, Practice, Facility Visit, etc
	*Field C. Reactor				
*Outline of needs					
<p>Development of Radiation Detection System and signal processing</p> <p>Radiation detection system especially for neutron detection and the connected hardware for signal processing.</p>					
17	*Country	*Level	*Type	*Priority	*Method
	Malaysia	Advanced	Go to abroad	High	Lecture, Practice, Facility Visit, etc
	*Field C. Reactor				
*Outline of needs					
<p>Reactor Systems Integrity Inspection (Non Destructive Testing method, etc)</p> <p>Research Reactor Structures Systems and Components Inspection Methodologies</p>					

Malaysia-Needs

No	Detail				
18	*Country Malaysia	*Level Advanced	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit, etc
	*Field C. Reactor				
	*Outline of needs In Service Inspection Familiarization of code and standard for In-Service Inspection (ISI) and the application of NDT data for the risk based management system.				
19	*Country Malaysia	*Level Advanced	*Type Go to abroad	*Priority High	*Method Research
	*Field C. Reactor				
	*Outline of needs Development of Neutron Detector Material Development of material for detecting neutron for neutron instrumentation				
20	*Country Malaysia	*Level Advanced	*Type Go to abroad	*Priority High	*Method Research
	*Field C. Reactor				
	*Outline of needs Reactor Systems Integrity Inspection (Non Destructive Testing method, etc) Development of NDT instrumentation, procedure and methodology for inspection of nuclear components such as heat exchanger, pressure vessel and piping systems Development of high resolution x-ray computed tomography system for nuclear fuel inspection and analysis				
21	*Country Malaysia	*Level Advanced	*Type Go to abroad	*Priority High	*Method Research
	*Field C. Reactor				
	*Outline of needs Development of Radiation Detector and signal processing Development of new radiation detectors, behavior and application for radiation detection especially for neutron detection and the connected hardware for signal processing				
22	*Country Malaysia	*Level Advanced	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit, etc
	*Field C. Reactor				
	*Outline of needs Reactor Maintenances and Services Planning Management Operation and maintenance on digital and computerize instrumentation and control system of a research reactor focusing on Condition Based Monitoring (CBM) and ageing management				

Malaysia-Needs

No	Detail				
23	*Country Malaysia	*Level Basic	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit, etc
	*Field C. Reactor, D. Fuel/Material				
	*Outline of needs Shielding Material To develop skills and understanding of shielding material and modeling including: - Shielding calculation for different types & multilayer Shielding Material - Physical and mechanical properties of Shielding Materials				
24	*Country Malaysia	*Level Advanced	*Type Go to abroad	*Priority High	*Method Research
	*Field C. Reactor, D. Fuel/Material				
	*Outline of needs Neutron Scattering Study Experimental and instrumentation works on the application of neutron diffraction and scattering principles on materials study. Study on Neutron induced prompt gamma ray techniques for materials characterization and analysis				
25	*Country Malaysia	*Level Basic	*Type Go to abroad	*Priority Medium	*Method Lecture, Practice, Facility Visit, etc
	*Field D. Fuel/Material				
	*Outline of needs Fuel materials for Research Reactor Fuel materials for Research Reactor				
26	*Country Malaysia	*Level Basic	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit, etc
	*Field D. Fuel/Material				
	*Outline of needs Fuel Engineering and Fabrication for Research Reactor Familiar, develop knowledge, and skills on fuel fabrication technology and engineering for research reactor				
27	*Country Malaysia	*Level Basic	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit, etc
	*Field D. Fuel/Material				
	*Outline of needs Fuel materials for Nuclear Power Understanding on materials selection for fuel in research reactor				

