

**Vermont Department of Environmental Conservation**  *Agency of Natural Resources*

**Water Supply Division**

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RE: Beaver Wood Energy Groundwater Withdrawal Permit Application - Response to Comments

On December 15, 2010 a public meeting was held at the Pownal Elementary School. The purpose of the meeting was to take comment on the application as outlined in the October 25th, 2010 document “Groundwater Withdrawal Permit Application Narrative – Beaver Wood Energy Biomass: Process Water Supply” prepared by VHB. The comment period closed on January 15, 2011.

Many questions concerning air quality, wildlife, energy cost, forestry, environmental violations, and the Hoosic River were raised. Corresponding names of individuals associated with these programs within the Agency of Natural Resources were provided. The focus of this response is on the permitting of the proposed groundwater withdrawal project. Below is the response to comments received with the comments bolded.

**1) Many requested that the permit be denied**. The permit application cannot simply be denied. Beaver Wood Energy has the opportunity to satisfy the requirements of the Statute put in place by the State Legislature to obtain a permit. If Beaver Wood Energy cannot meet the requirements of the statute then the permit can be denied.

**2) It has been stated that the project is not consistent with Pownal Town Plan.** Beaver Wood Energy must certify that their development is consistent with the Town Plan and the Regional Planning Commission. Thus far no municipal official has deemed that the project is not inconsistent with existing local plans.

**3) Who is accountable for adverse impacts to water wells and the environment?**

The statute is clear that no undue adverse impacts to water wells or the water resources of the environment may occur. If indeed an undue adverse impact does occur Beaver Wood Energy is responsible. An undue impact to one well would be reason enough to deny the permit unless mitigation measures agreeable to the well owner can be reached.

4**) In the event water is needed for an emergency such as a fire, what may be done**? The groundwater withdrawal permit, if granted, may be conditioned to address such concerns. For instance, the permit may require that the groundwater withdrawal be reduced or ceased in cases of emergency.

**5) The pumping test conducted for Beaver Wood Energy along with the collection of water quality data should be performed by a third party**. Beaver Wood Energy has the responsibility to hire consultants to perform such tasks. State staff will review the results of the pumping test and associated information. The State has no affiliation with Beaver Wood Energy or their consultant and acts as an unbiased independent reviewer.

**6) It was suggested that the Hoosic Valley could only provide 450 gallons per minute per square mile.**  This information came from a report that was very general in nature. To establish a yield for an aquifer a pumping test is required and a pumping test will be conducted.

**7) Rainfall data from Williams College was cited and many had concerns regarding future drought and changing conditions.** Data from the proposed pumping test can be projected to determine future impacts under various scenarios, like droughts. If the project is permitted the permit can require long term monitoring of water levels in the aquifer. If water levels in the aquifer reflect drought conditions or water shortages the permit can require Beaver Wood Energy to reduce or cease pumping at their facility.

**8) Concerns regarding a winter pump test were raised and many thought a pump test performed during summer would stress the aquifer more and in turn provide better data**. A United States Geological Survey monitoring well located on Route 346 provides 2010 data indicating that water levels only differ by 0.37 feet from January to August. This would be the expected difference between a January pumping test from an August pumping test. The difference is considered insignificant. However, Beaver Wood Energy intends to delay the pump test until the summer of 2011.

9**) Many thought that the final discharge from the Beaver Wood Facility would be discharged to the Hoosic River**. Wastewater from the facility will be discharged to a leach field permitted by the Department of Environmental Conservation’s Wastewater Division.

**10) Many were concerned about the groundwater pumping impacts on the Hoosic River**. Water levels in the Hoosic River will be monitored. Three monitoring wells will be installed along the edge of the Hoosic River. The elevation of the nearby pond will also be monitored. Conditions in the permit, if granted, can be put in place to reduce pumping the well if the river level declines below a given level. A de facto withdrawal of river water via groundwater will not exceed withdrawal limits. The United States Army Corps of Engineers will be setting the withdrawal limits from the Hoosic River.

**11) Approval of the Beaver Wood Energy groundwater withdrawal relies on old information**. The State Statute dictates that Beaver Wood Energy must show that there is adequate groundwater in the area. A pumping test is required which will provide new data. This test is planned to occur in 2011. An analysis of the data from this test must be performed to determine whether or not the proposed facility can pump their specific demand without adversely impacting the environment or any existing water wells. The Statue specifically demands that there be no adverse impacts on private or public wells.

