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Radiative type-III ELMy H-mode at JET: expansion of operational domain JUERGEN RAPP, Forschungszentrum Juelich, 52425 Juelich, Germany, JET-EFDA CONTRIBUTORS TEAM — The radiative type-III ELMy H-mode seems a possible solution for an integrated ITER scenario, combining the constraints of power exhaust with acceptable confinement for an inductive ITER scenario at 17 MA / 5.3 T ($q_{95} \sim 2.6$) with a power amplification factor of $Q=10$. At JET this scenario has been demonstrated at 2.5 MA / 2.0T with almost all parameters within the ITER target values. However, the confinement meets marginally the ITER requirements and the fuel dilution could be improved. New experiments were performed at higher plasma current, up to 3.0 MA. At lower densities, $N^{GW}=0.85$, the confinement was slightly improved from $H_{98(y,2)} \sim 0.73$ to 0.83. The Z_{eff} was reduced to values of 1.5 mainly due to the increased absolute density. The collisionality was reduced by a factor of 3. The new data show that there is no apparent dependence of the confinement on the collisionality. A review of the old large database of impurity seeded type-III ELMy H-modes together with the new results has been performed and a new analysis of the global confinement scaling with dimensionless variables is made.

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