

### **Profile of Engr. Md. Muzammel Haque**

Engr. Md. Muzammel Haque, former Chairman of Bangladesh Atomic Energy Commission (BAEC) and former Member of Bangladesh Atomic Energy Regulatory Authority has been appointed as the Chairman of Bangladesh Atomic Energy Regulatory Authority (BAERA) by the government of Bangladesh for a term of 3 (three) years on 16 January 2020. Engr. Haque graduated from Bangladesh University of Engineering & Technology (BUET) in 1977 in Civil Engineering and joined BAEC the same year. He received extensive trainings on various fields of nuclear technology during his long professional career. Major fields of his trainings include: CPM in Project Management (1983); Quality Assurance Principles for Nuclear Power Plant organized by IAEA (1986); Nucleonic Instrumental Technique in Civil Engineering by IAEA (Japan, 1988); Food Irradiation Engineering, Moscow, Russian Federation (former USSR, 1990) by IAEA and Germany (2010); Pre-project Activities and Manpower Development for Nuclear Power Project including visits to NPPs (Republic of Korea, 1991) by IAEA; Radiation Protection & Radioactive Waste Management in PINSTECH, Pakistan (2001) and Austria Research Centre, Vienna, Austria & Iran Atomic Energy Commission (2003) by IAEA; Physical Protection System for Nuclear Materials & Facilities at KINS, Republic of Korea (2008) by IAEA; Project Management of Nuclear Power Plant Construction in Central Institute for Continuous Education and Training in Moscow including visit to Leningrad NPP arranged by IAEA (May-June 2011); Security of Radioactive Sources and Physical Protection System of Nuclear Facilities and Materials at PNNL, US Department of Energy (DoE) in Seattle, USA arranged by US DoE (August 2011).

The professional fields of specialization of Engr. Haque include: planning, design and implementation of engineering infrastructures for nuclear, radiation and other facilities; management of various aspects and activities of nuclear power plant project as well as other projects; regulation of nuclear safety, safeguards and radiation protection; radioactive waste management and irradiation technology, etc.

Engr. Haque served BAEC in different capacities including Member Engineering, Director Engineering and Project Directors of several ADP projects for developing important infrastructures of BAEC like the "3MV Tandem Accelerator Project", "BAEC HQ Project" and actively contributed for implementation of several other ADP projects of BAEC. He was involved in building up infrastructures at Atomic Energy Research Establishment (AERE), Savar for conducting R&D in different fields of nuclear science and technology. He was also directly involved in the construction of the 3MW TRIGA Research Reactor facility in collaboration with GA of the USA; various laboratory facilities of the Institute of Nuclear Science & Technology such as Radioisotope production laboratory; Central radioactive waste management and storage facility; 350kCi Cobalt-60 Irradiator facilities at AERE in collaboration with Germany; Nuclear Medicine Centers in Dhaka, Bogura, Barishal, Cumilla and Rangpur; 120kCi Cobalt-60 Irradiator facilities at Chittagong in collaboration with the Russian Federation (former USSR) and the IAEA fulfilling all the safety and radiation protection requirements based on IAEA code of practices.

Engr. Haque actively participated in the feasibility study of Rooppur Nuclear Power Plant (RNPP) project carried out by Lahmeyer International, Germany & Motor Columbus Switzerland during 1987-88. He profoundly contributed in the implementation of "Accomplishment of Essential Activities to Implement the RNPP Project". He worked as the Convener and the Member of the Committees formed for drafting and finalization of the 'Bangladesh Atomic Energy Regulatory Act (BAER Act)-2012. Besides, he directly contributed in the implementation of the "National Institute of Biotechnology", "Basic Infrastructure for High-Tech Park (Phase-2)", "National Oceanographic Research Institute (1st Phase)" and several other projects of the Ministry of Science & Technology and BAEC. He also worked as the convener/member/member-secretary of several Sub-

Committees formed by the Govt. of Bangladesh as well as BAEC for developing various nuclear infrastructures in the country in connection with the implementation of RNPP project based on IAEA Mile Stone documents. He coordinated various activities related to RNPP Site specific design parameters; Geotechnical studies by BRTC, BUET; Mathematical modeling work conducted by the Institute of Water Modeling (IWM) for the Ganges River; top level monitoring of the activities of the Nuclear Safety & Radiation Control Division (NSRCD) of BAEC. He worked as the focal point of the 'Comprehensive Test Ban Treaty Organization (CTBTO)', Vienna, Austria for implementation of the 'Auxiliary Monitoring Station (IMS)' at Baryadhala, Chittagong, Bangladesh.

Engr. Haque made significant contribution as the team member of the Bangladesh Delegation to the Russian Federation in connection with finalizing the draft 'Inter-governmental Agreement for the construction of NPP'. He participated in the meeting held in Dhaka in 2009 between the Honorable Prime Minister of the Govt. of Bangladesh and the Deputy Director General of IAEA to discuss issues in connection with the peaceful applications of nuclear energy in Bangladesh. Also participated in the meetings held between Bangladesh team and IAEA DG H.E. Mr. Yukiya Amano during his visit to Bangladesh in 2010. He participated several meetings of the Forum for Nuclear Cooperation in Asia (FNCA) at Jakarta, Indonesia as well as in the General Conference (GC) of IAEA.