Malaysia-Needs

No	Detail				
28	*Country Malaysia	*Level Basic	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit, etc
	*Field D. Fuel/Material				
	*Outline of needs Fuel Engineering and Fabrication for Nuclear Power Plant Familiar, develop knowledge, and skills on fuel fabrication technology and engineering for research reactor				
29	*Country Malaysia	*Level Advanced	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit, etc
	*Field Nuclear/Radiation Safety				
	*Outline of needs Emergency Preparedness & Response To acquire knowledge on various aspects of emergency preparedness and response: <ul style="list-style-type: none"> • Understanding of IAEA guidelines and International Nuclear Event Scale (INES) • Appreciation of preparedness and response function • Local emergency preparedness and response team organization • Generic Intervention Levels • Generic Action Levels • Emergency Worker Guidelines/Guidance • Operational Intervention Levels • Urgent Protective Action • Emergency Management & Decision making techniques • Technical preparedness and response 				
30	*Country Malaysia	*Level Advanced	*Type Invite foreign expert	*Priority High	*Method Lecture, Practice, Facility Visit, etc
	*Field Nuclear/Radiation Safety				
	*Outline of needs Environmental & Reactor Effluent Monitoring Reactor Gaseous and Liquid Effluents monitoring To review the release limits of gaseous and liquid effluents of 1MW PUSPATI TRIGA Reactor and to study the modelling of gaseous effluents discharged.				
31	*Country Malaysia	*Level Advanced	*Type Go to abroad	*Priority Medium	*Method Lecture, Practice, Facility Visit, etc
	*Field Nuclear/Radiation Safety				
	*Outline of needs Environmental and radionuclides Monitoring Monitoring of radio-nuclides in the environment				

Malaysia-Needs

No	Detail				
32	*Country Malaysia	*Level Advanced	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit, etc
	*Field Nuclear/Radiation Safety				
	*Outline of needs Internal Exposure Assessment Rapid measurement technique for emergency purpose				
33	*Country Malaysia	*Level Advanced	*Type Go to abroad	*Priority High	*Method Lecture, hand-on, facility visit, etc.
	*Field Nuclear/Radiation Safety				
	*Outline of needs Radiation protection in nuclear power plant Radiation safety, area monitoring, area classification, emergency plan and preparedness				
34	*Country Malaysia	*Level Advanced	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit, etc
	*Field Nuclear/Radiation Safety				
	*Outline of needs Nuclear Safety/Safeguards/Security To equip personnel with sufficient knowledge and skills on nuclear safety/safeguards/security				
35	*Country Malaysia	*Level Advanced	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit, etc
	*Field F. Policy/Planning/Administration				
	*Outline of needs Legal aspects Understanding relevant national and international regulations, conventions				
36	*Country Malaysia	*Level Basic	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit, etc
	*Field F. Policy/Planning/Administration				
	*Outline of needs Public Information and Acceptance To gain exposure in the following subjects: 1. Content management and development for media 2. Communicator toolbox (Such as computer, software to support/assist risk communication) for dissemination of Key Nuclear Messages 3. Fundamentals of nuclear communication 4. Risk Communication 5. Scientific visit to Japan nuclear exhibition centers 6. Basic nuclear power course and site visit				

Mongolia-Needs

No	Detail				
1	*Country	*Level	*Type	*Priority	*Method
	Mongolia	Basic	Go to abroad	Medium	Lecture, Practice, Facility Visit, etc.
	*Field A. Radioactive Waste Management *Outline of needs Radioactive Waste Management /Disposal To acquire knowledge on nuclear disposal				
2	*Country	*Level	*Type	*Priority	*Method
	Mongolia	Basic	Go to abroad	Medium	Lecture, Practice, Facility Visit, etc.
	*Field A. Radioactive Waste Management *Outline of needs Radioactive Waste Management /Disposal Facilities To acquire knowledge on disposal facilities and requirements				
3	*Country	*Level	*Type	*Priority	*Method
	Mongolia	Basic	Go to abroad	Medium	Lecture, Practice, Facility Visit, etc.
	*Field A. Radioactive Waste Management *Outline of needs Radioactive Waste Management /Transportation To acquire knowledge on radioactive waste and management systems				
4	*Country	*Level	*Type	*Priority	*Method
	Mongolia	Basic	Go to abroad	Low	Lecture, Practice, Facility Visit, etc.
	*Field A. Radioactive Waste Management *Outline of needs Radioactive Waste Management /Treatment To acquire knowledge on RW treatment and its requirements				
5	*Country	*Level	*Type	*Priority	*Method
	Mongolia	Basic	Go to abroad	High	Lecture, Practice, Facility Visit, etc.
	*Field A. Radioactive Waste Management *Outline of needs Radioactive Waste Management /Safety assessment of radioactive waste To acquire knowledge on safety assessments				

