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GREEN CITY CC

City of Green Service Director / Mayor / Finance Council

Reference Green Resolution R110 proposed 26 November 2019:

Notice at public comment period was that respect/integrity for bids received were from those that had deterioratly maintained system without question. The maintenance of system was one reason of primary early failure. The second primary failure source was that of owner with disconnect to historical embarrassing facts/circumstances (previous school failure.)
Boiler heating design efficiency is guided by physical design parameters but mostly as an art of the individual user/building. Replacement contracts are based/inflated on sense of emergency and ability to pay. Aggravated by time differential/frequency of comparative buying/need knowledge.

There exist alternatives to protect those with responsibility/duty to provide basic service to their constituents/occupants. I understand there is a real time control of integrated system but is there a recorded history? If a recorded history is available then either no one ever reviewed such or no one was knowledgeable/interpretive of those records. If historical knowledge/data exist, an optimum system can be designed/altered. Lacking credible data, I would propose immediately replacing failed boiler with a 160kBtu boiler*/3hp pump and collect data necessary to perfect optimum design. This would protect building down to a –12°C outdoor temperature. Allow the potential to 'plug in' an additional boiler to cover down to –18°C if data is not sufficient before complete data set is received. Data needed would be at least two storm events with high average winds below –7°C. The remaining 1000k boiler would be standby if temperature dropped below 0°F. Even at a maintained –24°C the two 160k boilers would maintain interior to a sweater tolerable 15°C.
*a quick review of restrm/copy-center exhaust required before ±160 is ordered (active + passive loss.)

The existing 20hp circulating pumps cannot be turned down sufficiently for optimum testing [leave replaced motor on site and disable sequencing, i.e. manual control of $160k^{320}$/3Hp v. 1000k/20/Hp during data input.] (ordering 3Hp pump to match piping is only potential stall to project completion – although 20hp could still be used until available) yrly operation cost of 20hp/$3000 v. $600/3hp

Bottom line is less than $10k and one week to remove and install followed by about five weeks of monitoring. Final cost projection to maintain 20°C at –24°C with one spare boiler available* is less than $20k. This does not include evaluating water treatment/use.
*or use spare to achieve –30°C design

As long as the one 1000k boiler is operational, this can be divided into two separate contracts; one emergency and other normal or work could be totally done in-house.

Upon removal of failed boiler and inspection, the potential continued use of operational boiler could be evaluated to extend usefulness v. full second phase above especially if a –40°C design limit is desired with potential non-historic crazy climate change effects.

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only data reviewed to determine that about 500k needed to heat building was February 2019 gas bill, potential that only 385k is needed is determinate on data set. Assuming 500, and needing duplicity, requires 2-500's or only 4-160's. Based on aging determination of stop/start cycling, 4-160k will last 50+yrs* compared to 20 yrs for 2-500k. *only if water corrected

I have a 3-yr old 450k the City can have for scrap value (replaced with 160k) or unused 385k for $2k [acquired as spare before design evaluation showed only 30% need of original] pending final economical availability [non-emergency] of optimum design.

The total HVAC system needs evaluated as to design/operation greenness/cost.
Based on questionable water correction cost, alternate medium should be considered with possible transfer/pump savings?