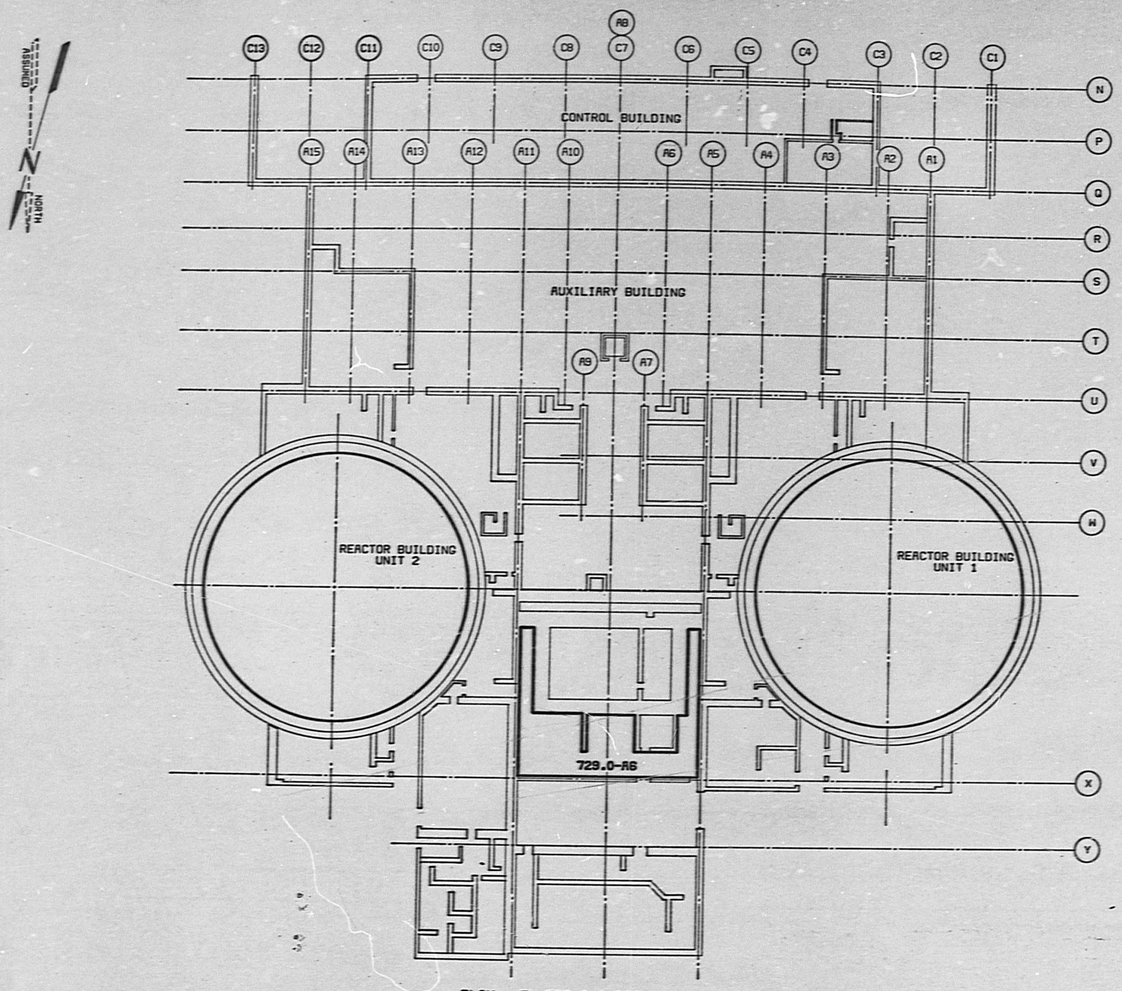
9193RD

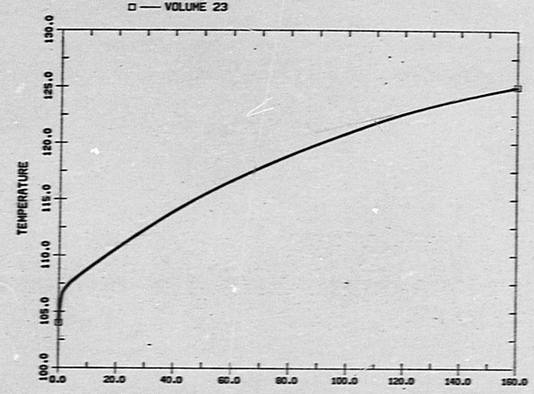


PLAN - EL 729.0 & 737.0

BUILDING LOCATION AND ROOM NUMBER	OPERATIONAL CONDITION (NOTE 1?)	TEMPERATURE (°F)	RELATIVE HUMIDITY (%)	PRESSURE (PSIA) (NOTE 2)	TOTAL 40 YEAR INTEGRATED DOSE (RADS) (NOTE 11)	INTEGRATED ACCIDENT DOSE (RADS) (NOTE 11)	AREA TYPE (NOTE 12)	FLOODING
AUXILIARY BUILDING NITROGEN (N_2) STORAGE AREA AS EL 729.0	1	AVG 80 MAX 104 MIN 60	55 80 30	ATM (-) ATM (-) ATM (-)	NA 5×10^2 NA	NA NA NA	B	NOTE 15
	2	MAX 119 MIN 40 (NOTE 8)	90 10	ATM (-) ATM (-)	NA NA	$<1 \times 10^4$ NA		
	3	NA	NA	NODE 50	NA	NA		
	4	NOTE 13	NOTE 13 (FIGURE 6)	NOTE 13	NA	NA		

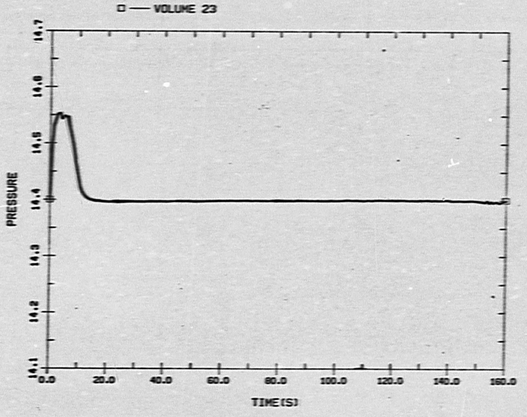
SQN/WBN AUX BOILER SYS - NODE 22 - CASK DECON RM

□ —— VOLUME 23



