The U.S. Navy Relies on Wheelabrator Portsmouth
For renewable energy and critical steam heat

Wheelabrator Portsmouth’s renewable energy and steam heat is mission critical to the U.S. Navy’s Energy, Environment and Climate Change Policy. For nearly 30 years, energy-from-waste has been a proven energy solution for the Norfolk Naval Shipyard, which neighbors the Wheelabrator Portsmouth energy-from-waste facility. Wheelabrator Portsmouth provides steam heat allowing the Navy to have assured access to a reliable source of renewable energy.

Wheelabrator is contracted through 2023 to provide steam and energy to the Norfolk Naval Shipyard, and that partnership is expected to continue well into the future if Southeastern Public Service Authority (SPSA) and its member localities once again choose energy-from-waste over landfilling.

Under a federal mandate, the Navy must procure a portion of its energy from renewable sources. Its entire Mid-Atlantic region, stretching from Maine to Virginia, is able to meet 40 percent of these requirements from the operations at Wheelabrator Portsmouth alone.

Plant Manager Rob Johnson and a group of employees who convert 700,000 tons of waste each year into steam heat for the U.S. Navy and generate clean electricity for local residents and businesses.

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Renewable Energy-from-Waste is the Best Choice for Hampton Roads

For nearly 30 years, energy-from-waste (EfW) has been an integral part of the region’s waste disposal and energy infrastructure systems.

See article on page 4
We’re Committed to Hampton Roads

MIKE DOUGHERTY | MID-ATLANTIC MARKET MANAGER

Since joining Wheelabrator Technologies in 2016, I have spent a significant amount of time in Hampton Roads as the Market Manager for Portsmouth, working with customer communities. I’ve had the opportunity to engage often with SPSA staff and board members, local government leaders, environmental groups, waste haulers, members of the business community and everyday citizens who depend on Wheelabrator to dispose of their solid waste in an environmentally safe manner while generating clean energy to power 32,000 homes and providing steam to the U.S. Navy to heat the shipyard.

In this edition of Wheelabrator Portsmouth Community News, you will read about our solid record of service, the benefits of energy-from-waste as compared to landfilling, how much Wheelabrator contributes to the region’s economic bottom line and why we want to continue being a partner to the eight SPSA communities.

I have over 30 years of experience in the environmental services business with much of it in the waste industry, working with communities, cities and counties to make sure facilities such as Portsmouth integrate well into communities and are good neighbors. I believe Wheelabrator has achieved that objective here, and it is our intention to maintain that reputation and standard of service going forward.

At Wheelabrator, we believe energy-from-waste is the most viable option for Hampton Roads and that energy-from-waste has served this region well for 30 years. We understand that SPSA has a decision to make about the future of the region’s waste disposal and environmental infrastructure systems — Wheelabrator remains willing and able to continue serving Hampton Roads beyond 2018 if SPSA decides to maintain sustainable waste management and clean energy generation for the community.

I have enjoyed my time so far here in Portsmouth getting to know folks in the community who all agree that converting local waste into clean energy and steam heat for the U.S. Navy is the right way to go…for the environment and for Hampton Roads. So, let’s keep up the good work, together.

FAST FACTS

<table>
<thead>
<tr>
<th>Began operations:</th>
<th>1988</th>
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<tr>
<td>Daily waste processing capacity:</td>
<td>2,370 TONS</td>
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<tr>
<td>Homes powered:</td>
<td>32,000 HOMES</td>
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<tr>
<td>Local waste processed in 2016:</td>
<td>679,117 TONS</td>
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<tr>
<td>Annual economic impact:</td>
<td>$68 MILLION</td>
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<tr>
<td>Annual oil for power displaced:</td>
<td>736,570 BARRELS</td>
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<td>Year acquired:</td>
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<tr>
<td>Energy generation capacity:</td>
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<tr>
<td>Metals recycled in 2016:</td>
<td>18,550 TONS</td>
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<tr>
<td>Energy generated in 2016:</td>
<td>327,149 MWH</td>
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<tr>
<td>Jobs at Wheelabrator Portsmouth:</td>
<td>145 FULL-TIME</td>
</tr>
<tr>
<td>Annual coal for power displaced:</td>
<td>220,930 TONS</td>
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</table>
Community Leaders Voice Support for Energy-from-Waste

Wheelabrator Portsmouth is an actively engaged community partner, maintaining excellent relationships in the greater Portsmouth area while providing reliable waste disposal, clean energy and renewable steam heat to the U.S. Navy. Wheelabrator Portsmouth and energy-from-waste is the best choice for Hampton Roads — and community leaders agree.

