Valley Environmental Services
63 French King Highway Unit 8
Greenfield MA 01301
(413) 774-5696
fax (413) 774-5699

May 5, 2004

Mr. John Goodell, PE
SVE Associates
PO Box 1818 439 West River Road
Brattleboro, VT 05302

Re: Vermont Yankee Vernon, Vermont

Dear Mr. Goodell,

At your request, Valley Environmental Services visited the above site on May 5, 2004 in order to delineate the boundary of wetlands under the jurisdiction of the Vermont Wetland Rules and US Clean Water Act and their accompanying Regulations. The edges of the wetlands have been marked in the field with consecutively numbered pink and black diagonally striped surveyor tape and pink stake flags. Although the wetlands have been accurately delineated, the final determination of the extent of the resource areas regulated under state law can be made only by the Vermont Agency of Natural Resources and/or the US Army Corps of Engineers.

Delineation Methodology

As you know, Vermont Yankee does not allow digging to more than a depth of six inches on their property. Therefore the edges of the wetlands were determined by examining two of three parameters. These parameters were the identification of areas with a dominance of hydrophytic vegetation and the presence of wetland hydrology (identification of hydric soils was omitted due to the digging restriction).

Hydrophytic vegetation was based upon the US Fish and Wildlife Service's *National List of Plant Species that Occur in Wetlands* (1988). The presence of wetland hydrology was based on the methods described in the 1987 Army Corps of Engineers manual for delineating wetlands.

Site Description

Wetland A - Wetland A was delineated in the field with flags numbered A-1 through A-13. It is a small isolated wetland located in a lawn area. The wetland had standing water on the day of our evaluation and a dominance of wetland plants including, but not limited to, spikerush (*Eleocharis* spp.), tussock sedge (*Carex stricta*), fowl manna grass (*Glyceria striata*), fringed sedge (*Carex crinita*), and other sedges (*Carex* spp.). Wetland A is a Vermont Class 3 wetland.

Wetland B - Wetland B is another small isolated wetland just north of Wetland A. It does not appear that they are connected by wetland vegetation and therefore it is likely that they are two separate isolated wetlands. The wetland edges can be identified in the field by pink stake flags and pink and black diagonally striped survey tape numbered B-1 though B-17. The wetland is dominated by reed canary grass (*Phalaris arundinacea*), fringed sedge, soft rush (*Juncus effusus*), dark green bulrush (*Scirpus atrovirens*), and silky dogwood (*Cornus amomum*). A small area of standing water and areas of water stained leaves were observed as hydrologic indicators. Wetland B is a Vermont Class 3 wetland.

Wetland C - Wetland C is near the railroad tracks on the western side of the site and can be identified in the field by pink stake flags and pink and black diagonally striped survey tape numbered C-1 through C-34. The wetland contains a swale with standing water and a fringe wetland slightly upgradient of the swale. The wetland plants found within the wetland include reed canary grass, fringed sedge, dark green bulrush, red maple (*Acer rubrum*) saplings, and sensitive fern (*Onoclea sensibilis*). Wetland C is a Vermont Class 3 wetland.

Wetland D - This isolated wetland is located east of the railroad tracks. It contains standing water and is dominated by reed canary grass and sensitive fern. The boundary of the wetland can be identified in the field by pink stake flags and pink and black survey tape numbered D-1 through D-9. Wetland D is a Vermont Class 3 wetland.

Wetland E - This wetland swale is located west of the railroad tracks. Standing water was observed within the swale. The wetland plant community is dominated by red maple saplings, field horsetail (*Equisetum arvense*), sensitive fern, and reed canary grass. The boundary of the wetland can be identified in the field by pink stake flags and pink and black surveyor tape numbered E-1 through E-11. Wetland E is a Vermont Class 3 wetland.

Wetland F - Wetland F is an isolated wetland with small areas of surface hydrology and water stained leaves as hydrologic indicators. The wetland plant community is dominated by reed canary grass, meadowsweet, field horsetail, sensitive fern, and jewelweed (*Impatiens capensis*). Wetland F is a Vermont Class 3 wetland.

Wetland G - This isolated wetland has areas of surface water. The wetland plant community contains such species as reed canary grass, sensitive fern, blue flag iris (*Iris versicolor*), rough-stemmed goldenrod (*Solidago rugosa*), field horsetail, silky dogwood, willow (*Salix* spp.), meadowsweet, and gray birch (*Betula populifolia*) saplings. This wetland abuts a series of silt containment vessels located immediately to the north. Wetland G is a Vermont Class 3 wetland.

Wetland H - This isolated wetland is dominated by reed canary grass (*Phalris arundinacea*), with other plants such as field horsetail, purple loosestrife (*Lythrum salicaria*), grass leaved goldenrod (*Euthamia graminifolia*), sensitive fern, tussock sedge, silky dogwood, woolgrass (*Scirpus cyperinus*). We received special permission to examine the soils for this one area only. The soils were determined to by hydric. A typical profile in this area revealed a dark A horizon with redoximorphic concretions and depletions at about ten inches from the surface in the B horizon. The edge of the wetland boundary was delineated with pink stake flags numbered H-1 through H-32. The northern side of the wetland abuts silt containment vessels and the southern side abuts an area that is used for gravel storage. Both of these adjacent areas were too disturbed to be evaluated at this time. Wetland H is a Vermont Class 3 wetland.

Wetland Resource Areas

The Vermont National Wetland Inventory Maps do not show any Class 2 wetlands on this parcel. It appears that all of the wetlands delineated in the area of investigation are Vermont Class 3 wetlands.

These wetland areas may also be jurisdictional to federal law. Sections 401 and 404 of the US Clean Water Act protect federal wetlands (Waters of these United States); there is no buffer zone to these wetlands. Any planned activities must conform to the Programmatic General Permit agreement that is in force between the federal government and the State of Vermont regarding work in federal wetlands.

Basically, work must be kept to under 3,000 square feet of wetland alteration in order to avoid a separate federal application for work in wetlands.

Given the current state of affairs over the interpretation of federal protection of isolated wetlands, only the ACOE can determine if all of the isolated wetlands on this parcel are jurisdictional to federal law. Some of these areas are very small.

Conclusion and Recommendations

The wetlands on this parcel have been delineated in the field. As discussed earlier in this report it was not possible to examine the soils in most locations on this site due to Vermont Yankee safety restriction. Only the identification of hydrophtic plants and wetland hydrology were used to locate the wetland boundaries. Therefore no federal data forms have been filled out at the present time.

The wetland delineation flags placed in the field should be surveyed onto a site plan. At a minimum, the site plan should also show existing facilities, existing topography, the proposed work and any proposed re-grading. This site plan should be used in any application that is submitted to the Vermont Agency of Natural Resources or as part of any Vermont Act 250 application.

The US Army Corps of Engineers should be contacted regarding the wetlands flagged on this parcel in order to determine whether or not the wetlands are jurisdictional as "waters of these United States."

Please contact VES if you have any questions regarding this report.

Sincerely,
Valley Environmental Services

William A. Lattrell, PWS
Professional Wetland Scientist
Restoration Ecologist