Human Resources Development for Rooppur Nuclear Power Programme in Bangladesh

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Bangladesh has begun its preparations for nuclear power in the 1960s and Rooppur Nuclear Power Plant (Rooppur NPP) Project site was selected in 1963;

The progress never passed the activities related to preparatory stage of construction;

A resolution for immediate establishment of NPP to combat existing power crisis was passed by the National Parliament in 2010;

To review the present educational and training system of Bangladesh and its capability to contribute in the nuclear power program;

To analyze the measures needed to restructure the current educational system that will accommodate the nuclear science and technology education properly in a sustainable manner;
Present manpower of “Rooppur NPP” Project is about 55 with 28 professionals:

- Project Planning & Contract Negations: 7
- Siting and Development: 9
- Nuclear Technology: 7
- International Coordination & HRD: 5
Proposed Workforce Distribution of Rooppur NPP


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Zero point for starting of NPP (O&M Personnel)
Erection 90% (O&M, QA)
All testing 100% (O&M)

Preparatory Construction Phase

1145 People will recruited sequentially

Main Construction phase

1660
In the OS, category-wise distribution of 1048 Technical Workforce has been proposed as follows:

- Qualified Professionals: 513 (49%)
- Technicians/Technologist: 325 (31%)
- Craftsman: 210 (20%)

**TOTAL**: 1048 (100%)
Workforce Planning for Rooppur NPP

**Supporting Project**
- 2009

**Preparatory construction Phase**
- 2012
- 2013
- 2014
- 2015
- 2016

- FCD for Rooppur NPP
- Zero point for starting of NPP Personnel (O&M, QA, nuclear fuel, Safety, emergency Personnel)

**Main Construction phase**
- 2017
- 2018
- 2019
- 2021

- Start of training of plant engineers, reactor engineering, computer engineering, modification engineering
- On site training
- Maintenance personnel trained and allocated
- Design and organization of the control training centre and simulator

**HRD preparation for Project RNPP**
- Definition of the Project management & Project management structure
- Completion of skilled surroundings

- Hiring consultant for RNPP
- Preparing Rooppur NPP personnel
- Required knowledge

- Connection to the Grid
- Participation of Rooppur NPP personnel on site (trained O&M, QA, personnel, Safety personnel)
BAEC has a good number of professionals in various branches of nuclear technology;
The Core Manpower for preparatory activities of the Rooppur Nuclear Power project is available in BAEC;
A dedicated group of professionals is working for the regulatory body;
Fresh professionals for Rooppur NPP and the nuclear regulatory body will be available from the General Universities, Universities of Engineering and Technology and Technical Institutions from their annual output;
A training Institute under BAEC has been established to train the professionals in the field of nuclear technology. Presently this institute offers fundamental courses on nuclear technology to the junior professionals of BAEC;
The appointment of fresh professionals for preparatory stage construction of “Rooppur NPP” and “Regulatory Body” are in progress.
The Government has taken initiatives to strengthen infrastructure for education and research in nuclear science and technology and major universities have been instructed in this regard;

A couple of universities in the country are taken initiatives to open nuclear engineering courses, mostly in the post-graduate level.

Dhaka University has started Nuclear Engineering department for graduate and post graduate level.
A leading technical university (a public univ.) of the country BUET (Bangladesh University of Engg. & Technology) is also working to start NE courses at different levels.

BRAC university (a private univ.) has signed MoU with BAEC for joint collaboration in the area of nuclear science & technology education.

Technical Institutions (Polytechnic and Vocational) located in Dhaka is being requested to introduce appropriate courses on nuclear energy;
## Possible Resources for “Rooppur NPP” Program

<table>
<thead>
<tr>
<th>Institutions</th>
<th>NPP related annual intake</th>
<th>Rooppur NPP Needs</th>
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<tbody>
<tr>
<td><strong>Universities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public-34</td>
<td>~7000</td>
<td>513</td>
</tr>
<tr>
<td>Private-52</td>
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<tr>
<td><strong>Polytechnic /Diploma</strong></td>
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<tr>
<td>Public-50</td>
<td>~10000</td>
<td>325</td>
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<td>Private-180</td>
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<tr>
<td><strong>Secondary vocational</strong></td>
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<tr>
<td>Public-155</td>
<td>~10000000</td>
<td>210</td>
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<tr>
<td>Private-1800</td>
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<td></td>
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<tr>
<td><strong>Higher Secondary vocational</strong></td>
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<tr>
<td>Public-64</td>
<td>~10000</td>
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Conclusions

- Bangladesh faces a huge challenge in implementing the Rooppur NPP and its total nuclear power;
- A preliminary assessment has been chalked out a plan to find out methods that can be applied to find out our gaps and then fill them up;
- Bangladesh seeks cooperation from the Russian Federation in the form assistance package like National training courses, Seminar/Workshop, Expert Mission/Review and other form of bilateral arrangements in establishing infrastructure for “Rooppur NPP” building;
Thank you for your kind attention!