Finite element approximations satisfying exact incompressibility conditions are now recognized as essential for certain flow simulations. We discuss two enhancements for algorithms based on what is known as the Scott-Vogelius method. One is known as the unified Stokes algorithm (USA) and projects the discontinuous pressure arising in Scott-Vogelius onto a continuous pressure space. The other enhancement relates to multi-grid solvers. It involves new smoothers that preserve the incompressibility condition and insure optimal convergence. (Received September 20, 2018)