

Lyndon B. Johnson Space Center
Houston, Texas
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Reply to Attn of SD/90-93

MAY 1 1990

TO: EC6/H. Eugene Winkler
FROM: SD/William E. Thornton, M.D.
SUBJECT: Integrated Waste Collection System (IWCS) Venting

The prototype IWCS to be flown on STS-35 was designed to operate with a small flow to the vacuum vent. Without this venting there will be a leakage of gas and odors for funding did not allow the design and fabrication of a sealed system which would vent through the charcoal filter. That such leakage would happen was demonstrated in its initial testing, and I suspect in the crew training, which I discovered was conducted without venting. This should not be done in flight for both odors and gases will contaminate the closed atmosphere.

It would be easy enough to seal this design and avoid this venting in the future if desired.

Note: After seeing the current design, status, and inherent limitations of the design chosen for Shuttle, this test could be of more importance than initially realized.



William E. Thornton, M.D.

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