DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR FORCE INSPECTION AND SAFETY CENTER
NORTON AIR FORCE BASE, CALIFORNIA 92409

REPLY TO
ATTN OF: SERR

13 DEC 1979

SUBJECT: Request for Aircraft Mishap Information

TO: United States Nuclear Regulatory Commission
ATTN: Dr. Jacques B. J. Read
Accident Analysis Branch
Division of Site Safety and Environmental Analysis
Washington DC 20555

In response to your letter of 15 November 1979, the attached chart provides destroyed aircraft information for E-4, C-5, and C-141 aircraft.

ROGER G. CREWSE
Chief, Reports & Analysis Division
Directorate of Aerospace Safety

1 Atch
Chart

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HARRISBURG INTERNATIONAL AIRPORT

ACTIVITY SUMMARY UPDATE

TYPE AIRCRAFT	OPERATOR	1978 (JAN-DEC)	1979 (JAN-OCT)
C-5A	Air Force	9	15
C-141	Air Force	9	45
B-707	AF Charter	1	0

II.

In the earlier testimony of D. G. Eisenhut, "Evaluation of Aircraft Crash
Potential for Nuclear Power Plants" (following Tr. 469), the likelihood of a
"heavy" aircraft crash was described as being estimated for each type of
aircraft and airport activity by the product of three factors: the traffic
density in the Three Mile Island quadrant (N), the areal crash density (C),
and the effective plant area (A). The geometry of the plant and runway, and
the prevailing winds have not changed, so that the effective plant area (A)
and the distribution of the traffic by quadrant remain as described earlier.
The inclusion of 1978 air carrier experience into the previous 22-year
averages causes minor changes in the computed areal crash density (C) (See
Eisenhut testimony at 14), as follows:

Areal Crash Density, C[2]

	Scheduled	Non-Scheduled
Landings	2.3×10^{-9}	4.5×10^{-8}
Take offs	4.6×10^{-9}	3.0×10^{-8}

The remaining factor, "Present Relevant Heavy Movements." N, varies from
year-to-year, with a decreasing trend in the "nonscheduled" component, and a
"scheduled" component which, at HIA, is totally determined by the operation
of Trans World Airlines. The values of N, computed as before (see Eisenhut
testimony at 14), for calendar year 1978 are:

[2] See "Analysis of the Effects of Updated Data on the Previously Submitted
Testimony and Supplemental Testimony of R. Moore and L. Abramson" by
R. Moore and L. Abramson.

1978 Relevant Heavy Movements

	Total	Scheduled	NonScheduled
Landings	131	78	53
Take offs	71	42	29

Combining these factors to estimate the total probability (see Eisenhut testimony at 15)

$$
\begin{aligned}
P_{total} &= [(2.3 \times 10^{-9})(78)(.0062) + (4.6 \times 10^{-9})(42)(.0026)] \\
&+ [(4.5 \times 10^{-8})(53)(.0062) + (3.0 \times 10^{-8})(29)(.0026)] \\
&= 1.1 \times 10^{-9} + 0.5 \times 10^{-9} + 1.48 \times 10^{-8} + .23 \times 10^{-8} \\
&= 1.87 \times 10^{-8}/year
\end{aligned}
$$

The term in the above equation corresponding to non-scheduled landings is dominant in determining the total, as it was also for the previous estimate. The 1978 data changes the previous estimate from 1.6×10^{-8} to 1.87×10^{-8}; this change is insignificant, indeed within the range of uncertainty inherent in the methodology. Therefore, our prior conclusions are not altered in any way.