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Richard E Neville* (rn172587@albany.edu), 73 Norwood Avenue, Albany, NY 12208. *Finding A Sequence of Improvements To Hildebrand's Lower Bound Of the Chung Diaconis-Graham Random Process.* Preliminary report.

Chung, Diaconis, and Graham considered random processes of the form $X_{n+1} = a_n X_n + b_n \pmod{p}$ where p is odd, $X_0 = 0$, $a_n = 2$ always and b_n are i.i.d. for $n = 0, 1, 2, \dots$ and Hildebrand later showed that if $P(b_n = -1) = P(b_n = 0) = P(b_n = 1) = 1/3$, then there exists a constant $c \approx 1.00448$ such that $c(\log_2 p)$ steps are not enough to make X_n approach a uniform distribution on the integers mod p . This talk discusses a proof of an algorithmic method to determine improved (larger) values for c , thus raising the lower bound for the length of the walk needed for the process to approach uniformly distributed. (Received August 10, 2010)