

HISTORY OF 10,000 TON GADGET
(The values on this are highly tentative)

	τ Milti-sec	R Meters	\dot{R} m/sec	P_s bars	T_s (°K)	R_i Meters	R bars	T_i (°K)	ρ_i/ρ_0	Illumination (bars at 10,000 yds)	Type Radiation
1. Detonation	0	.70		1							
2. Detonation wave reaches tamper. $\frac{18.5 \times 2.54}{7 \times 10^5}$	.067	.23	7×10^4								
3. Tamper and active fully compressed	.127	0			58,000,000						
4. Neutrons multiply and shock wave hits tamper $18/2 \times 10^7$	.128	.18	2×10^5		7,600,000						
5. Shock wave passes through R.E. and case to reach air $74/2 \times 10^7$	.132	.92	2×10^5	29,000,000	760,000				*		
6. Radiation squirts out, temperature drops and isothermal sphere formed	.182	10.50	3.6×10^4	16,160	82,000	10.50	16,160	82,000	1.48	36	Black body of 82,000° K (cut off in ultraviolet by air absorption)
7. Strong blast wave expands	.628 2.774 14.280 38.170	21.00 42.00 84.00 126.00	1.7×10^4 6670 2400 1300	3,360 521 88 20	30,500 8,300 1,500 500	19.70 36.60 66.85 94.60	2,020 253 32 9.4	67,000 52,000 39,000 33,000	.50 .11 .019 .0065	29 3.3 0.14 0.80	" " " 30,000° K (" ") " " " 8,000° K (" ") Modified Black Body (dispersed to blue) ~ 4,500° K " " " (" ") ~ 6,000° K
8. Ball of fire fully expanded	~160	~220	500	~2		155	1	20,000	.0015	1.00	" " " (" ") ~ 10,000° K
9. Blast wave reaches damage area	~2,200	1,200	420	5 psi						0.10	Black Body of < 5,000° K
10. In a test, blast wave would reach installation and observers at 10,000 yards. Also ball of fire reached height of 2,000 ft and is completely disintegrated into turbulent convection currents.	28,000	10,000	332	.18 psi	Overpressure					0.01	" " " " " " " " " " " "
11. Ball of fire mushroom out at 18,000 ft in typical Fort Chicago fashion	200,000	67,000		.02 psi						0.001	" " " " " " " " " " " "

* The figures in these two columns may be wrong by as much as a factor of 2.