

Norfolk Naval Shipyard

Combined Heat and Power Plant (CHP) Technical Information Session - Question and Answer

October 5, 2020

Q1) What were the alternative sites and technologies (including energy efficiency) and how were they assessed in relation to what was selected?

A1) Refer to the Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) at the following website: <https://www.navsea.navy.mil/Home/Shipyards/Norfolk/ESPC/>.

Q2) What jobs (short and long term) will be provided? What are the other local benefits?

A2) The project provides approximately 200 jobs during construction and an estimated \$38 million in local economic impact – with approximately \$11 million in SWaM contracting opportunities. 17 full time employees will be hired for the operations of the plant.

Q3) What are the emissions, not only NAAQS but also HAPs, VOCs, heavy metals, etc., and how do emission controls address these?

A3) Refer to the Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) at the following website: <https://www.navsea.navy.mil/Home/Shipyards/Norfolk/ESPC/> . Refer to VDEQ's Air Permit Public Notice website for information (<https://www.deq.virginia.gov/Programs/Air/PublicNotices/AirPermits.aspx>) concerning emissions.

Q4) What is the precise relation with the steam plant nearby? For example, will the air emissions from waste to energy come down?

A4) The Navy entered into a contract with Wheelabrator in 2010 to purchase steam for the Norfolk Naval Shipyard. The contract is currently set to expire in January 2023, unless the Navy and Wheelabrator agree to a short term extension. Questions regarding Wheelabrator's air emissions should be directed to Wheelabrator.

Q5) What outreach was done to sensitive/vulnerable local populations?

A5) Refer to the Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) at the following website: <https://www.navsea.navy.mil/Home/Shipyards/Norfolk/ESPC/> . Refer to VDEQ's Air Permit Public Notice website for information

(<https://www.deq.virginia.gov/Programs/Air/PublicNotices/AirPermits.aspx>) concerning environmental justice in relation to the CHP plant.

Q6) What environmental justice assessment was done (exact methods) and what were the results of this study?

A6) Refer to the Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) at the following website: <https://www.navsea.navy.mil/Home/Shipyards/Norfolk/ESPC/> . Refer to VDEQ's Air Permit Public Notice website for information (<https://www.deq.virginia.gov/Programs/Air/PublicNotices/AirPermits.aspx>) concerning environmental justice in relation to the CHP plant.

Q7) Why haven't the NNSY received its expired air permit, according to Trinity Consultants' report: "The facility is currently operating in accordance with Virginia Department of Environmental Quality Title V Permit No. TRO-60326, which expired October 31, 2017. In April of 2017, NNSY submitted a timely Title V renewal application, but the new permit has not been issued to date. Currently permitted equipment includes...."

A7) The facility is currently operating in accordance with Virginia Department of Environmental Quality Title V Permit No. TRO-60326, which expired October 31, 2017. In April of 2017, NNSY submitted a timely Title V renewal application. The new permit has not been issued to date.

Q8) What capacity does this build out provide that its current energy system does not?

A8) The new systems provide the Shipyard with enhanced Energy Security that the current system does not provide. The new system will include a Microgrid Control System (MCS), Battery Energy Storage System (BESS), a stable fuel supply, a backup fuel supply, and a redundant backup electrical feeder. The system allows the shipyard to electrically "island" and maintain operations during an extended grid outage. In summary, the new CHP and MCS allows the Shipyard to fulfill its mission without energy interruptions.

Q9) Beyond this specific project and jobs at the shipyard, what outreach does the NNSY provide to the community?

