QUESTIONS THAT WERE SUBMITTED FOLLOWING THE MEETING		
Question		**Response**
What are the estimated total capital costs for each alternative (purchase of equipment, materials, construction, land costs, etc.)?	CIVFED	The capital costs, annual operating costs and potential revenues from biogas were provided with the meeting summary in a separate attached slide on Life Cycle Costs. It's also attached here.
What are the estimated annual operating costs for each alternative after the first year?	CIVFED	The first year of operating costs were provided with the meeting summary and attached again with this file. Annual operating costs have been escalated each year after the first year for labor at 5%, power and natural gas at 3%, chemicals at 3% and contract hauling at 0%.
Are ongoing maintenance and repair costs baked into the operating cost figures? If not, where will that money come from?	CIVFED	Yes. Repair and maintenance costs are included in the operating cost figures for each alternative.
The revenue derived from selling the biogas is theoretical, not actual. What happens to the cost structure if the county uses all of the gas for plant operations and to fuel its bus fleet? How much would converting the bus fleet cost?	CIVFED	The revenue from selling the biogas has been calculated both ways 1) assuming the gas is used on site for heating and digester operations and 2) assuming all the gas produced is sold and energy needs to run plant facilities are purchased. These costs were furnished with the meeting summary and attached as PDF here, too. The Arlington bus fleet (ART) is already powered by CNG fuel so there is no conversion required.
Given our public land constraints and particularly the very tight land constraints on the pollution control site: For which, if any, of the alternatives can all proposed operations be located on the current pollution control plant's site?	CIVFED	The site constraints were part of the criteria we used (Operational) for evaluating these alternatives, so all alternatives are evaluated based on their ability to fit within the confines of the current property. These final four alternatives fit. Those that did not were stricken from consideration earlier on in the process.
Where would the fueling station be located? Where would the CNG plant be located?	CIVFED	If we were to generate CNG, cleaning, compression and storage would occur on the plant site (3402 South Glebe Road). The fueling station would be located at the ART bus facility across the street and that facility is currently under construction.
If gas must be moved offsite for various purposes, where would the pipeline go to transport the gas? How close would any gas pipeline be to residences? Are there any health or safety issues related to gas pipelines? Do we have existing right of way to construct a pipeline, if needed? If not, how much would it cost to obtain the necessary right of way?	CIVFED	For CNG use, the only option we're considering is the ART bus facility across the street at 2910 S. Eads Street. This keeps the pipeline within a minimal area, away from residences. We can use the existing Eads Street right-of-way and County-owned properties for running the gas pipe. There are other existing natural gas lines running within the Eads Street corridor and this would simply be another line.
How many additional FTEs (full-time equivalents, aka employees) beyond what we have working at the plant today will be needed for each alternative? Remember, 80% of any budget goes for salary and benefits. Aren't the hauling drivers contractors? If so, what is the contract dollar amount on an annualized basis? Are contractors included in the labor portion of the bar charts or in the hauling portion of the bar charts? (In other words, the cost for the hauling FTEs isn't being double-	CIVFED	FTEs were calculated for each of the alternatives. This comparison is for the solids processing alternatives only and does not include the rest of the plant. FTEs calculated for the first year of operation (under this analysis) compared as follows: Lime 3.6 FTEs, MAD 3.3 FTEs, THP/MAD 6.7 FTEs, MAD/DRY 5.4 FTEs. The more complex the process (with the addition of the THP and Drying) the more FTEs at the plant were required. The contract hires, such as the hauling drivers, were included in the hauling costs. Contractors were not included in the labor portion of the bar charts.

The capital plan makes absolutely no sense. It appears that the capital costs for each alternative are exactly the same. The CIP may be "approved" but it is reevaluated every two years. The original CIP is little more than a gimme-wish list. We are bumping up against our debt limit for the foreseeable future, with huge capital costs for schools and other priorities. They do not identify the type of bonds, so I can only assume that they plan to use GO (tax supported bonds). Unless the plant can float its own bonds independently of the county, there is simply no way that we will have sufficient capacity for this huge investment given our school and other obligations.	CIVFED	You may be referring to slide 41 from the meeting, which provided an early estimate of what we felt was in the upper limit of the costs of the Master Plan projects. Please refer to the attached PDF sent with the meeting summary for a better portrayal of anticipated capital costs for each alternative. You will see there that the capital costs vary widely amongst the 4 options. The amount included in the FY2017-2026 CIP of $150 million for Phase 3 Solids Master Plan was a placeholder amount since it was unknown at the time of preparation what options would be considered and how much each option costs. We told the County Board that this would be updated for the FY2019 - 2028 CIP after the Solids Master Plan was adopted. The Utilities Fund is an enterprise fund, so all revenues must support both the operations and capital needs of the program. The Utilities bonds are not a part of the County's overall debt capacity and are not tax supported; the amount of debt Utilities issues has no bearing on the amount of debt the County and Schools can issue (they are bound by the County debt policy for tax supported debt and we are not). Utilities generally does issue General Obligation (GO) debt since they have the "full faith and credit" of the County and receive a lower interest rate (e.g. it costs less to issue this type of debt); however, Utilities has its own revenue stream (through the Water-Sewer Rate) with which to support its debt.
