AB1222 Advisory Group
Phase 2A Summary

May 21, 2007
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Testing Overview

- Installation at Fast Track Site: Sunday 6-May and Monday 7-May.
- Train Session 1: May 7-8 CCW operation (BNSF-NS-CSX-UP)
  - Acquired data, failed control computer replaced, (salvaged data later in week).
  - TTCI provided notch, position, and speed data from instrumented BNSF.
- Train Session 2: May 8-9 CCW operation (BNSF-NS-CSX-UP)
  - Generator stopped (no data), replaced with van generator for next night
  - Instrumented locomotive (BNSF) replaced due to bearing problem.
- Train Session 3: May 9-10 CW operation (UP-CSX-NS-AAR)
  - Obtained data
  - TTCI provided lap and speed data from bearing temperature station
- Train Session 4: May 10-11 CW operation (UP-CSX-NS-AAR)
  - Obtained data
  - TTCI provided lap and speed data from bearing temperature station
- May 11: De-installed and returned Tucson.
NO and uv-Smoke
Notch 7, Position 4
NO and uv-Smoke
Notch 6, Position 4

Graph showing the relationship between NO (ppm) and uv-Smoke (gm/100 gm fuel) across different sessions.
Technical Issues

• “Hit Rate”/productivity: (primary risk issue for Phase 2)
  – For positions 2, 3, and 4 obtained valid readings for only 30-40% of laps.
  – For Position 1, <20%.
  – Partial Explanations:
    • Loss of 1-hour for RSD maintenance at 00:30.
    • ~10% of records invalidated because of apparent “bounce” of optical train sensor.
    • Ground station fencing should have included a wind barrier.
  – Need to consider displacement “wind effects” generated by the train.
Technical Issues cont.

• Speed measurement subsystem (radar) was disabled/not evaluated. Was disabled because of occasional operating system crashes when connected. Failure of operating system after 1\textsuperscript{st} night may imply the issue was not with the radar system. (Low risk issue for Phase 2).

• Gasoline generator reliability is still an issue. (Low risk issue for Phase 2).

• Night time video is still not acceptable/proven. (Medium risk issue for Phase 2).
Recommendations

• Proceed with Phase 2 deployment in Northern California:
  – Include some engineering contingency support to refine camera system and to identify/correct productivity issues in Roseville Yard and Weimar line haul sites.