



15th August 2017
71st Independence Day Address by
Secretary, Department of Atomic Energy

Today, we are completing seven decades of our independence. Many generations have passed through this period and the celebration of Independence Day has now become routine. However, it has also become more relevant as this is the day on which we pay our homage to our freedom fighters, because of whose sacrifice, today we have reached a stage where, we are entering a new era; from under-developed to a developed country. The Department of Atomic Energy, which was formed a few years after our independence has grown into an efficient and diverse organisation contributing immensely to the needs of the society and emerging as an economic and military power.

It is my pleasant duty to give you a glimpse of our achievements in the recent past and visualise the way ahead for us.

This time I shall take little longer than earlier years. You cannot blame me for that; it is you and your colleagues have exceeded all expectations during the last one year.

Last financial year has been a year of unprecedented achievements in most of the areas in which we are active.

Nuclear Power Corporation of India Limited (NPCIL) has generated over 40 million units of power, which is the highest ever generation.

Heavy Water Board (HWB) has achieved second highest production with lowest ever specific energy consumption during this period.

Nuclear Fuel Complex (NFC) has also given highest ever production of fuel elements, zirconium sponge, and other materials.

Uranium Corporation of India Limited (UCIL) achieved second highest production during 2016-17, resulting in recovery from low production in recent years. They should be given special credit for that as this could be achieved in spite of many hurdles.

Last few years Electronics Corporation of India Limited (ECIL) has been suffering from lack of executable orders. But this year it has bagged record orders, especially due to election related equipment and fuses for Indian Army. Their turnover was also one of the highest.

Board of Radiation and Isotope Technology (BRIT) has achieved its highest ever sales turnover and has been able to supply the radio-isotopes to every corner of the country.

Indian Rare Earths Limited (IREL) has seen a turnaround from major losses to moderate profit during this year. Their turnover has also increased significantly during this period. Again, this happened in spite of various constraints faced by them.

During this period Synchrotrons at Indore, Cyclotron at Kolkata and Fast Breeder Test Reactor at Kalpakkam achieved highest ever performance.

While congratulating these Units for their specific achievements in spite of many hurdles that are being faced by them, we request them to redouble their efforts to maintain this tempo and achieve bigger success.

Growth is essential for survival and growth is possible only when we aim at bigger targets. This is achievable only when you have a vision, both for short and long term backed up by suitable action plan. Let me tell you about the initiatives taken to clear the decks for the growth path.

Government has approved the construction of 10 Pressurised Heavy Water Reactors (PHWRs) as a single project and establishing 2 more reactors at Kudankulam. This initiative is expected to go a long way in reviving our sagging high technology industries by ensuring continuity of orders.

With the above 12 reactors, we will have 21 reactors under construction and 22 reactors in operation. This will increase the capacity to over 22,000 MWe by the end of next decade. We expect to add more capacity through foreign and Indian reactors.

Uranium exploration and production need multi-fold increase. We have taken initiative for stepping up exploration operations in many more parts of the country. Opening new mines and increasing the production from the present mines is taken up on priority.

Rare Earth materials have very special applications and are required in small quantity. This needs different approach for exploitation. We are introducing a new concept of rare earth park which will encourage the development of technologies and start-ups within the country for production of rare earth materials.

Commissioning of intermediate loops with sodium has been started at Prototype Fast Breeder Reactor (PFBR), a first of its kind system. The progress made is slow but steady and fulfilling all the safety requirements. We have done exceedingly well in front-end of nuclear recycle for the second phase of our nuclear power programme and the back-end of the nuclear recycle is catching up.

In the cancer care sector, we have started major expansion and as of today, 6 more hospitals of various capacities are under construction at various places in the country. Presently, we are serving about 70,000 new patients every year, which is expected to be

doubled in next 4 to 5 years. We are also reorganising ourselves to cater to further expansion in terms of research, education and patient care.

Other sector of our health care efforts, CHSS services for our employees has been functioning efficiently. I would like to make special mention about the introduction of palliative care centre and fertility clinic at BARC Hospital.

On agricultural sector, we have released 42 varieties of seeds in the past and recently stepped up efforts, is likely to result in the release of another 4 varieties of seeds in the area of rice and pulses.

Recently, a litchi processing plant was established at Muzaffarpur for extension of shelf-life of this perishable, popular fruit. Demonstration of this technology has enthused the local bodies for taking forward the technology for the farmers in a big way. Extension of shelf life for this product will also encourage exports.

In sludge hygienisation front, radiation based processing plant at Ahmedabad is likely to be commissioned this year and we expect next plant will come up at Indore. Efforts have been initiated for setting up such plants in many other cities.

Shiv Ganga Temple pond water at Jharkhand needed cleaning up to avoid communicable disease among the devotees. The treatment plant located at this temple pond is now operational and has added a new dimension in the application of clean-up technologies for societal benefit. We expect to use similar technology for Kamakhya temple in Guwahati in Assam.

Indian Neutrino Observatory (INO), proposed at Theni in Tamil Nadu, is facing bottlenecks in project execution. While trying to address the regulatory issues, we have also initiated search for alternate sites in other parts of the country.

I am glad to inform that India has been granted Associate Membership by CERN.

In the meantime, a dark matter experimental set-up is coming up in underground mines. As you know, dark matter (unknown matter) probably consist of most of the matter in the universe. The underground laboratory for this experiment will be the second in the country and is expected to lead the way for future search for this unknown particle.

Ground breaking studies which will give insight into various turbulent scenarios in the Universe, was initiated, with the creation of magnetic turbulence in a table top laser plasma relevant to astrophysical phenomena like, the solar wind.

I am glad to announce that Homi Bhabha National Institute has awarded over 500 postgraduate degrees and 40 postgraduate diplomas in the field of basic science, engineering,

medicine and radiation protection in the last year. Our Atomic Energy Central School achieved 90% pass percentage at CBSE Board Exam in 2016-17.

DAE-CBS Centre in Mumbai has been registered as a Society and is being established as an autonomous body.

TIFR Homi Bhabha Centre for Science Education is piloting the Vigyan Pratibha Project; this concept is a major intervention by Government of India for nurturing science talents in Indian students. Last month, HBCS and SINP jointly launched the first phase of the above programme.

DAE has progressed on the basis of self-reliance. I would like to give an example to what extent we have to go to achieve this objective in nuclear arena.

Helium-3 is a material used for detection of radiation. Helium-3 is a material not available in nature. To make Helium-3 detectors, we started with natural water and we made plants for production of D₂O, which was further used in PHWRs, where part of the Deuterium gets converted into Tritium. Tritium further decays into Helium-3 which was used for this detector after developing the detector technology.

My compliments to all the Units providing various services in the area of maintenance, administration and accounts, security, transport and others.

Our Publicity groups are active in projecting our achievements in various forms all over the country. This year's speciality was the first of its kind science and technology exhibition inside the Parliament campus. We also had an advertising campaign in Rajya Sabha TV. These activities gave us an opportunity to inform the law makers about our work.

Although I have been talking to you for quite some time, but I have been able to give only a small fraction of the achievement and way forward for the Department.

Monsoon is normally the most beautiful season in this part of the country. The greenery around us in this campus and the backdrop of this heritage building, continuously reminds us of our responsibility to the environment to which we have contributed from the beginning of our programme.

Jai Hind