A9) Norfolk Naval Shipyard has an extensive Community Outreach Program. 2020 has not been indicative of normal community outreach at Norfolk Naval Shipyard due to COVID-19. In past years, we have a strong partnership with Portsmouth Public Schools where our employees mentor and read to Portsmouth Public School students. We participate in numerous STEM events throughout the year and hosted a STEM event at the Dry Dock Club for Portsmouth Public School 5th graders. Norfolk Naval Shipyard also supports Summer Camps like Starbase Victory in Portsmouth and three other camps in Virginia Beach, Norfolk and Newport News helping more than 5,000 students in the STEM field. Commander, Norfolk Naval Shipyard speaks to a variety of community groups and the NNSY Alabama

float, a replica of the battleship ALABAMA which was built at Norfolk Naval Shipyard, participates in parades and events around Hampton Roads and Northeastern North Carolina. NNSY Sailors and civilians volunteer throughout the community. Personnel from NNSY sit on the Mayor's Military Affairs Committee as well as the Military / Municipal Partnership Committee.

Q10) Where and how is the natural gas being transported there?

A10) The Navy is currently exploring purchasing natural gas through the Defense Logistic Agency (DLA). Columbia Gas of Virginia would likely be responsible for delivering natural gas to the NNSY, including running an additional gas line(s) to the NNSY.

Q11) Which ECMs are directly related to the CHP?

A11) The four ECMs are: CHP, New Industrial Wastewater Treatment Plant, Steam System Improvements, High Efficiency Transformers. The first one (CHP) identified in the presentation is the only ECM related to CHP.

Q12) There was a mention of recent power outages (specifically, 4-5 of them)--can someone provide context as to when these occurred and what the cause was, please?

A12) The answer to this question was briefly discussed in the telephone call of October 5, 2020. No additional response will be provided due to the sensitive nature of this information.

Q13) Considering the likely shutdown of fossil-fuel powered infrastructure in the near future given the passage of the VCEA, how does that impact a project 22 year contract? This long term commitment seems counter-intuitive given Virginia's commitment to renewable energy

A13) According to the Virginia Governor's website, "The [Virginia Clean Economy] Act requires Dominion Energy Virginia to be 100 percent carbon-free by 2045 and Appalachian Power to be 100 percent carbon-free by 2050. It requires nearly all coal-fired plants to close by the end of 2024." It is unclear how laws and requirements will continue to change over the contract life of the natural gas driven CHP.

Q14) Can you please address how the Environmental Assessment considered effects on accelerating climate change?

A14) Refer to the Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) at the following website: <https://www.navsea.navy.mil/Home/Shipyards/Norfolk/ESPC/>

Q15) You said you looked at air quality and EJ in your initial assessments. What was your evidence and what was mitigation for EJ communities that surround the shipyard?

A15) Refer to the Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) at the following website: <https://www.navsea.navy.mil/Home/Shipyards/Norfolk/ESPC/>

Q16) The project description includes two dual fuel turbines, each with its own natural gas fired duct burner, along with three dual fuel boilers. The turbines and boilers may burn diesel fuel when the natural gas supply is curtailed, interrupted, or when diesel is burned for testing purposes. One of the operating scenarios in the Engineering Analysis indicates that both turbines and both duct burners will operate concurrently at times. The calculations referenced demonstrate that the HAP emissions rates used maximum rates based upon the operation of a SINGLE turbine (and similarly, SINGLE duct burner. Why? Hourly HAP emission rates in some cases will be substantially higher with this correction.

A16) Refer to VDEQ's Air Permit Public Notice website for information (<https://www.deq.virginia.gov/Programs/Air/PublicNotices/AirPermits.aspx>) concerning emission calculations.

Q17) Does plant provide enough power for the whole shipyard? Are you discontinuing the use of steam from Wheelabrator?

A17) No, the CHP does not provide power for the entire shipyard. Power will be provided for continuous operations on the waterfront. The Navy's steam contract with Wheelabrator is currently set to expire in January 2023, unless the Navy and Wheelabrator agree to a short-term extension.

Q18) How did you engage with stakeholders? Video conference?

A18) Refer to the Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) at the following website: <https://www.navsea.navy.mil/Home/Shipyards/Norfolk/ESPC/> . Refer to VDEQ's Air Permit Public Notice website for information (<https://www.deq.virginia.gov/Programs/Air/PublicNotices/AirPermits.aspx>) concerning environmental justice in relation to the CHP plant.

Q19) What was the environmental justice assessment? How was this done?

