

Launch Final Rule Issue Clarification Record

1. Date:
1/15/03
2. Subgroup/FAA Person Seeking Clarification:
FSA/Paul Wilde
3. Company/Industry Person Contacted:
Boeing/Paul Gross
4. Issue:
<p>Page 85 of JC Vol II (NPRM Comment) states that, “The distant left and right of the nominal IIP trace for population centers should not be fixed for downrange debris assessments. It should be up to the analyst, based on the change in the total E_C due to inclusion of more distant population centers, to determine if including those populations is necessary. Also, the five-sigma limit is much more conservative than the usual three-sigma limit used in flight safety analyses.”</p> <p>What does the “usual three-sigma limit used in flight safety analyses” refer to?</p>
5 Discussion:
<p>Wilde stated the issue. Gross responded that, although he was not the author of the comment, he thought the “usual three-sigma limit used in flight safety analyses” referred to the three-sigma IIP corridor developed during the trajectory dispersion analysis required by EWR 127-1. Gross indicated that Boeing’s overflight risk assessment methodology does not limit the population centers considered directly, but instead computes the risk for each populated area that is impacted in a given Monte Carlo sample. Gross indicated that Boeing’s overflight risk assessment methodology limits the nominal trajectory dispersions sampled to a maximum of 3-sigma. Gross added that Boeing’s overflight risk assessment methodology limits the trajectory dispersions sampled, such that only malfunction turn Monte Carlo samples account for potential trajectory dispersion outside of three-sigma IIP corridor. Gross went on to say that some populated areas outside the three-sigma IIP corridor are impacted in Monte Carlo samples intended to account for potential vehicle departures from the three-sigma IIP corridor. Gross stated that Boeing’s overflight risk assessment methodology accounts for potential vehicle departures from the three-sigma IIP corridor by simulating a constant nozzle deflection malfunction initiated from nominal trajectory dispersions sampled to a maximum of 3-sigma.</p>
6. Conclusion:
The FAA gained insight into how Boeing’s methodology establishes that a populated area contributes to the estimated overflight risk.