Mongolia-Needs

No	Detail				
6	*Country Mongolia	*Level Basic	*Type Invite foreign expert	*Priority Medium	*Method Lecture, Practice, Facility Visit, etc.
	*Field B. Radiation and RI Application				
	*Outline of needs Material testing To strengthen capability and train personnel				
7	*Country Mongolia	*Level Advanced	*Type Go to abroad	*Priority Medium	*Method Lecture, Practice, Facility
	*Field B. Radiation and RI Application				
	*Outline of needs Non-destructive test To strengthen capability on NDT				
8	*Country Mongolia	*Level Basic	*Type Go to abroad	*Priority Medium	*Method Lecture, Practice, Facility Visit, etc.
	*Field B. Radiation and RI Application				
	*Outline of needs Beam using				
9	*Country Mongolia	*Level Basic	*Type Invite foreign expert	*Priority Medium	*Method Lecture and seminars
	*Field B. Radiation and RI Application				
	*Outline of needs Application for agriculture To strengthen capability and train personnel				
10	*Country Mongolia	*Level Basic	*Type Go to abroad	*Priority Medium	*Method Lecture, Practice, Facility Visit, etc.
	*Field B. Radiation and RI Application				
	*Outline of needs Application for environment				
11	*Country Mongolia	*Level Basic	*Type Go to abroad	*Priority Medium	*Method Lecture, Practice, Facility Visit, etc.
	*Field B. Radiation and RI Application				
	*Outline of needs Application for medicine				

Mongolia-Needs

No	Detail				
12	*Country Mongolia	*Level Basic	*Type Go to abroad	*Priority Medium	*Method Lecture and Practice, etc.
	*Field B. Radiation and RI Application				
	*Outline of needs Nuclear Activation Analysis To acquire knowledge on nuclear activation analysis				
1	*Country Mongolia	*Level Basic	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit, etc.
	*Field C. Reactor				
	*Outline of needs Engineering To obtain systematic knowledge on electrical and mechanical engineering for NPP				
14	*Country Mongolia	*Level Basic	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit, etc.
	*Field C. Reactor				
	*Outline of needs Reactor Physics To train personnel in reactor physics. It is also closely linked with national educational programme.				
15	*Country Mongolia	*Level Basic	*Type Go to abroad	*Priority Medium	*Method Lecture, Practice, Facility Visit, etc.
	*Field C. Reactor				
	*Outline of needs Water Chemistry To acquire knowledge on water chemistry for nuclear reactors				
16	*Country Mongolia	*Level Basic	*Type Go to abroad	*Priority Medium	*Method Lecture, Practice, Facility Visit, etc.
	*Field C. Reactor				
	*Outline of needs Inspection/Operation/Maintenance/Aging management To acquire knowledge on inspection and maintenance for nuclear reactors				
17	*Country Mongolia	*Level Basic	*Type Go to abroad	*Priority Medium	*Method Lecture, Practice, Facility Visit, etc.
	*Field C. Reactor				
	*Outline of needs Instrumentation To acquire knowledge on instrumentation for nuclear reactors				

