F = 0.98. The conditional probability of a Mode-5 response was assumed to be 0.08 (from the last line of Table 15), so the absolute probability was 0.031 × 0.08 = 0.0025. For the remaining cases in Table 21, the same assumptions were made for the total failure probability and for the probability of a Mode-5 response.

Table 21. Shaping Constants and Related Risks for Atlas IIAS

p_5	T_B (sec)	Breakup $q\alpha$ (deg-lb/ft^2)	B	A	Mode-5 E_C (x 10^{-6})
0.005	118	14,000 * (baseline)	1,000	3.00	227
0.0025	280	14,000 * (new p_5 & T_B)	1,000	3.00	49.1
0.0025	280	none	1,000	1.90	139.8
		20,000		2.75	73.7
		10,000		3.20	33.4
		5,000		3.45	19.8
0.0025	280	none	50,000	3.15	144.9
		20,000		4.10	75.6
		10,000		4.50	37.1
		5,000		4.75	21.8
0.0025	280	none	100,000	3.40	144.8
		20,000		4.30	79.8
		10,000		4.75	36.1
		5,000		5.00	21.1
0.0025	280	none	500,000	4.00	143.6
		20,000		4.85	79.9
		10,000		5.30	35.9
		5,000		5.55	20.8
0.0025	280	none	5,000,000	4.75	144.8
		20,000		5.65	77.7
		10,000		6.10	34.2
		5,000		6.30	22.0

* Interpolated from Figure 14

As seen from Table 21, the Mode-5 risks are highly dependent on A and insensitive to the value chosen for B provided a proper choice is made for A. Even for values of B as different as 1,000 and 5,000,000, the Mode-5 risks ($q\alpha$ = 5,000) differ by only 12%. This difference drops for all other values of B. In fact, the differences probably have more to do with the choice of A than to any inherent difference in results due to the choice of B. For Atlas IIAS, 24% of the total Mode-5 E_C in the launch area is due to one population center, and 51% of the total E_C to only five population centers (see page 49 of Ref [3]). If values of A had been chosen so that theoretical distributions and random-attitude-turn distributions more nearly matched for the radial directions to these population centers,