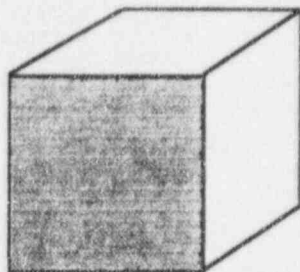


Amount of Water in Humid Air at 240 PSIG (17.3 atm.)

'95 OCT 20 P4:51

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

1 cubic foot of humid air @ 240 PSIG (17.3 atm.)

and:

Dewpoint 86 F

$$\text{PPM}_V = \frac{1.25 \text{ in. Hg.}}{(17.3 \text{ atm.} \times 29.92 \text{ in. Hg./atm.}) - 1.253 \text{ in. Hg.}} \times 10^6$$

$$\text{PPM}_V = .0024 \times 10^6$$

$$\text{PPM}_W = \text{PPM}_V \times \frac{18.01 \text{ Mol Wt.}}{29 \text{ Mol Wt.}} = .0024 \times .62 \times 10^6 = 1488 \text{ ppm water}$$

Specific vol air * (1 atm) @ 86 F = 13.75 cu. ft. / #

Density of air (1 atm) @ 86 F = 1 / 13.75 = .073 # / cu. ft.

Density of air (17.3 atm) @ 86 F = 17.3 x .073 = 1.27 # / cu. ft.

$$\begin{aligned} \text{Water content} &= 1.27 \text{ # dry air / cu. ft.} \times 1488 \times 10^{-6} \text{ # water / # dry air} \\ &= .00189 \text{ # water / cu. ft. dry air} \\ &= .030 \text{ oz. Water / cu. ft. dry air} \end{aligned}$$

Dewpoint 60 F

Specific vol air * (1 atm.) @ 60 F = 13.10 cu. ft. / #

Water Content = .522 / 1.253 x 13.75 / 13.10 x .030 oz. / cu ft dry air

= .013 oz. / cu. ft. dry air

* Data from Perry's Chemical Engineers Hdbk.
Fourth Edition

9601220307 950919
PDR ADOCK 05000424
G PDR

NUCLEAR REGULATORY COMMISSION

Docket No. 50-424/425-OLA-3

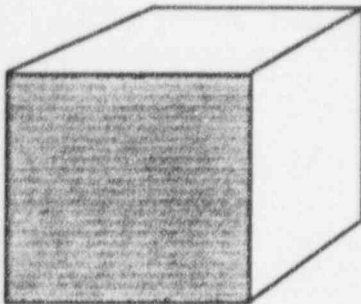
EXHIBIT NO. II-263

In the matter of Georgia Power Co., et al., Vogtle Units 1 & 2

☐ Staff ☐ Applicant ☒ Intervenor ☐ Other☐ Identified ☒ Received ☐ Rejected Reporter SD

Date 9/19/95 Witness HILL and WARD

Amount of Water in Humid Air at 240 PSIG (17.3 atm.) , continued



1 cubic foot of humid air @ 240 PSIG (17.3 atm.)

Dewpoint 95 F

Water content = .039 oz. / cu. ft. dry air

Dewpoint 86 F

Water content = .030 oz. / cu. ft. dry air

Dewpoint 60 F

Water content = .013 oz. / cu. ft. dry air

Dewpoint 50 F

Water content = .009 oz. / cu. ft. dry air

Water condensed in cooling from 86 F to 60 F = $(.030 - .0130)$ oz. / cu. ft.
= .017 oz. / cu. ft. dry air

Water condensed in cooling from 95 F to 50 F = $(.039 - .009)$ oz. / cu. ft.
= .030 oz. / cu. ft. dry air