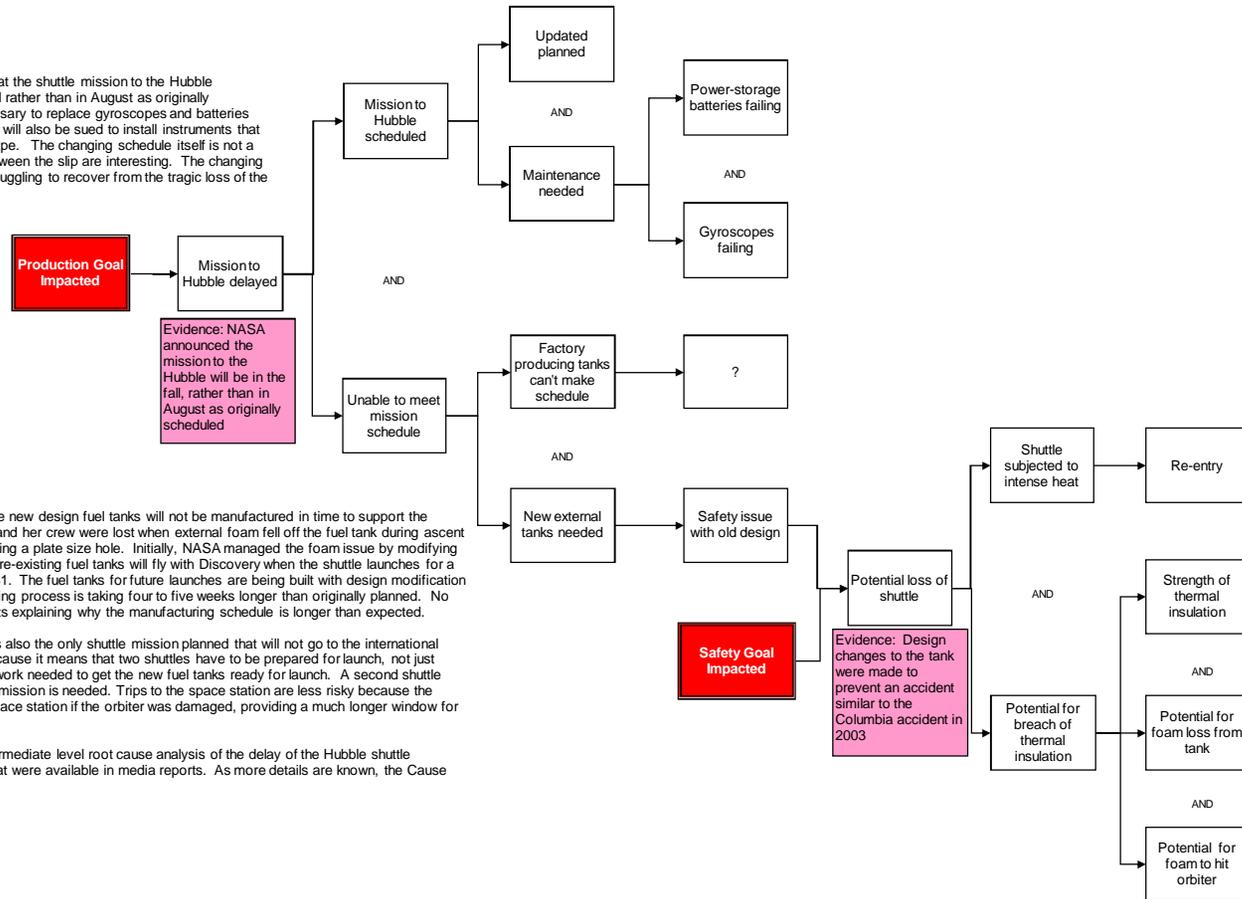


**Mission to Hubble Telescope Delay**  
**USA**  
**March, 2008**

Early in March, NASA announced that the shuttle mission to the Hubble telescope would take place in the fall rather than in August as originally scheduled. A trip to Hubble is necessary to replace gyroscopes and batteries that failing. Additionally, the mission will also be sued to install instruments that will increase the range of the telescope. The changing schedule itself is not a cause for alarm, but the reasons between the slip are interesting. The changing schedule shows that NASA is still struggling to recover from the tragic loss of the Columbia in many ways.



The shuttle mission is delayed because new design fuel tanks will not be manufactured in time to support the original schedule. In 2003, Columbia and her crew were lost when external foam fell off the fuel tank during ascent and struck the wing of the orbiter creating a plate size hole. Initially, NASA managed the foam issue by modifying existing fuel tanks. The last of these pre-existing fuel tanks will fly with Discovery when the shuttle launches for a space station assembly mission May 31. The fuel tanks for future launches are being built with design modification to prevent foam loss. This manufacturing process is taking four to five weeks longer than originally planned. No information is available in media reports explaining why the manufacturing schedule is longer than expected.

The mission to the Hubble telescope is also the only shuttle mission planned that will not go to the international space station. This fact is relevant because it means that two shuttles have to be prepared for launch, not just one. Two shuttles means double the work needed to get the new fuel tanks ready for launch. A second shuttle will be prepared in the event a rescue mission is needed. Trips to the space station are less risky because the astronauts could seek shelter in the space station if the orbiter was damaged, providing a much longer window for potential rescue.

The attached PDF file contains an intermediate level root cause analysis of the delay of the Hubble shuttle mission. It was built using the facts that were available in media reports. As more details are known, the Cause Map can be expanded.

**Cause Map**  
**Intermediate Level**



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