As Member of BAERA, Engr. Haque contributed in the review and assessment on the technical aspects of Soil Stabilization Technology by Deep Soil Mixing (DSM) method with wet speed mixing (WSM) and its suitability for the Rooppur NPP from the point of view of safety of the foundation of the Reactor as well as other safety category buildings and structures together with local, Russian and German experts. He also contributed actively in the expert level meetings for issuance of (i) the Design and Construction Licenses of Rooppur NPP Unit-1 & Unit-2 (on 04 November 2017 & 08 July 2018 respectively), (ii) the regulatory permission for installation of Core Catcher vessel of Unit -1 of RNPP in August 2018, as well as (iii) in different stages of licensing process of RNPP project on behalf of BAERA. Besides, he actively participated in the review and safety assessment of (i) different chapters of the Preliminary Safety Analysis Reports (PSARs), (ii) technical documents of soil stabilization work performed by DSM method with wet speed mixing (WSM) technology, (iii) design and construction documents of embankment and bank protection work along the river Padma for ensuring the safety of RNPP site during the entire life cycle of the plant. He also made significant contribution in the conformity assessment of safety related to the Long Term Manufacturing of Equipment (LTME) of Rooppur NPP with the specialists of JSC 'VO 'Safety' (TSO of BAERA), Rostechndzor (Regulatory Authority of Russian Federation), Scientific & Engineering Centre for Nuclear and Radiation Safety or 'SEC NRS' (TSO of Rostechndzor).

Engr. Haque acted as a member of the committee formed by the Govt. to finalize the draft 'Inter Governmental Agreement (IGA) on Spent Nuclear Fuel'. Supervised the activities conducted by the junior regulatory officials of BAERA engaged in the regulatory supervision of RNPP project activities. He also contributed in preparation of the DPP of the projects in connection with the (i) Development of Nuclear Regulatory Infrastructure of Bangladesh Atomic Energy Regulatory Authority (BAERA) to supervise the safety of Nuclear Power Plant and (ii) Strengthening the Infrastructure of BAERA to ensure Nuclear Safety & Radiation Protection of Public & Environment.

Engr. Haque worked as a member of the 'Site Selection Committee' in connection with the implementation of proposed Nuclear Power Plant in the Southern part of Bangladesh. He also participated and actively contributed in the Joint Meetings held between BAERA, BAEC, JSC 'VO 'Safety', Rostechndzor, Atomenergoproekt (AEP), Design Institute of RNPP project and JSC ASE (Main contractor) on the activities related to the RNPP project held in Dhaka and Moscow.

As a team leader/member of the Bangladesh delegation, Engr. Haque participated in various meetings held between BAERA, Rostechndzor & JSC 'VO 'Safety', SEC NRS in Moscow in connection with review and assessment of the safety related documents of the Rooppur NPP to ensure nuclear safety and radiation protection of RNPP and also for negotiation and finalization of contract related issues with JSC 'VO 'Safety'. Acted as contact point of Self Assessment Coordination Group (SACG) Committee of Asian Nuclear Safety Network (ANSN) of IAEA from BAERA and participated in the 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup> Self-Assessment Coordination

Group (SACG) Committee Meetings held in Vienna and Tokyo. Acted as a member of the Task Force (TF) of SACG of ANSN, IAEA.

He also participated in the bilateral meetings with the delegation from the 'Office of Legal Affairs (OLA)' IAEA and 'Japanese Delegation' from JAEA at BAERA. Visited RNPP project site with IAEA DG H.E. Mr. Yukiya Amano during his visit in Bangladesh in 2017. Actively participated in the preparatory meetings/sessions related to Integrated Regulatory Review Service (IRRS) Mission to be conducted in BAERA during November 2020. As a member of Bangladesh delegation, he attended the 62<sup>nd</sup> and the 63<sup>rd</sup> IAEA General Conferences (GCs) of IAEA. Also participated in different side events held during the GCs. Participated in the bilateral meetings with the Technical Cooperation Department regarding 'National Infrastructure Development of Bangladesh' and with the Department of Safeguards of IAEA for discussing issues related to construction of RNPP. Participated in the Plenary Session of Regulatory Cooperation Forum (RCF), Bilateral Meetings with the Department of Atomic Energy (DAE) and Atomic Energy Regulatory Board (AERB) of India and ROSATOM of the Russian Federation. In addition to the above, he participated in Talk-Shows in the different Electronic Media, Seminars and Round-Table Conferences held in the country in connection with the RNPP project.

Engr. Haque visited Japan, Republic of Korea, USSR (former), India, Pakistan, Iran, , Austria, Germany, The Netherlands, The Russian Federation, Indonesia, and the USA in connection with professional trainings and bilateral cooperation issues during his services in BAEC and BAERA. Also visited Thailand, Malaysia, Hong Kong, Qatar, UAE, Nepal, Kingdom of Saudi Arabia. He is a (i) Life Fellow of the Institution of Engineers, Bangladesh (F-3556), (ii) Life Member, BUET Alumni Association, Bangladesh (19777801171L) and (iii) Member, Bangladesh Society of Non-Destructive Testing (BSNDT).