No county "enterprise" fund is totally self-funded. The county typically pays for the employees' salary and benefit costs out of the general fund, not the enterprise funds. It also tends to overcharge in fees for said enterprise and then it "appropriates" the excess for other purposes in the general fund. (This is a long-standing budget trick to keep the tax rate lower.)		Tax funds are not used to subsidize any portion of the Utilities operations, nor are any ratepayer funds being used to subsidize the tax funded operations of the County. By County Board adopted policy, the Utilities is an enterprise fund which is a self-supporting activity. Annually the water-sewer rate is set which, along with all of the other budgeted revenue, will fully support both operating and capital expenditures of the fund. As seen in the annual operating budget, all of the personnel for the entire Utilities Fund are paid for within the Utilities Fund. In FY2017, personnel costs are budgeted at $23.07 million for 243.95 FTEs, which is 25.8% of the total Utilities expenditure budget. Utilities makes budgeted contributions to the General Fund only to pay for Utilities' proportionate share of internal services and overhead costs that we benefit from. The amounts are set based on audited financials and in accordance with County and Federal standards for allocating such indirect costs. Utilities also reimburses the General Fund for services provided by the General Funded portion of the Department of Environmental Services, so that the General Fund is being reimbursed for services provided to Utilities. Any expenditure savings and excess fund balance (above the 90 day reserve required by policy) is held within the fund and applied back to the Utilities fund in order to offset expenses and helps keeps the Water-Sewer Rate lower. Balances of the operating and capital Utilities funds carry over from year to year and stay within the Utilities area. They are not appropriated to the General Fund. Utilities Fund Policy is found here: https://arlingtonva.s3.dualstack.us-east-1.amazonaws.com/wp-content/uploads/sites/18/2016/06/FY17A-Glossary-and-Appendices.pdf Utilities Fund operating budget is found here: https://arlingtonva.s3.dualstack.us-east-1.amazonaws.com/wp-content/uploads/sites/18/2016/06/8.-FY17A-Utilities-Fund.pdf
From a carbon footprint standpoint, how many lbs/hour of pollutants will be emitted or how many hours a day will the flare be in operation?	CIVFED	It's important to point out here that a flare will not be a part of normal operations. The flare is only required to meet safety standards for biogas handling when the biogas is not being converted to energy or fuel. Biogas is considered neutral from a carbon footprint standpoint, since the biogas is generated as part of the process and is considered renewable. Beneficial use of the biogas (i.e. not flaring) will actually result in a reduction in the carbon footprint. Assuming the storage is sized appropriately, flaring will be very rare and used only as safety valve - a release - if there is a problem with the reuse process.

If we were talking about a flaring from a fracking operation, people would be going nuts. Why, precisely, is this any different?	CIVFED	The intent in our process is to use all the biogas and not need to flare. Flaring is a safety measure used only in an emergency situation (or when there is an issue with the reuse process). The key difference from a fracking operation is that anaerobic digestion of biosolids is an established process that is completed inside enclosed tanks. Fracking involves injection of high pressure fluids below the ground in an effort to release gases that have already been produced for harvesting.
How many children live downwind of the proposed "flare" operation's location today? In 20 years? In addition to carbon dioxide, how much carbon monoxide (CO), nitrogen oxide (NOx, which mixes with VOCs to produce ozone), sulfur oxide (SOx, which can produce particulate matter resulting from a reaction in the atmosphere) in terms of pounds per year will be released from the flaring?	CIVFED	This question hits on exactly why we're interested in the opportunity to reuse the biogas. Anaerobic digestion converts waste to energy with a net positive effect on air quality as compared to the existing process. Our intent is to use all the biogas. The flare is not a part of routine operations. Only a very small amount of carbon monoxide, nitrogen oxide, and sulfur oxide will be emitted from the flare. Biogas can be utilized on site or off site. Off site usage as CNG by ART or injection into a natural gas pipeline would result in the least amount of emission on site as the only combustion of biogas on site would happen under emergency conditions. We have not done the calculations on the potential emission of each pollutant. We will do so once the biogas use is determined.
How many pounds per year in VOCs will released via the raw biogas? Remember that the Crystal/Pentagon City area is already one of the worst parts of the county in terms of ozone generation.	CIVFED	No raw biogas, which is primarily composed of methane, will be released. Since no raw biogas will be released, no VOCs will be released.
