

INTERIM REPORT

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Responsible NRC Individual and NRC Office or Division: _____

Donald E. Solberg, Chief, Systems Performance Research Branch, SAFER:RES

This document was prepared primarily for preliminary or internal use. It has not received full review and approval. Since there may be substantive changes, this document should not be considered final.

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Prepared for
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INTERIM REPORT

NRC Research and Technical
Assistance Report

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In reply refer to: WX-8-3602 (R295)
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May 20, 1980

Mr. D. E. Solberg, Chief
Systems Performance Branch
Division of Safeguards, Fuel Cycle
and Environmental Research
US Nuclear Regulatory Commission
MS 1130SS
Washington, DC 20555

Dear Don:

SUBJECT: R-295 MONTHLY PROGRESS LETTER FOR APRIL 1980, INVESTIGATION OF
VENTILATION COMPONENT RESPONSE TO LARGE PRESSURE PULSES

Damper Tests -- The experimental damper tests are being designed. The first dampers will not be at the test facility before late June 1980, so several blower tests may be initiated first. Both blower and damper tests generally follow the Air Movement and Control Association methods, so the test hardware should be identical.

We have found that inlet dampers with pneumatic actuators are more expensive than the blowers (about \$1800 each). This cost is about three times the cost of a standard, rectangular, opposed blade, control damper with pneumatic actuator. Therefore, we may not be able to include these dampers in our test program.

Filter Tests -- The report on the structural tests of HEPA filters is reaching final form. The figures have been drawn and the photographs have been printed. The data have been plotted using the HP 9872A.

Blower Testing -- Quadrant two (backflow) quasi-steady data for the 24 in. centrifugal blower were reduced. Results show that the blower-static pressure behaves nonlinearly with the reverse volume flow rate and is not consistent with the linear behavior assumption made in TVENT for blower performance in this quadrant. A meeting was held with personnel at New Mexico State University to establish a plan for proceeding with the blower-testing program.

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Laser Anemometer/Particle Counter -- Data were taken using the improved optics assembly and transistor preamplifiers. Both particle number and particle velocities were obtained using the laser particle-counter. Particles were also collected on membrane filters using an isokinetic probe for several flow conditions. We will compare total particle count from the particle-counter with the count obtained on the membrane filter.

Miscellaneous -- H. L. Horak went to the spring meeting of the American Society of Testing Materials to see if their filtration committee could serve as an effective means to provide technology transfer to industry. Unfortunately, they are far behind the nuclear industry in terms of air filtration. Horak recommended that we not join their organization.

We have purchased an air filter for the test facility air compressor that will remove the oil mist that has been contaminating the test air flow.

Please call if you have questions or need clarification.

Sincerely,


W. S. Gregory

WSG/jr

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