FPL

NOV 17 1999

L-99-251

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

Gentlemen:

Re: Turkey Point Units 3 & 4
Docket Nos. 50-250 and 50-251
Response to Request for Information
Regarding the Impact of a Commercial Airport
at Homestead Air Force Base Site on Safety
at Turkey Point Units 3 and 4

On August 23, 1999, the Air Force notified the NRC that a Supplemental Environmental Impact Statement was being prepared for the Homestead Air Force Base conversion project to (a) reflect updated air traffic information associated with a "Maximum Use One Runway" (MUOR) projection, (b) reflect alternate flight track configurations currently under consideration for noise abatement, and (c) evaluate the environmental impact associated with the optional use of the facility as a commercial spaceport. The NRC subsequently issued a request to Florida Power & Light (FPL) to assess the impact of the proposed changes on the previously submitted risk assessment documented by FPL letter L-98-152 dated June 15, 1998, and to inform the NRC of any changes within 60 days.

FPL has completed the assessment of the impact of the proposed changes and determined that the overall risk to Turkey Point from an aircraft accident decreases from the previously estimated 8.11E-7/yr to 3.63E-7/yr based on the new projections and MUOR conditions. A comparison of the original airport conversion plan flight projections with the latest Federal Aviation Administration (FAA) flight projections indicates that the total number of flight operations has remained relatively constant between the two forecasts. The original data (Table 1) forecasted a maximum of 246,700 flight operations in the year 2014, while the current projection (Table 2) forecasts 231,274 flight operations under MUOR conditions. The projected mix of flight operations at the airport, however, has changed in the latest FAA submittal. As indicated in the attached tables, the revised flight data includes a decrease in projected military air traffic and a corresponding increase in civilian air traffic. This change in the projected mix of flight operations at the airport does impact the risk assessment previously transmitted to you in support of the Final Environmental Impact Statement. As revealed in the previous analysis, the risk of an aircraft impact at Turkey Point is dominated by military air traffic. This dominance is due in part to the fact that the probability of an accident per flight operation is much higher for military aircraft than for commercial or general aviation aircraft.

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This is due to the higher percentage of high-risk activities associated with military flights, e.g., training, high-speed maneuvering. The dominance is also due to the fact that the probability of an aircraft accident occurring in the immediate vicinity of the airport is much higher for military aircraft than for commercial or general aviation aircraft. That is, most commercial or general aviation flights leave the airport area after takeoff. When landing, they are most often arriving from places a considerable distance from the airport. While the same can be said for some military air traffic, a high percentage of the military flights consist of training exercises near the airport, leading to a higher probability that if an accident does occur, it will be in the vicinity of the home airport.

The latest FAA flight projections indicate that the decrease in large military aircraft traffic is seven-fold. For small military aircraft, the decrease is 28.1%. Despite the fact that the amount of commercial jumbo jet operations (Class A air carriers) in the latest forecast is over three times that of the original forecast, the overall risk to Turkey Point from an aircraft accident decreases from 8.11E-7/yr to 3.63E-7/yr under MUOR conditions as a consequence of the predicted decrease in military air traffic. This represents a 55% reduction in the frequency of aircraft accidents at the site having the potential to generate exposures in excess of 10 CFR 100 limits. It is also well below 1E-6/yr significance threshold specified in Section 2.2.3 of NUREG 0800.

The following reasonable qualitative factors not directly addressed in the risk estimate are provided below to show that the realistic probability of exceeding 10 CFR 100 guidelines due to an aircraft impact will be lower than the revised risk estimate of 3.63E-7/yr for Turkey Point.

1. Shielding by adjacent structures or heavy machinery, and barriers such as the canal and the fossil units are not fully credited. This may reduce the risk by 20%.

