

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	
PUGET SOUND POWER & LIGHT COMPANY,)	Docket Nos. STN 50-522
<u>ET AL.</u>)	STN 50-523
(Skagit Nuclear Power Project,)	
Units 1 and 2))	

RECENT A6 AIRCRAFT CRASH EXPERIENCE

AFFIDAVIT OF JACQUES B. J. READ

I, Jacques B. J. Read, being duly sworn do depose and state that:

In a previous affidavit, dated July 15, 1976, I stated that 10^{-4} per hour was an appropriately conservative crash rate to assume applicable to A6 aircraft to be operated on low level training routes from Whidbey Island Naval Air Station. This rate was developed for use in Standard Review Plan Section 3.5.1.6 and was calculated from an analysis of 2136 United States Navy (USN), Marine Corps (USMC) and Air Force world-wide accidents during the period 1963 to 1973 of which 56 accidents involved the A6 aircraft or variations thereof. After examining the low-level training routes from Whidbey Island Naval Air Station and their proximity to the proposed Skagit site, it was my opinion that this crash rate was an appropriately conservative one to assume in the Skagit aircraft risk analysis.

To determine whether this crash rate is still appropriate in light of more recent experience, I requested that the Department of the Navy Naval Safety Center compile and release A6 crash rates for more recent years, and have obtained from them the data set forth below.

1268 293

POOR ORIGINAL

7911050

075

CALENDAR YEAR	A6 CPASHES PACIFIC-U.S.	A6 CRASHES WORLD-WIDE	GROSS INFLIGHT CRASH RATE ($\times 10^4$) hour ⁻¹	UNCERTAINTY ESTIMATE ($\times 10^4$) hour ⁻¹
1968	3	10	1.11	.35
1969	2	10	.98	.31
1970	2	9	.97	.32
1971	2	10	.99	.31
1972	1	10	.84	.27
1973	4	6	.62	.25
1974	0	2	.20	.11
1975	0	5	.46	.21
1976	3	5	.45	.20
1977	0	4	.35	.18
1978	0	9	.69	.23
11-year total	17	80	.69	.08

The second column contains the number of destroyed A6 aircraft from accidents occurring within operational range (circa 1000 miles) of Whidbey Island. The Navy indicated that it could not provide information relative to the number of accidents involving A6 aircraft from Whidbey Island since the Naval Safety Center does not maintain data to readily identify the point of origin of flights or the use of low-level routes. The fourth column contains the gross in-flight rate, i.e., all A6 crashes not involving landing and take-offs divided by total hours aloft. The last column contains a Poisson estimator of the standard deviation of the rate. This uncertainty estimate indicates that the decline in crash rate in the more recent years is statistically significant, whereas the smaller increase during 1978 is not.

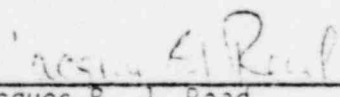
The gross in-flight accident rate is predominated by accidents which occur during simulated combat conditions, for example, simulated bombing runs at the Boardman, Oregon Navy Weapons System Training Facility. These accidents have occurred during simulated assaults upon targets and the associated approaches and recoveries which involve high speed and acceleration activities. Accordingly, it is conservative to use the gross in-flight accident rate to

1268 294

POOR ORIGINAL


describe flights in low level training routes such as those that exist near the proposed Skagit site which do not involve simulated combat conditions. The magnitude of this conservatism is discussed for the A6 aircraft in Section 4 of the report "Aircraft Considerations, Pre-application Site Review by the Directorate of Licensing, U. S. Atomic Energy Commission, in the Matter of Portland General Electric Company, Boardman Nuclear Plant, Boardman, Oregon, Project No. 485," dated October 12, 1977. (A copy has been previously supplied to SCANP)

Based on the foregoing data for the A6 aircraft for the years 1968-78, it is my opinion that a crash rate of 10^{-4} per hour is an appropriately conservative assumption to be used in a risk analysis of the aircraft hazard at the Skagit site. These data reflect that the gross in-flight crash rate during the 11-year period is 6.9×10^{-5} per hour and that there is a statistically significant decrease in this crash rate in more recent years. Accordingly, the Staff still concludes, based on more recent data, that aircraft hazards at the proposed Skagit site are sufficiently low that they need not be considered as a basis for design.



Jacques B. J. Read

Subscribed and sworn to before me
this 13th day of September 1979



Notary Public

My Commission Expires: 10/1/1982

1268 295

POOR ORIGINAL