



Online Ethics Center  
FOR ENGINEERING AND SCIENCE

# Being Asked to Soften the Urgency of the O-ring Problem

## Author(s)

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## Description

Part Three of Seven Discussions Concerning the Challenger Disaster.

## Body

My notebook entry on August 15, 1985, reads as follows: "An attempt to form the team (referring to the Solid Rocket Motor seal erosion team) was made on 19 July 1985. This attempt virtually failed and resulted in my writing memo 2870:FY86:073. This memo finally got some response and a team was formed officially. The first meeting was held on August 15, 1985 at 2:30 pm." The memo referred to is the one I read to the Presidential Commission on February 25, 1986, which was written to the vice president of engineering at Morton Thiokol on July 31, 1985. The memo ended by saying, "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."

During this July period, NASA headquarters in Washington D.C. asked Morton Thiokol to prepare a presentation on the problems with all the booster seals. The presentation was prepared by MSFC on August 19, 1985, with Morton Thiokol personnel in attendance.

Morton Thiokol was then asked by MSFC in September to send a representative to the SAE conference in October to discuss the seals and solicit help from the experts. I prepared and presented a six-page overview of the joints and the seal configuration to approximately 130 technical experts on October 7, 1985. However, I was given strict instructions, which came from NASA, not to express the critical urgency of fixing the joint but only to emphasize the joint improvement aspect during my presentation.

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## **Discussion Question**

NASA once again wanted the seal task force team to soften the urgency of the O-ring problem. If the word leaked that there existed a major malfunction in the solid rocket booster, Congress would likely lose even more faith in the Shuttle program. No cold weather launches were scheduled for the near future. Should Boisjoly continue to listen to NASA and play down the importance of the problem? Which of the following are good things to do in this situation?

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### **Answer 1: Research company structure.**

Yes, if you do not already know the company structure, it will be important to know that.

Boisjoly's memo to the vice president of engineering at Morton Thiokol on July 31, which resulted in the formation of a team to work on the seals, shows he had a fairly good idea of the company structure. If you call up [that memo](#) you will notice that Boisjoly sent copies of the memo to others at Morton Thiokol to keep them informed. He showed the memo to his immediate supervisor so as avoid undercutting him.

## **Answer 2: Consult personal advisors.**

Consulting personal advisors is always acceptable except when faced with an emergency, which this is not. Consulting those who know you well and whom you trust is a particularly good idea when you need to do something that is particularly difficult for you, or "pushes your buttons." Is this such a situation?

## **Answer 3: Inform media.**

The members of the media are like the rest of humanity. They may or may not share your concerns about safety. They may be mainly interested in selling newspapers. Case histories of some whistleblowers show that the reporter whom they consulted pursued the matter in a way that obstructed rather than furthered the engineer's efforts to remedy the safety problem. It is prudent to find out about the purposes and methods of the reporters whom you are considering approaching.

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### **Discipline(s)**

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Mechanical Engineering  
Engineering