Village of Walton

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Questions asked at Fire Hall meeting about Bio Digester

1. Contingency plans in case plant shuts down unforeseen reason
    - If Kraft facility shuts down the user agreement will dictate that that as a contributor to the digester, they are responsible for a portion of the debt service and operation & maintenance and will be required to pay this amount whether feed stock is delivered to the digester or not.
2. How long will the system last?
    - System will be comprised of tanks which have 50+ year lifespans, buildings to house equipment which will have 50+ year life spans, and pumps and treatment equipment which will have 15-20 year life spans.
3. Is $20,000 enough for operation maintenance?
    - $20,000 was an initial estimate of O&M costs which is being refined as the design progresses and final equipment is selected. Final O&M costs associated with the project will be higher.
4. When will there be more competent numbers?
    - Estimates provided to date were developed as part of the feasibility and planning process for the project. Final numbers will be set by the terms of the user agreements which are currently in negotiation. Negotiations are expected to continue through the summer.
5. Gas line insurance? Who's responsibility?
    - There is and will be insurance on all existing and new facilities at the WWTP, and the new gas piping extending from the WWTP to the end users. Gas piping will be owned and maintained by the Village. Piping itself will have minimal maintenance once installed. All piping will be installed in accordance with applicable rules and safety

standards. Cost of insurance is estimated to be $4,000 per year based on quote from Village's current insurance provider. Additional insurance cost will be built into the users rates assessed to the industries.

6. Insurance cost for digester and who pays for it?
    - There is and will be insurance on all existing and new facilities at the WWTP, including the new digester. Cost of insurance is estimated to be less than $4,000 per year based on quote from Village's current insurance provider. Additional insurance cost will be built into the users rates assessed to the industries.
7. Back up if there is a break down at digester
    - Other municipalities in the region have digesters that are able to receive dairy waste, namely Cortland, Ithaca, and Gloversville. The Village will reach out to these municipalities to request an agreement to take waste from local industries in the event of a long term breakdown or required maintenance event.
8. When gas escapes is there any air quality issues?
    - All gas will be contained within covered and sealed tanks and piping. If excess gas is produced and demand from either Kraft, School, or onsite use is not present at a given time the gas is routed to an onsite flare that will ignite and burn the gas to prevent over pressurization of the system. Flaring is standard industry practice and no air quality issues are present.
9. Is there a cost to decommission?
    - If the digester were to be shut down, decommissioning would include turning off all equipment and draining and cleaning of all piping and tankage. Equipment would remain dormant while not in use. Only cost would be associated with draining and cleaning of the tanks which is estimated at $10,000.
10. Figures don't show profit a WWTP. Can college still be involved in the project?
    - If SUNY Delhi were interested in being involved in the project the Village is willing to discuss with them. At this time the college is not known to have a viable project in development.
11. Will this project take whey away from farmers?
    - Whey is sometimes used by farmers as an alternative feed and fertilizer. A small portion of the whey produced is currently known to be used by one local farmer. The majority of whey produced is required to be sent out of the area for final disposal as local demand is not present. Local farmers can continue to be supplied with whey if desired, the larger portion is what could be sent to the new digester for disposal as opposed to being hauled out of the area.
12. Any health issue or smell from digester?
    - No health issues or smells are anticipated from the new digester. The new anaerobic digester will be installed at the existing WWTP. Anaerobic digesters are a common treatment technology used throughout the wastewater industry and represent no new health or smell issues. All new digester facilities will be covered, enclosed, and sealed.
13. Will digester still operate if Kraft leaves after it is built?

- The digester can continue to operate if Kraft leaves. Kraft is one, albeit the largest, current planned contributor of feed stock to the digester. If Kraft is no longer contributing feed stock other industries still would be able to. User agreements will require Kraft to pay for a portion of the debt service associated with the project whether they are contributing feed stock or not. If they are not contributing feed stock the digester will produce less biogas (less fuel to make it) but the cost of the digester itself will be covered. Additionally this would create space for other industries to contribute waste due to the potential of Kraft not utilizing the digester.