Mongolia-Needs

No	Detail				
18	*Country Mongolia	*Level Basic	*Type Go to abroad	*Priority Medium	*Method Lecture, Practice, Facility Visit, etc.
	*Field D. Fuel/Material				
	*Outline of needs Transportation To acquire knowledge on transportation for radioactive minerals and strengthen nuclear transport capability				
19	*Country Mongolia	*Level Basic	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit, etc.
	*Field D. Fuel/Material				
	*Outline of needs Fuel cycle To acquire knowledge on nuclear fuel cycle				
20	*Country Mongolia	*Level Basic	*Type Go to abroad	*Priority High	*Method Lecture and Practice, etc.
	*Field E. Nuclear/Radiation Safety				
	*Outline of needs Safety Analysis/Assessment To obtain knowledge on safety analysis and assessment in nuclear activities				
21	*Country Mongolia	*Level Basic	*Type Go to abroad	*Priority Medium	*Method Lecture, Practice, Facility Visit, etc.
	*Field E. Nuclear/Radiation Safety				
	*Outline of needs Radiation instrumentation To train personnel in nuclear safety and radiation protection				
22	*Country Mongolia	*Level Basic	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit, etc.
	*Field E. Nuclear/Radiation Safety				
	*Outline of needs Nuclear Safety Culture To train personnel in nuclear safety culture				
23	*Country Mongolia	*Level Basic	*Type Go to abroad	*Priority Medium	*Method Lecture, Practice, Facility Visit, etc.
	*Field E. Nuclear/Radiation Safety				
	*Outline of needs Radiation effect To train personnel in radiation biology				

Mongolia-Needs

No	Detail				
24	*Country Mongolia	*Level Advanced	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit, etc.
	*Field E. Nuclear/Radiation Safety				
	*Outline of needs Radiation protection To train personnel in radiation protection				
25	*Country Mongolia	*Level Basic	*Type Invite foreign expert	*Priority Medium	*Method Lecture, Practice, Facility Visit, etc.
	*Field E. Nuclear/Radiation Safety				
	*Outline of needs Emergency response (preparedness) To train personnel in radiation safety				
26	*Country Mongolia	*Level Basic	*Type Invite foreign expert	*Priority High	*Method Lecture and seminars
	*Field F. Policy/Planning/Administration				
	*Outline of needs Legislative framework To learn and identify potential codes and regulations for NPP, and study international conventions and agreements				
27	*Country Mongolia	*Level Basic	*Type Invite foreign expert	*Priority High	*Method Lecture and seminars
	*Field F. Policy/Planning/Administration				
	*Outline of needs Nuclear Regulation To acquire knowledge on nuclear regulation for nuclear policy and planning				
28	*Country Mongolia	*Level Basic	*Type Go to abroad	*Priority Low	*Method Lecture, Practice, Facility Visit, etc.
	*Field F. Policy/Planning/Administration				
	*Outline of needs Nuclear Licensing/Regulation To acquire knowledge on nuclear licensing and regulations				
29	*Country Mongolia	*Level Basic	*Type Invite foreign expert	*Priority High	*Method Lecture and seminars
	*Field F. Policy/Planning/Administration				
	*Outline of needs Public information To acquire knowledge on public acceptance for uranium mining and use of nuclear energy				
	*Country	*Level	*Type	*Priority	*Method

Mongolia-Needs

No	Detail				
30	Mongolia	Basic	Go to abroad	High	Lecture, Practice, Facility Visit, etc.
	*Field F. Policy/Planning/Administration				
	*Outline of needs Risk management/communication To acquire knowledge on risk management and communication				
31	*Country Mongolia	*Level Basic	*Type Go to abroad	*Priority Medium	*Method Lecture, Practice, Facility Visit, etc.
	*Field F. Policy/Planning/Administration				
	*Outline of needs Nonproliferation and safeguards To train personnel in nonproliferation and safeguards				
32	*Country Mongolia	*Level Basic	*Type Go to abroad	*Priority Medium	*Method Lecture, Practice, Facility Visit, etc.
	*Field F. Policy/Planning/Administration				
	*Outline of needs Nuclear material control To train personnel in nuclear material control				
33	*Country Mongolia	*Level Advanced	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit, etc.
	*Field G. Others				
	*Outline of needs Nuclear Instrumental Analysis To train personnel in nuclear instrumental analysis				