**12) Several were concerned that if Beaver Wood Energy were permitted the subsequent tree removal needed for the facility would reduce recharge to groundwater**. With respect to tree removal, in Vermont the cutting of trees must follow acceptable management practices that are enforced by the Agency of Natural Resources' Department of Forestry, Parks and Recreation.

**13) There are concerns that both public and private wells will be adversely impacted**. The statute identifies drinking water as the priority. The Water Supply Division of the Agency of Natural Resource permits public water systems like the Pownal Fire District #2 and the Evergreen Mobile Home Park. Wells serving the Pownal Fire District #2 (6,500 feet north), the Evergreen Mobile Home Park (5,000 feet southeast) along with the Alta Gardens Mobile Home Park public water systems will be monitored during the pumping test. Numerous private wells within a 3000 foot radius of the Beaver Wood Energy well will be monitored depending on permission from well owners. The Mason-Greene well (7,400 north) will also be monitored. Other than the monitoring wells installed by the river, six additional wells will be installed into the gravel aquifer. This data will be used to estimate impacts from various groundwater withdrawals scenarios. Using this data with long term monitoring and conditioning the permit, if issued, will protect existing wells.

**14) The duration of maximum pumping is not clearly defined**. If permitted, the duration of maximum pumping will be set in the permit. This will be contingent upon the U. S. Army Corps of Engineers allowable withdrawal from the Hoosic River which has yet to be established.

**15) It was requested that the duration of the pumping test be extended**. Beaver Wood Energy has offered to run the pumping test for 15 days. Steve Revell of Lincoln Applied Geology advised the Pownal Fire District #2 that a 15 pump test would be sufficient. The permitting authority, the Water Supply Division of the Agency of Natural Resources, has agreed to the 15 day pump test duration.

**16) Monitoring wells should be placed farther north and south of the proposed pumping well.** Monitoring wells will be placed both north and south of the proposed pumping well. A monitoring well to the southeast will be placed approximately 3200 feet away from the Beaver Wood Energy well. To the north another monitoring well will be placed about 3600 feet away. The Mason-Greene well, 7,400 feet to the north, will be monitored depending on owner permission. Also, the Pownal Fire District well along with the Evergreen Mobile Home Park well will be monitored

**17) There are concerns that the wastewater discharge would pollute the aquifer and the Hoosic River**. The wastewater discharge will be permitted by the Agency of Natural Resource’s Wastewater Management Division. Monitoring wells are in place so that water quality samples can be taken along with the monitoring of water levels to establish the river and pumping influences.

**18) How long does it take to recharge the aquifer**. The proposed pumping test will establish how long it takes to recharge the aquifer. However, from the pump test conducted on the Green Mountain Race Track Well in 1962 the aquifer was recharged in approximately seven hours.

**19) Does the statute require that the groundwater is used efficiently?** Yes, the statute does require the efficient use of water.

**20) A public meeting was requested regarding the leach field for the wastewater discharge**. A public meeting can be held on this subject.

**21) Concerns were raised that pumping the Beaver Wood Energy well would introduce PCPs into the aquifer**. The Linclon Applied Geology (LAG) 1995 report at the Green Mountain Race Track (enclosed in the Beaver Wood application) was required by the Department of Environmental Conservation’s Waste Management Division (WMD). This report states that the contamination from leaking underground petroleum tanks did not migrate during the seven day pumping test performed by LAG in 1994. LAG’s report states that the petroleum contaminants are absorbed to soils and are considered low risk. According to the WMD, PCBs are also strongly absorbed on geologic media more so than petroleum and especially when organic soil material is present. The WMD was of the opinion that the PCB contamination was a low risk. Because the Beaver Wood Energy well is also proposed to serve as a public well, water quality samples are required to be taken. Sampling will include PCBs, which will determine the PCB risk in groundwater.

**22) How will droughts be handled?** The statute states that “that groundwater withdrawals from a well or spring for drinking water supplies, farming, or dairy processing shall be given priority over other uses during times of shortage.” Long term groundwater level monitoring can be placed in the permit, if approved, that will require the applicant to reduce or discontinue pumping when specific groundwater levels are reached.

**23) What is the time frame for granting the groundwater withdrawal permit?** It is expected that issuing a permit would take several more months especially if the pumping test is conducted in the summer.

**24) There was concern that 85% of the groundwater withdrawal would be evaporated**. While this amount of water appears large, relative to all the water in the watershed it is quite small.

**25) It was requested that the comment period be opened after the pumping test is conducted.** The comment period will be re-opened after the pumping test.