Given the proximity of people living and working near this operation, can you reassure us that the EPA standards are sufficient for pollution control of emissions. See "SO2, NOx Air Pollution Standards Fail to Protect Environment, EPA Says" at http://www.nytimes.com/gwire/2010/09/20/20greenwire-so2-nox-air-pollution-standards-fail-to-protec-11689.html	CIVFED	Arlington County is committed to providing the highest quality of life for its citizens and to being a good neighbor. Compliance with EPA standards is mandatory. Arlington County takes pride in meeting the requirements of the permits issued by EPA and VDEQ, and has an established record of doing even better than the standards set by EPA and VA DEQ. The environmental impacts of the alternatives are an important component of the project and were a major factor in the selection of the top-ranked alternatives. The very small amount of emissions from rare flaring is more than offset by the reduction in hauling of biosolids by diesel trucks. The DC Metro region's air quality has improved significantly in the last 20 years, as described in the linked presentation from the Metropolitan Washington Council of Governments. Beneficially reusing the gas and taking diesel trucks off the road should help further these goals. https://www.mwcog.org/file.aspx?&A=2H11HOpLpzf/FeC5/xZayvX4A2anfVG757r1eKmPuqY=
Given the proximity of the plant to National Airport, how likely is it that a flaring operation can safely co-exist with airplanes coming in and out of the airport? What happens if the FAA says no to flaring?	CIVFED	The stack height would conform to any criteria set forth by the FAA to meet permits. Biogas is intended to be reused for power or fuel, and flaring will not be part of the standard operations. However, air permitting requirements would mandate a flare be provided for safety and emergency use.
What are the risks of explosion or fire to the population living near a large CNG operation? Does our fire department currently have the right equipment and personnel to deal with a fire or explosion at a large CNG operation? If not, where will the money come from to cover this additional cost?	CIVFED	The population currently lives near an existing CNG fueling station, the WMATA bus maintenance and fueling facility, as well as the ART fueling station that is being constructed. A proposed new gas cleaning facility for vehicle fuel located at the wastewater plant would be designed and permitted with the same safety and emergency concerns as those facilities. All County construction projects are coordinated with County fire and safety departments and requirements.

Due to the plant's proximity to Four Mile Run (assuming that all operations would be located on the plant's existing site), what would happen if flooding from Four Mile Run inundated the plant? In other words, could all this new infrastructure (for each alternative) withstand flooding?	CIVFED	The FEMA flood maps show that neither the 100 year nor the 500 year flood events would reach the buildings housing the solids treatment equipment.
We currently co-own a waste-to-energy (WTE) plant in Alexandria. Under the terms of our contract, we are required to provide a certain level of fuel stock or pay a penalty. There were some contract options that would allow us to incinerate materials at no cost for a certain number of years in the future (can't remember whether we have selected that option or that's a future decision). But WTE plant represents a sunk capital cost, and it turns waste into energy. From the presentation, I see that some places do incinerate biosolids. Has staff performed a cost and technical feasibility analysis to determine whether we could leverage this existing facility for disposal of the solid waste as opposed to investing in equipment to produce biogas or as opposed to spreading it on land? There are environmental concerns about spreading Class B biosolids, so I'm asking why we	CIVFED	Yes, we understand the agreement includes the option to incinerate materials at no cost for a certain number of years (2025-2038). However, this is a short term window and would not provide a viable long-term alternative for the plant biosolids. To use this alternative, the WWTP would be required to haul unstabilized sludge cake. The WTE plant is not configured to physically accept a biosolids cake. Special handling and receiving facilities would need to be installed at the WTE plant, which would require even greater capital investment, in addition to the investments that would need to be made on-site to implement what is essentially Alternative 1.
I would very much like to see the regional option scored against our jointly weighted criteria. A life cycle cost analysis, which is included in the Economic Criteria and ranked 5th most important overall, should also be completed on all the options. Before Arlingtonians commit to spending $150 million we need to know if all the options have been considered. Our regional partners have an economy of scale that Arlington cannot achieve due to the size of the WPCP, for	AHCA	Regional options continue to be considered and will be discussed in the Master Plan. The report will describe the triggers and scenarios upon which a regional solution would be considered. We have not yet received the cost information (capital and operational) required to fully evaluate the regional solution at this time. We will continue to work with neighboring jurisdictions that have expressed interest, to further analyze the possibilities of regional solution.
My other concern is the affect on health from continually burning biogas at the WPCP in very close proximity to a residential area. A large portion of our neighborhood is elevated above the treatment plant and therefore the stack height from which the combustion emissions would emanate, would be at the same elevation or lower than a large portion of the homes in our neighborhood. Emissions would blow right into our houses before having a chance to disperse. Although biogas combustion yields predominantly water and CO2 there is also Carbon Monoxide, Nitrogen Oxide and Sulphur Oxide, all of which are hazardous	AHCA	We are planning to reuse biogas as vehicle fuel or to generate electricity. An option that reuses biogas in an on-site combustion process will consider emissions and the local impact. In addition to meeting DEQ air permit requirements, we will perform an air dispersion study that will give more specific information.
One point of confusion in my own mind is the schedule — there were a couple of slides discussing the 2017-2026 CIP and some specifics about a work session with the Board in the spring of 2017. I would still find it useful to have a very simple description — however preliminary — of the decision steps and estimates for when the County Board would ultimately commit to an approach and likely capital and operating commitments. Maybe everyone else is clear on this, but I'm still fairly confused. It bears, as you might imagine, on when the Commissions such as E2C2 would be briefed, would issue letters supporting/inquiring about the	E2C2	We will send the group a more simplified scheduled of major milestones.