

HTS Magnets for Spherical Tokamaks

Rod Bateman

Tokamak Energy Ltd., Abingdon, UK

E-mail: Rod.Bateman@tokamakenergy.co.uk

Abstract — On route to developing zero carbon emission commercial electrical power generation, Tokamak Energy (TE) is developing Spherical Tokamak (ST) technology. A key enabling technology for ST machines is the development of HTS magnets. TE has embarked on a program of developing HTS magnets based on REBCO coated conductors for ST's up to fusion reactor scale magnet sets. This presentation will summarize the challenges and the progress of that program to date.

Keywords (Index Terms) — Tokamak Fusion, Spherical Tokamak, HTS Magnet

IEEE CSC & ESAS SUPERCONDUCTIVITY NEWS FORUM (global edition), January 2023.

Presentation AP8-1 given at ISS2022, 29 November – 1 December 2022, Nagoya, Japan (Hybrid).