

## Peppersack, Jeff

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**From:** Merritt, Allen  
**Sent:** Thursday, October 09, 2008 4:19 PM  
**To:** 'Charles G. Brockway'; Peppersack, Jeff; Keen, Shelley; Tuthill, Dave  
**Cc:** 'Charles E. Brockway'; 'Donna Kelsey'  
**Subject:** RE: Guidance regarding beneficial use of geothermal water

Chuck,

After consulting with Jeff and Shelley, we think filing an amendment is appropriate. Idaho Code Section 42-211 says an application for amendment should be filed when the permit holder proposes **"other substantial changes in the method of diversion or proposed use or uses of the water."** The described uses appear to us to be "substantial changes" even though they may fall in the same use category that IDWR codes water uses by.

Arguably heating of houses vs. dumping hot water in a pond to warm it is significantly different and may result in different answers to whether the use is in the local public interest and in accordance to conservation of the water resource. I'm not sure all of the uses described by you would be in the public interest by themselves. As you may recall the applications for water to cool gas-fired electric plants in Northern Idaho were denied because there are alternative ways to cool them, and the water might be for other purposes in the future. Something like clearing roadways could be done with alternative methods. Perhaps water for the road should be limited to water that has already been used to heat the homes, etc., and the diversion of water directly to the road should not be allowed.

To address your specific questions... If you proposed these new uses now in a new application we would likely call them "heating" and "recreation". If the Department showed up for an exam and found the uses described, we'd likely recognize them as significantly different than permitted and would require an amendment at that time before licensing. We'd have discretion to advertise and it would probably be wise to do so. At a minimum, we'd need to determine if the uses would be in the public interest and not contrary to conservation expectations for the use of the resource. I don't think we could pre-determine if we'd approve the changes or not, especially if protests were likely to be filed on an amendment. Better to file the amendment now and seek approval before investments are made to further develop.

If an amendment were to be authorized, the changes should not result in an enlargement of the original permitted intent. Some of the uses described in conditions 10 and 11 of the permit (portion of #2 on the proof report) would have to be foregone so that the overall proposed/implied volume is not enlarged, even though the uses may be non-consumptive.

In summary these "novel potential uses" need to be looked at fresh and stand the on their own merit.

Allen

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**From:** Charles G. Brockway [mailto:charles.g.brockway@brockwayeng.com]  
**Sent:** Thursday, October 09, 2008 2:55 PM  
**To:** Merritt, Allen; Peppersack, Jeff; Keen, Shelley; Tuthill, Dave  
**Cc:** Charles E. Brockway; Donna Kelsey  
**Subject:** RE: Guidance regarding beneficial use of geothermal water

Allen,

At this time no particular different use is being officially proposed. As it stands, the permit authorizes "heating" and "recreation." I would like to know whether the possible uses I described will fit under "heating" or "recreation" (if not, what other category would they fit under?). And for the more novel potential uses, would they be considered beneficial uses at all? In other words, if a field examiner showed up and found those uses in place, would the Department license them?

Chuck

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**From:** Merritt, Allen [<mailto:Allen.Merritt@idwr.idaho.gov>]  
**Sent:** Thursday, October 09, 2008 1:31 PM  
**To:** Charles G. Brockway; Peppersack, Jeff; Shelley Keen; Tuthill, Dave  
**Cc:** Charles E. Brockway; Donna Kelsey  
**Subject:** RE: Guidance regarding beneficial use of geothermal water

Chuck,

I've discussed this with Jeff and it appears that since the heating use from the original application and permit is now proposed to be somewhat radically different it appears that an amendment of the permit may be in order and would likely be advertised. This should be done prior to development. Attached is the proof report for the permit as it currently stands.

Has any analysis been made as far as consumptive use of the new proposal?

Allen

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**From:** Charles G. Brockway [<mailto:charles.g.brockway@brockwayeng.com>]  
**Sent:** Wednesday, October 08, 2008 9:25 PM  
**To:** Merritt, Allen; Peppersack, Jeff; Shelley Keen; Tuthill, Dave  
**Cc:** Charles E. Brockway; Donna Kelsey  
**Subject:** Guidance regarding beneficial use of geothermal water

Allen, Jeff, Shelly, and Dave:

I need some guidance fairly quickly regarding specific uses of geothermal water which the Department can recognize under the usual beneficial use categories. This concerns water permit 37-8205 in the Clarendon area. The permit authorizes heating and recreational uses from 6 wells and the owner is in the process of putting this water to beneficial use prior to the proof date in October 2009 (this date has been extended several times). The first step is rehabilitating existing wells and drilling new wells, which is underway now.

The question concerns the actual beneficial use of the water. The anticipated maximum developable flow rate is 750 gpm and the water temperature is 110 to 127 F. The heat content of this stream far exceeds the heating requirements of existing structures or new structures which could feasibly be erected prior to October 2009. Therefore, in addition to traditional heating, we are considering other (potentially novel) types of water uses. It is important to know to what extent the Department will recognize them for licensing purposes before the owner spends the large amounts of money required to implement them. Specifically, we are considering -

Recreational pond. Currently, a 100'x50' pond exists, which is slightly heated by the existing spring flow. One plan involves enlarging this pond and/or creating other ponds for the purposes of swimming and other recreational activities for the benefit of the owner and her guests. The surface area of the ponds could easily be made large enough so that the heat loss during a reasonable design low temperature period in the winter would require the entire geothermal flow to maintain the temperature at comfortable swimming levels. Is there a limit to the size of such a pond? Does it depend on the number of people using the pond?

Snow melting. A system of buried pipelines under the existing roadways is planned. Above-ground melting of the snow by spraying is also being considered.

Ice Melting. There are three large ponds on the property which were created within the footprint of the original Clarendon reservoir. The main spillway is designed to be traversed by vehicular traffic (i.e. cars pass through the water itself), and must be kept ice-free for fire department access to the subdivision south of the ponds. One potential use of the water is to

keep this spillway free of ice by injecting the water above the spillway to raise the temperature to just above 32F, or potentially spraying the water directly on the spillway. Similarly, the main headgate outlet from the pond has been approved by the IDWR Dam Safety staff as being part of the flood passage capacity for this dam. Therefore, keeping this headgate operational and free of ice would be of benefit.

I recognize that the flow rate that can be licensed is governed by the actual heat requirement of the specific use put in place, but on a conceptual level I am requesting a determination by the Department whether each of the type of uses described above, if found to be in place by a field examiner, could be licensed as a beneficial use of geothermal water under 37-8205.

Thank you!  
Chuck

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