“We appreciate the services Wheelabrator provides for this region, and for Portsmouth specifically. We could not ask for a better corporate partner.Wheelabrator is one of our largest employers that supports non-profits and contributes significantly to enhance the quality of life in the city of Portsmouth.”
– Mayor John Rowe, City of Portsmouth

“By providing the shipyard with steam and a backup energy source, Wheelabrator helps solidify the future for one of our largest local employers. Wheelabrator is active in our organization, a significant employer and taxpayer, and is overall a fine corporate citizen.”
– Ira Agricola, Executive Vice President for Government Affairs, Hampton Roads Chamber of Commerce

“The Elizabeth River Project is thrilled to have Wheelabrator Portsmouth as an industrial neighbor to our Paradise Creek Nature Park and especially pleased that the energy-from-waste plant is such an active and committed River Star business. Every year, Wheelabrator Portsmouth has documented a myriad of meaningful environmental initiatives, which has earned the facility the highest level in the voluntary program.”
– Pam Boatwright, River Star Program Manager, Elizabeth River Project

In order for Wheelabrator to efficiently meet its commitment to the Navy through 2023 and reduce Hampton Roads’ dependence on valuable landfill space, the current volumes of waste supply from SPSA needs to be maintained.

Each year, Wheelabrator generates 600 million pounds of steam for the nearly 10,000 civilian and military personnel at the neighboring shipyard to use as heat and hot water in its 94 buildings and dry docks. Wheelabrator Portsmouth provides the Navy with energy security by ensuring access to a reliable, uninterrupted source of electricity at all times, including in the event of a utility blackout. The energy generated at Wheelabrator passes through a substation at the shipyard, which means Wheelabrator Portsmouth and the shipyard can work together if required as an island to power the Navy’s operations until its connection to the grid is restored.

“We are pleased that SPSA chose Wheelabrator to be its commercial waste disposal processor of choice and we have the capacity to continue serving Hampton Roads with municipal waste disposal beyond 2018,” says Michael Dougherty, Wheelabrator’s Mid-Atlantic Market Manager. “The best guarantee for the long-term sustainability of our operation, and the assurance that it provides the Navy for their energy requirements, is for Hampton Roads to continue to choose renewable energy-from-waste as their preferred waste management solution. The Navy and our customers depend on our continued operations, which is why we continually invest in maintenance upgrades to ensure our technology remains state-of-the-art.”

Norfolk Naval Shipyard in Portsmouth, which depends on energy-from-waste for its heat, hot water and a backup energy source, is one of the area’s largest employers.

Plant Manager Rob Johnson receives the Outstanding Community Partner Award from Cradock Civic League President Edwin Street, the first time the organization had ever presented such an honor.

“We have a wonderful partnership with Wheelabrator. They are concerned supporters of our community, and they attend our monthly meetings to learn about what’s happening in our historic neighborhood. They have been a fantastic neighbor to our community.”
– Edwin Street, President of the Cradock Civic League

“We are definitely opposed to taking our region backwards in terms of how we handle solid waste. Energy-from-waste is a methodology that has been good for Hampton Roads in the past and can continue to be in the future. We cannot support transporting all of our solid waste to the landfill in Suffolk. We need to do better than that.”
– Karen Forget, Executive Director of Lynnhaven River NOW

U.S. Navy relies on EfW

Continued from page 1

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“We are pleased that SPSA chose Wheelabrator to be its commercial waste disposal processor of choice and...
Energy-from-waste will always be the most reliable disposal option for Hampton Roads

For nearly 30 years, energy-from-waste has been an integral part of the region’s waste disposal and energy infrastructure systems. Thanks to the actions of eight communities in the late 1970s and early 1980s, post-recycled waste collected from tens of thousands of homes in Chesapeake, Franklin, Isle of Wight County, Norfolk, Portsmouth, Southampton County, Suffolk and Virginia Beach is processed in one place, at Wheelabrator Portsmouth located in the Cradock neighborhood. There, it is converted into steam to heat buildings and dry docks at the Norfolk Naval Shipyard and generates a further 60 megawatts of clean energy to power 32,000 homes and businesses. The facility is an economic engine for Hampton Roads, providing 145 full-time jobs and contributing an estimated $68 million in positive economic impact each year.

SPSA’s board now has another opportunity to determine the future of solid waste processing and renewable energy generation in the region, with the clear choice being sticking with what has worked for 30 years. Selecting Wheelabrator to continue to serve our region with energy-from-waste is the stated preferred method of waste disposal according to the U.S. Environmental Protection Agency and Hampton Roads’ own regional planning agency’s sustainable waste management hierarchy (see page 5) over landfilling. In fact, energy-from-waste fulfills SPSA’s mission (see below) to “reuse waste whenever possible, turning it into a useful product,” which is aligned with Wheelabrator’s own vision “To develop, deliver and realize the potential of clean energy.”

Energy-from-waste facilities preserve landfill airspace and reduce greenhouse gas emissions through landfill methane avoidance, fossil fuel generation displacement and recycling of metals. In 2016 alone, Wheelabrator Portsmouth recovered and recycled more than 18,550 tons of ferrous and non-ferrous metals that would have otherwise been landfilled.

