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Boeing officials here announced today the Delta III failure investigation should conclude by the end of September.

After the Aug. 26 failure of the Delta III, the investigation team moved quickly to focus on the control system. The Delta III control system consists of an onboard computer system which controls the main engine, two vernier engines and three solid-rocket motors with thrust-vector assemblies.

Walt Wilson, investigation board deputy chairman, said the investigation team had pinpointed the cause of the failure, predicted the failure mode in the control system stability analysis and is developing a corrective action plan. The investigation team is having an independent source verify its findings. "The control system recognized and tried to correct a slow oscillating roll that developed during the first minute of flight," Wilson said. "However, the control system contributed to the situation, and in the end expended the hydraulic fluid used to gimbal the thrust-vector controls on the solid rocket motors." Once the thrust vector control system was no longer operating, the oscillation smoothed out. At that point, the TVC assemblies were fixed in a position eventually causing the 10-story rocket to overturn and destroy itself.

The investigation board and the U.S. Air Force cleared the Delta II for this week's launch of five Iridium system satellites from Vandenberg Air Force Base, Calif. Once the investigation board finishes identifying the cause and implementing corrective actions from the Delta III flight, they will apply the lessons learned to the Delta II and Delta III programs. This portion of the investigation should take another three to four months.

The investigation team expects to have the Delta III ready for flight in early 1999, meeting the requirements of the next Delta III customer. Hughes, the Federal Aviation Administration, NASA, the U.S. Air Force, Aerospace Corporation, and Alliant Techsystems are assisting the Boeing investigation team.

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