14. % of biogas to NYSEG, will boilers handle it?
    - No biogas will be sent to NYSEG, it will not be deposited into the natural gas grid. The biogas that is produced by the digester will be treated to make it compatible with use in boilers and generators. Biogas produced by the digester is comprised of methane, carbon dioxide, water vapor, sulfides, and siloxanes. This gas will be piped to a new treatment system which will remove the water vapors, sulfides, and siloxanes, and any other corrosive components. This treated biogas, will be comprised approximately 60% methane and 40% carbon dioxide. The BTU content of this gas is approximately 600 btu/cubic foot.

      As a comparison, natural gas is comprised of approximately 95% methane and trace amounts of other gases and compounds, the BTU content is approximately 1,000 btu/cubic foot. A greater volume of biogas will be burned to provide the same energy as natural gas. The biogas can be sold to users at a lower cost than natural gas and as such will still result in cost savings to users. Additionally natural gas can be purchased from the grid and blended with biogas to produce a higher btu content if desired.
15. Biogas distributions, what does the PSC say about this?
    - In consultation with the Counsel's office of the Public Service Commission the sale of gas is regulated by the PSC. Plans for the construction of new gas lines, and an operation plan will be required to be submitted and approved. As part of the design and implementation of the gas transmission mains this review and approval process will be completed.
16. Is there a poor quality of gas coming from the digester?
    - Biogas produced by the digester is comprised of methane, carbon dioxide, water vapor, sulfides, and siloxanes. This gas will be piped to a new treatment system which will remove the water vapors, sulfides, and siloxanes, and any other corrosive components. This treated biogas, comprised approximately 60% methane and 40% carbon dioxide. The BTU content of this gas is approximately 600 btu/cubic foot. This treated biogas is what would utilized as a fuel source, either onsite in a generator, or for sending offsite. As a comparison, natural gas, which already in use throughout the Village, is comprised of approximately 95% methane and trace amounts of other gases and compounds, the BTU content is approximately 1,000 btu/cubic foot. More biogas will be burned to provide the same energy as natural gas. The biogas can be sold to users at a lower cost than natural gas though and will result in cost savings to users. Additionally natural gas

can be purchased from the grid and blended with biogas to produce a higher btu content if desired.

17. Is there DEP or DEC permits? Do you need them before you start the project?
    - NYCDEP and NYSDEC will review construction plans and specifications prior to the start of construction. Their review and approval is needed and will be obtained. Both agencies are aware of the project and do not object. Digesters are a common component at waste water treatment plants throughout the state and country.
18. Flaring – what is the impact to the neighborhood and how often does it happen?
    - Flaring would occur if there is no demand from offsite users or onsite generators for the new biogas feed. Flaring is the industry standard safety tool to prevent the over pressurization of the system. System gas pressure will be continuously monitored, standard pressure is approximately 10-12 inches of water column. If gas pressure rises above set levels, that is more gas is being produced by the digester than is being consumed, the flare will be automatically activate, burning excess gas. The flare is essentially a burner that will be installed at the WWTP site, mounted on the side of a concrete tank. Flaring is expected to be infrequent, a few times a year. If it occurs at night it the light produced would be visible. The WWTP is lit 24 hours a day currently, and will continue to be, so any excess light will largely blend in and should not be noticed by most Village residents.
19. Who takes gas if Kraft leaves?
    - Multiple alternative uses of the biogas have been identified, namely Kraft, the school, and onsite use for electrical generation. If Kraft use of the gas goes away, the other uses remain.
20. Have you contacted NYSEG and let them know what is going on with the digester? If digester goes off line can NYSEG continue?
    - NYSEG has been contacted to confirm what connection requirements would be go connect to either the electrical and/or gas grid. Either is feasible, however connection would require additional costs to the project and not necessary to make the project viable. NYSEG supplies natural gas and electricity to the Village WWTP, and to the Village as a whole, and will continue to do so. The biogas that is produced will provide an additional alternative fuel source to the Village and offsite users. The gas produced by the digester will not wholly replace the natural gas consumed by all entities, just a cheaper alternative to reduce overall energy costs being expended.