



NTSB National Transportation Safety Board

Office of Aviation Safety

Continental Airlines Flight 1404

Human Performance

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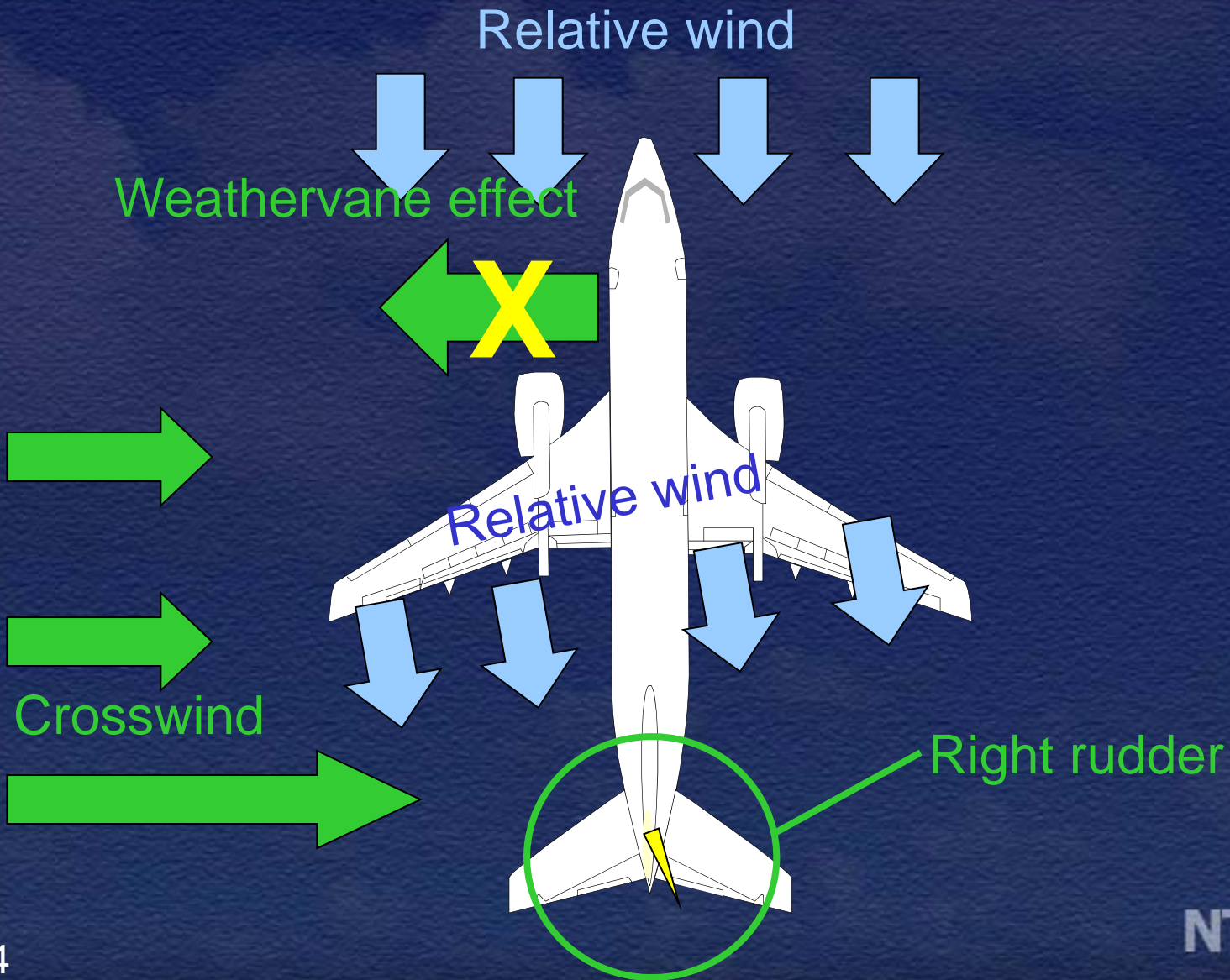
The Captain

- Experienced pilot
- Substantial time in type
- Substantial recent experience
- No history of performance deficiencies

