BELL SEAL VALVES private limited

In the era of Climate Change, Nuclear Energy plays a vital role in the India's energy security. Nuclear energy is the fifth-largest source of electricity for India which contributes about 3% of the total electricity generation in the country. Nuclear energy is sometimes referred to as a clean energy technology as it produces nearly zero carbon dioxide or other greenhouse gas emissions. Nuclear energy also avoids producing air pollutants that are often associated with burning fossil fuels for energy.

In India, The Department of Atomic Energy (DAE) and its constituent establishments play a pivotal role in advancing nuclear science, technology and innovation encompassing power generation, research, development, safety, security, safeguards, environmental protection, international collaborations and societal applications.

Bell O Seal Valves Pvt Ltd (BOS) has become one of the vital supplier for Department of Atomic Energy (DAE) and its constituent establishments like BARC, HWB, IGCAR, BHAVINI, NPCIL and others. Valves developed and supplied for these establishments under Atmanirbhar Bharat, has substantially reduced the forex savings to GOI. Our efforts also helped nation in becoming self-reliant and cut down the dependency of imports for these major equipment's. Some of the key projects undertaken by BOS as a part of commitment to nation is shown below.

BOS Indigenously developed the "Bellow Seal Bellow Operated Valves" in collaboration with BARC scientists, for self-reliant product during the nuclear embargo. These valves have 25000 Cycles proven on bellow cyclic life and on the seat. These are currently in use on Concentrated Nitric Acid and Highly Radioactive Nuclear Waste System.

Kakrapar Atomic Power Project (KAPP 3&4) and Rajasthan Atomic Power Project (RAPP 7&8) are the first indigenously designed and built 700 MWe Pressurised Heavy Water Reactor (PHWR). BOS worked very closely with NPCIL and supplied High Pressure Bellow Seal Three Valve Manifold and Isolation Valves. BOS has supplied valves of size DN 10 and DN 12 in 2500# rating to both the units. These valves were designed, manufactured and tested for stringent quality requirements laid down by NPCIL and has been successfully commissioned in the site.

BOS Developed Frozen Seal Gate Valve, as a part of Atmanirbhar Bharat for "Indira Gandhi Centre for Atomic research (IGCAR)". Our team with the guidance of nuclear scientists designed, developed and manufactured these special critical valves in our facility and supplied to India's most advanced nuclear reactor-Prototype Fast Breeder Reactor (PFBR). In line with the true spirit of Aatmanirbhar Bharat, PFBR has been fully designed and constructed indigenously by BHAVINI with significant contribution from Indian industries including MSMEs. Once commissioned, India will only be the second country after Russia to have commercial operating Fast Breeder Reactor.

Supply includes Electric operated gate valves with the Electric actuator of 100NB nominal size and 200NB nominal size. These special valves are used to control High temperature sodium flow. The principal sealing towards the exterior is assured by means of solidified sodium. The solidified region where the sodium is to be frozen to form the seal will be cooled by means of air by natural convection. Circumferential fins are provided on the valve stem guide to improve the heat transfer.

Earlier these valves were imported by Department of Atomic Energy and its indigenous development by BOS has been a significant milestone in valve industry. BOS takes pride to be a part in development of these valves which has been significantly recognized in the nuclear industry and made BOS one of the most reliable valve manufacturers in India.

Based on the development of such critical products, other products like needle valves, Y-Type actuated globe valves etc. were manufactured by BOS for IGCAR. All these were manufactured first time in India in line with Atmanirbhar Bharat. BOS commitment towards such engineered products was appreciated by Department of Atomic Energy.