962-05-1147 **Tamara A Burton*** (burton@math.sc.edu), Department of Mathematics, University of South Carolina, Columbia, SC 29208, and **David P Sumner** (sumner@math.sc.edu), Department of Mathematics, University of South Carolina, Columbia, SC 29208. *Dot-Critical Graphs.* Preliminary report.

A graph G is *k-dot-critical* if it has domination number k and identifying any two adjacent vertices results in a graph with domination number $k-1$. A graph G is *totally useable* if every vertex of G lies in some minimum dominating set. A graph G is *critically dominated* if the set of critical vertices forms a dominating set. We present a number of characteristics of graphs having these properties, and in particular we provide a constructive characterization of dot-critical trees and show that for tress, the properties dot-critical, totally useable and critically dominated are the same. (Received October 02, 2000)