

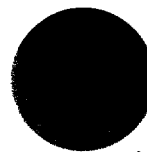
SPACE NUCLEAR SYSTEMS

U.S. ATOMIC ENERGY COMMISSION

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TRANSIT
SNAP-27
RESUSPENSION FILE

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PARTICLE RESUSPENSION

The following questions have arisen during the safety review of the Transit program. These questions will undoubtedly come up again in the Pioneer review. We would appreciate your review of the following:

1. Has any new work been accomplished since the SNAP-27 Meteorological Working Group Paper was issued?
2. Can small (< 3 micron diameter) high density (10 g/cc) $^{238}\text{PuO}_2$ particles become resuspended to attain a level of 1 meter or higher above the ground?
3. What is a plausible estimate of the resuspension factor for the $^{238}\text{PuO}_2$ particles described above?
4. Will charged $^{238}\text{PuO}_2$ particles coagulate with natural dust particles and deposit at a substantially increased rate?
5. What is the post-impact weathering half-life or factor associated with the Pioneer capsule and plutonia molybdenum cermet fuel vis-a-vis < 3 micron respirable particles of $^{238}\text{PuO}_2$.

It appears that Fuquay of BNWL could assist us in our risk assessment of the post-impact weathering and resuspension phenomena associated with certain Pioneer aborts.

George P. Dix
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cc: J. Miller, DBM

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