Philippines-Needs

No	Detail				
1	*Country The Philippines	*Level Basic	*Type Go to abroad	*Priority High	*Method Lecture, Computer Modeling
	*Field A. Radioactive Waste Management				
	*Outline of needs Biospheric Modeling For dose assessment and projections				
2	*Country The Philippines	*Level Basic	*Type Go to abroad	*Priority High	*Method Lecture, Computer Modeling
	*Field A. Radioactive Waste Management				
	*Outline of needs Groundwater Modeling To acquire knowledge on groundwater movement and particle transport				
3	*Country The Philippines	*Level Advanced	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility visit
	*Field B. Radiation and RI Application				
	*Outline of needs Molecular Techniques of Identifying Mutants and Species To acquire knowledge on application of current techniques in the field of agriculture				
4	*Country The Philippines	*Level Advanced	*Type Go to abroad	*Priority Medium	*Method Lecture, Practice, Facility
	*Field B. Radiation and RI Application				
	*Outline of needs Scanning Electron Microscopy To acquire knowledge and training on scanning electron microscopy				
5	*Country The Philippines	*Level Basic	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit
	*Field B. Radiation and RI Application				
	*Outline of needs Neutron scattering and Neutron Activation Analysis To acquire knowledge and training in neutron scattering and NAA				
6	*Country The Philippines	*Level Advanced	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit
	*Field B. Radiation and RI Application				
	*Outline of needs Neutron Scattering and Neutron activation analysis To acquire knowledge and training in neutron scattering and NAA				

Philippines-Needs

No	Detail				
7	*Country The Philippines	*Level Advanced	*Type Go to abroad	*Priority Medium	*Method Lecture, Practice
	*Field B. Radiation and RI Application				
	*Outline of needs Digital Industrial Radiography To acquire knowledge and training in digital industrial radiography				
8	*Country The Philippines	*Level Basic	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit
	*Field B. Radiation and RI Application				
	*Outline of needs Ion Beam Technology (Agricultural and industrial application) To acquire knowledge on ion beam technology				
9	*Country The Philippines	*Level Basic	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit
	*Field C. Reactor				
	*Outline of needs Reactor Physics and Engineering To acquire knowledge and training in reactor engineering, physics and safety				
10	*Country The Philippines	*Level Advanced	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit
	*Field C. Reactor				
	*Outline of needs Reactor Physics and Engineering To acquire knowledge and training in reactor engineering, physics and safety				
11	*Country The Philippines	*Level Basic	*Type Go to abroad	*Priority Medium	*Method Lecture, Practice, Facility Visit
	*Field D. Fuel/Material				
	*Outline of needs Nuclear Fuels and Reactor Materials To acquire knowledge on selection of nuclear fuels and materials in research reactors				
12	*Country The Philippines	*Level Basic	*Type Go to abroad	*Priority High	*Method Lecture, Computer Modeling
	*Field E. Nuclear/Radiation Safety				
	*Outline of needs Atmospheric Dispersion Modeling To acquire knowledge on plume trajectory and dose assessment during routine and accident analysis				