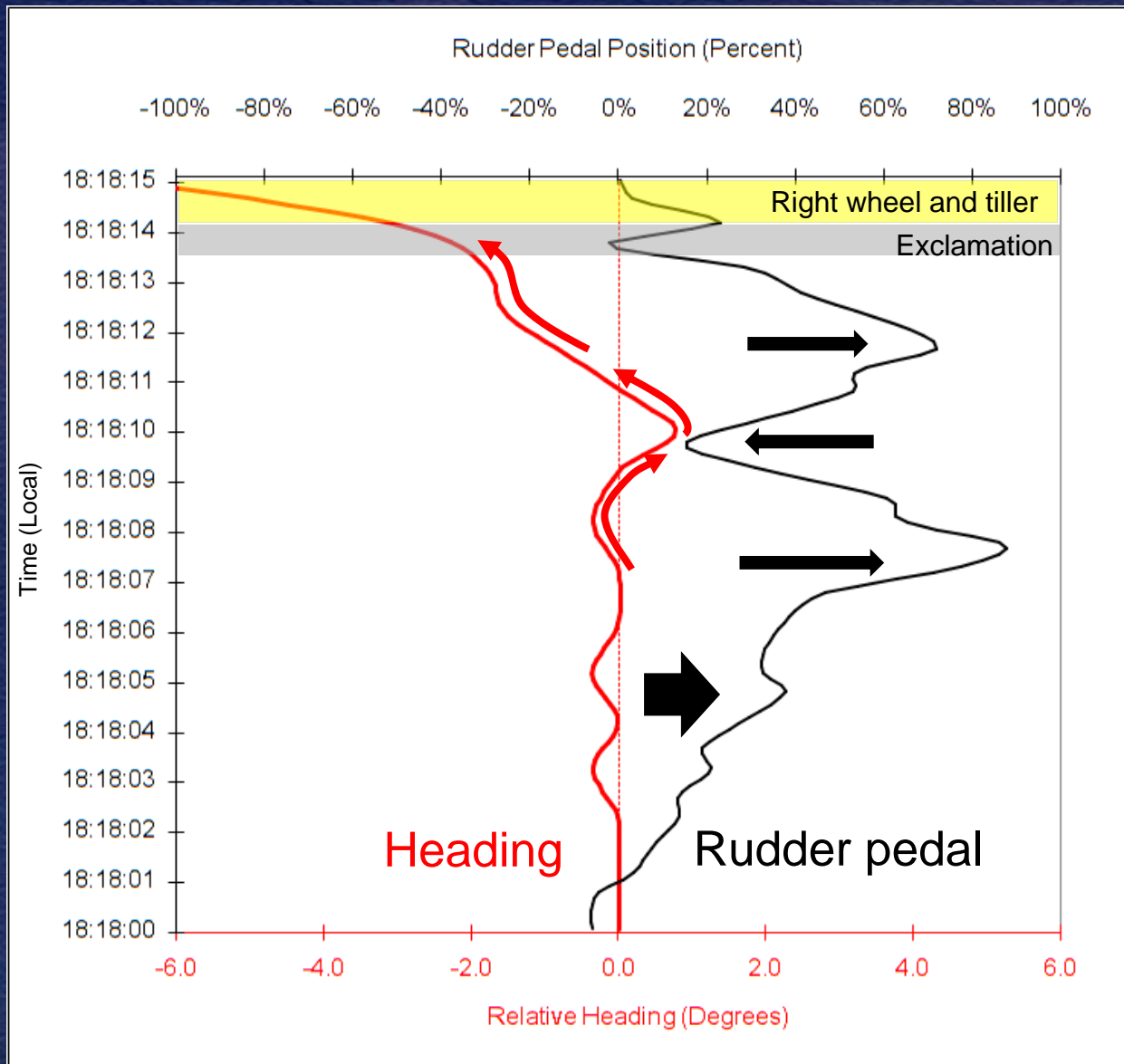
The Captain (continued)

- No medical issues
- No toxicological impairment
- No stressful life events
- No evidence of fatigue

