Range of Application	Reliability	Unreliability
Parallel operating [(K–J) required to operate out of total K; J spares]	$\sum_{n=o}^{J} \frac{e^{-K\lambda T}\ (K\lambda T)^n}{n!}$	$\sum_{n=J+1}^{K} \frac{e^{-K\lambda T}\ (K\lambda T)^n}{n!}$
Dormant standby (λ_s=o) [(K–J) operating; J spare standbys]	$\sum_{n=o}^{J} \frac{e^{-(K-J)\lambda T}((K-J)\lambda T)^n}{n!}$	$\sum_{n=J+1}^{K} \frac{e^{-(K-J)\lambda T}((K-J)\lambda T)^n}{n!}$
	Pr ($\leq$ J|K.F,T)	Pr (> J/K.F,T)

Notes: (1) Pr($\leq$J\|K,F,T) = probability of $\leq$J components failing out of total K during mission time, T

(2) λ = operating failure rate

(3) reliability + unreliability = 1

Poisson Distributions for Evaluating Redundant Systems