

Nelson, Dan

From: Erick Powell <erick.powell@brockwayeng.com>
Sent: Tuesday, October 31, 2017 4:17 PM
To: Nelson, Dan
Subject: RE: Permit 37-22783 Field report

Thanks Dan,

I will review these questions and get back to you. I agree that you don't need to send a formal letter requesting this information. We will respond this week.

Regards,
Erick

From: Nelson, Dan [mailto:Dan.Nelson@idwr.idaho.gov]
Sent: Tuesday, October 31, 2017 4:09 PM
To: erick.powell@brockwayeng.com
Subject: Permit 37-22783 Field report

Hello Erick,

The field report you submitted for permit 37-22783 seems to be acceptable, but I do need some information to clarify the heating system. We were able to match reasonably closely the volume you calculated for permit 71-10953 that you submitted earlier, but I am struggling following your calculations for this permit. The following are the areas that I am having trouble with.

1.) In your photos, the flow rate on the flow meter when the 10 ton and the 6 ton was operating looked to be 48 gpm. That would make sense with 22 gpm going to the 6 ton unit and 26 gpm going to the 10 ton unit. What is the flow rate when both units are operating? Should the diversion rate for heating be 0.10 cfs (48 gpm / 448.8 = 0.10 cfs)?

2.) You stated that the system operates year round, but I have not seen a heat exchanger designed to run 24/7/365. This is even more confusing when you state that the 10 ton unit is the only unit operating during the cooling cycle. If this is true, then you would have a diversion rate of 48 gpm for the heating season and 26 gpm for the cooling season.

3.) You don't give us the size of the home being heated, so when we plug in your numbers to the spreadsheets we use to check these types of systems, our spreadsheets say this house has to be between a 14,000 to 15,000 square foot home. This may be accurate, but I have no way to double check the information.

I was hoping that you would have some additional information that could help me make sense of this system. If you have anything that can help me I would appreciate it. If you like, I can send you a more formal letter requesting the information, but I was hoping we could get this done within the next 14 days or so without going through that process. Once we go there, I have to keep to the deadlines set. The field exam is acceptable, so we are just looking at clarification of the system.

I ran this through our heating specialist, and she also had trouble understanding what was going on. If you could supply a spreadsheet similar to the one you supplied with 71-10953, we could go through it to determine if the numbers sound reasonable. Right now, we aren't sure what is happening.

the flow rate when both units are operating? Should the diversion rate for heating be 0.10 cfs (48 gpm / 448.8 = 0.10 cfs)?

2.) You stated that the system operates year round, but I have not seen a heat exchanger designed to run 24/7/365. This is even more confusing when you state that the 10 ton unit is the only unit operating during the cooling cycle. If this is true, then you would have a diversion rate of 48 gpm for the heating season and 26 gpm for the cooling season.

3.) You don't give us the size of the home being heated, so when we plug in your numbers to the spreadsheets we use to check these types of systems, our spreadsheets say this house has to be between a 14,000 to 15,000 square foot home. This may be accurate, but I have no way to double check the information.

I was hoping that you would have some additional information that could help me make sense of this system. If you have anything that can help me I would appreciate it. If you like, I can send you a more formal letter requesting the information, but I was hoping we could get this done within the next 14 days or so without going through that process. Once we go there, I have to keep to the deadlines set. The field exam is acceptable, so we are just looking at clarification of the system.

I ran this through our heating specialist, and she also had trouble understanding what was going on. If you could supply a spreadsheet similar to the one you supplied with 71-10953, we could go through it to determine if the numbers sound reasonable. Right now, we aren't sure what is happening.

Thank you so much for your time.

Respectfully,

Daniel Nelson
Water Right Analyst 3
Idaho Department of Water Resources
Telephone (208) 287-4856
Fax (208) 287-6700 (attn: Dan Nelson)



Virus-free. www.avg.com