1086-60-1577 **Percy H. Brill*** (brill@uwindsor.ca), Depts. of Management Sci. and Math. and Stat., University of Windsor, 401 Sunset Avenue, Windsor, Ontario N9B 3P4, Canada. *Alternative Analysis of a Renewal Problem.*

We apply a level crossing technique to analyze a renewal process where the inter-arrival times have a finite support, e.g., are uniformly distributed on (0, 1) (U(0,1)). We derive an explicit formula for the expected number of renewals required to first exceed a barrier K greater than the upper limit of the finite support, e.g., K $>$ 1 when inter-arrivals are U(0,1). We also develop a corresponding asymptotic formula for the expected number of required renewals, as K tends to infinity. The method of analysis can be applied to determine the expected number of demands during an ordering cycle of an $<$s, S$>$ inventory system, and related quantities in queues, and other stochastic models. (Received September 23, 2012)