2. The conditional core damage probability and conditional containment failure probability are not based on more detailed assessment of structural capability or all available equipment. For example, Sandia National Laboratory tests have indicated that the containment structures do not experience perforation damage. In addition, the steel liner is effective in preventing concrete from scabbing. This may reduce the risk to varying degrees for different structures but is not readily quantifiable.

The structures at Turkey Point considered to be critical structures for the purpose of the risk assessment were the containment buildings, turbine building, control building, auxiliary building, spent fuel buildings, emergency diesel generator buildings, intake structure, and the fossil unit chimneys.

With respect to the spaceport option, FPL did not perform a specific analysis to quantify the effects of potential launch vehicle failures at the base due to the limited number of flight operations projected for such a facility. The potential impact of a spaceport at the Homestead Air Force Base location would be bounded by the impact associated with a commercial airport.

As indicated in our previous correspondence on this subject, FPL continues to communicate with local and state authorities on this matter in order to ensure that the issues coming from the commercialization of the base are identified, that the offsite emergency preparedness program to address these issues is appropriately revised, and to ensure the Federal Emergency Management Agency is in concurrence with the revisions to the program.

Once the proposed disposition of the Homestead Air Force Base is finalized, FPL will update our Final Safety Analysis Report, as appropriate, to reflect these changes.

Should there be any questions on this submittal, please contact us.

Very truly yours,

D.E. Jernigan
for R.J. Hovey

R. J. Hovey
Vice President
Turkey Point Plant

OH/MG

cc: Regional Administrator, Region II, USNRC
Senior Resident Inspector, USNRC, Turkey Point Plant
Florida Department of Health and Rehabilitative Services

Table 1
Original Homestead Airport Traffic Forecast
from Earlier Analysis

Aircraft Classes	Projected Annual Aircraft Operations			
	1994	1999	2004	2014
CLASS A (Air carriers) (MD-11,DC-10,B-767,B-737,F-100, MD-80,CL600,DHC8)	0	520	33870	45890
(Large military Aircraft) (C-130,C-141,P-3)	10388	10388	10388	10388
Subtotals	10388	10908	44258	56278
CLASS B (Small high-performance) (F-15, F-16)	18230	18230	18230	18230
(General aviation jet) (Learjet, Citation)	3850	3850	5750	5650
Subtotals	22080	22080	23980	23880
CLASS C (Air taxi)	0	0	0	0
(GA Turboprop) (Metroliner, Cessna 206, Nomad)	1316	1316	1316	1316
(GA multi-engine) (Piper 31)	608	34408	40208	44308
(GA single engine)	0	82000	99900	110400
(Helicopters) (UH-60, H-3)	5118	9918	10418	10518
Subtotals	7042	127642	151842	166542
Grand Totals	39510	160630	220080	246700

Table 2
Updated Homestead Airport Traffic Forecast
For MUOR projection

Aircraft Class	Projected Annual Aircraft Operations				
	1997	2000	2005	2015	MUOR*
CLASS A (Air carriers) (MD-11,DC-10,B-767,B-737,F-100, MD-80,CL600,DHC8)	0	0	8700	74140	154679
(Large military Aircraft) (C-130,C-141,P-3)	1624	1624	1624	1624	1624
Subtotals	1624	1624	10324	75764	156303
CLASS B (Small high-performance) (F-15, F-16)	13100	13100	13100	13100	13100
(General aviation jet) (Learjet, Citation)	900	2990	3450	4510	4510
Subtotals	14000	16090	16550	17610	17610
CLASS C (Air taxi)	0	0	0	0	0
(GA Turboprop) (Metroliner, Cessna 206, Nomad)	900	900	1940	900	900
(GA multi-engine) (Piper 31)	900	11330	13000	17160	21900
(GA single engine)	0	26304	27993	33821	29000
(Helicopters) (UH-60, H-3)	2400	4410	4890	5480	5561
Subtotals	4200	42944	47823	57361	57361
Grand Totals	19824	60658	74697	150735	231274

*MUOR = Maximum Use, One Runway