Practical Adaptation of Harry's LENR Equations

I've tried to simplify this analysis using colors to help keep track of the step used and the gas the core is in during the measurement.

Step 1 (no core):

$$L\_PulseOther = P\_Pi - L\_Coolant$$

Step 2 (He):

$$L\_Pulse2Core = P\_Pi - [L\_Coolant + L\_PulseOther]$$
$$L\_Pulse2Core = P\_Pi - [L\_Coolant + P\_Pi - L\_Coolant]$$

Step 3 (He, less accurate – no Q)

$$L\_Jacket = P\_Heater - L\_Argon - L\_He$$

Step 3 (He, more accurate – with pulse):

$$L\_Jacket(Q) = P\_Heater(Q) + L\_Pulse2Core - L\_Argon(Q) - L\_He(Q)$$
$$L\_Jacket(Q) = P\_Heater(Q) + P\_Pi - [L\_Coolant + L\_PulseOther] - L\_Argon(Q) - L\_He(Q)$$
$$L\_Jacket(Q) = P\_Heater(Q) + P\_Pi - [L\_Coolant + P\_Pi - L\_Coolant] - L\_Argon(Q) - L\_He(Q)$$

Step 4 (using less accurate step 3)

$$P\_LENR = L\_Jacket + L\_Argon(H) + L\_H - [P\_Heater(H) + L\_Pulse2Core]$$
$$P\_LENR = P\_Heater - L\_Argon - L\_He + L\_Argon(H) + L\_H - [P\_Heater(H) + L\_Pulse2Core]$$

$$P\_LENR = (P\_Heater - P\_Heater(H)) + (L\_Argon(H) - L\_Argon) + (L\_H - L\_He) - L\_Pulse2Core$$

The results of using the less accurate version of step 3, which is to use data from the runs in helium without Q on), includes step 2 (and thus, step 1).

Step 4 (using more accurate step 3, with Q on)

$$P\_LENR = L\_Jacket(Q) + L\_Argon(H) + L\_H - [P\_Heater(H) + L\_Pulse2Core]$$
$$P\_LENR = P\_Heater(Q) + L\_Pulse2Core - L\_Argon(Q) - L\_He(Q) + L\_Argon(H) + L\_H - [P\_Heater(H) + L\_Pulse2Core]$$
$$P\_LENR = P\_Heater(Q) - L\_Argon(Q) - L\_He(Q) + L\_Argon(H) + L\_H - P\_Heater(H)$$

$$P\_LENR = (P\_Heater(Q) - P\_Heater(H)) + (L\_Argon(H) - L\_Argon(Q)) + (L\_H - L\_He(Q))$$

The results of using the more accurate version of step 3, which is to use data from the runs in helium with Q on, does not need data from step 1 or step 2.

Now to put this in terms of the data columns we get in the *.csv files:

P_Heater = CoreHtrPow
L_Coolant = TerminationThermPow
L_Argon = Jacket Thermal Power = PowOut – TerminationThermPow(aka L_Coolant)
L_He/H = C(He/H) x H2MakeupLPM x (unit conversion factor) x |(CoreGasOut – CoreGasIn)|
where C(He) = ? and C(H) = ?
And at SRI CoreGasOut < CoreGas In, so absolute value is taken

Note: This is only for constant core temperatures and constant Q input power, and thus is subject to errors in our ability to correctly measure and keep those values constant.

Comparing P_LENR to the PowOut - PowIn calculations which I used in recent analysis:

As noted by Mark, in the data csv file, we have:
PowIn = Core Heater Power + Q Power
PowOut = Jacket Thermal Power(aka L_Argon) + Termination Thermal Power(aka L_Coolant)

I used (H2 – He) results to calculate:

P_LENR = (PowOut(H) – PowIn(H)) – (PowOut – PowIn), where red is H2 and green is He

P_LENR = (L_Argon(H) + TerminationThermPow(H) – CoreHtrPow(H) – QPow(H)) – (L_Argon + TerminationThermPow – CoreHtrPow – QPow)

but Q Power is equal for any gas in this experiment:

P_LENR = (L_Argon(H) + TerminationThermPow(H) – CoreHtrPow(H)) – (L_Argon + TerminationThermPow – CoreHtrPow)

or

P_LENR = (CoreHtrPow – CoreHtrPow(H)) + (L_Argon(H) – L_Argon) + (TerminationThermPow(H) – TerminationThermPow)

translating back to Harry's variables:

P_LENR = (P_Heater – P_Heater(H)) + (L_Argon(H) – L_Argon) + (L_Coolant(H) – L_Coolant)

**note that “(Q)” is not explicitly written next to the measurements taken in He, but in this case (power out- power in) the only measurements were done when Q was on.

From Harry's equations, we had something similar (using the more accurate step 3):

P_LENR = (P_Heater(Q) – P_Heater(H)) + (L_Argon(H)– L_Argon(Q)) + (L_H – L_He(Q))

The differences between the two above equations occur in the third term: the losses from the core (L_H/He) and the difference between how much energy was measured at the end of the core (Termination Thermal Power). Shouldn't the LENR calculation include both? The difference between TermThermPow (or L_Coolant) will also take into account the losses found in "step 1" where the Q pulse boards are shorted in order to determine the losses in the measurement there.