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1-19-73By J. E. Savely 11-14-94Verified By Gerrie May 11-17-94**RECEIVED**

MAY 22 1956

**300 AREA
CLASSIFIED FILES**D. D. Streid
Design Engineering Division

- HW-10482
- #1 D.D. Streid
 - #2 H.M. Parker - P.P. Soyars - 700 File
 - #3 P.E. Collins
 - #4 B. Shaver
 - #5 O.H. Greager - 100 File
 - #6 S.B. Work - T. Prudich

Richland, Washington
July 13, 1948#7 Pink
#8 Yellow234-5 PROJECT VENTILATION SPECIFICATIONS

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In a memo from Shaver to Streid on the above subject dated July 9, 1948 two inconsistencies between ventilation specifications and hood design were pointed out. The first of these was the fact that specifications requested 150 to 200 linear feet per minute through openings from Zone 4 to Zone 3 during maintenance work whereas the present hood design will provide 14.5 foot per minute. There appears to be no alternative here but to change the specification. It is felt that operational procedures (protective clothing and other SWP devices) can be made sufficiently rigorous to circumvent the difficulties to be expected when doing maintenance work through openings having such low face velocities.

The second case cited was the fact that an air change from nearly zero to one change every two minutes throughout Zone 4 has been specified, whereas the present design will provide from one change every 4.5 minutes to one change every 9 minutes. Some alternative must be found to permit the original specifications to be met. The possibilities which have been discussed include the following: (1) Redesign the ventilation system so as to supply air to Zone 4 directly and separately instead of drawing general Zone 3 air through a filter port; (2) Enlarge the filter through which air flows from Zone 3 to the Zone 4 hoods (150 cfm instead of 15 cfm boxes were suggested); (3) Increase the pressure differential between Zone 4 and Zone 3 from 0.2 or 0.3 inches of water to whatever is required to permit more air to flow from Zone 3 into Zone 4 (1.5 to 2.0 inches of water was suggested).

The first of these suggestions must be discarded after only casual consideration because it is obviously sufficiently revolutionary to set back completion of the building and hood design work many weeks. The second possibility appears only slightly less radical, while it would not affect building design appreciably, much hood redesign would be required. The third suggestion appears to affect design only slightly (inlet dampers to Zone 4 hoods would need to be added), but provides a possible undesirable operating condition since it has been shown that 1.0 to 1.5 inches of water pressure differential will cause the rubber gloves to extend (though not expand) into the hood.

In the event that no satisfactory fourth alternative can be found, it is requested that you proceed to develop this third suggestion as discussed with P. E. Collins on July 10, 1948.

S.B. Work
S. B. Work
Contact Engineer
234-5 Project

JEW:dg

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