Energy-from-waste facilities also provide baseload power and have a proven track record of steady, reliable operations with very high availability. The Wheelabrator Portsmouth facility operates at 90 percent reliability and provides uninterrupted service, processing up to 2,730 tons of waste for Hampton Roads each day.

There are 77 energy-from-waste facilities in the nation today converting over 29 million tons of waste into over 14 million megawatts of electricity a year. As the second largest U.S. energy-from-waste business, Wheelabrator operates 19 facilities across the U.S. and U.K. (three facilities under construction in the U.K.) and continue to advance a technology that continues to prove its viability every day, including in the eight cities and counties of Southeastern Virginia.

Wheelabrator, which purchased the energy-from-waste facility from SPSA in 2010, looks forward to continuing as the region’s municipal waste service provider of choice.

“Over the past seven years, we have proved to the region that we are a reliable partner, and we have worked hard to provide dependable, environmentally safe waste disposal for SPSA communities,” says Rob Johnson, Wheelabrator Portsmouth Plant Manager, “and we look forward to remaining in that role for years to come.”

Johnson says Wheelabrator Portsmouth is also committed to being an environmental leader. Wheelabrator has won awards from the Hampton Roads Sanitation District, the Elizabeth River Project as well as the City of Portsmouth for its role in protecting the health of the Elizabeth River, for recycling more than 108,000 tons of metals to date that would have otherwise been landfilled, and for its pre-treatment of stormwater runoff. “Environmental protection is at the heart of energy-from-waste and the center of what drives our operations every day,” says Johnson.

Meeting SPSA’s Mission

“SPSA’s mission is to dispose of waste. SPSA will accomplish this by disposing of waste in an environmentally-sensitive manner, minimizing damage for current and future generations and reusing waste whenever possible, turning it into a useful product. The Southeastern Public Service Authority’s (SPSA) core purpose is the management of the safe and environmentally sound disposal of regional waste.”

SOURCE: WWW.SPSA.COM/HISTORY.ASP
Landfilling vs. Energy-from-Waste: Did You Know?

✓ Energy-from-waste facilities are recognized internationally for playing a valuable role in reducing greenhouse gas emissions through landfill methane avoidance, fossil fuel generation displacement and recycling of metals.

✗ In the U.S., landfills are the third largest contributor of methane emissions, which has a global warming potential 25 times more potent than carbon dioxide’s over 100 years.

✓ Every ton of waste processed by an energy-from-waste facility reduces greenhouse gas emissions by one ton.

✗ Because of abundance of land, more waste (92 percent) is dumped in landfills in the U.S. than is recycled, composted or converted to energy combined.

✓ In the U.K. and across Europe, the approximately 400 energy-from-waste facilities are driving post-recycled waste away from landfill sites and instead using it as a valuable resource to generate low carbon energy.

✗ Reverting to landfills to dispose of municipal solid waste would set Hampton Roads back generations.

✓ By turning our post-recycled waste into steam for the Naval Shipyard and electricity to power homes and businesses, Hampton Roads is a national leader in environmental protection.

✗ Landfilling trash means “we” own it forever as it deteriorates, threatening groundwater, wildlife and the air our communities breathe.

✓ The global energy-from-waste market is projected to grow about 5.9 percent yearly through 2020 because it is still the most viable and sustainable way to dispose of trash. Wheelabrator is currently building three new energy-from-waste facilities in the U.K.

✗ Trucking waste to a landfill in Suffolk, compared to processing it in Portsmouth, means more vehicles driving longer distances, thereby reducing their usable life, burning more fuel, adding to congestion in a busy highway corridor and releasing more odors into the air near residential neighborhoods.

✓ When post-recycled waste is processed in an energy-from-waste facility, over 90 percent by volume is converted to energy. With the remaining 10 percent inert ash residue, energy-from-waste facilities recover and recycle scrap metals that would otherwise go to a landfill, directly reducing both greenhouse gas emissions, the need to mine more raw materials, and supports local recycling rates.

✗ In the EPA’s sustainable waste management hierarchy, landfilling is the least preferred method of waste disposal.

✓ Communities with energy-from-waste typically have higher recycling rates than the national recycling average and the recycling rates of the states in which they operate, demonstrating that recycling and energy-from-waste are completely compatible waste management strategies.

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Wheelabrator Portsmouth is a Job Generating Economic Engine in Hampton Roads
Generates 630 jobs, $68 million in positive economic activity

Converting nearly 700,000 tons of post-recycled waste each year from Southeastern Virginia communities into steam for the Norfolk Naval Shipyard and generating clean energy to power homes and businesses is not the only benefit Wheelabrator Portsmouth provides to the region.

