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Ohmic Operation of the ST40 Spherical Tokamak PAUL THOMAS, STEVEN MCNAMARA, Tokamak Energy Limited, Abingdon OX14 4SD, UK, TOKAMAK ENERGY TEAM — Tokamak Energy is aiming to exploit the combination of the high β capability of Spherical Tokamaks and the high Toroidal Field that can be produced by High Temperature Superconducting magnets as a route to fusion energy production. In parallel to the HTS development being undertaken by the company, a high field, copper coil ST, ST40 (R=0.4m, R/a=1.6-1.8, I_p =2MA, B_t =3T, κ =2.5, τ_{pulse}~1 sec, 2MW NBI) is being operated, primarily to test ST energy confinement at low collisionality. The results of the first experimental campaign, testing Merging/Compression start-up, were reported at the 60^{th} DPP meeting. Starting June 2018, ST40 was disassembled and moved to a new, larger facility, able to accommodate NBI and neutron shielding. Plasma operations restarted almost exactly one year later. Initially, the maximum TF will be 1.5T, increasing to 3T by the end of 2019. The diagnostic set has been substantially expanded and includes a diagnostic neutral beam for charge exchange spectroscopy. The first 1MW heating beam will be installed at the end of 2019 and the second early in 2020. The experimental results with Ohmic heating and future plans will be presented.

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