

## **ACTION PLAN**

### **For Prioritization and Implementation of Cooperation Areas in the Nuclear Field Identified Jointly by India and Russia**

#### **1. Preamble**

The Department of Atomic Energy of the Government of India (hereinafter referred to as the "DAE") on behalf of the Indian side, and the State Atomic Energy Corporation "Rosatom" (hereinafter referred to as "Rosatom") on behalf of the Russian side (hereinafter referred jointly to as the "Parties")

FOLLOWING regular consultations held by the Parties regarding necessity to enhance cooperation in the nuclear sphere;

RECOGNISING experience gained during implementation of the Russian designed Nuclear Power Plant (NPP) project at Kudankulam site;

ACKNOWLEDGING competencies of Indian companies in design, manufacturing and supply of nuclear related products and services;

CONSIDERING strategic objective of the Government of India to implement the "Make in India" initiative;

WELCOMING participation of Indian suppliers in the NPP projects to be executed by the Russian Party in the third countries;

ACCEPTING the importance of ensuring economic viability of NPP projects in India;

AFFIRMING that the number of envisaged Russian designed NPP units in India shall provide economy of scale to enable cost effective project implementation with large scale localization;

Have agreed on the following Action Plan to jointly develop the Russian designed NPP project on a second site in India, jointly develop manufacturing of equipment in India and joint manufacturing of nuclear fuel in India.

## **2. Basis**

(i) The Agreement between the Government of the Russian Federation and the Government of the Republic of India on cooperation in the construction of additional nuclear power plant units at Kudankulam site as well as in the construction of Russian designed nuclear power plants at new sites in the Republic of India dated 05.12.2008.

(ii) The Road Map for the Serial Construction of the Russian Design Nuclear Power Plants in the Republic of India dated 12.03.2010.

(iii) The Strategic Vision for Strengthening Cooperation in Peaceful Uses of Atomic Energy Between the Republic of India and the Russian Federation dated 11.12.2014 (hereinafter referred to as the "Strategic Vision").

(iv) The Programme of Action between the State Atomic Energy Corporation Rosatom and the Department of Atomic Energy of the Government of India for Localization of Manufacturing in India for Russian Designed Nuclear Power Plants dated 24.12.2015 (hereinafter referred to as the "Programme of Action for Localization").

## **3. The Key Principles**

- (a) The Parties agree to ensure optimum utilisation of all units installed under civil nuclear cooperation between India and Russia.
- (b) The Parties agree to consider project execution of six VVER NPP units on a second site in a single contract, in a phased manner.

- (c) The applicable NPP basic design will be based on evolutionary VVER technical solutions with gross capacity of 1200 MWe or above, subject to evaluation of applicable technology in India.
- (d) The Parties may consider various project execution models varying from technical collaboration on a scope sharing basis to turnkey EPC solution subject to commercial, financial and other relevant terms and conditions.
- (e) Partnership with respective public and private sector companies in India will be pursued by the Russian Party to prepare its technical and commercial proposal for implementation of the NPP project on a second site.
- (f) The Parties acknowledge requirement to progressively increase level of Indian industry involvement and localization via serial construction based on technical and commercial feasibility with technology transfer where applicable using technical collaboration agreements, licensing and joint ventures with relevant mechanisms of intellectual property rights protection.
- (g) The Parties will work towards localization of the major equipment in accordance with the recommendations of the Central Working Group under the Programme of Action for Localization. The Parties shall agree on extent of localization prior to the finalization of the Technical and Commercial Offer (TCO) for the NPP project on a second site.
- (h) The Parties shall proceed with negotiations on terms and conditions for production cooperation and manufacturing of nuclear fuel assemblies in India along with execution of the NPP project on a second site to ensure that nuclear fuel for the Russian designed NPP project on a second site shall be supplied from India.

- (i) The Parties will explore opportunities to enhance strategic cooperation beyond Russian designed NPP projects in India to cooperate on other nuclear energy and non-energy technologies subject to existing international obligations of the Parties.
- (j) While expressing satisfaction over the tripartite engagement on Rooppur NPP Project in Bangladesh and welcoming decision by the Russian Party to involve Indian companies in its execution, the Parties acknowledge requirement to consider and enable participation of Indian companies in other Russian-designed NPP projects in the third countries on competitive commercial terms, in particular in South and Southeast Asia, the Middle East, Sub-Saharan Africa and Latin America. The Russian Party agreed to convey its willingness to work at least in one more country together with India, apart from Bangladesh before the finalizing of TCO.

#### **4. Implementation**

4.1 For already operational units KK-I and II the Russian side will address impediments in realising the adequate plant capacity factor, with close cooperation of Indian side, in time bound manner.

4.2 The Parties recall the existence of the following structure under the Strategic Vision document:

- (i) Coordination Committee chaired by the Secretary of the DAE on the Indian side and the Director General of Rosatom on the Russian side.
- (ii) The Committee will be assisted by the following three joint working groups (JWG): JWG on nuclear power, JWG on nuclear fuel cycle and JWG on scientific and technical collaboration.

In addition to the above mentioned JWG's the Central Working Group on Localization was introduced in accordance with the Programme of Action on Localization. For implementation of six VVER units on a second site, joint development of equipment manufacturing and joint production of nuclear fuel in India the Parties will undertake necessary steps to duly assess technical, financial and commercial aspects of the proposed collaboration. The Parties have established the Joint Working Group for implementation of this Action Plan, which includes, but not limited to the below mentioned activities to be jointly pursued by the Parties within mutually agreed time frames.

Technical configuration discussion and consequent review process:

- Submission of the Design Basis Report (DBR) by the Russian Party for VVER project on a second site.
- Joint review of the proposed technical solutions, including enhanced fuel cycle, turbine and generator set technical solutions for selection of applicable project design.
- Joint assessment of the proposed NPP site.

Defining project scope, division of responsibilities and submission of techno-commercial proposal:

- Submission of the techno-commercial proposal by the Russian Party to be based but not limited to the following options: (i) turnkey EPC model; (ii) scope sharing model with increased localization.
- Joint review and defining of the division of responsibilities and the project execution model based on the proposal by the Russian Party.
- Alignment of techno-commercial proposal with the site location parameters.

Assessment of the economic viability:

- Developing project financial model, financing sources and possible solutions for financing and overall cost optimization.

- Review of options to arrange the third party financing through supplier credits, export credit agencies guarantees and other applicable mechanisms to reduce both Russia's and India's scope of financing.
- Alignment of the financing options with localization.

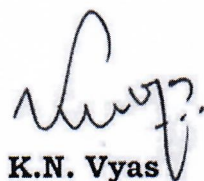
Defining localization scope:

- Agreement on progressively increasing level of localization via serial construction aligned with the project execution schedule.
- Agreement on pattern of joint nuclear fuel assemblies manufacturing in India.
- Agreement on concept for spare parts manufacturing in India to ensure availability of spares for the entire life cycle of the Russian designed NPP units in India.

Both Parties agree that the present Action Plan does not on its own create any legal or financial obligations for either Party. Any disputes or disagreements between the Parties on matters arising from the implementation of this document shall be settled amicably through consultations.

Done on 5<sup>th</sup> October 2018 in New Delhi in two copies in the Russian and English languages.

**Chairman,  
Atomic Energy Commission  
and Secretary,  
Department of Atomic  
Energy Government of  
India**



**K.N. Vyas**

**Director General  
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**A.E. Likhachev**