SQN/WBN AUX BOILER SYS - NODE 22 - CASK DECON RM

□ —— VOLUME 23



GENERAL NOTES: FIGURE AND NOTE NUMBERS CORRESPOND TO THOSE OF REFERENCE 1. ALL FIGURES AND NOTES REQUIRED FOR THE AREA(S) ARE GIVEN.

NOTES:

1. OPERATIONAL CONDITION DEFINITIONS:
   1. NORMAL
   2. ABNORMAL
   3. LOCA/HELB INSIDE PRIMARY CONTAINMENT (WORST CASE SMALL BREAK FOR TEMPERATURE - LARGE BREAK FOR PRESSURE)
   4. HELB OUTSIDE PRIMARY CONTAINMENT
   5. TORNADO (SUDDEN PRESSURE DROP OF 3 PSI)
   6. INADVERTENT CONTAINMENT SPRAY INITIATION - SEE NOTES 19, 22
2. ATM -INDICATES ATMOSPHERIC PRESSURE EXISTS. NORMAL ATMOSPHERIC PRESSURE AT WBN IS APPOXIMATELY 14.4 PSIA.

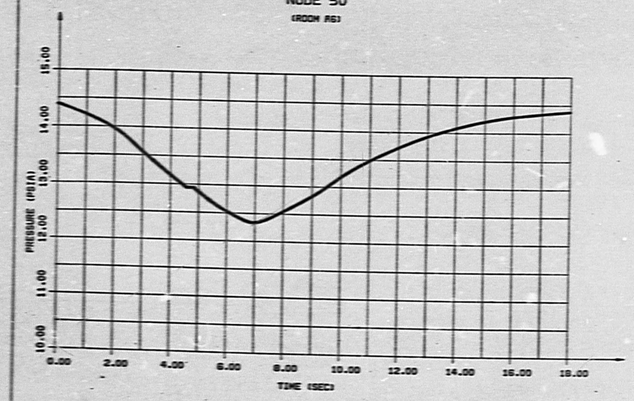
   ATM(+) -INDICATES A POSITIVE PRESSURE WITH RESPECT TO THE ATMOSPHERE.

