
Report of the PRESIDENTIAL COMMISSION on the Space Shuttle Challenger Accident

Volume 4 Index

Hearings of the Presidential Commission on the Space Shuttle Challenger Accident: February 6, 1986 to February 25, 1986

FEBRUARY 25, 1986 SESSION

[807] [Ref.2/25-11 1 of 2] Morton Thiokol Interoffice memo; Subject: SRM O-Ring Erosion/Potential Failure Criticality;
From: R.M. Boisjoly - 31 July 1985.

MORTON THIOKOL INC

Wasatch Division



Interoffice Memo

31 July 1985
2870:FY86:073

TO: R. K. Lund
Vice President, Engineering

CC: B. C. Brinton, A. J. McDonald, L. H. Sayer, J. R. Kapp

FROM: R. M. Boisjoly
Applied Mechanics - Ext. 3525

SUBJECT: -SRM O-Ring Erosion/Potential Failure Criticality

This letter is written to insure that management is fully aware of the seriousness of the current O-Ring erosion problem in the SRM joints from an engineering standpoint.

The mistakenly accepted position on the joint problem was to fly without fear of failure and to run a series of design evaluations which would ultimately lead to a solution or at least a significant reduction of the erosion problem. This position is now drastically changed as a result of the SRM 16A nozzle joint erosion which eroded a secondary O-Ring with the primary O-Ring never sealing.

If the same scenario should occur in a field joint (and it could), then it is a jump ball as to the success or failure of the joint because the secondary O-Ring cannot respond to the clevis opening rate and may not be capable of pressurization. The result would be a catastrophe of the highest order - loss of human life.

An unofficial team (a memo defining the team and its purpose was never published) with leader was formed on 19 July 1985 and was tasked with solving the problem for both the short and long term. This unofficial team is essentially nonexistent at this time. In my opinion, the team must be officially given the responsibility and the authority to execute the work that needs to be done on a non-interference basis (full time assignment until completed).

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31 July 1985

1406

It is my honest and very real fear that if we do not take immediate action to dedicate a team to solve the problem, with the field joint having the number one priority, then we stand in jeopardy of losing a flight along with all the launch pad facilities.

Roger M Boisjoly

R. M. Boisjoly

Concurred by:

Jack R Kapp

J. R. Kapp, Manger
Applied Mechanics

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