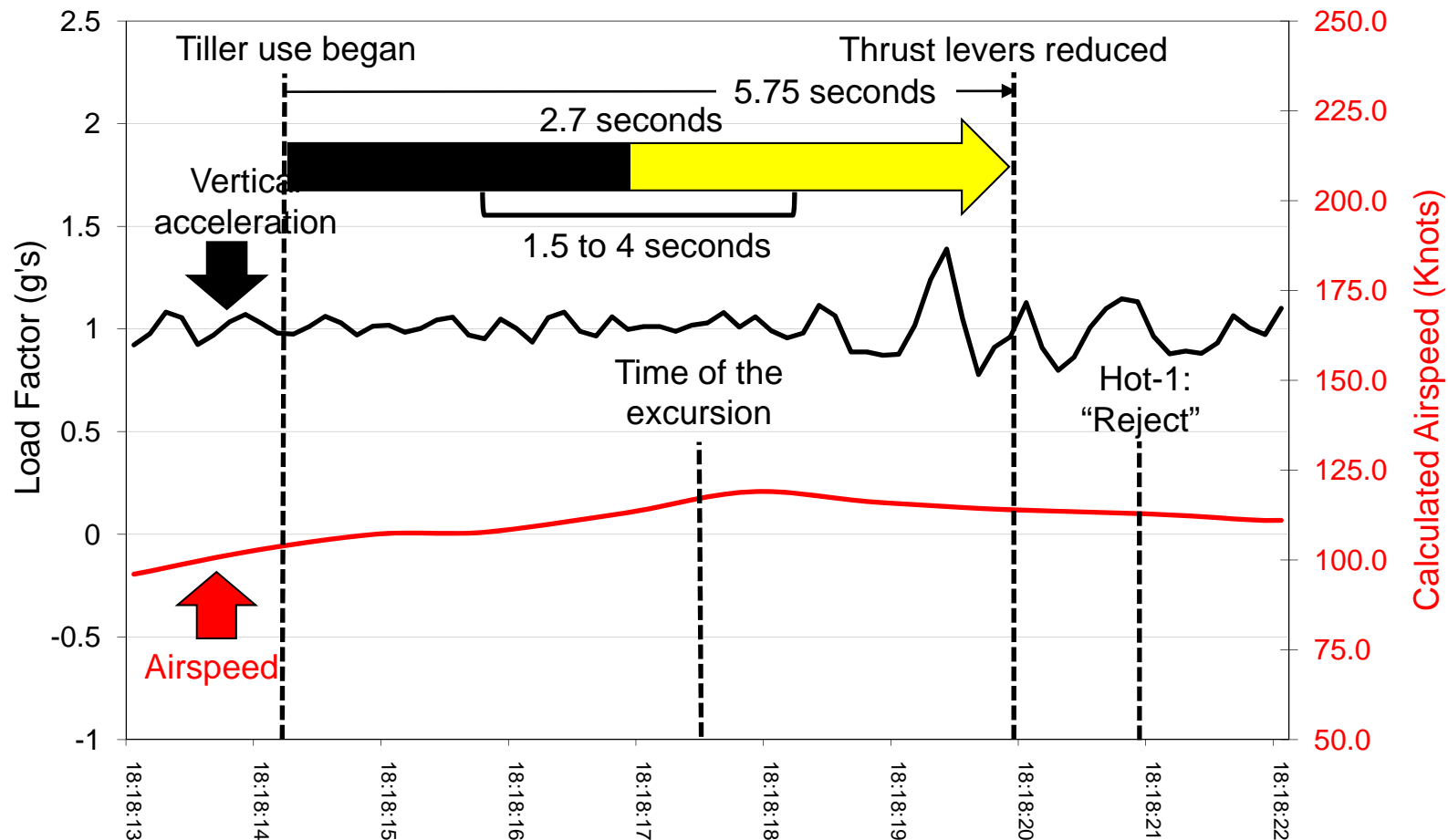
The Captain's Inputs



The Captain's Inputs (continued)



The Captain's Inputs (continued)



The Captain's Inputs (continued)

- Takeoff crosswind components of 30 knots or greater rarely encountered in line flying
- Flight 1404 encountered crosswind component of 30 to 45 knots
- Accident crosswind likely exceeded captain's line flying experience

Crosswind Training

- Continental Airlines 737 flight training included crosswind takeoffs
- High-crosswind training provided during 2004 / 2005 recurrent training
 - Steady 35-knot crosswind (no gusts)
- Accident crosswind exceeded captain's training experience

Crosswind Guidelines

- Demonstrated crosswind (737-300/-500)
 - 31-36 knots
- Boeing's Airplane Flight Manual (737-300/-500)
 - 35 knots
- Supplemental guidance published by Boeing
 - 40 knots
- Continental Airlines crosswind guideline
 - 33 knots

Crosswind Guidelines (continued)

- Manufacturers not required to demonstrate crosswind takeoff performance in very gusty winds
- Gust factor present during certification flight testing not generally published
- No FAA standards for supplemental crosswind guidelines development

Applications for Operational Flight Data

- FAA participates in safety programs involving operational flight data analysis
- FAA could pinpoint where and when high-crosswind takeoffs are occurring
- FAA could use information to reduce high-crosswind takeoffs and excursion risk



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