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Appendix 3a: Three flight readiness review viewgraphs on the post-flight assessment of Mission 51-C (January 1985, 53°F); and
Appendix 3b: What might account for NASA's reluctance to accept Thiokol's original launch recommendation for a 53°F threshold?

Appendix 3a: Set of three flight readiness review viewgraphs related to the postflight assessment of Mission 51-C (the January 1985, 53°F launch)

Level III Review (Feb. 8, 1985)

FLIGHT READINESS ASSESSMENT FOR STS-51E

0 EVALUATION SUMMARY

- 0 STS-51C PRIMARY O-RING EROSION ON TWO FIELD JOINTS
- 0 STS-51C SOOT BETWEEN PRIMARY AND SECONDARY O-RINGS ON BOTH FIELD JOINTS- FIRST TIME OBSERVED ON FIELD JOINT
- 0 EVIDENCE OF HEAT AFFECT ON SECONDARY O-RING OF A68 (RIGHT HAND) CENTER FIELD JOINT BUT NO EROSION - FIRST TIME HEAT AFFECT ON SECONDARY O-RING HAS BEEN OBSERVED

0 CONCLUSION

- 0 STS-51C CONSISTENT WITH EROSION DATA BASE
 - 0 LOW TEMPERATURE ENHANCED PROBABILITY - STS-51C EXPERIENCED WORST CASE TEMPERATURE CHANGE IN FLORIDA HISTORY
 - 0 EROSION IN TWO JOINTS OBSERVED BEFORE - STS-11 AND 14
- 0 STS-51E COULD EXHIBIT SAME BEHAVIOR
- 0 CONDITION IS ACCEPTABLE
- 0 STS-51E FIELD JOINTS ARE ACCEPTABLE FOR FLIGHT

Thiokol Corporation, A Subsidiary of
MORTON THIOKOL INC.
Wasatch Division
Our greatest concern is to make money and make the bottom line of all those in the money. Our greatest concern is to make money and make it.

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Level II Review (Feb. 12, 1985)

FLIGHT READINESS ASSESSMENT FOR STS-51E

0 CONCERN

- 0 STS-51C PRIMARY O-RING EROSION ON TWO FIELD JOINTS
- 0 STS-51C SOOT BETWEEN PRIMARY AND SECONDARY O-RINGS ON BOTH FIELD JOINTS. FIRST TIME OBSERVED ON FIELD JOINT
- 0 EVIDENCE OF HEAT AFFECT ON SECONDARY O-RING OF A68 (RIGHT HAND) CENTER FIELD JOINT BUT NO EROSION

0 CONCLUSION

- 0 STS-51E COULD EXHIBIT SAME BEHAVIOR
- 0 CONDITION IS NOT DESIRABLE BUT IS ACCEPTABLE

Level I Review (Feb. 21, 1985)

Chart 80

PROBLEM SUMMARY

<u>PROBLEM</u>	<u>CONCERN</u>	<u>RESOLUTION</u>
0 EVIDENCE OF HOT GAS PAST PRIMARY O-RINGS ON 2 CASE JOINTS (PREVIOUSLY OBSERVED ON NOZZLE JOINT)	MISSION SAFETY	ACCEPTABLE RISK BECAUSE OF LIMITED EXPOSURE AND AND REDUNDANCY (REF ST 41-C FR)

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