

Meteorological Data Collection
for
Combined License Application
by
South Carolina Electric & Gas Company

July 6, 2006

Agenda

- Introduction
- The Site
- Meteorological Monitoring System
- Representativeness of the Data for COL Application
- Summary

Concept for Meteorological Monitoring

- Data from the meteorological monitoring system at VCS Unit 1 will be used to support the COL application for VCS Units 2/3.
- A new tower/monitoring system will be constructed close to Units 2/3.
- Data from the new monitoring system will be used to confirm the Unit 1 data and will support the operational phase of Units 2/3.

The Site

The new units will be located about 1.5 miles north of Parr, South Carolina. Parr is the site of existing fossil and hydro power stations operated by SCE&G. This location is on the Virgil C. Summer site, approximately 1 mile south of the existing unit and 26 miles northwest of Columbia, South Carolina.

The Site Location



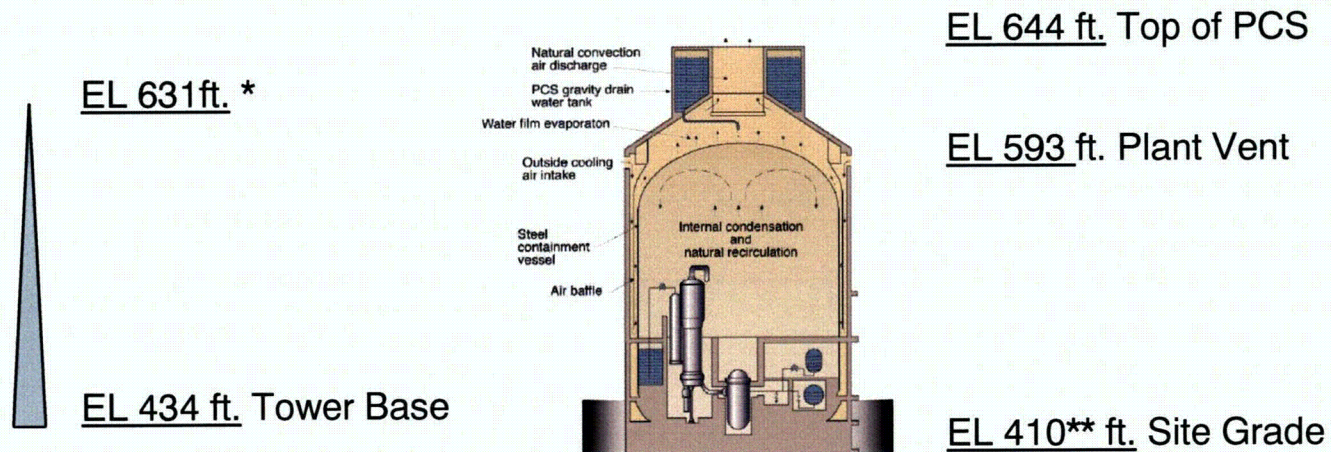
Meteorological Data Uses

Use of Data	COL Application Development	COL Review	Operation
Atmospheric dispersion estimates for both postulated accidental and expected routine airborne releases of effluents	X	X	X
Comparison with offsite sources to determine the appropriateness of climatological data used for design considerations	X	X	
Evaluation of environmental risks from the radiological consequences of a spectrum of accidents	X	X	
Evaluation of non-radiological environmental impacts (e.g., from accidental chemical releases and cooling tower operation)	X	X	
Development of emergency response plans	X	X	X

Data for COL Application

- Data sources for the VCS Units 2/3 COLA
 - From VCS Unit 1 Met Monitoring System
 - Data from July 2003 through June 2006
 - Dew Point data from NWS at Columbia, S.C.
 - Data from 2003 through 2005
 - Avoids the influences of the Monticello Reservoir
 - Closest NWS monitoring location
 - A confirmatory study based on 1-year of new plant met data will be submitted during the COLA review period.

Elevation Considerations



* Upper Level Instrument height = 60 m (197 ft).

** Estimated Site Grade

VCS Units 2/3 Monitoring System Construction

- Bases for a new VCS 2/3 monitoring system
 - Location is more appropriate for the operational phase of the new units
 - Will serve as the primary tower for the new units
 - The existing Unit 1 tower will serve as backup
 - Constructed to meet proposed Revision 1 to RG 1.23 (September 1980)
- Construction Schedule
 - Site clearing - In Progress
 - Permits - In Progress
 - Completion - Fall of 2006

Representativeness of the Data From VCS Unit 1 Met Monitoring System

Studies have concluded that the impacts due to the following effects are minimal.

Effect	Impacts
Terrain (Wind Flow Alteration)	Terrain is gently rolling with small variations between the Unit 1 tower and the new plant location resulting in insignificant wind flow alteration.
Lake Breeze (Dispersion Estimates)	Frequency during Lake Warming: <ul style="list-style-type: none"> •1.7% (2004) •1.3% (2005) X/Q under predicted ~37 hrs/year (< 0.5% a yr); preliminary studies show impacts are still within DCD limitations
Thermal Internal Boundary Layer Formation (Dispersion Estimates)	Frequency: 0.8% X/Q over predicted ~44 hours/year (0.5% a yr)
Recirculation Induced Land Breeze (Dispersion Estimates)	Frequency: <ul style="list-style-type: none"> •1.2% (2004) •1.6% (2005) No impact on X/Q estimates

The Site Location



Representativeness of the Data From VCS Unit 1 Met Monitoring System (Continued)

Summary

- Terrain effects are minimal.
- The frequency of occurrence for lake and land breeze and TIBL formation are very small.
- The X/Q estimates are under-predicted for less than 0.5% of a year but are expected to remain bounded by the DCD values.
- Columbia NWS dew point data will be used to avoid lake impacts.

Conclusion

- **The data from VCS Unit 1 met monitoring system combined with the Columbia NWS dew point data is considered to be representative of Units 2/3 and will be used in support of the COL Application.**

Data Confirmation - Study Approach

- Comparison of concurrent data from Unit 1 and the Units 2/3 monitoring system:
 - Wind roses
 - X/Q estimates (using PAVAN – R.G. 1.145)
- Comparison of concurrent dew point data from Columbia NWS and the Units 2/3 monitoring system:
 - Using 1-year concurrent dew point data from Columbia NWS
 - Statistical Data Analysis

Summary

- Three years of meteorological data will be used to support the COL application.
- VCS Unit 1 met tower data is representative for the Unit 2/3 location and will serve as a backup tower during the operational phase of Units 2/3.
- X/Qs derived for Units 2/3 will be confirmed using data from Units 2/3 monitoring system.
- The new met tower is being constructed to meet proposed Revision 1 to RG 1.23 (September 1980).

Questions and Discussion