   ATM(-) -INDICATES A NEGATIVE PRESSURE WITH RESPECT TO THE ATMOSPHERE. THE ANNULUS IS MAINTAINED AT A NOMINAL PRESSURE OF -5.0 INCHES OF WATER DURING ALL NORMAL AND ABNORMAL CONDITIONS. DURING AN ACCIDENT CONDITION (OPERATIONAL CONDITION 3) AND DURING PERIODS OF TESTING THE EGTS, ANNULUS PRESSURE WILL BE MAINTAINED AT -0.5 INCHES OF WATEP.
4. PRIMARY CONTAINMENT IS NOT AFFECTED BY DEPRESSURIZATION DURING A TORNADO CONDITION. THE PROBABILITY OF A TORNADO IS 3.36×10^{-4} OR APPROXIMATELY ONCE EVERY 30,000 YEARS.
8. THESE MAXIMUM AND MINIMUM ABNORMAL TEMPERATURES COULD OCCUR AS A RESULT OF OUTSIDE TEMPERATURE EXCURSIONS. TEMPORARY GREATER THAN DESIGN HEAT LOADS OR DEGRADED ENVIRONMENTAL CONTROL SYSTEM OPERATION. THIS CONDITION COULD EXIST FOR UP TO EIGHT HOURS PER EXCURSION AND WILL OCCUR LESS THAN 1% OF THE PLANT LIFE.
10. THESE MAXIMUM AND MINIMUM ABNORMAL HUMIDITIES COULD EXIST FOR UP TO 8 HRS PER EXCURSION AND WILL OCCUR LESS THAN 1% OF THE PLANT LIFE.
11. ALL 40 YR INTEGRATED DOSES SHOWN ARE UPPER LIMITS FOR THE SUMMATION OF THE GAMMA AND BETA CONTRIBUTIONS UNLESS OTHERWISE INDICATED. RADIATION DOSE INFORMATION WAS TAKEN FROM THE FSAR SECTION 9.11-2, FIGURES 12.1-1 THRU 12.1-20 AND FIGURES 15.5-16 THRU 15.5-20. THE INTEGRATED ACCIDENT DOSE GIVEN IS FOR A LOCA. TOTAL RADIATION DOSE IS OBTAINED BY ADDING THE 40 YR INTEGRATED AND INTEGRATED ACCIDENT DOSES FOR SPACES WHICH HAVE 40 YR INTEGRATED DOSES $\geq 7.5 \times 10^5$ RADS. USE 1×10^6 RADS FOR AREAS WHICH HAVE 40 YR INTEGRATED DOSES $\leq 1.75 \times 10^5$ RADS AND INTEGRATED ACCIDENT DOSES $<1 \times 10^6$ RADS.
12. ARE'S LISTED ARE DIVIDED INTO THREE CATEGORIES DEFINED AS FOLLOWS:
   A. SPACES THAT ARE SERVED BY SAFETY-RELATED REDUNDANT ENVIRONMENTAL CONTROL SYSTEMS BACKED BY ONSITE EMERGENCY ELECTRICAL POWER.
   B. SPACES NOT MAINTAINED BY REDUNDANT ENVIRONMENTAL CONTROL SYSTEMS BACKED BY ONSITE EMERGENCY ELECTRICAL POWER.
   C. SPACES SERVED BY NON SAFETY-RELATED ENVIRONMENTAL CONTROL SYSTEMS DURING NORMAL CONDITIONS AND REDUNDANT SAFETY-RELATED SYSTEMS DURING ACCIDENT CONDITIONS.
13. THESE SPACES ARE AFFECTED BY BREAKS IN THE FOLLOWING HIGH ENERGY SYSTEMS: AUXILIARY FEEDWATER (AFW) STEAM SUPPLY, AUXILIARY BOILER SYSTEM, RESIDUAL HEAT REMOVAL (RHR) SYSTEM AND CHEMICAL AND VOLUME CONTROL SYSTEM (CVCS) LETDOWN LINE. THE COMPANION DRAWINGS REFERENCED CONTAIN TEMPERATURE AND PRESSURE VS TIME PROFILES FOR ALL THE WORST CASE BREAK SCENARIOS INVOLVING THESE SYSTEMS. PROFILE TITLES EXPLAIN WHICH HIGH ENERGY SYSTEM EFFECT IS BEING DEPICTED. THE VOLUME NUMBER CORRESPONDS TO AREA OR ROOMS WHERE THE PIPING HARDWARE ON THE KEY PLAN. EACH TEMPERATURE AND PRESSURE CURVE SHOULD BE ASSUMED TO DECREASE LINEARLY TO THE SPECIFIED MINIMUM VALUE GIVEN IN THE ENVIRONMENTAL TABLE AT THE END OF 24 HOURS IF IT HAS NOT REACHED THAT VALUE WITHIN THE TIME SCALE OF THE FIGURE. THE SAME HUMIDITY VS TIME FIGURE APPLIES IN EACH CASE FOR CONSERVATISM PURPOSES. THE WORST CASE HELB PROFILES REPRESENTING THE EVENTS FOR WHICH THE EQUIPMENT IN QUESTION IS REQUIRED TO FUNCTION SHOULD BE USED.
16. THE COMPUTED MAXIMUM FLOOD LEVEL OF 740.3 FT WILL CAUSE FLOODING TO ELEVATION 738.6 FT IN THE AUXILIARY BUILDING. ALL EQUIPMENT REQUIRED TO MAINTAIN PLANT SAFETY UNDER THIS CONDITION AND FOR 100 DAYS AFTER THE BEGINNING OF THE FLOOD SHOULD BE EITHER DESIGNED TO OPERATE SUBMERGED, LOCATED ABOVE THE MAXIMUM FLOOD LEVEL, OR OTHERWISE PROTECTED.
19. NA INDICATES NOT APPLICABLE FOR THIS OPERATIONAL CONDITION.