Philippines-Needs

No	Detail				
13	*Country The Philippines	*Level Advanced	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit
	*Field E. Nuclear/Radiation Safety				
	*Outline of needs Safety assessment of medical and industrial radiation facilities To acquire knowledge on mathematical modeling for the assessment of radiation facilities				
14	*Country The Philippines	*Level Advanced	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit
	*Field E. Nuclear/Radiation Safety				
	*Outline of needs Instructor Training in Radiation Protection To develop competent trainers who will transfer the knowledge to future staff of nuclear establishments				
15	*Country The Philippines	*Level Advanced	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit
	*Field E. Nuclear/Radiation Safety				
	*Outline of needs Emergency Response and Preparedness To acquire hands-on experience on emergency response and preparedness to enhance the capability for radiological dose assessment in emergency situation				
16	*Country The Philippines	*Level Basic	*Type Go to abroad	*Priority High	*Method Lecture, Computer Modeling
	*Field F. Policy/Planning/Administration				
	*Outline of needs Risk Management/Communication To acquire skills in risk management and communication				
17	*Country The Philippines	*Level Basic	*Type Go to abroad	*Priority High	*Method Lecture, Practice, Facility Visit
	*Field F. Policy/Planning/Administration				
	*Outline of needs Preparation for Introduction of NPP To acquire knowledge on the different aspects and stages of preparation for introduction of NPP				

Thailand-Needs

No	Detail				
1	*Country	*Level	*Type	*Priority	*Method
	Thailand	Basic	Go to abroad	Medium	Lecture, Facilities visit
	*Field A. Radioactive Waste Management				
2	*Outline of needs				
	Radioactive waste management				
	To learn about process, technique on of radioactive waste management after the accident including facilities visit				
3	*Country	*Level	*Type	*Priority	*Method
	Thailand	Advanced	Go to abroad	High	Training, Research
	*Field B. Radiation and RI Application				
4	*Outline of needs				
	Binding of radiopharmaceuticals to cells				
	To learn about the process and technique of binding of radiopharmaceuticals to cells				
5	*Country	*Level	*Type	*Priority	*Method
	Thailand	Advanced	Invite foreign expert	High	Lectures, Workshops
	*Field B. Radiation and RI Application / C. Reactor				
6	*Outline of needs				
	Neutron tomography				
	Theory and experimental setup of 3d imaging system using neutron beam from a reactor				
7	*Country	*Level	*Type	*Priority	*Method
	Thailand	Advanced	Go to abroad	High	Lecture, Study of actual decommissioning papers,
	*Field C. Reactor				
8	*Outline of needs				
	Decommissioning of research Reactor				
	To learn about the process detailed planing and execution of RR decommissioning stages				
9	*Country	*Level	*Type	*Priority	*Method
	Thailand	Advanced	Go to abroad	High	OJT, Lectures
	*Field C. Reactor				
10	*Outline of needs				
	In-service Inspection and Aging Management? of research Reactor				
	To acquire knowledge and have hands-on experience on inspection				
11	*Country	*Level	*Type	*Priority	*Method
	Thailand	Advanced	Invite foreign expert	Medium	Lectures, Workshops
	*Field C. Reactor				
12	*Outline of needs				
	Design and Engineering and Research Reactor				
	To exchange information and learn about the design engineering of new RR project				

Thailand-Needs

No	Detail				
7	*Country	*Level	*Type	*Priority	*Method
	Thailand	Advanced	Go to abroad	Medium	OJT, Lectures
	*Field C. Reactor				
8	*Outline of needs				
	Operation and Maintenance Management				
	To have hands-on experience on operation and maintenance management of high power RR				
8	*Country	*Level	*Type	*Priority	*Method
	Thailand	Advanced	Go to abroad	High	Training, Research
	*Field C. Reactor				
9	*Outline of needs				
	Dense plasma focus operation and diagnosis				
	Operation methods and safety management of dense plasma focus. Data analysis. Lab requirements				
9	*Country	*Level	*Type	*Priority	*Method
	Thailand	Advanced	Go to abroad	High	Training, Research
	*Field C. Reactor				
10	*Outline of needs				
	Modeling for nuclear fusion in tokamaks				
	Practice using integrated modeling codes to simulate fusion plasma. Comparing results between models and experimental data from tokamaks.				
10	*Country	*Level	*Type	*Priority	*Method
	Thailand	Advanced	Invite foreign expert	High	Lectures, Workshops
	*Field C. Reactor				
11	*Outline of needs				
	Neutron source handling and installation				
	Safe installation of neutron source. Experimental setup. Possible applications				
11	*Country	*Level	*Type	*Priority	*Method
	Thailand	Advanced	Go to abroad	High	Training, Research
	*Field C. Reactor / E. Nuclear/Radiation Safety				
11	*Outline of needs				
	Reactor thermal analysis during operation and accidents				
	Practice using reactor thermal hydraulic codes for normal operation, design basis accidents and severe accidents. Comparing results between calculation results and results from related experiments.				

