



Online Ethics Center  
FOR ENGINEERING AND SCIENCE

# A Management Decision Overrides a Recommendation Not to Launch

## Author(s)

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## Description

Part Six of Seven Discussions Concerning the Challenger Disaster.

## Body

The major activity that day focused upon the predicted 18 degrees Fahrenheit overnight temperature and meeting with engineering management to persuade them not to launch. The day concluded with the hurried preparation of fourteen viewgraphs which detailed our concerns about launching at such a low temperature. The teleconference with Kennedy Space Center (KSC) and MSFC started with a history of O-ring damage in field joints. Data was presented showing a major concern with seal resiliency and the change to the sealing timing function and the criticality of this on the ability to seal. I was asked several times during my portion of the presentation to quantify my concerns, but I said I could not since the only data I had was what I had presented and that I had been trying to get more data since last October. At this comment, the general manager of Morton Thiokol gave me a scolding look as if to say, "Why are you telling that to them?" The presentation ended with the recommendation not to launch below 53 degrees. This was not well received by NASA. The Vice President of Space Booster Programs, Joe Kilminster, was then asked by NASA for his launch decision. He said he did not recommend launching, based upon the engineering position just presented. Then Larry Mulloy of NASA (who was at KSC) asked George Hardy of NASA (who was at MSFC) for his

launch decision. George responded that he was appalled at Thiokol's recommendation but said he would not launch over the contractor's objection. Then Larry Mulloy spent some time giving his interpretation of the data with his conclusion that the data presented was inconclusive.

Just as he finished his conclusion, Joe Kilminster asked for a five minute off-line caucus to re-evaluate the data, and as soon as the mute button was pushed our general manager, Jerry Mason, said in a soft voice, "We have to make a management decision." I became furious when I heard this because I knew that an attempt would be made by management to reverse our recommendation not to launch.

Some discussion had started between the managers when Arnie Thompson moved from his position down the table to a position in front of the managers and once again tried to explain our position by sketching the joint and discussing the problem with the seals at low temperature. Arnie stopped when he saw the unfriendly look in Mason's eyes and also realized that no one was listening to him. I then grabbed the photographic evidence showing the hot gas blow-by and placed it on the table and, somewhat angered, admonished them to look and not ignore what the photos were telling us, namely, that low temperature indeed caused more hot gas blow-by in the joints. I too received the same cold stares as Arnie with looks as if to say, "Go away and don't bother us with the facts." At that moment I felt totally helpless and felt that further argument was fruitless, so I, too, stopped pressing my case.

What followed made me both sad and angry. The managers who were struggling to make a pro-launch list of supporting data actually supported a decision not to launch. During the closed managers' discussion, Jerry Mason asked in a low voice if he was the only one who wanted to fly. The discussion continued, then Mason turned to Bob Lund, the vice-president of engineering, and told him to take off his engineering hat and put on his management hat. The decision to launch resulted from the yes vote of only the four senior executives since the rest of us were excluded from both the final decision and the vote poll. The telecon resumed, and Joe Kilminster read the launch support rationale from a handwritten list and recommended that the launch proceed. NASA promptly accepted the recommendation to launch without any probing discussion and asked Joe to send a signed copy of the chart.

The change in decision so upset me that I do not remember Stanley Reinhartz of NASA asking if anyone had anything else to say over the telecon. The telecon was

then disconnected so I immediately left the room feeling badly defeated.

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## **Discussion Question**

What is the situation that Boisjoly faces now? He has presented his case. NASA has acted in a way that was unprecedented in Boisjoly's experience. They have put the burden of proof on those who believed it was risky to fly rather than on those who felt it was safe to fly. Fearing that NASA will not continue to make Morton Thiokol the sole contractor for the Solid Rocket Booster program if they insist on holding back the *Challenger* flight, management has reversed the decision made by engineering. Boisjoly doesn't have the hard data that he has been requesting since last summer and which is now needed to prove that low temperature is a major contributor in hot gas blow-by, and his job appears to be at stake. He has had over a year to work on the joint problem and in that time ten shuttle missions have flown successfully. Is there anything else that can be done at this point?

### **Answer 1: Inform astronauts of danger.**

Do you have any personal connections to them? How would you go about doing this?

### **Answer 2: Rally peer support.**

This is a desperate and totally unexpected turn of events. You could use support to figure out what if anything can now be done to stop the flight. However, there is very little time, and you may have trouble contacting anyone this evening. Probably only those who were at the meeting will have any sense of what happened. Most of them did not speak up in support of you and Arnie Thompson, so there is little reason to believe that they will support further action.

### **Answer 3: Write memos far up the corporate ladder.**

No time for that.

[Continue to The Explosion of the Challenger](#)

## **Rights**

Use of Materials on the OEC

**Resource Type**

Case Study / Scenario

**Topics**

Catastrophes, Hazards, Disasters

Engineer/Client Relationships

Lab and Workplace Safety

Social Responsibility

**Discipline(s)**

Aerospace Engineering

Mechanical Engineering

Engineering