A19) Refer to the Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) at the following website: <https://www.navsea.navy.mil/Home/Shipyards/Norfolk/ESPC/> . Refer to VDEQ's Air Permit Public Notice website for information (<https://www.deq.virginia.gov/Programs/Air/PublicNotices/AirPermits.aspx>) concerning environmental justice in relation to the CHP plant.

Q20) Is there a list of the stakeholders that were met with? Attachment A only includes 5 contacts

A20) We directly engaged over 100 external stakeholders through baseline fact-finding conversations, one-on-one briefings, virtual community information sessions and distribution of project information. Engaged stakeholders included civic and community organizations, economic development agencies, public education officials, business owners and faith leaders. We can share a list of individuals who registered and attended the public information sessions, however due to privacy restrictions, we cannot share the personal information of those engaged through direct interactions. Attachment A referenced in the question was prepared by VDEQ not the Navy.

Q21) What about renewable sources of energy?

A21) Refer to the Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) at the following website: <https://www.navsea.navy.mil/Home/Shipyards/Norfolk/ESPC/>

Q22) What were neighborhood responses to the community outreach efforts?

A22) Refer to the Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) at the following website: <https://www.navsea.navy.mil/Home/Shipyards/Norfolk/ESPC/> . Refer to VDEQ's Air Permit Public Notice website for information (<https://www.deq.virginia.gov/Programs/Air/PublicNotices/AirPermits.aspx>) concerning community outreach in relation to the CHP plant.

Q23) As a follow up to the question about acceleration of climate change, what were your reasons (NNSY, other agencies) for not considering renewable energy sources, or with some components that are renewable sources?

A23) Refer to the Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) at the following website: <https://www.navsea.navy.mil/Home/Shipyards/Norfolk/ESPC/>

Q24) Where is the gas coming from? How much increase of natural gas will this result in?

A24) The Navy is currently exploring purchasing natural gas for the project through a DLA contract. Columbia Gas of Virginia would likely be responsible for delivering natural gas to the NNSY, including running an additional gas line(s) to the NNSY. The use of natural gas at NNSY is expected to be approximately 1,684,000 MMBtu/yr when the CHP is on line. This is an increase from an average of 13,141 MMBtu/yr.

Q25) I understand that pollution monitors are approximately three miles from the NNSY. Are there efforts to have monitors placed in the shipyard and/or in one or more of the nearby neighborhoods?

A25) Through the permitting process VDEQ will determine if additional monitoring is required.

Q26) IS there other infrastructure needed to accommodate this new facility (pipelines, compressor stations, etc)?

A26) The Navy is currently exploring purchasing natural gas for the project through DLA. Columbia Gas of Virginia would likely be responsible for delivering natural gas to the NNSY, including running an additional gas line(s) to the NNSY. The gas turbine generators require high pressure gas by the nature of their design, so electric powered compressors at the heating plant will boost the delivered gas pressure to the higher value required by the gas turbines. The compressors are dedicated to the gas turbines, only run when the gas turbine is running, and are similar in design to industrial air compressors of like capacity.

Q27) Yes, I am also interested in the pipeline that is the source of this gas. Does all gas infrastructure currently exist, or will there be additional construction of a lateral pipeline or mainline pipeline?

A27) The Navy is currently exploring purchasing natural gas through DLA. Columbia Gas of Virginia would likely be responsible for delivering natural gas to the NNSY, including running an additional gas line(s) to the NNSY.

Q28) What were neighborhood responses to the community outreach efforts? Did they express concerns about particulate matter or other pollutants? Were they curious about potential job opportunities? Did they exhibit any mistrust based on their past experiences with super polluters such as the Abex Corp. Foundry, the creosote plant, etc?

A28) Refer to the Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) at the following website: <https://www.navsea.navy.mil/Home/Shipyards/Norfolk/ESPC/> . Refer to VDEQ's Air Permit Public Notice website for information (<https://www.deq.virginia.gov/Programs/Air/PublicNotices/AirPermits.aspx>) concerning community outreach in relation to the CHP plant.