Thailand-Needs

No	Detail				
12	*Country	*Level	*Type	*Priority	*Method
	Thailand	Advanced	Invite foreign expert or Go to abroad	High	Training, Research
	*Field E. Nuclear/Radiation Safety				
*Outline of needs					
<p>Risk assessment of nuclear power plant severe accidents (including consequence analysis)</p> <p>Analysis methods involving NPP accidents (level 1-3 probalilistic risk assessment, consequence analysis) cost-benefit analysis for radiation protection countermeasures</p>					
13	*Country	*Level	*Type	*Priority	*Method
	Thailand	Basic	Invite foreign expert/ Go to aboard	High	Lectures, Workshops
	*Field E. Nuclear/Radiation Safety				
*Outline of needs					
<p>Safety Culture</p> <p>Understandings concepts of Safety Culture and how to develop</p>					

Vietnam-Needs

No	Detail				
1	*Country	*Level	*Type	*Priority	*Method
	Vietnam	Advanced	Go to abroad	Medium	Lecture, Practice, Facility Visit, etc.
	*Field A. Radioactive Waste Management				
	*Outline of needs				
	Disposal facilities Technology for liquid waste from NPP; bitumenization and synrock technique; technical specification of waste cask; waste disposal				
2	*Country	*Level	*Type	*Priority	*Method
	Vietnam	Advanced	Go to abroad	High	Lecture, Practice, Facility Visit, etc.
	*Field A. Radioactive Waste Management				
	*Outline of needs				
	Safety assessment of radioactive waste Method of assesement				
3	*Country	*Level	*Type	*Priority	*Method
	Vietnam	Basic	Go to abroad	High	Lecture, Practice, Facility Visit, etc.
	*Field B. Radiation and RI Application				
	*Outline of needs				
	RI application for environment To acquire knowledge on environmental RI & artificial RI to research the cause of pollution and climate change				
4	*Country	*Level	*Type	*Priority	*Method
	Vietnam	Basic	Go to abroad	Medium	Lecture, Practice, Facility
	*Field B. Radiation and RI Application				
	*Outline of needs				
	Material test Manufacture new material using irradiation technique				
5	*Country	*Level	*Type	*Priority	*Method
	Vietnam	Advanced	Go to abroad	High	Lecture, Practice, Facility Visit, etc.
	*Field C. Reactor				
	*Outline of needs				
	Nuclear Reactor Engineering Reactor behavior, reactor physics -Using computer codes such as SRAC, MVP to investigate Neutronic characteristics of LWR and nuclear reactor dynamics				

Vietnam-Needs

No	Detail				
6	*Country	*Level	*Type	*Priority	*Method
	Vietnam	Basic	Go to abroad	Medium	Lecture, Practice, Facility Visit
	*Field E. Nuclear/Radiation Safety				
7	*Country	*Level	*Type	*Priority	*Method
	Vietnam	Advanced	Go to abroad	High	Lecture, Practice
	*Field F. Policy/Planning/Administration				
8	*Country	*Level	*Type	*Priority	*Method
	Vietnam	Advanced	Go to abroad	High	Lecture, Practice, Facility Visit
	*Field F. Policy/Planning/Administration				
9	*Country	*Level	*Type	*Priority	*Method
	Vietnam	Advanced	Go to abroad	High	Institution visit
	*Field F. Policy/Planning/Administration				
*Outline of needs					
Nuclear regulation					
Method to formulate the nuclear legal document (standards, regulations)					
-Discuss and gathering nuclear legal document for references					