WISCONSIN PUBLIC SERVICE CORPORATION	NO. EP-TSC-7	
Kewaunee Nuclear Power Plant	TITLE: RV Head Venting Time Calculation	
EMERGENCY PLAN IMPLEMENTING PROCEDURE	DATE: JAN 12 1984	PAGE 1 of 3
REVIEWED BY M L Marchi	APPROVED BY [illegible]	

1.0 APPLICABILITY

This procedure provides instructions for determining the maximum allowable venting period of the reactor vessel head when noncondensable gases are present in the RCS.

2.0 PRECAUTIONS

2.1 This procedure should be done concurrently with E-0-12, "Postaccident Systems Operation" section 4.1, Reactor Vessel Head Vent.

3.0 REFERENCES

3.1 "Background Information for Westinghouse Emergency Response Guidelines, FR-I.3 Void in Reactor Vessel". Rev. LP-BASIC September, 15, 1981.

3.2 "FR-I.3, Response to Voids in Reactor Vessel". LP-Rev. 1, September 1, 1983.

3.3 EP-RET-3C, "Post Accident Operation of the High Radiation Sample Room".

4.0 INSTRUCTIONS

4.1 Ensure that the containment hydrogen analyzer has been placed in service per EP-RET-3C. Allow a minimum sample purge time of ten minutes.

4.2 All available containment air circulating equipment should be operating to prevent the formation of hydrogen gas pockets and ensure a representative sample is obtained. If only one containment dome fan is operating, the sample should be taken from the operating fan discharge.

4.3 Maximum Allowed Venting Time

4.3.1 Record or determine the following values:

RCS pressure	_____	psig
cntmt. hydrogen conc.	_____	% < max. allowable 3%
cntmt. pressure	_____	psig
cntmt. abs. pressure (cntmt. press. + 14.7 psi)	_____	psia
cntmt. temperature	_____	°F
cntmt. absolute temperture (cntmt. temp. +460°R)	_____	°R

4.3.2 Calculate containment volume at STP = A (scf)

$$A = 1.32E{+}06 \text{ cf} \times \frac{\text{(cntmt. absolute pressure)}}{14.7 \text{ psia}} \times \frac{492^\circ R}{\text{(cntmt. abs. temperature}}$$

= _____ scf

4.3.3 Calculate maximum hydrogen volume that can be vented = B (scf)

$$B = \left[3\% - \text{(cntmt.hydrogen conc.)}\right] \times A$$

= _____scf

4.3.4 Determine hydrogen flow rate as a function of RCS pressure using Fig. TSC-7 = C (scfm)

C = _____ scfm

4.3.5 Calculate maximum venting time:

Maximum venting time = B/C = _____ min.

FIGURE TSC-7

HYDROGEN FLOW RATE VERSUS RCS PRESSURE