The long-pulse, slowly evolving single-null divertor (SND) discharges in DIII–D with H–mode, ELMs, and sawteeth are found to be limited significantly below (factor of 2) the predicted ideal limit $\beta_N = 4 \ell_i$ by the onset of tearing modes. This is shown below for the onset of soft beta limiting $m/n = 3/2$ modes whose islands reduce $\tau_E$ by 10–20% and by hard beta limiting $m/n = 2/1$ modes whose islands lead to disruption. The critical beta depend on collisionality with dependence on local dimensionless parameters $\nu_*$ and $\rho_*$. The tearing modes are metastable and are explained by the neoclassical bootstrap current (high $\beta_0$) destabilization of a seed island which occurs even if $\Delta' < 0$, i.e., otherwise stable. For sufficiently high $\beta_0$, there is a region of the modified Rutherford equation such that $dw/dt > 0$ for $w$ larger than a threshold value; the plasma is metastable, awaiting the critical perturbation which is then amplified to the much larger saturated island. Examination of the databases of ITER-like discharges in DIII–D shows: (1) the 3/2 mode becomes unstable following a sawtooth crash; (2) the 2/1 mode is triggered by an ELM. The metastable nature of the tearing modes may explain how a short pulse high beta near the ideal limit is attainable but not reproducibly sustainable. Operational techniques under investigation to raise the long-pulse beta limit in DIII–D are to: (1) remove or reduce the seed islands $[q(0) > 1$ removes sawteeth, high $\delta$ DND may lessen the size of the ELM perturbation] thus allowing a higher beta metastable state, (2) replace the perturbed (missing) bootstrap current in the seed island by application of modest radially localized electron cyclotron current drive (ECCD).