

Yorktown Clean Energy Center in Partnership with an Indian PPP

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Abstract

Virginia ADS Consortium was created during 2006-2014 with an express goal of establishing close collaboration between HBNI Constituent Institutes and US Nuclear establishments. This led to the creation of Virginia Nuclear Energy Consortium Authority (VNECA) by the legislative action of Virginia General Assembly in 2013. VNECA's major purpose is to constitute a not for profit Virginia Nuclear Energy Consortium (VNEC) and to actively mediate between the Virginia General Assembly and VNEC in order to make Virginia as the nuclear energy leader in the USA and world. Virginia Tech played a crucial role in these activities and is the lead Nuclear Engineering educator in Virginia.

In this presentation I will provide details of recent developments in the formation of a Public Private Partnership (PPP) between York County and Virginia ADS Consortium Entities. BSCE Systems, Inc., a new Virginia Corporation is leading the plans of establishing Yorktown Clean Energy Center (YCEC) by leveraging the VNEC members. The vision for the YCEC is to design, develop and build world's first one way coupled subcritical micro reactor based on either a high current (1 to 3 A) and low energy (10 - 20 MeV) CW electron linac and or single stage cyclotrons providing 10 mA proton of ~ 400 MeV energy. These micro reactors are envisioned to serve as high temperature heat sources for industry, water desalination plants, medical isotope production systems and sustainable clean energy providers. The subcritical core of the micro reactors would mostly consist of natural or slightly enriched Uranium and Indian Thorium.