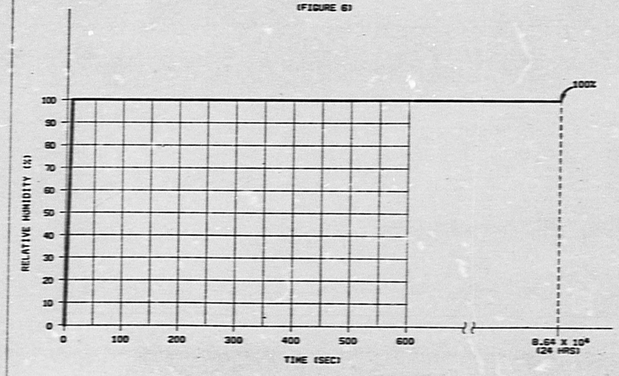
REFERENCE:

1. SUMMARY OF HARSH ENVIRONMENTAL CONDITIONS FOR SEQUOYAH AND WATTS BAR NUCLEAR PLANTS (NEB 82-0758-2357).
2. SEQUOYAH AND WATTS BAR NUCLEAR PLANTS NUREG-0588 ENVIRONMENTAL PROFILES (NEB-83-0201-2633).

TORNADO PRESSURE VS TIME
NODE 50
(ROOM A6)



HELB HUMIDITY VS TIME
(FIGURE 6)



TI APERTURE CARD

REV	ECN NO	DATE	DESCRIPTION
A1	4542	5 9 89	AREA REDEFINED AS HARSH ENVIROMENT AND SHEET RENUMBERED

DSGN K.R. Rajagopalan-Sinha
DRWN R.K. Powell
CHKD
SUPV W.S. Roberts Jr.

MGR J.W. Nelson

SCALE: EXCEPT AS NOTED

AUXILIARY BUILDING
UNITS 1 & 2

ENVIRONMENTAL DATA ENVIRONMENT - HARSH EL 729.0

WATTS BAR NUCLEAR PLANT
TENNESSEE VALLEY AUTHORITY
DIVISION OF ENGINEERING DESIGN

SUBMITTED: S.E. Brown
RECOMMENDED: A.R. Taylor
APPROVED: J.W. Hunleth Jr.

INSPECTED AND APPROVED FOR ISSUE
KNOXVILLE 8-24-89

85 | M | 47E235-39 | R1

RELATED DRAWING AS CONSTRUCTED

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