According to a 2014 comprehensive study prepared by one of the state’s leading economists, Wheelabrator Portsmouth is also responsible for some 630 jobs and more than $68 million in economic activity.

“Wheelabrator has a very significant economic impact upon Hampton Roads,” wrote Dr. James Koch, Board of Visitors Professor of Economics and President Emeritus at Old Dominion University (ODU) in Norfolk. “Any economic development agency would boast if it were able to attract a new $68 million asset to its region.”

In compiling his report, Dr. Koch considered the dollars that Wheelabrator spends locally on such things as “vehicles, furniture, food, uniforms, fuel, lubricants, computers, insurance, tools, parts, and water.” He also noted that the $10 million Wheelabrator spends on salaries creates “an economic ripple process throughout the region as the dollars are spent and re-spent. This is referred to as the ‘induced effect’ of a specific economic activity.”

Portsmouth is a primary beneficiary because Wheelabrator pays nearly $1.5 million in property taxes to the city. Koch noted that 75 percent of its employees live outside Portsmouth, many in other SPSA localities, and that several local vendors also benefit from having an operation such as Wheelabrator in Hampton Roads.

KEY STATISTICS

Direct employment of at least 140 workers plus another 490 regional employees who owe their jobs to the economic activity of Wheelabrator

Local sales tax collections of $196,901 annually

Property taxes paid to the City of Portsmouth of $1,479,600 annually

Commonwealth of Virginia sales and income tax collections of $3,262,818 annually

Dr. James Koch,
ODU Economist
Wheelabrator Portsmouth Remains a State-of-the-Art Facility

Works with SPSA communities to ensure efficiency and environmental protection

Wheelabrator is committed to continuous improvement and operational excellence to ensure that our Portsmouth energy-from-waste facility remains state-of-the-art, so we can continue to provide efficient and reliable waste disposal and energy generation for our customers.

“When we purchased the facility for $150 million from SPSA in 2010, we made a long-term investment in Hampton Roads and a commitment to serve SPSA communities with dependable and environmentally safe waste disposal and clean energy to homes and businesses,” says Rob Johnson, Plant Manager. “From day one, we leveraged Wheelabrator’s expertise to deliver exceptional safety, environmental and operational performance at all times, and over the past seven years have remained dedicated to maintaining the efficiency and reliability of our facility to best serve our customers.”

Wheelabrator Portsmouth’s regularly scheduled maintenance projects and upgrades ensure the technology remains state-of-the-art and also benefits the local economy through the support of area businesses and contractors. The facility uses advanced environmental control systems to meet and exceed some of the most stringent regulatory standards, operating with superior environmental performance.

“It makes me proud to work for a company that values continuous improvement and innovation as much as Wheelabrator does,” says Clinton Stratton, Wheelabrator Portsmouth’s Operations Manager. “The professionalism and knowledge base of the team in terms of engineering, safety, technology and environmental protection are second to none in the industry.”

Financial investments in boiler reliability (routinely 90 percent or better), as well as air quality controls, were made in anticipation of a long association with the SPSA member localities and local businesses. To improve efficiency in 2018, Wheelabrator has invested in a new tipper, which will enable SPSA trucks to deliver their loads in a fraction of the time they currently do, shortening wait times by as much as 75 percent.

“We also worked with the City of Portsmouth to redirect their citizens with individual loads to other local disposal facilities,” says Stratton. “That change allowed us to improve safety and enabled trucks from Portsmouth, SPSA and private haulers to move on and off the floor more expeditiously.”

“From day one, we leveraged Wheelabrator’s expertise to deliver exceptional safety, environmental and operational performance at all times, and over the past seven years have remained dedicated to maintaining the efficiency and reliability of our facility to best serve our customers.”

- Rob Johnson, Plant Manager
Ed Hernandez, a California native, is patriotic (Air Force vet); loyal (17 years with Wheelabrator); multi-talented (he can work almost anywhere in the facility); and he cares deeply about his fellow employees, striving to Make a Difference and work as One Team, two of Wheelabrator’s core values.

Ed proves the latter everyday as chair of the employee safety committee, but thanks to his wife Barbara, he took that role a step further. She is a health worker for the City of Chesapeake, which led her husband to learn CPR. “Once I became certified,” says Ed, “I decided to teach everyone else at Wheelabrator.”

So over the past few years, he’s done just that, fulfilling an OSHA requirement for the facility and also equipping his comrades with a valuable skill. How valuable? “One of the men he trained actually had to administer CPR almost immediately to a neighbor,” says Plant Manager Rob Johnson. “He saved the man’s life.”

As a plant operator, Ed oversees all aspects of the energy-from-waste facility including the safe and efficient operation of four boilers, steam flow to the Naval Shipyard and environmental compliance, although it’s his commitment to the welfare of his fellow employees that makes this Wheelabrator veteran really stand out.